ECES
المركز المصري للدراسات الاقتصادية
The Egyptian Center for Economic Studies

Sectoral Analysis of the Impact of COVID-19 on the Egyptian Economy

Part 2

Edited by
Abla Abdel-Latif

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About the Egyptian Center for Economic Studies (ECES)

Our Mission

The Egyptian Center for Economic Studies (ECES) is an independent, non-profit think tank that conducts specialized economic research, drawing on international experience and constructive discussions among various stakeholders. ECES's main objective is to propose sound economic policies, and institutional and legislative reforms that contribute to sustainable development in Egypt, all based on combined economic efficiency and social justice.

Our Values are what makes us different

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Objectives & Methodology

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Director of Research

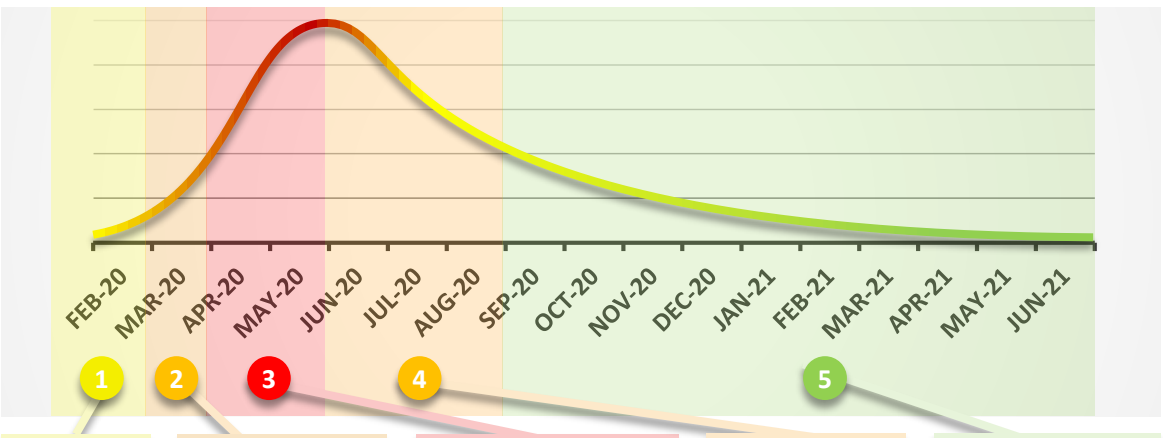
While the whole world shares the broad outlines of the economic and social repercussions of the Coronavirus (COVID-19), which are unprecedented in its recent history, the implications thereof for each country are linked to the nature of each country's economic system, its ability to withstand the entailed repercussions and the speed of its recovery.

In light of the need to study the sectoral implications of these repercussions in order to address the crisis properly, the Egyptian Center for Economic Studies (ECES), in its initiative, is producing a set of daily reports entitled "Views on Crisis". The reports aim to analyze the implications of the coronavirus crisis for Egypt in relation to a number of vital production and service sectors and to key macroeconomic variables. This ECES initiative comes from the belief that the current critical conditions require directing state's efforts towards achieving two main goals: providing a decent life for Egyptians during the crisis and in the recovery phase, preserving the existing investments especially domestic ones and helping to overcome the crisis and prepare for a rapid launch with the gradual decline of the crisis and recovery of the global economy.

The methodology used in these reports is based on an analysis of the supply and demand shocks associated with the crisis cycle in its various stages. Given the lack of detailed data on the sectoral impact of the crisis, the sectoral analysis is based on logical assumptions related to the nature of each sector and the degree of sector vulnerability to previous severe crises that were certainly less severe than the current crisis and different in nature. However, it is a starting point for the urgently required scientific diligence at this stage.

The reports attempt to provide a detailed perception of the magnitude and direction of crisis impact on each sector at present and until the end of the crisis. They aim to propose quick solutions to reduce the adverse impacts of the crisis in a balanced and integrated means that complement the serious efforts made by the state in this regard, and to offer other longer-term solutions to the existing institutional flaws, clearly revealed by the crisis. It is high time that these flaws are radically removed, which will improve post-crisis development efforts.

COVID-19 Pandemic Crisis Cycle Stages on Worldwide Level from Health Perspective



1. Emergence of the virus
The crisis began and aggravated in China only. The rest of the world, including Arab and European countries, were not yet affected by the crisis.

2. Beginning of proliferation
The spread of the virus globally. Arab countries began to be affected at the end of February and hence initiated precautionary measures to prevent the spread of the virus. European countries are greatly affected.

3. Aggravation of the problem
The situation in the world has worsened, tougher measures in the Arab countries, especially in Saudi Arabia and the European countries, a major worsening of the crisis in Italy, beginning of the virus's receding in China, and the beginning of its spread in the US.

4. Crisis recedes
The beginning of recovery from the virus globally, starting from China, which is expected to be followed by European countries, and finally, the Arab countries and the US.

5. Recovery
Gradual recovery for all countries, including Arab countries, although the latter's recovery is expected to be delayed due to being strongly impacted by the global economy and its weak impact on it.

Executive Summary

1. Agricultural Sector

The agricultural sector is one of the most important sectors of the Egyptian economy, as it represents 11.2 percent of GDP and comprises about 23.8 percent of total employment in Egypt. However, the relative importance of the sector has declined substantially over the past decades compared to the rise in the relative importance of both the manufacturing and services sector.

Future scenarios: The recovery phase, starting from September 2020, by applying it to the potato crop with the possibility of generalizing it to other crops.

Optimistic scenario: Markets are supposed to recover internally and externally in a way that helps farmers sell at a good price and make up for their losses in previous seasons.

Pessimistic scenario: The problem persists, with the possibility of exacerbation if large-scale refrigeration attempts do not improve prices because the shock still persists.

Institutional weaknesses revealed by the crisis:

- The agricultural sector still suffers from many structural imbalances and institutional problems that have not been addressed despite the sector's experiencing previous crises that called for reform.
- Difficulty accessing financing due to commercial banks' reluctance to lend to agricultural activities as they are highly risky activities. In addition to the weak financing role of the Egyptian Agricultural Bank.
- Non-implementation of agricultural laws that complement the reform of the financing system. Most importantly, the "Contractual Farming and Agricultural Insurance Law" due to the lack of issuance of the executive regulations.
- Absence of a clear vision of the agricultural sector in Egypt and lack of commitment to implementing the agricultural strategies that the State put forth since the 1990s.
- Weak coordination between all those concerned with agricultural policies, which often results in a conflict between agricultural policies on the one hand, and manufacturing, export and trade on the other.
- Weak research and development, due to the limited government bureaucracy as well as weak funding.
- Poor agricultural extension.
- The most important manifestations of poor agricultural extension are the lower productivity of agricultural crops in the fields compared to that on research farms.
- Weak agricultural cooperatives rendering them unable to serve their members.
- Weak market signals and failure to reach farmers, which limits their ability to make sound production decisions.

2. Labor Market

The spread of the new Corona virus revealed the fragility of labor markets around the world, including in Egypt, where the labor market suffers from a structural defect, resulting in challenges such as weak flexibility and rigidity of the labor market in the face of crises, and the unrealistic picture given by low unemployment rates about the health of the labor market, in addition to neglecting the methodology of calculating these rates for groups that fall under underemployment, discouraged employment or hidden unemployment.

Future scenarios: The analysis assumes two scenarios for the increase in the number of unemployed and rise in unemployment rates as a result of the emergence of the problem of returnees from abroad and their joining the internal labor market, in addition to the newly unemployed from the self-employed or those who have been laid off.

From mid-March to the end of May 2020

- **The optimistic scenario:** The unemployment rate rises to 14 percent, 6 percentage points higher than the current rate, as a result of adding 1.7 million unemployed people, representing about one million returnees from abroad, similar to the number of returnees during the Gulf War, and 741,000 newly unemployed.
- **The pessimistic scenario:** The unemployment rate rises to 20 percent, as a result of doubling the number of returnees from abroad to become 2 million unemployed, in addition to the newly unemployed.

The scenarios for the next stage relate to the development of the previous scenarios, in terms of the rate of improvement in conditions towards a recovery in economic activity and, by extension, the labor market.

Recovery phase from September

- **The optimistic scenario** expects an unemployment rate of 14.8 percent, as a result of the doubling of the increase in unemployment of new graduates to about 234 thousand unemployed (41 percent of total graduates), in addition to the same number of unemployed in the optimistic scenario of the previous stage.
- **The pessimistic scenario:** The unemployment rate rises to 21.2 percent during the period, as a result of a 3-fold increase in unemployment of new graduates to about 351 thousand unemployed (61 percent of the total graduates), in addition to the same number of unemployed in the previous stage's pessimistic scenario.

Institutional weaknesses revealed by the crisis:

1. The role of the workers' trade union has declined, both de facto and de jure. It is always perceived as a negative role that does not serve the productive process or the State's efforts for development. Therefore, there is an urgent need to correct this situation.
2. Absence of accurate databases of the supply and demand sides of the labor market that allow for effective coordination between them according to the skill level.
3. Poor performance of the educational system, especially the system of technical and vocational training, and the need for a fundamental change therein to overcome the problem of structural unemployment permanently and dynamically.
4. Extreme weakness of the ability to invest in human beings in general, especially by the State, which is the main factor responsible for many weaknesses in the Egyptian labor market.
5. Absence of a regulatory framework for the labor market, especially for technical occupations (standards for each profession and a wage schedule linked to these standards).
6. Failure of employment policies to keep pace with labor market developments.
7. Absence of an integrated strategic thought that should result in specialized incentive employment policies.
8. The decline in the role of civil society and Non-Governmental Organizations (NGOs) in general has led to the loss of many direct specialized jobs related to the activities of these organizations, as well as job opportunities available through their executive programs.
9. Absent technological dimension and digital transformation from the employment system in Egypt (Ministry of Manpower).
10. Decline in the role of civil society organizations in general has led to the loss of many direct specialized jobs related to the activities of these organizations, as well as job opportunities available through their executive programs.

3. Transport Sector

The impact of the crisis on the maritime transport sector was limited compared to the impact on air transport, whether for passengers or goods, as the rate of decline in the value of maritime trade in Egypt on a monthly basis was only 2 percent in January at the beginning of the crisis, and the decline reached its peak in April by about 21 percent. This is mainly due to a significant decline in the total value of Egypt's foreign trade by about 16 percent in April compared to March. The biggest impact of the crisis was on the air transport sector, specifically passenger transport, as the losses of the civil aviation sector were estimated at $3.5 billion until June due to the suspension of air traffic.

Future scenarios:

- **The optimistic scenario:** In the event that the virus ends and precautionary measures are lifted, merchandise and passenger trade will gradually return.
- **The pessimistic scenario:** It assumes a new cycle of the virus and lack of a vaccine, but no worse effects are expected than in the last period as a result of increased ability to cope with the virus.

The scenarios for the next stage relate to the development of the previous scenarios, in terms of the rate of improvement in conditions towards a recovery in economic activity and, by extension, the labor market.

Institutional weaknesses revealed by the crisis:

Although Egypt possesses many potentials that make it a major trade corridor worldwide and an international hub for production and distribution serving Europe, Africa and the Middle East, its competitiveness and attractiveness for investments in the field of maritime and air transport is less compared to many neighboring countries that do not possess the same potentials.

Among the most important proposals to address institutional weakness:

1. Comprehensive restructuring of Egypt Air
2. Restructuring the way airports are managed and operated
3. Reviewing the delay in entering into Open Skies Agreements, despite the many inherent opportunities
4. Comprehensive review of service fees in Egyptian ports, whose rise led to the withdrawal of many shipping lines
5. Standardization of fees and customs clearance procedures between ports

4. Manufacturing Industries: Readymade Garments and Home Textiles

This industry is one of the industries most affected by the Corona crisis. It has a special importance that stems from it being the largest employer among the manufacturing industries, employing 15 percent of total workers in manufacturing. It is the largest employer of women at 42 percent, and it is mainly an export industry, where 44 percent of the total is exported.

Future Scenarios: Recovery (As of September 2020)

Increasing volume of e-commerce in home furnishings and ready-made garments, especially basic products of typical size such as underwear and

children's clothing.

- **The optimistic scenario:** All factories return to operation at full capacity and the return of all employees to their jobs, achieving exports of $551 million in the fourth quarter of 2020, representing 75 percent of exports in the same period last year, and the return of domestic sales to their normal conditions in the same period.
- **The medium scenario:** 75 percent of the remaining factories return to operation at full production capacity, 75 percent of suspended employment will return, exports to generate $367 million in the fourth quarter of 2020, representing 50 percent of their value during the same period, and 80 percent of local sales return to normal.
- **The pessimistic scenario:** 50 percent of factories return to operation at full capacity, 50 percent of suspended employment returns, exports to generate $220 million in the fourth quarter of 2020, representing 30 percent of their value in the corresponding period, and 30 percent of local sales return to normal.

Institutional weaknesses revealed by the crisis:

The same institutional weaknesses that the industry suffers from as a whole, which were mentioned in "Manufacturing Industries Combined", in Sectoral Analysis of the Impact of COVID-19 on the Egyptian Economy, Part 1.

5. Manufacturing Industries: Food Industries - Dairy Products

The dairy industry represents 14 percent of total exports of the food industry in 2019. Seven percent of the total employed in the food industries work in this industry, which constitutes 9 percent of the added value in the food industries

Future scenarios: Recovery (beginning from September 2020 to June 2021)

- **The optimistic scenario:** Significant improvement in demand and a return to the levels of demand achieved during the same period of the previous year, but without realizing what was expected by dairy manufacturers of a return of profits to pre-flotation decision levels in 2016.
- **The medium scenario:** Sales remain at the same levels achieved during July, and factories continue to shift their production lines away from fresh cheese.
- **The pessimistic scenario:** Demand levels fall to the level achieved during the month of May at the height of the crisis, some small and micro factories shut down due to not being able to invest in modernizing their production process, and the tendency of some enterprises to reduce employment levels.

Institutional weaknesses revealed by the crisis:

1. Need to organize the relationship between dairy farms and factories to reach a fair formula for the price of milk supply.
2. Importance of developing a different model for the improvement of dairy collection centers (similar to the Dutch model) and not just a set of partial reforms, due to their important role in increasing benefit from liquid dairy through improving its quality and suitability to the specifications required for dairy products industries. This ultimately reflects in the reduction of costs associated with importing powdered milk.
3. The need to provide small farmers with technical support from specialized government institutions to improve the quality of milk.
4. Study the possibility of expanding the feed industry in Egypt so that imported feed is minimized.

5. Expediting the process of issuing and updating the specifications for dairy products, and participation of small-scale producers in the committees concerned with setting these standards.
6. Need to fully activate the role of the Food Safety Authority, as some regulatory authorities, such as health and supply, still operate separately despite the existence of the authority.
7. Importance of developing government laboratories to increase the accuracy of results, ensure they are not contradictory, and reduce the time period for obtaining results.
8. Need to provide government agencies with the necessary financial and human resources (including veterinary units, supervisory bodies, and laboratories) in order to carry out their duties to the fullest.
9. Need to increase research and development to promote the added value of this important industry, and achieve more diversity in its products as found in the global markets (example, lactose-free milk).
10. Increasing the role of commercial representation in attracting export opportunities, especially in the African continent.
11. Need to provide benefits to export and import companies similar to those provided to manufacturers due to the role these companies play in serving small enterprises that do not export and import directly.

6. Grocery Retail Trade

Retail trade is the second source of employment after agriculture accounting for 13 percent of total employment, followed by manufacturing (12.5 percent), without logistical support services such as storage and transportation, which if added, the internal trade sector becomes the top employer with 20.7 percent

Future Scenarios: Recovery (As of September 2020)

- **The optimistic scenario:** annual growth rates return to normal as in previous stage percentages.
- **The pessimistic scenario:** Sharp decrease in the volume of sales, exit of investments, and the growth rates of the sales of the grocery sector falls to less than -20 percent, similar to the exchange rate floatation period. Also, the closure of many of stores, with their return to operation becoming very difficult.

Institutional weaknesses revealed by the crisis:

1. Absence of accurate databases on retail outlets in Egypt and their distribution in the rural and urban areas so that they can be used to determine the required assistance or intervention aspects, especially since many workers in that sector are under the umbrella of informal employment.
2. Weak percentage of organized retail trade in food. There is a need to expand it due to its association with a huge productive value chain, which guarantees more efficient quality of the product and packaging methods.
3. Weak system of communications and information technology, as well as electronic commerce, in addition to the lack of platforms for communication between supply chains and outlets directly.

7. Restaurants and Cafes

The restaurants and cafes sector is one of the sectors most affected by the outbreak of the virus, as it has been subject to complete lockdown from mid-March to the last week of June. It is a labor-intensive sector where about 700 thousand workers are employed, according to official figures, which represents 5 percent of the total number of workers in establishments. The number of workers in this sector is estimated, according to unofficial estimates, at about 2 million workers, three times the official figure announced, and the volume of investments in the sector amounted to about EGP 104 billion in 2017.

Future scenarios: Recovery phase from early September to June 2021

- **The optimistic scenario:** Annual growth rates return to normal and full recovery achieved during the second or third quarter of 2021.
- **The pessimistic scenario:** Magnitude of problems for popular cafes and cafes will increase. These problems may affect some small popular restaurants as a result of increased obligations in light of reduced income and increase in the number of unemployed.

Institutional weaknesses revealed by the crisis:

1. Given that more than 90 percent of restaurants and cafes obtain their licenses from the local government, there is a need to develop such local (council) governments and adopt decentralization in order to facilitate activity and practice, and to achieve governance in all dealings and eliminate corruption.
2. Unifying the legal and procedural form of restaurants and cafes, regardless of the entity that grants the license to practice the activity, so that the difference between the tourist and non-tourist outlets is in the quality of the product provided only.
3. Establishing an accurate database on restaurants and cafes in Egypt and distributing it to rural and urban areas so that it can be used to determine the required assistance or intervention, especially that many workers in that sector are informally employed.
4. Support the role of the Consumer Protection Authority, as well as NGOs working in the same area, to improve services.
5. Reconsidering the criteria for providing government subsidies to small and micro enterprises in the food and beverage sector, as these standards are biased in favor of large entities.
6. Draw on the experiences of other countries in the strategy of supporting small enterprises in that sector as well as promoting and strengthening e-commerce, and providing platforms to communicate directly between supply chains and outlets.

8. Cinema Industry

The cinema industry is one of the world's largest industries, with annual revenues exceeding $60 billion on average. Countries have been alerted to its importance as an integrated industry. The Egyptian film industry entered the Corona crisis, already suffering from many problems, which made the impact of the pandemic severe on everyone working in it.

Future scenarios: Recovery phase from early September 2020

- **The optimistic scenario:**
  - A third of 2019 revenue is expected.
  - Gradual return of the movie industry, and thus a gradual return of its workers (500,000 workers).

- Generating revenue for the State through taxes imposed on theaters.
- Increasing income for cities in which film festivals are held, as cinema festivals contribute to supporting these cities at both economic and tourism levels.

• **The pessimistic scenario:** Bankruptcy of production companies and layoffs.

Institutional weaknesses revealed by the crisis:

1. One body should be responsible for the movie industry rather than the current institutional fragmentation, provided that this body is similar, for example, to the National Center for the Cinema in France.
2. Reaching a fundamental solution to the problem of piracy by updating and activating the intellectual property law, given that previous electronic crime laws do not address this problem.
3. To support the industry by establishing a fund who's financing depends primarily on a percentage of the entertainment tax imposed on the foreign movie ticket, as it has annual continuity that guarantees continuous funds. This should preferably be related to the number of copies allowed for a foreign film in order to maximize revenue and thus provide additional resources to support the local movie industry, for example, support for youth and experimental movies.
4. More generally, the State's resumed support of the movie industry as a labor-intensive and economically promising industry through specialized programs as in other countries, regardless of the Corona crisis, and as was happening in Egypt before the crisis, such as support provided from the Export Development Authority, which was offered for only two years before 2011, as well as the
   - support provided by the National Center for Cinema, which amounted to EGP 20 million and was given for only two years, then stopped in line with benefits received from the Industrial Modernization Centre.
5. Banks should study the financing needs of the movie industry, taking into account the special nature of this industry, in consultation with filmmakers.
6. Increasing the number of screens through utilizing cultural palaces as additional cinema theaters and introducing the required procedural or legal changes. This expansion achieves more geographical and cultural justice. In addition, considering provision of land in appropriate places at nominal prices to motivate investors to establish modern theaters, especially in non-urban provinces.
7. Cancelling all bureaucratic and customs procedures related to prohibiting foreign filming in Egypt in order to generate income for the State instead of other regional countries such as Morocco.
8. The State should play its role as a regulator of the industry and not as a direct participant in production and/or distribution, as most successes of the global movie industry operate as per this model.
9. There should be a good and strong representation of the Egyptian cinema industry in various international festivals such as the Cannes Film Festival and others as commensurate with its heritage and its great cinematic history, regardless of whether or not Egyptian movies are shown in the festival.

   With the opening of new cinematic markets in many Arab countries, Egypt needs to promote the Egyptian movie industry, and transfer the Egyptian expertise in this field to these countries by encouraging productive and marketing partnerships.

9. Manufacturing Industries: Pharmaceutical Industries

Pharmaceutical production in Egypt is concentrated in the private sector at 94 percent of total investments compared to 6 percent in the government sector. 80 percent of medicines are produced by the private sector, while the government sector produces 20 percent of medicines. Foreign private sector companies account for 69 percent of the drug market in Egypt, while local companies account for 31 percent of the drug's market share in 2018.

Future scenarios: From September to June 2021

- **The optimistic scenario:** Finding a vaccine for the disease; no new strains of the virus appear; cautious return of the sector as the spread of the disease slows; increase in the value of sales and exports and gradual return of imports to normalcy.
- **The pessimistic scenario:** Failure to find a vaccine; new strains of the virus emerge; relapse to previous pressures; higher prices and lack of stocks of medicines once again, with disruption of production; and decline in sales and exports while imports continue normally.

Institutional weaknesses revealed by the crisis:

First: Measures required to address the institutional weaknesses related to changing the institutional setup of the administrative and control system:

- The excessive overlap between the specializations and roles of the two organizations that currently regulate the sector, which is the recent institutional system, namely the Egyptian Authority for Unified Procurement, Medical Supply and Technology Management, and the Egyptian Drug Authority. In spite of the importance of dealing with a single entity as provided by the new organizational structure, it may be desirable to effect a complete separation between the responsibility of the commercial part "in relation to pricing, export, etc." and the technical part "related to research, control, etc."
- The new institutional form of the drug manufacturing management system assumes the responsibility of distributing medicine as well, which is impractical for nationwide distribution. With about 75 thousand pharmacies nationwide, it is difficult to achieve this through the Unified Procurement Authority. Thus the urgent need to deal with the recognized distribution companies to play this role, as they perform it through a special financial mechanism in dealing with pharmacies and a different financing method that is difficult to implement through direct dealing with the Ministry of Health or the unified procurement authority.
- One of the urgent measures that must be taken is to review how the Unified Procurement Authority deals with medical devices and supplies, which has been in place for two years, as the focus is on purchasing at reduced prices as the sole goal of procurement, which leads to flight of local investments as a result of their inability to fulfil the required requirements. Therefore, the problem must be quickly remedied and solutions found so that the same type of problems do not recur with medicines.
- The preparation of detailed executive regulations for the new regulatory bodies must be expedited, with specific performance standards to avoid monopolizing decision-making and causing future harm to investors, and with a clear monitoring system over the performance of the two bodies, taking into account the opinions of "local and international" producers, whether companies producing medicines or medical supplies, in addition to regulating the relationship between the Ministry of Health and other concerned authorities, with clarification of the Ministry's tasks and roles.

Second: Measures required to remedy the chronic institutional weakness resulting from distortions in drug pricing and market irregularity:

- Reviewing the pricing system and drawing

on the experiences of other countries in this regard, so that certain categories (such as certain hospitals) are named to provide services at reduced prices, but without generalizing these prices nationwide, as this would decrease exports in the field of medicines, given the strong correlation between the export price and the price in the country of origin. This would drive multinational companies to escape from the Egyptian export market, along with research and development.

- Review the position of local companies and find out their problems, whether related to pricing, import, export, or production.
- Gradual reduction of reliance on imports, especially active substances and intermediate raw materials required for drug production, by creating Egyptian excellence through further research and development in the field of medicines based on Egyptian medicinal and natural plants, especially with the global interest in this type.
- One of the most important weaknesses related to market irregularity is what appears mainly in the shortage of medicines and the disappearance of important items, especially in times of crisis, as 50 percent of registered items are not available, and there are four thousand items that were not produced in the first place despite their registration, in addition to the spread of counterfeit or smuggled medicines. Counterfeit medicine trade represents about 10 percent of drug sales in Egypt, which amounted to about EGP 60 billion in 2018, surpassing the global percentage estimated at 6 percent. This requires the need to take quick and phased measures to regulate the drug market in Egypt to eliminate the phenomena of drug shortages and the spread of counterfeit medicines, especially the disappearance of medicines in times of crises as a result of increased demand on certain items causing their prices to rise.

10. The Egyptian Woman

Although Egyptian women represent almost half of the society in terms of demographic composition, their participation in the labor market does not exceed 24 percent of the workforce, which is a waste of an important human resource capable of significantly contributing to the desired growth of the Egyptian economy.

Recovery (starting from September 2020-June 2021)

- **The first scenario:** Disappearance of the virus or finding a treatment vaccine, the resumption of studies, and return of females to the labor market with greater participation rates. Here some welcome changes may occur that can reduce gender inequality in the labor market in the long term on two sides: The first is the equal division of labor within the household between men and women, and the second is the provision of remote work services for employees and flexibility in working hours as companies become more aware of the childcare needs of their employees.
- **The second scenario:** The virus disappears or a vaccine is found, resumption of studies, and the return of females to their work as prior to the crisis. Here the work of females returns to pre-crisis rates through the state taking some simple and urgent measures to preserve the status of women in the labor market and ensure they retain their jobs.
- **The third scenario:** Disappearance of the virus or finding a vaccine, but the failure of females to return to the labor market like before, due to a number of developments such as excess labor in some sectors, and an increase in the supply of labor, especially after the layoff of a number of workers in the Gulf.
- **The fourth scenario:** Emergence of a second wave of the virus with no vaccine found, suspension of study in schools and nurseries, and the female participation rate continues at the crisis rate, as the situation remains as is in terms of the largest proportion of women staying at home to care for their families while continuing to work online or going to work for certain days only.

- **The fifth scenario:** Emergence of a second wave of the virus, lack of a vaccine and the suspension of studies, and an unprecedented severe decline in female participation in the labor market, as women are liable to leaving their jobs, especially that cannot be done remotely, with potential long-term negative effects on the size of female participation in the workforce, and therefore a large proportion of them resort to working in more exploitative and less stable jobs to earn their livelihood.

Institutional weaknesses revealed by the crisis:

- Lack of a database and information on the size and type of demand for female labor: Setting detailed investment maps from which investment opportunities will emerge, including available job opportunities, their requirements, and the appropriate ones for females.
- Multiplicity of social and cultural obstacles, lack of awareness of legal rights, and the bias of some of them in favor of male employment: Launching awareness campaigns, targeting rural and border areas in particular; increasing public and private sector awareness of their social responsibility; and correcting concepts of women's legal rights, spreading awareness of the methods of claiming rights.
- Gap between educational outcomes and labor market needs: Correcting the education system in general so that its output meets the needs of the labor market, which will enable desirable benefits from both genders, contribute in a more positive way to female employment, and achieve optimal utilization of many idle female capacities; providing appropriate training programs for females in all regions of the country as a quick fix until the education system is reformed.
- Incomplete implementation of programs and initiatives provided by donors to empower women: Coordination and review of these programs to ensure follow-up with women beneficiaries, taking into account both geographical distribution and the content of other initiatives.
- Weak dimensions of empowerment, on top of which are geographical justice, age groups, and different family circumstances: Restructuring the labor market in order to be able to take into account the different conditions of females, including variation in the nature of responsibilities and needs, to avoid bias in favor of one group against another; increase empowerment of all institutions related to women, especially the Ministry of Social Solidarity and the National Council for Women.
- Lack of differentiation between the problems facing small, medium and micro enterprises that are not related to gender, and the problems faced by females specifically, most importantly lack of information: Paying attention to the economic empowerment of women through the small and medium enterprises sector, which is one of the main sectors that provide decent and productive work opportunities for women in various Egyptian regions and governorates; conducting field research with the aim of identifying all problems that hinder women's economic empowerment; focusing on qualifying females for the labor market through programs prepared by the Ministry of Social Solidarity and implemented by the National Council for Women and the private sector; circulating the "Egyptian Women Entrepreneurship Guide" prepared by the Egyptian Center for Economic Studies in cooperation with the National Council for Women in 2018, which is considered a complete reference for women wishing to start a private project or expand an existing one; establishing gender focal points in business associations and similar organizations with the aim of developing an open platform for microfinance to foster financial inclusion and credit programs designed alongside business development services for women entrepreneurs.
- Weak incentives for female self-employment: Ensure that enterprise support targets small, medium and micro enterprises owned by women: Systematically address credit restrictions that hinder women in their attempts to start and grow businesses. These restrictions range from limited financial literacy and gender norms that give husbands control over financial resources and assets to a lack of financial resources that meet women's needs; providing training programs and courses for females in various professional fields and throughout the country, so that women entrepreneurs gain the ability to plan well financially and be able to establish and expand projects.
- Distortions in the labor market, including gender wage differences: Enforcing the articles of the constitution and the legal articles that provide for equality between males and females; amending laws to allow family care privileges for both parents, not just the mother.

11. Sports Sector

The global sports market is estimated at $756 billion annually, and reaches $840 billion annually if indirect industries are included. Egyptian sports occupy a distinguished position at the global and regional levels, as they constitute 25 percent of the volume of sports investment in the Arab world, and contribute 2.7 percent of total investments in various sectors inside Egypt.

Future scenarios: Recovery phase from October until the end of June 2021:

- **The optimistic scenario:** in which the virus recedes. The recovery is expected to continue until the crisis ends completely in mid-October or early November and normal activity returns.
- **The medium scenario:** which assumes the continuation of the virus until the end of the year and the continuation of some precautionary measures. The situation is expected to continue as it was during August and September, that is, return of tournaments and sports activity with continued decline in demand, whether by fans of matches or frequenters of clubs and various sports schools, and thus a decline in the number of players by 15 percent, as in previous crises.
- **The pessimistic scenario:** which assumes a second wave of the virus, return of a complete lockdown, and suspension of sporting activity again, which will result in a decline in the number of athletes and teams by up to 25 percent, a decrease in the revenue of clubs and centers by 30 percent, and the State's inability to prepare for the World Handball Championship, which threatens its holding. Consequently, the State loses much expected revenue and investments.

Institutional weaknesses revealed by the crisis and proposals for reform:

Despite the legislative and executive efforts and contributions, the entertainment side of the sector remains more conspicuous than the economic side, causing the loss of many opportunities and investments that could contribute to raising the rates of Egyptian economic growth through:

1- Reconsidering sports in general, its definition and fields, as well as paying attention to all games and those who practice them, not just football.

2- Need for a detailed database of players, and provision of information and data necessary to invest in the sector.

3- Encouraging financial institutions and individuals to finance future talents

4- Establishing a mechanism for spreading healthy competitions in sports, especially for informal teams, and providing them with appropriate financial returns.

5- Increasing youth centers to achieve more geographical justice, achieve proportionality between them and the population, and adopt non-traditional ideas regarding youth centers designated for girls.

6- Continuous and effective coordination of the Ministry of Youth and Sports with the Ministries of Education, Higher Education, Culture and Tourism and the ministries concerned with the sports sector.

7- Properly enforcing the laws regulating the sports sector to achieve maximum benefit from its investments, as well as prevent monopolistic practices.

8- Benefiting from sporting events in promoting Egyptian tourism and painting a positive image of the Egyptian State

9- Integrating the informal sector into the formal system of sports at nominal costs, with the aim of encouraging them on the one hand, and achieving adequate health conditions for sports practitioners on the other.

12. Oil Sector

The oil sector contributes significantly to GDP by 8.4%. It typically attracts the majority of FDI in Egypt. In FY2018/19 it accounted for 74.3 percent of total foreign investments (over $10 billion), and it employs more than 166 thousand workers.

Future scenarios: Recovery phase from October 2020

- A positive demand shock is expected, as the global economy recovers and demand for oil is expected to rebound from 90 to 99 million barrels over the next year.
- This is the only period when a significant negative impact for the Egyptian oil sector occurred due to oil FDIs decreasing. In particular, British and Italian companies operating in the Egyptian oil market are unlikely to sign any FDI concession agreements to consolidate their losses.
- Although oil FDIs reached $8.85 billion in FY2018/19, they are expected to fall in FY2019/20. This will not only impact FDI inflows, with oil FDI accounting for over half of total, but will also result in the country having a deficit in oil inflows in the future, because of a lower expansion and production in the sector.
- Oil flows through the SUMED pipeline are expected to rebound within the next few months, but are not expected to reach pre-COVID-19 levels before mid-2021.
- While fuel and consumer prices for the consumer are not expected to decrease due to lower import costs, the subsidy bill for the government is expected to fall. The subsidy bill for fuel and electricity was projected to be EGP 53 billion for FY2019/20 instead of 38 billion.
- The oil industry is one of the few sectors that brings opportunities to affect the economy in a positive way as a result of the COVID-19 crisis. These positive opportunities were felt in the past and will continue to affect the country's economy in the short- and medium-terms. However, it will also have negative effects in the long term.

Institutional weaknesses revealed by the crisis and proposals for reform:

The Egyptian oil sector has suffered from institutional weaknesses prior to the COVID-19 crisis. These weaknesses were more conspicuous after the crisis, and were responsible for the modest response by Egypt to the positive opportunities that emerged during COVID-19 (significant drop in oil prices due to the lockdown in an attempt to contain the outbreak). These weaknesses and the needed actions to mitigate them are presented below:

1- **Weak governance and institutional bureaucracy:** There is an urgent need to untangle the existing structure of the Ministry of Petroleum and Mineral Resources, which places oil and gas exploration under EGPC.

2- **Egypt's limited oil infrastructure**: Adjust and develop the Oil sector infrastructure in terms of storage capacity, and used equipment.

3- **Losing oil FDIs due to lower prices:** Using our competitive edge in natural gas to help ensure continued investment in the oil sector

4- **Becoming more dependent on oil in the future due to its decreasing price:** Define/develop a clear Medium/Long term plan for renewable energy in Egypt, through a real future vision with specific goals targeting utilizing Egypt's potential in green energy as an alternative source That builds on previous successes such as the BENBAN project for solar energy near (Aswan governorate).

1. Agricultural Sector

Lead Researcher: **Ahmed Dawoud**

First: Brief description of the subject of the report

The description begins with an analysis of the overall picture of the agricultural sector in terms of production, employment and trade, and then turns to some important details, specifically on the plant side.

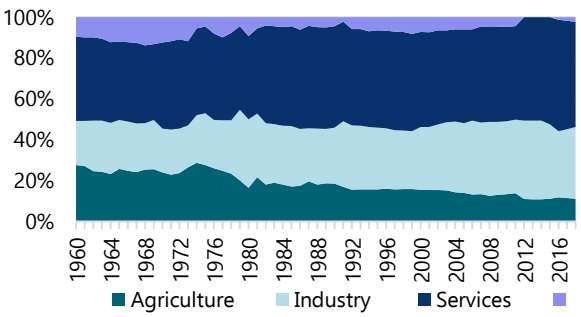
1.1 Value-added and employment in the agricultural sector

The agricultural sector is one of the most important sectors of the Egyptian economy, as it represents 11.2 percent of GDP and employs about 23.8 percent of total labor in Egypt.[1] However, the relative importance of the sector has declined substantially over the past decades compared to the rise in the relative importance of both manufacturing and services sectors.

While the sector's contribution to GDP decreased by 5.8 percent during the period 1991-2018, it increased for both manufacturing and services by 3 percent and 2.8 percent, respectively, as shown in Figure 1.1. As for employment, the percentage of those working in agriculture decreased by 15.5 percent, while rising by 6.3 percent and 9.2 percent for both manufacturing and services, respectively, during the same, as shown in Figure 1.2.

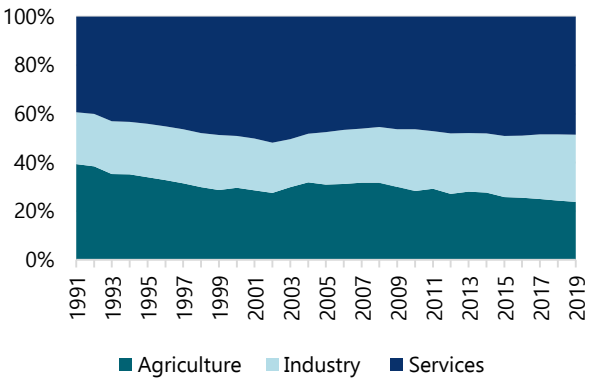
It is clear from the above figures that the contribution of the agricultural sector to GDP decreased more than its contribution to employment during the period 1991 - 2019 as shown also from Figure 1.3. This means a decline in the income of workers in the sector and a rapid deterioration of their living standards, given that they share a lower added value over time.

Figure 1.1. Share of the Main Economic Sectors in GDP



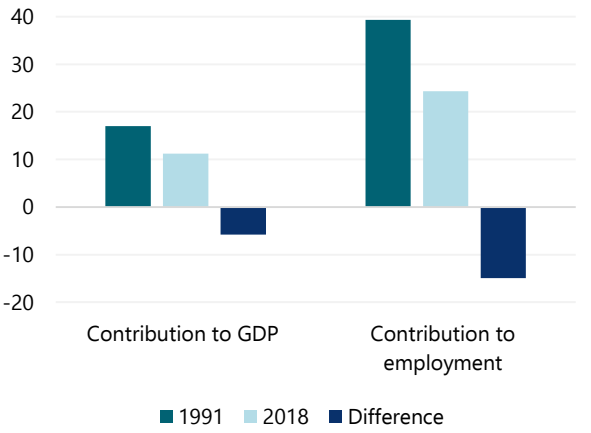
Source: Prepared by ECES based on the World Bank database, International Development Indicators, https://bit.ly/2KSd8Ff

Figure 1.2. Percentage of Workers in the Main Economic Sectors in Egypt



Source: Prepared by the Egyptian Center for Economic Studies (ECES) based on the World Bank database, International Development Indicators, https://bit.ly/2KSd8Ff

Figure 1.3. Contribution of the Agricultural Sector to GDP Declined Faster than its Contribution to Employment Over the Period 1991-2018



Source: Prepared by ECES based on the World Bank database, International Development Indicators, https://bit.ly/2KSd8Ff.

1.2 Agricultural exports and imports

Tables 1.1 and 1.2 as well as Figures 1.4, 1.5, 1.6 and 1.7 illustrate the development of Egyptian agricultural exports and imports, as value and rate of change, as well as a percentage of total Egyptian exports and imports.

[1] (CAPMAS 2019).

Table 1.1. Development Stages of Egyptian Exports, 1960-2017

Stage	Value of Change	Rate of Change	Percentage of Total Exports
1960 - 1974	The value of agricultural exports increased from $368 million to $982 million.	167%	Agricultural exports represented about 70 percent of total Egyptian exports on average. Cotton represented more than two-thirds of agricultural exports.
1974 - 2000	The value of agricultural exports declined from $982 million to $518 million.	-90%	The percentage of agricultural exports to total Egyptian exports declined from 65 percent to 8 percent due to the decrease in the relative weight of cotton in agricultural exports from 48 percent to 2.2 percent, a significant decrease that was not compensated by other agricultural exports, in addition to the diversification and increase of Egyptian non-agricultural exports.
2000 - 2017	Exports increased from $518 million to $5 billion.	864%	The percentage of agricultural exports in total Egyptian exports increased from 8 percent to 20 percent, mainly due to the increase in Egypt's exports of vegetables and fruits, with the value of their exports increasing 20 times during this period.[2]

Source: Prepared by ECES based on the UN Food and Agriculture Organization database, https://bit.ly/2VZdDUB.

Figure 1.4. Total Value of Egyptian Agricultural Exports in Billion Dollars

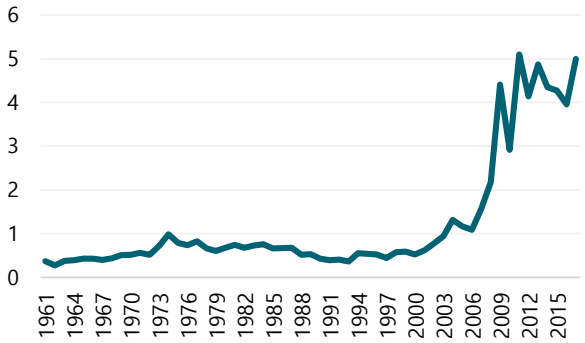
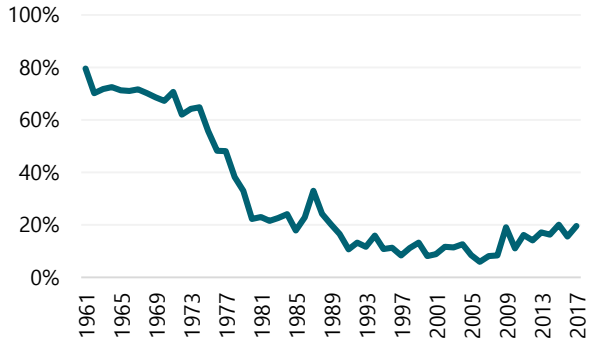


Figure 1.5. Agricultural Exports as a Percentage of Total Overall Egyptian Exports



Source: Prepared by ECES based on the UN Food and Agriculture Organization database, https://bit.ly/2VZdDUB.

Table 1.2. Stages of Development of Egyptian Imports, 1960 - 2017

Stage	Value of Change	Rate of Change	Percentage of Total Imports
1960 - 1970	Relative stability of agricultural imports at $260 million on average.	10 percent up or down on average, on an annual basis	33 percent on average, with intense fluctuation around this value from year to year.
1970 - 1982	A significant increase in agricultural imports from $214 million to $3.6 billion.	1403%	37 percent on average, with fluctuation around this value also from year to year.

[2] Several studies indicate that the export leap in fruit crops and some types of vegetables resulted mainly from the efforts of the private sector and not from a policy set forth and implemented by the state.

Stage	Value of Change	Rate of Change	Percentage of Total Imports
1982 - 2005	Relative stability at $3.2 billion on average during this period.	Annual fluctuation between 28 percent and (-22 percent)	The percentage of agricultural imports in total Egyptian imports decreased significantly from 35 percent to 15 percent, as the value of non-agricultural imports continued to rise.
2005 - 2017	The value of agricultural imports increased from $4 billion in 2005 to $15 billion in 2012, and fluctuated thereafter until 2017, noting the big jump that occurred from 2005 to 2010, and then exports declined.	Net increase of 229%	The percentage of agricultural imports in total Egyptian imports increased from 17 percent in 2005 to 21 percent in 2017.

Source: Prepared by ECES based on the UN Food and Agriculture Organization database, https://bit.ly/2VZdDUB.

Figure 1.6. Total Value of Egyptian Agricultural Imports in Billion Dollars

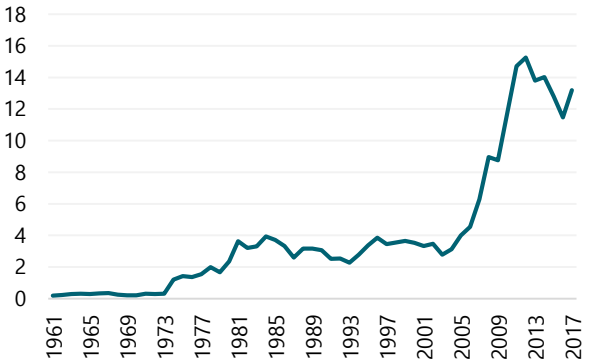
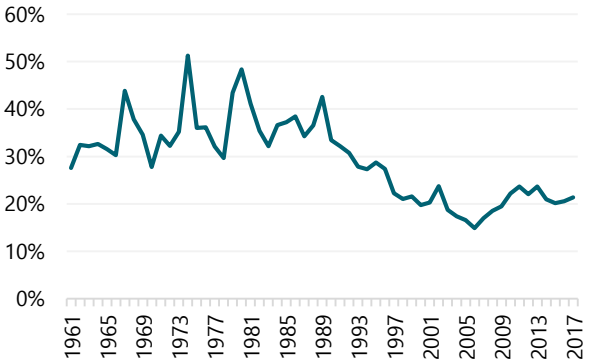


Figure 1.7. Agricultural Imports as a Percentage of Total Egyptian Imports

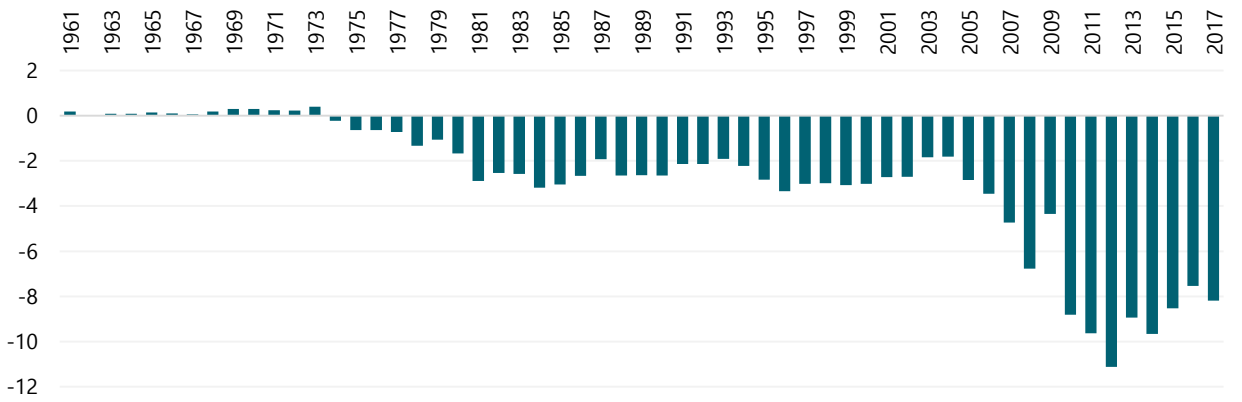


Source: Prepared by ECES based on the UN Food and Agriculture Organization database, https://bit.ly/2VZdDUB.

1.3 Net impact on the agricultural trade balance

Although the value of both agricultural exports and imports gradually increased since the early 1970s and significantly since the beginning of the millennium, the value of the increase in imports was substantially greater than the value of the increase in exports.[3] This led to a significant increase in the trade deficit beginning in the mid-seventies, as shown in Figure 1.8.

Figure 1.8. Agricultural Trade Balance in Egypt in Billion Dollars



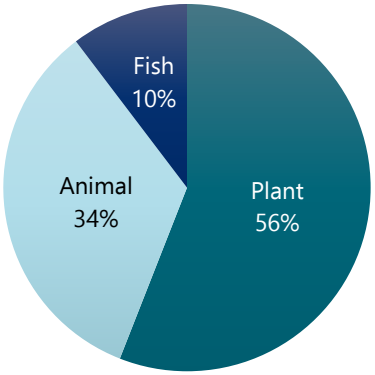
Source: Prepared by ECES based on the UN Food and Agriculture Organization database, https://bit.ly/2VZdDUB.

[3] For example, the net increase in the value of imports during the period 2000-2017 was twice the net increase in the value of exports over the same period.

1.4 The main components of the agricultural sector

The agricultural sector is divided into three main sections: Plants, animals, and fish with a total production value of about EGP 519 billion as per the most recent data shown in Figure 1.9. The value of plant production is EGP 290 billion, or 56 percent, followed by animal production with a value of 175 billion pounds, 34 percent, and fish production, at 54 billion pounds, at 10 percent.

Figure 1.9. Breakdown of the Value of Agricultural Production in Egypt, 2018



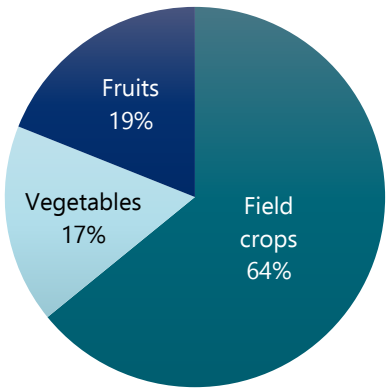
Source: Prepared by ECES based on data from the Central Agency for Public Mobilization and Statistics (CAPMAS), Production and Foreign Trade of Agricultural Commodities, 2018.

It should be noted that this report focuses on plant production only, as the analysis comprises two sections: One for the general characteristics of plant production as a whole, and a special section for the differences between agriculture in the valley and in the desert.

1.5 General characteristics

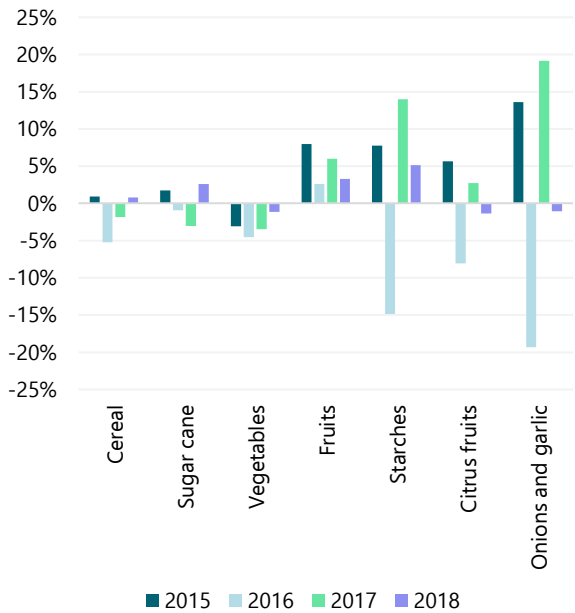
- **Decline in agricultural land per capita**
  - The crop area in Egypt reached 16.4 million feddans in 2017 compared to 10.4 million feddans in 1960, an increase of almost 6 million feddans over 54 years.[4] Despite this increase, per capita crop area decreased from 9.4 qirat to 4.1 qirat in 2017.
- **Egypt's production of grains (especially rice) and vegetables decreased and its fruit production increased since 2014**
  - Plant production is divided into three main types: field crops, fruits and vegetables, at 65 percent, 18 percent and 16 percent, respectively, as shown in Figure 1.10.[5]
  - Egypt's fruit production increased significantly during the period 2014-2018. In contrast, cereal production decreased, especially rice and also vegetables, while there was a clear fluctuation in the production of sugar cane, starches, citrus fruits, onions and garlic, as shown in Figure 1.11.

Figure 1.10. Relative Distribution of the Volume of Plant Production in Egypt, 2018



Source: Prepared by ECES based on CAPMAS data, Production and Foreign Trade of Agricultural Commodities, 2018.

Figure 1.11. Egypt's Production Growth Rate from the Main Crop Groups, 2015-2018



Source: Prepared by ECES based on CAPMAS data, Production and Foreign Trade of Agricultural Commodities, 2018.

[4] Taking into account the cultivation of the land three times throughout the year: winter, summer, and Nile crops (CAPMAS, annual bulletin of crop areas and plant production in 2016/2017).
[5] Field crops: Cereals, legumes, starches, onions and garlic.

- **Decline in the self-sufficiency rate of strategic crops**
  - First, we would like to emphasize that self-sufficiency is not a goal in itself, but the goal is to achieve food security within the framework of achieving an appropriate mix among domestic needs on the one hand, the competitive advantage of Egyptian crops and their rate of water consumption on the other, maximizing the use of limited agricultural land.
  - This can be achieved through a minimum level of self-sufficiency in some strategic crops to insure against any external shocks, with a greater tendency to grow export crops with high economic value, in which Egypt enjoys a high comparative advantage such as vegetables and fruits. Thus, Egypt can achieve hard currency revenue that allows the import of Egypt's needs of goods in which Egypt does not enjoy a comparative advantage.
  - The rate of self-sufficiency in strategic crops, such as wheat, rice and yellow corn, significantly decreased during the period 2014-2018. However, Egypt achieved full self-sufficiency in both fresh fruits and vegetables, citrus and potatoes during the same period, as shown in Table 1.3.

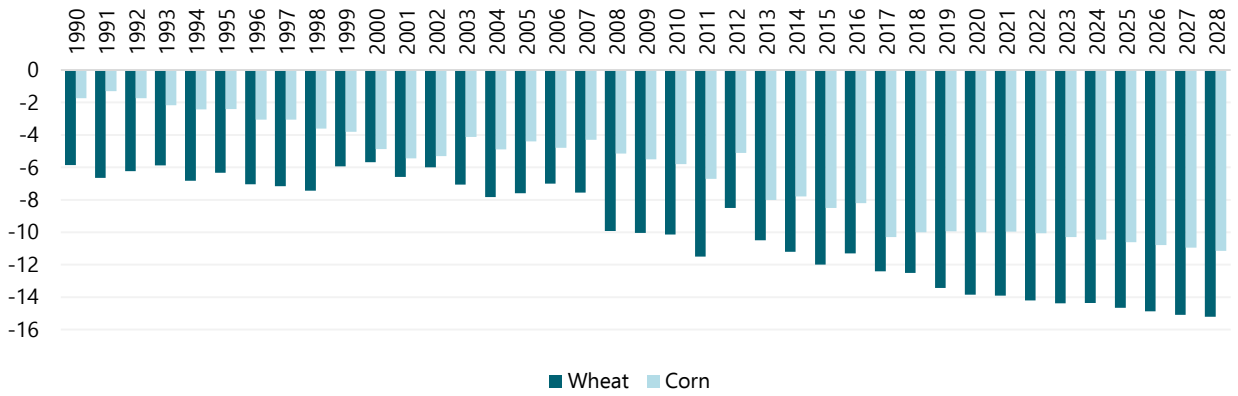
Table 1.3. Self-Sufficiency Rate for the Most Important Agricultural Crops in Egypt

Item	2014	2015	2016	2017	2018
Citrus	125.6	138.8	149.9	156.5	171.7
Potatoes	112.6	110.2	105.4	116.3	111.4
Fresh vegetables	103.1	102.6	103.4	103	102.6
Fresh fruits	99.2	96.2	98.4	99.3	100.6
Rice	100	102.6	99.7	94.2	90.7
Yellow Corn	65.1	56.2	56.3	47	49.9
Wheat	52.1	49.1	47.7	34.5	34.7
Beans	33.8	31	20	30.7	12.4
Lentils	1.3	1.6	2.1	1.8	1.1

Source: Prepared by ECES based on CAPMAS data, Statistical Yearbook, 2019.
Self-sufficiency = Domestic production divided by domestic consumption.

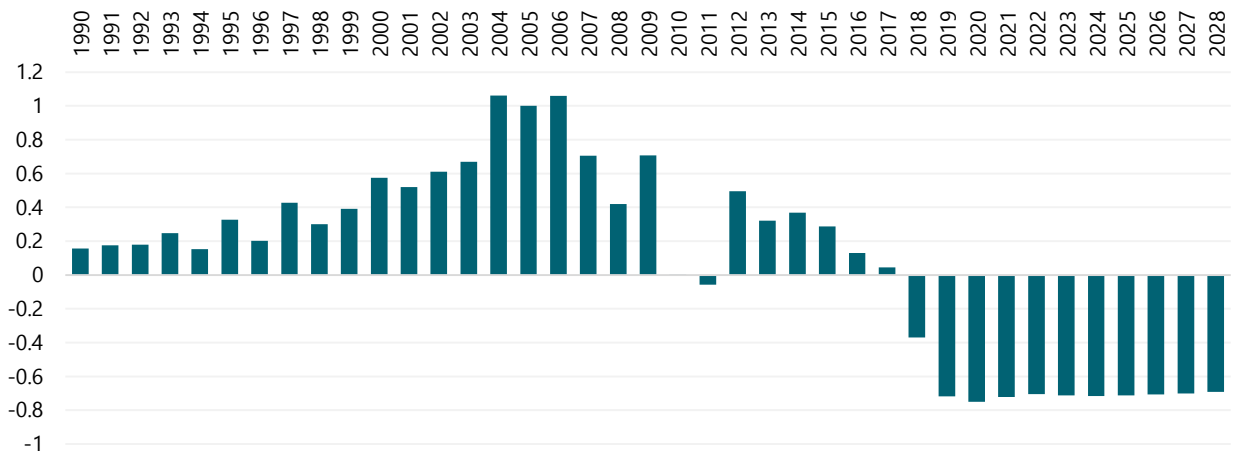
- **Increase in the trade balance deficit of key strategic crops**
  - The decline in self-sufficiency rates is a major driver of the agricultural trade balance deficit in Egypt. This is mainly due to the decline in production for some crops, such as rice, for example, for which cultivated area was reduced due to its high water consumption, or the lack of increased productivity in other crops in a way that copes with increasing local consumption as a result of the population increase and growth of livestock, such as wheat and corn, for example.
  - Figures 1.12 and 1.13 illustrate the continuous rise in the trade balance deficit of wheat and corn since the 1990s to record 13.4 and 10 million tons, respectively in 2019. The deficit is expected to continue to rise to 15.2 and 11.1 million tons each, respectively in 2028. As for rice, it has moved from achieving a surplus of 368 thousand tons in 2014 to a deficit of 718 thousand tons in 2019, and is expected to increase to 691 thousand in 2028 as shown in the figure. Figure 1.14 shows the development of the trade deficit of cereal crops in Egypt in billion dollars.
  - The rate of self-sufficiency in strategic crops, such as wheat, rice and yellow corn, significantly decreased during the period 2014-2018. However, Egypt achieved full self-sufficiency in both fresh fruits and vegetables, citrus and potatoes during the same period, as shown in Table 1.3.

Figure 1.12. Trade Deficit of Wheat and Corn in Million Tons



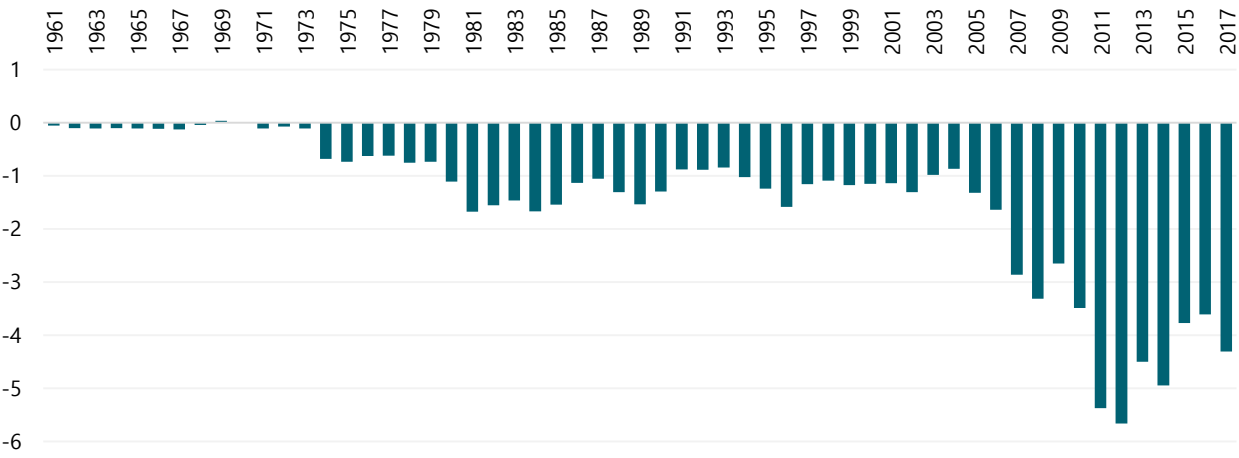
Source: Prepared by ECES using the agricultural outlook database of the Organisation for Economic Cooperation and Development (OECD) and the UN Food and Agriculture Organization (FAO).

Figure 1.13. Trade Deficit of Rice in Million Tons



Source: Prepared by ECES using the OECD-FAO Agricultural Outlook Database.

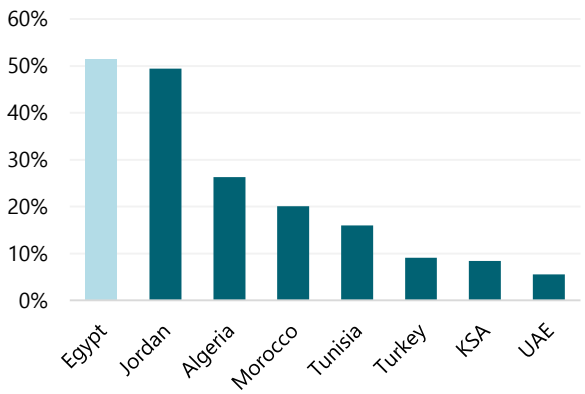
Figure 1.14. Grain Trade Balance in Billion Dollars



Source: Prepared by ECES based on the FAOSTAT, https://bit.ly/2VZdDUB .

- **Egypt's increasing vulnerability to external shocks and adverse effect on the balance of payments**
  - Vulnerability is largely related to the import of strategic crops such as wheat and rice, which are commodities whose prices are determined globally without Egypt having any control in this respect. Consequently, the Egyptian import bill of these commodities moves up and down with changing global prices.
  - Adding to this fragility, Egypt is not using its purchasing power as the largest importer of wheat in the world to obtain better prices. This is due to various reasons, most important of which is institutional weakness, absence of the necessary expertise to manage government tenders as efficiently as possible, and control of short-term vision.
  - This negatively affects the balance of payments, and leads to Egypt losing a large portion of the hard currency needed to import food commodities. In this regard, United Nations data indicate that Egypt spends 52 percent of its total export earnings on importing agricultural products. This is a high percentage compared to neighboring and competing countries such as Tunisia (16 percent), Morocco (20 percent) and Turkey (9 percent) as shown in Figure 1.15.

Figure 1.15. Percentage of Total Export Earnings Spent on Agricultural Imports, 2017

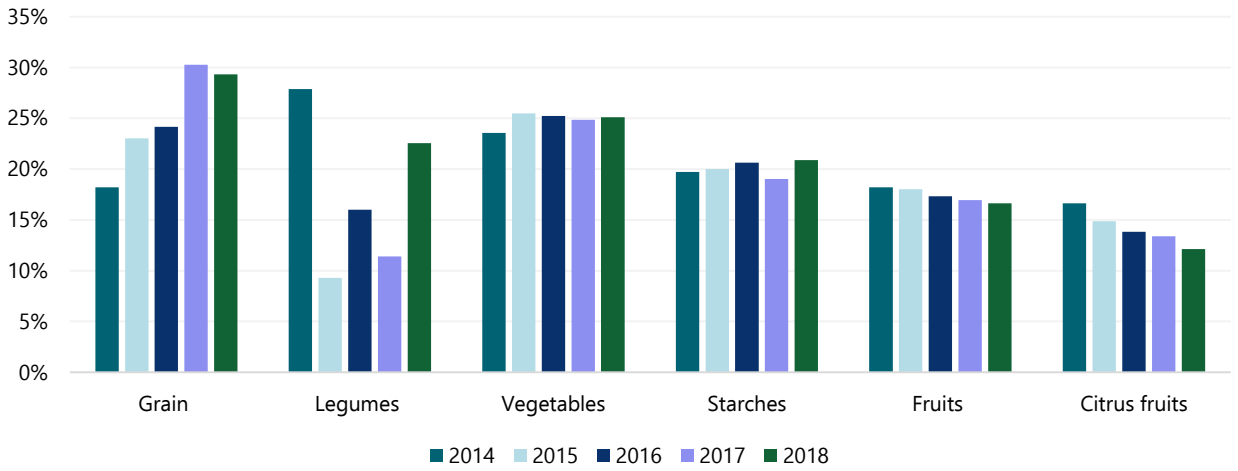


Source: Prepared by ECES based on FAOSTAT, https://bit.ly/2VZdDUB

- **High rates of strategic crop wastage**
  - Wastage in strategic crops in Egypt is higher than in most countries. The grain wastage rate increased from 18.2 percent of total domestic production in 2014 to 29.3 percent in 2018. This percentage rises to 57 percent in the case of wheat.[6] Legumes saw severe fluctuation in wastage as a percentage of total domestic production during the comparison period, while there was relative stability in vegetable wastage around 25 percent. In contrast, fruit and citrus wastage decreased slightly during the same period as shown in Figure 1.16. This is largely due to the fact that a large part of fruit production in Egypt is linked to the exporting private sector, which is able to adopt modern technology in harvesting, transport and storage.
  - However, legumes in particular are a very special case, because Egypt is a net importer of the most important types, such as chickpeas, lentils, dry beans, and lupine. The percentage of wastage in these crops is several times their local production, which means that we also lose a large part of what we import.
  - The economic and social repercussions of the wastage are very serious in a country that depends heavily on food imports, and has limited prospects for increasing production in light of the weak ability to increase arable land and water scarcity.
  - Wastage occurs in all stages of production and marketing of agricultural crops, but mostly occurs in the stages of transportation, distribution and marketing (FAO 2019a). For example, (FAO 2019b) the FAO estimated the wastage of tomato crops in a sample agricultural land in Egypt at 48 percent in 2017—12 percent in the field and 36 percent in the wholesale and retail stages.

[6] Wastage occurs in both domestic and imported production, but wastage has been calculated here for domestic production only to reflect the seriousness of the problem.

Figure 1.16. Wastage as a Share of Domestic Production of Major Crops



Source: Prepared by ECES based on CAPMAS data.

1.6 Differences between agriculture in the valley and delta compared to desert farming

- Desert agriculture began in the 1970s, after agriculture was mainly concentrated in the valley and the delta. The following table shows the most important characteristics of each and changes therein in recent years.

Table 1.4 The Main Features of Agriculture in the Valley and Delta, and the Developments Thereof over the Past Recent Years

Feature	Agriculture in the Delta (old lands)	Agriculture in the desert (new lands)
The cultivated area	- About 6 million feddans, 65.5 percent of the total cultivated area (CAPMAS 2019).	- About 3.1 million feddans, 34.5 percent of the total cultivated area.
Crop structure	- Dominated by the cultivation of field crops and vegetables	- Predominantly fruit cultivation
Export	- All production of field crops from grains and legumes is directed mainly to local consumption and is not exported. The gap is imported because of the low levels of self-sufficiency. - Most vegetables are consumed almost entirely locally, except for potatoes, from which Egypt exported about 14 percent of total domestic production in 2017.[7]	- Fruit production covers the needs of local consumption, with a surplus left that allows for the export of a large proportion of most types. A large part of production is directed to export from the beginning. - For example: Egypt exported about 24% of total orange production in 2017.[11]
Holding size	- Agricultural holdings in the old lands are very fragmented, as 95 percent of agricultural holding size in Egypt consists of five acres or less, as shown in Figure 1.17. - However, holdings on the ground are often more fragmented due to inheritance from generation to generation without transferring or changing the original title deed. - The fragmentation of land holdings adversely affects agricultural productivity, due to essential differences in the method of managing small lands compared to large holdings.	- Most of these lands consist of relatively large farms compared to the old lands (more than five feddans), which is reflected in the small number of agricultural holdings as they represent less than 5 percent of the total number of holdings in Egypt. - The cost of investing in desert lands is high, which necessitates reclaiming large areas to benefit from economies of scale.

[7] FAOSTAT.
[8] Ibid.

Feature	Agriculture in the Delta (old lands)	Agriculture in the desert (new lands)
Marketing position and market access	**Weak** - Land fragmentation leads to limited production, thus weakening the bargaining power with the intermediary merchant, without whom the farmer cannot access the market. - The intermediary trader takes 25-40 percent of the final sale price, which limits farmers' profits.	**Strong** - The large production volume of these farms enables them to directly access the domestic and external market easily without the need for a long chain of commercial intermediaries. This gives them a strong negotiating position and greater ability to determine crop prices and production inputs, thereby maximizing profits.
Economies of scale	- Fragmentation of holdings leads to underutilization of economies of scale in employing agricultural and harvesting technology and not obtaining production inputs at lower prices. - Also, small holdings mean high costs and low returns per unit of output.	- The large crop area of one holding enhances the ability of these farms to benefit from economies of scale. It enables them to employ modern technology in agriculture and harvesting and to obtain production requirements at better prices and higher quality.
Access to finance	**Weak** - Total credit provided to the agriculture sector as a whole was 1.2 percent of total domestic and foreign credit in June 2019 compared to 7.8 percent for trade, 9.1 percent for services, and 23.7 percent for manufacturing (CBE 2019). - Delta farmers mainly depend on the Egyptian Agricultural Bank to obtain credit. Nevertheless, over the decades, the Bank has faced many challenges and problems that caused farmers to lose confidence in it, which severely limited its financing role.	**Weak** - For the same reason as well, however large-scale, high-yield farms are often more able than small farmers to obtain credit.
Profitability per feddan	- Profitability per feddan is lower in the valley and delta compared to desert lands. This is due to: - The prices of cereal crops in these lands are linked to international prices, according to which the government is pricing the crop. - Low net feddan yield for field crops compared to vegetables and fruits. For example, the net yield of wheat feddans was about EGP 4,000, compared to an average of EGP 18,000 for watermelon in 2016/2017, as shown in figures 1.18 and 1.19. - The small size of the holding allows only one crop to be cultivated in most cases, which means a definite loss if the price of this crop falls in the market. - Inability to take advantage of economies of scale to reduce production costs on the one hand and negotiate a higher selling price on the other.	- Profitability per feddan is higher in desert lands compared to the valley and delta, due to: - Prices of exported fruit crops are not linked to world prices, but are determined according to considerations of quality, time (logistics), and bargaining power. - Clearly high net yield per feddan. - The large size of agricultural holdings provides the advantage of dividing them into different types of crops, which reduces the possibility of loss. - The ability to maximize benefit from economies of scale to obtain appropriate prices for both output and production inputs.
Stability of productivity	**Very fluctuating from season to season** - This is mainly due to either unfavorable weather conditions, such as the Dragon Storm that Egypt witnessed in the past winter, which led to a decline in the productivity of most agricultural crops. - Or there are fundamental differences in the quality of seeds and seeds imported from one year to another, which leads to either an unexpected and severe weakness in production as happened to tomatoes and potatoes in 2018, or, in contrast, a sharp increase in productivity. - This causes price shocks that affect farms as well as the final consumer.	**Less volatile** - Fruits are a permanent crop that settles in the ground for a long time, so their overall yield fluctuations are lower than other crops.

Feature	Agriculture in the Delta (old lands)	Agriculture in the desert (new lands)
Access to water	- Flood irrigation is an Egyptian feature since the time of the Pharaohs and has not changed, especially with poor agricultural guidance in the Delta lands. - The weak agricultural drainage system, and failure to develop it quickly enough, led to agricultural lands not recovering from the effects of the period before implementation of the agricultural drainage project in the seventies. - Extreme randomness in the distribution of agricultural crops, and the inability of the Ministry of Irrigation to determine the amount of water to be pumped into the main canals due to the different water needs of each crop. - Water flow fluctuations in canals. Water is often insufficient or excessive. - Lands' poor water access, especially lands located at the far end of the branch. This is because the branch canals are not cleaned and expanded regularly, as this is the responsibility of farmers, not the Ministry of Irrigation.	- Modern technological methods are used for irrigation, specifically sprinkler and drip irrigation. - Decreased level of groundwater in recent years, and the inability to implement new expansionary investments due to limited water (Sultan 2019). - Divide the water share among exporters equally without taking into account the water needs of each individual crop. - The high energy costs of water drawing equipment. - The high cost of drilling wells and installing water pumps, due to the severe bureaucracy and difficulty in obtaining necessary licenses (FAO 2017).
Management of the agricultural system and the role of cooperative activity	Despite economic reforms and the move towards a more market-oriented economy in the agricultural sector starting 1987, the State still controls the agricultural production system in the Delta, through cooperatives. Cooperatives are used as a tool for managing the agricultural system in Egypt. There are two types of agricultural cooperatives in old lands: - Agricultural credit cooperative associations numbering 4,313, with approximately 4 million members. - Cooperative associations for agrarian reform, numbering 761 associations, with a total number of 417 thousand members. - The services of the agrarian reform associations are relatively better than the other two types, due to the high capital, which amounts to EGP 150 thousand on average per society, compared to EGP 37 thousand and EGP 22 thousand for each of the agricultural credit and reclaimed lands societies respectively, as shown in Figure 1.20.	- The number of cooperative societies for reclaimed lands is 626, with a total number of 296 thousand members. - In general, the role of cooperatives in new lands is marginal and very limited, because they depend on individual ownership and are largely independent from the Egyptian government in making productive and export decisions. - Nevertheless, the role of the "Haya" association has emerged specifically in supporting the "horticulture" industry in Egypt. It is an association established in 1996 that provides many export and agricultural services to its members by relying on annual membership fees as well as companies along with civil society, international donors and the government.
Agricultural wastage	- Very high and growing due to aging harvesting methods, the lack of good logistical services, especially with regard to transportation, in addition to the weak storage infrastructure for grain crops in Egypt. - The domination of a complex informal network over distribution, marketing and sale of vegetable crops in Egypt.	- High but less than its counterpart in the valley and delta due to the more aware management and the ability of owners of large farms to make the necessary investments in harvesting technology, transportation and storage to meet the requirements for export abroad. However, the part of the crop directed to the local market is often subject to the same type of problems that face crops grown on old lands, especially in relation to post-harvest services.

Figure 1.17. Size of Agricultural Holdings in Egypt*

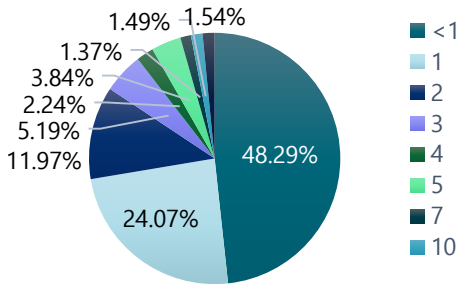


Figure 1.18. Net Yield of the Most Important Summer Field Crops Per Feddan, in thousand EGP, 2016/17 **

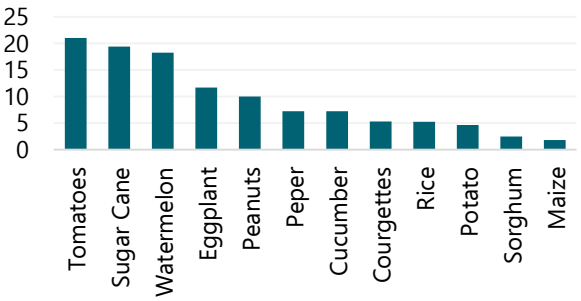


Figure 1.19. Net Yield of the Most Important Winter Field Crops Per Feddan in thousand EGP, 2016/17**

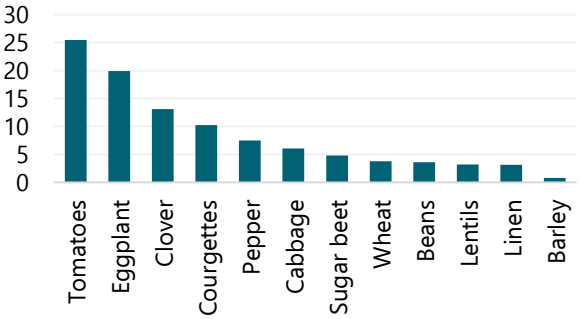
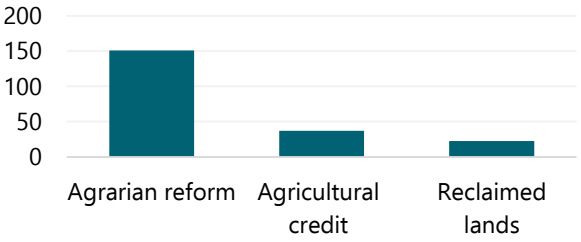


Figure 1.20. Average Capital of a Single Society according to Type, 2017/18, in thousands of EGP***

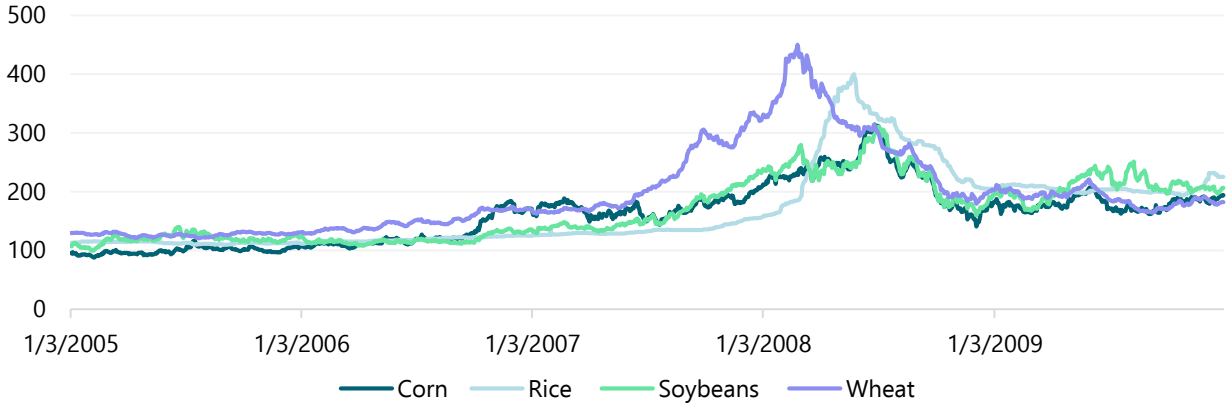


Second: The impact of previous crises on the agricultural sector in Egypt

- The world witnessed an acute food crisis in 2007, followed by a similar wave in 2010. The crisis was mainly associated with the exacerbation and ebbing of the global financial crisis. The following is the general context of the crisis and its most important determinants and repercussions on Egypt.
- The global food crisis in 2007 led to a rise in the prices, especially strategic crops such as grains, the most important of which are wheat and maize, whose prices more than doubled between 2007 and 2008, as shown in Figure 1.21.
- The crisis was fuelled by a combination of supply and demand factors, in a manner that drives prices higher (Harrigan 2018).
    - In terms of supply, drought hit major food crop producers such as Australia, East Asian countries and Russia, which drove these countries to place maximum limits on their exports.
    - As for demand, it rose sharply on food crops for use in biofuel production as an alternative to petroleum, whose prices have increased substantially at that time.
- However, food and petroleum prices quickly declined in late 2008 due to the global economic slowdown. But once economic recovery began gradually, the world witnessed a new wave of high food prices that started in June 2010, as shown in Figure 1.21 and continued for a longer period of time. The reason is that all the structural imbalances underlying the 2007 crisis were still present (Harrigan 2018).
- Due to heavy dependence on imports to secure about 10 million tons of wheat and about 5.2 million tons of corn in 2008, the crisis has led to many negative economic, social and political repercussions, as shown in Table 1.4.

* *Sources:* Prepared by ECES based on: (*) CAPMAS data, Statistical Yearbook, 2019; (**) Annual Bulletin of Agricultural Income, 2016/2017; (***), Cooperative Activity in the Agricultural Sector, 2017/2018.

Figure 1.21. Strategic Cereal Prices, 2000-2020



Source: Prepared by ECES based on the International Grains Council database.

Table 1.5. Implications of the Global Food Crisis for Egypt

Economic implications	Trade deficit • Egypt could not distance itself from the increase in world prices. The value of Egyptian agricultural imports, as well as the agricultural trade deficit, began to move up and down along the same pattern of change in world prices, as shown in Figures 1.22-1.26.
	Negative impact on public finances • The state included millions of citizens in the ration card system as a mitigation measure for the increase in prices. It doubled spending on ration support, increasing from EGP 9.4 billion in 2006/07 to EGP 21.1 billion in 2008/2009.[9] • Although a step in the right direction to reduce the burden on the most vulnerable groups, implementation has been carried out in a manner that does not meet all the required institutional standards. This created many problems that began to emerge in subsequent years.
	High agricultural costs • Inflation rate in producer prices in the agricultural sector increased from 16.5 percent in September 2007 to 25.5 percent in June 2008. The high prices of agricultural inputs, especially grains, pesticides, agricultural equipment and tools due to being imported from abroad, were directly passed on to farmers in light of the limited agricultural support provided by the government.
Social repercussions	Adverse effect on food security • Inflation in food and beverage prices increased sharply, from 8.5 percent in November 2007 to 30.9 percent in August 2008, which negatively affected the poorest groups and led to fundamental changes in their food habits. High-nutrition foods were replaced by other types with low nutritional value but high in calories. • The crisis also caused a state of social unrest as a result of the lack of food, especially bread that millions of Egyptian families were unable to obtain. That led to crowds in front of bakeries in a manner that led to many deaths.[10]
Political repercussions	• Several analyses stated that the global food crisis and its economic and social repercussions were one of the main drivers of the January revolution in Egypt (Harrigan 2018).

Source: Prepared by ECES.

[9] Ministry of Finance, the Financial Monthly Bulletin, various issues.
[10] The international press has documented the death of many citizens from heart attacks due to the long wait in high temperatures. It also documented that one of them killed another with an automatic weapon after an argument in front of a bakery.
https://www.theguardian.com/environment/2008/may/27/food.egypt

Figure 1.22. Total Value of Agricultural Imports in Billion Dollars, 2000-2017

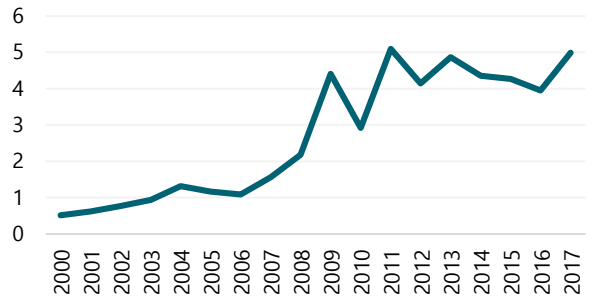


Figure 1.23. The Value of Cereal and Wheat Imports in Billion Dollars, 2000-2017

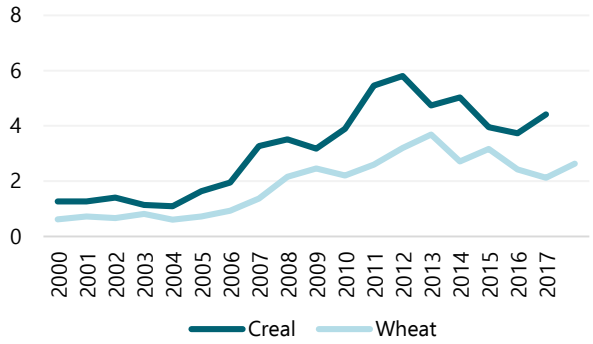


Figure 1.24. Wheat Trade Deficit in Billion Dollars

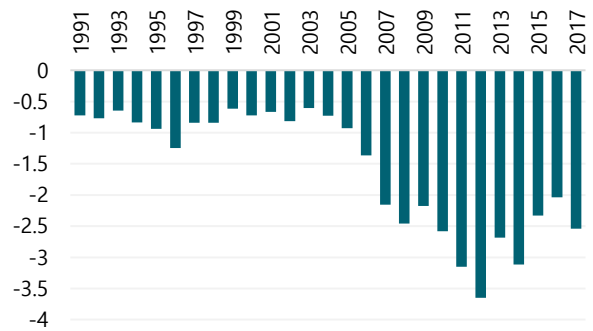
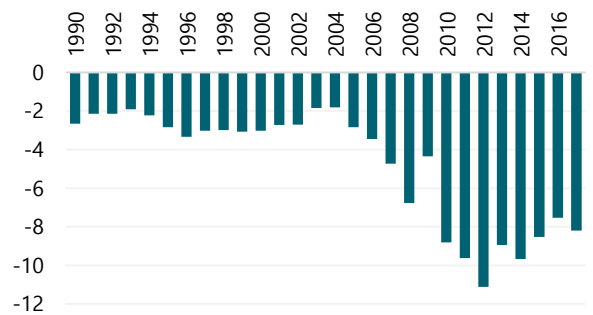


Figure 1.25. Total Agricultural Trade Deficit in Billion Dollars



Source: Prepared by ECES based on FAOSTAT and the database of the International Grains Council.

Third: Demand and supply shocks in the framework of the Corona crisis cycle

First of all, we would like to emphasize that the general governing context of the current crisis is fundamentally different from the global food crisis. The global food crisis resulted from severe shocks to productivity on the one hand and high demand for agricultural crops for use in the production of biofuels as an alternative to petroleum. As for the current crisis, there are no shocks to global productivity and there is a decrease in demand for agricultural commodities for the purpose of biofuel production due to the sharp decline in oil prices.

However, despite the absence of causes of the global food crisis, the current crisis is expected to have a similar negative impact on the agricultural sector worldwide, including Egypt. This is due to logistical problems created by the crisis that led to paralysis in global trade. In addition, the main strategic goods producers, such as Russia and East Asian countries, have imposed a ban on their exports in anticipation of possible shocks.

In general, the expected impact of the current Corona crisis on the demand and supply sides is related to the stage of the crisis cycle. The following table reviews possible scenarios of the impact of the crisis on the agricultural sector at every stage of the crisis cycle in the context of the various assumptions of the supply and demand shocks.

Supply and demand shocks are defined as follows:

Supply shock: Imbalance in the ability of the agricultural sector to provide crops in the internal and external markets.

Demand shock: Rise or fall in demand for specific agricultural crops internally and externally due to the crisis.

As for the assumptions of the analysis, they are as follows:

1. Internal and external precautionary measures affect the agricultural sector through affecting logistics related to obtaining production inputs and marketing the product.
2. The presence of forward linkages between the agricultural sector and all other economic sectors, including tourism, which means that any imbalance in any of these sectors will have immediate consequences

for the agricultural sector itself, as well as for the farmer community.

3. Industry-related crops are greatly affected by any weakness in the performance of the manufacturing industries in particular.
4. The impact of the crisis is mainly related to its synchronous occurrence with the harvest season and the new agricultural cycle.
5. Egyptian agriculture in the field of vegetables and fruits depends on importing seeds.
6. The impact of the crisis coinciding with Ramadan on the agricultural sector.
7. The transport of agricultural goods has been negatively affected by the slowdown in world trade, even if not related to agricultural commodities.
8. Egypt's agricultural trade was affected by availability of information on precautionary measures in different countries.
9. Precautionary measures affected the movement of labour in a way that had negative repercussions on the agricultural sector.
10. In times of crisis, the agricultural sector needs government support, as do the manufacturing and construction sectors.

Table 1.6 Potential Scenarios for the Impact of the Crisis on Egypt's Agricultural Sector

Stage	Demand and/or Supply Shock	Analysis	Impact
1. Emergence of the virus (December 2019 to January 2020)	There are no supply or demand shocks	Beginning of the traditional agricultural cycle. There is no shock in the supply of the main agricultural crops, as they have already been harvested and marketed and a new agricultural cycle has begun. There is no shock to the demand of consumers or the restaurant and hotel sector for agricultural crops at this stage, as no precautionary measures have been taken in Egypt yet.	None
2. The beginning of proliferation (February through mid-March 2020)	There are no supply or demand shocks	▪ Middle of the traditional agricultural cycle ▪ There are no shocks at the level of crops or agricultural employment yet, despite increase in citizens' demand during this period for food products for the purpose of hoarding. However, food processing companies were able to respond to this demand through accumulated inventory from the previous agricultural cycle.	▪ Limited impact on pesticides and agricultural machinery spare parts due to already sufficient local stock.
3. Aggravation of the problem (From mid-March to May 2020)	A strong shock to both supply and demand.	▪ The virus began to spread in Europe on a large scale, and to a lesser extent in the Arab countries. ▪ At the local level: This period witnessed many precautionary measures, such as a curfew, and a complete ban on some activities, such as cafes and weekly popular markets in all governorates of Egypt, as well as a complete halt of tourism, and restaurant services almost completely. ▪ All of this led to violent shocks in both supply and demand, as follows: ▪ **Demand shock** **1. Agriculture in the valley and the delta** The demand shock is mainly due to declining demand from restaurants, hotels and ready-to-eat food companies for major agricultural crops. For example: Many potato manufacturers have breached their contracts with farmers, receiving only 30 percent of the quantity agreed, and at a price much lower than the contract price.	The analysis is divided into two parts, the first part deals with the impact on agricultural crops, while the second part deals with the impact on agricultural employment. **1. The impact on agricultural crops** In general, crops whose harvest coincided with the crisis were severely affected.

Stage	Demand and/or Supply Shock	Analysis	Impact
3. Aggravation of the problem (From mid-March to May 2020) cont.	A strong shock to both supply and demand.	▪ **Second: Agriculture in the desert** ▪ Domestic demand for vegetables and fruits decreased significantly, due to its high-income elasticity, which makes it a non-essential commodity in times of crisis when the income of citizens decreases significantly. ▪ External demand for crops of vegetables and fruits is still relatively stronger than its domestic counterpart, given the high levels of income in these countries on the one hand, and their awareness of the importance of these commodities to strengthening the immune system against the virus on the other hand. However, this demand faces many logistical problems, which we will address in detail in the next section on supply shocks. ▪ **Supply shock**: In general, there is a noticeable decline in the productivity of most crops, whether planted in the valley and the Delta, or the desert due to the Dragon Storm that struck Egypt in mid-March. In addition, the ability to access markets locally and globally due to logistical problems resulting from the crisis has decreased, as follows: **1. Agriculture in the valley and the delta** ▪ The weekly market ban has made it impossible for small farmers to directly market their surplus crops. ▪ Although agricultural transport is excluded from the curfew, there are many problems that have arisen in actual implementation. Most importantly, failure to clearly identify the crops to which the exception applies, which makes it subject to the discretion of the traffic police officer. ECES has identified many cases in which the owners of transport vehicles complained of being arrested on the road, arguing that legumes and medicinal and	For strategic crops, the decline in oil prices has reduced the demand for agricultural crops for biofuel production, which led to a decrease in global prices of strategic agricultural crops such as wheat and corn during the period January - March 2020. However, the prices of all agricultural crops are expected to rise in the medium and long runs, if major producers were to impose a ban on agricultural exports in a way that affects global supply.[11] It is a move already announced by more than one country such as East Asian countries for rice and Russia for wheat. Hence global rice and wheat prices actually increased in April 2020 to $582.25 and $323 dollars per ton, an increase of 14.3 percent and 2.2 percent, respectively, compared to March 2020. However, domestic effects differ from one crop to another according to the nature of the logistical problems created by the crisis on the one hand, and the economics of the same crop on the other, which differ from one crop to another. Below is a detailed analysis of the impact of the crisis on basic crops in the current agricultural cycle in the valley, delta and desert. **Agriculture in the valley and the delta** **Wheat:** Wheat prices were not affected locally, because the government had already set supply prices per Ardeb. However, the net yield per feddan will decline due to the apparent decline in productivity this year, affected by the intensity of the rains that Egypt witnessed during the Dragon Storm. Also, the administrative prices set by the government, though EGP 15 pounds higher per ardeb than last year, the opportunity cost of wheat is still high. **Potatoes:** **First, for the local market**: the decline in demand led to a decrease in the price of a ton to EGP 1,200,

[11] Source: Dr. Saad Nassar, Professor of Agricultural Economics at Cairo University and former Fayoum Governor.

Stage	Demand and/or Supply Shock	Analysis	Impact
3. Aggravation of the problem (From mid-March to May 2020) cont.		aromatic plants they carry are not perishable and therefore are not exempt from the curfew. This resulted in fines and delaying access to markets. The slowdown in road traffic also created a state of fear among drivers about night traffic on the roads in general, for fear of being robbed. Therefore, farmers found it difficult to transport their agricultural crops to markets. **2. Agriculture in the desert** ▪Fruit crops experienced the same local logistical problems, as well as many additional export-related problems. ▪Suspending flights affected perishable fruit crops, most important of which are peaches and strawberries. ▪High shipping costs due to the control of a group of monopolistic companies that exploited the crisis to raise prices. ▪Weak ship traffic in ports and the disruption of many shipments of vegetables and fruits. Many exporters have reported that what used to arrive in 5 days now takes 15-20 days. ▪High costs of storage at customs. ▪The presence of many consignments of fruits seized on the Chinese and European coasts unable to enter. ▪Lack of containers: At that time of the year, containers used to come from the Arab countries loaded with Ramadan goods and returned packed with vegetables and fruits. With the halt of movement	while its cost reaches EGP 4,000 on average. This caused huge losses to farmers, especially in light of weak productivity per feddan this year, reaching about 8 tons on average (in some years it reached 20 tons) due to poor weather conditions and poor seed quality. Also, food processing companies obtained only 30 percent of the contracted quantity, at the market price (EGP 1200) instead of the original contract price (EGP 4000), which aggravated the losses for farmers. To reduce losses, large numbers of farmers tended to freeze their total potato production to use part of it and sell the other part as seeds for the next agricultural cycle, hoping an increase in price when the next planting season comes. But there is a high possibility that the price of seeds will decrease in the next planting season due to the increase in supply, which will exacerbate losses for farmers because of incurring the cost of freezing as an additional loss above their current loss. **Secondly, regarding external market:** Many exporters reported that the price of a ton of exported potatoes decreased from $120 upon contracting to less than $10 currently, due to the presence of a surplus in the world supply of potatoes to the point that led many countries to either dispose of thousands of tons or use it as livestock feed.[12] **Bean:** Most of the domestic production of beans is destined for export to Arab countries as a major commodity there, and with the onset of the crisis, citizens in these countries tended to store large quantities of them. This led to a large increase in demand for beans, so the price doubled to about 24 pounds per kilo. However, the only beneficiary of this price increase is the intermediary and exporter, because they have large quantities stored from last year, and the harvest of the current year has not come out to markets yet. This high price is expected to persist until late May, then decline thereafter as the currently

[12] For example, France disposed of 700,000 tons of potatoes this year, and Australia directed 750,000 tons for use as livestock feed.

Stage	Demand and/or Supply Shock	Analysis	Impact
3- Aggravation of the problem (From mid-March to May 2020) cont.		between Arab countries, there was a severe shortage of containers. Preventing the entry of Egyptian drivers to Arab countries. One exporter stated that Jordan had stopped 100 refrigerators traveling through its territory to Iraq. These forced drivers to enter Iraq through the port of Marcel Turkey, incurring higher costs and losses. ▪In addition, exporters encountered problems preparing the crop for export, as local governments prevented gatherings of workers in warehouses.	cultivated crop goes out to the markets and the global supply of beans increases. This is at a time consumer demand is expected to decrease because they have built sufficient stock. **Agriculture in the desert** **Fruit crops (strawberry, peach, and citrus):** **Strawberry and peach**: Many exporters report that they were able to export only 50 percent of their usual export volume each year due to logistical problems locally and globally. Lack of access to foreign markets in light of the surplus of these crops will lead to a significant increase in the rates of their wastage. In this regard, many exporters have already reported the disposal of thousands of tons of strawberries and peaches. **Summer oranges**: The crisis has positively affected the orange crop, unlike all other crops, because Spain, Egypt's main competitor, has not exported large quantities this year. With increased demand by European consumers on oranges as a fruit that enhances immunity against viruses, the demand for Egyptian oranges has increased, and its prices doubled. **Impact on agricultural employment** The crisis has led to a decline in agricultural employment income due to: ▪ Demand for agricultural labor decreased. At the same time, supply increased after migrant workers returned from urban to rural areas seeking agricultural work as a last resort. ▪ Many fruit farms laid off workers involved in processing fruit, most importantly strawberries in the current season due to weak export activity. ▪ Large farms are unable to pay workers due to withdrawal and deposit restrictions at that time.[13] The strength of social solidarity among rural people in addition to the nature of agricultural work in the harvest season, being similar to piecework and thus can be divided. For example, the total fee for harvesting and packing a feddan of potatoes is around EGP 1000, and takes about 10 workers (EGP 100

[13] This decision was reversed, but caused an unnecessary turmoil at the time.

Stage	Demand and/or Supply Shock	Analysis	Impact
3- Aggravation of the problem (From mid-March to May 2020) cont.			per day each). So, the foreman helps his unemployed relatives and friends by harvesting the crop using 15 or perhaps 20 workers, splitting the thousand pounds among them instead of splitting it among 10. ▪ This is available only in agriculture in old lands, but in new lands where desert farms are large, every worker is required to give a specific productivity daily. This decision was reversed, but caused an unnecessary turmoil at the time.
4. The crisis recedes (Mid-May-August 2020)	The nature of the demand and supply shock during this period depends on the extent of the crisis ebbing and the end of the precautionary measures already taken.	▪ This stage coincides with the beginning of the new agricultural cycle for some crops such as corn, rice, tomatoes, cucumbers, and peppers. ▪ Crops like grapes, pomegranates, dates, guava and mangoes go out to the market. We expect one of the following scenarios: **The optimistic scenario**: the crisis recedes and precautionary measures end. According to this scenario, we expect a gradual improvement in domestic supply and demand, though demand for vegetables and fruits will remain weak. We also expect a gradual improvement in external demand, but it will be slow, especially for fruits, because it is considered a non-essential good in times of crisis, as we have already noted. ▪ The **pessimistic scenario**: the crisis does not subside and precautionary measures continue. The supply and demand shock continue to be similar to the previous stage, but to a lesser degree, with farmers adapting to the crisis. ▪ However, the sector is expected to witness a severe supply shock in the strategic crops due to the tendency of major producing countries to put a cap on their exports of such commodities.	The effect at this stage depends on the expected scenario. **According to the optimistic scenario**, we expect the problems facing agriculture in the Delta to decrease, especially for field crops. However, this cannot be confirmed with respect to desert agriculture, as most of its production inputs are imported. For example, Egypt imports 98 percent of the vegetable seeds from abroad. Accordingly, the recovery of desert agriculture will be greatly affected by the stability and recovery of the global economy and return of global trade to normality. As for strategic crops that Egypt heavily imports like wheat, their prices are expected to rise externally, and the local impact on production and prices remains unclear, and will largely depend on the government's policies in this regard. This means that Egypt needs to revisit its internal and external trade policies with respect to these crops. **According to the pessimistic scenario**, the crops under cultivation at this stage will have problems obtaining all production inputs, especially seeds and pesticides. Crops whose harvesting coincided with this period will also suffer from the same problems experienced by crops already harvested in the previous stage.

Stage	Demand and/or Supply Shock	Analysis	Impact
5. Recovery (as of September 2020)	The nature of the demand and supply shock during this period depends on the extent of the crisis ebbing and the end of the precautionary measures already taken.	▪ This stage coincides with the beginning of the agricultural cycle for crops such as potatoes, beans, peas, wheat, beans, etc. ▪ It also coincides with the harvest season of crops grown in the previous stage, such as rice and maize. ▪ The nature of the demand and supply shock in this period depends on the extent of the crisis ebbing and the end of precautionary measures already taken, similar to the previous stage.	The effect depends on the scenario actually occurring and whether it is optimistic or pessimistic, as in the previous stage. We hereby present only a mini scenario of the potato crop, with the possibility of extending it to all other crops: **Optimistic scenario**: markets are supposed to recover internally and externally in a way that helps farmers sell at a good price and make up for their losses in previous seasons. **Pessimistic scenario**: the problem persists, with the possibility of exacerbation if large-scale refrigeration attempts do not improve prices because the shock still persists.

Source: Prepared by ECES.
Note: These estimates should be read with caution, as expectations may require further reviews due to the developments that occur, whether related to the day-to-day spread of the virus, whose duration and scope are still unknown, or those related to any global or local developments that may affect the estimates directly or indirectly.

From the above analysis it is clear that:

- The crops most negatively affected by the crisis are those whose harvest time coincided with the exacerbation of the crisis internally and externally. This was evident in the case of potatoes whose local price has decreased to EGP 1200 per ton, while the cost reaches EGP 4000 per ton. Export prices abroad have also decreased from 120 Dollars to less than $10 a ton.
- Fruit was also one of the hardest-hit crops, as it is considered a non-essential commodity in times of crisis, with the exception of oranges due to high external demand being an immunity-enhancing fruit.
- As for wheat, it has witnessed two opposite effects since the outbreak of the crisis, Its prices declined clearly during the first quarter of 2020 (February - March) in conjunction with the decline in the prices of corn, sugar cane and other strategic crops due to low demand for biofuel production. However, wheat prices started increasing again as of April due to the tendency of many producing countries to impose a ban on their wheat exports.[14] This calls for a review of agricultural policy and crop composition in Egypt, as will be explained in the next part of the report.
- The crisis negatively affected the income of labor in the agricultural sector, though it did not affect their employment rates due to high demand for agricultural labor during the harvest season.
- The importance of the role that production sectors, especially the agricultural sector, play in the economy in times of crisis. Though severely affected, they have not completely stopped along the lines of the rentier sectors, such as tourism.
- The close link between agriculture and all other economic sectors. This was evident in the agricultural sector being affected by monetary and sectoral decisions that were not directed at it in the first place. For example, setting a maximum limit on withdrawals and deposits and the halt on tourism activities and restaurants, which led to a decrease in the demand for vegetables and fruits by more than 20 percent.
- The extreme fragility of any production changes in other countries, such as Russia, East Asian countries and other major producers of

[14] http://www.fao.org/giews/food-prices/international-prices/ar/

strategic crops such as wheat, rice, corn and oil crops.

- The absence of sufficient information about the differences in precautionary measures between Arab countries, which surprises Egyptian exporters with these measures after already covering long distances with the crop. This compels them to take farther routes, and incur additional costs and high losses.
- The crisis has prompted many farmers to take exceptional measures, such as storing part of the potato crop and selling part as seeds in the coming season. Given these individual measures and limited information on the size of what is already stored at the national level, this will likely backfire.
- The presence of strong social solidarity in the countryside in times of crisis, which helps farmers adapt to crises. This does not mean that they are not affected negatively, but it means the ability to coexist with negative repercussions.
- The farmer makes his productive and marketing decisions based on a cost-benefit analysis. Therefore, the economic incentives for farmers must be an integral component of the agricultural policies adopted by the Egyptian government, whether short or long-term.

Fourth: Specific measures to alleviate the crisis

- The crisis demonstrated the need to take a set of rapid measures aimed at alleviating the impact of the crisis on the agricultural sector, with the importance of distinguishing between large farms on the one hand and small farmers on the other. The latter being affected more than others in light of the weak support provided by the State and lack of contractual farming and agricultural insurance. Accordingly, it is important to consider the following:
- Revisiting the crop composition of the next agricultural cycle, so that Egypt's strategic crop needs could be secured mostly locally in anticipation of any future price increases or any export restrictions imposed by producers of strategic crops, such as wheat. In order to achieve this with the utmost economic efficiency, it is proposed to apply the previously studied wheat cultivation in coastal areas so that the agricultural area of wheat can be expanded without being at the expense of other crops where Egypt enjoys a high comparative advantage.
- Expired permits for agricultural projects should continue to be effective until the crisis ends.[15]
- Consider replacing rice with potatoes on the ration cards for only two months to limit the import of rice, and take advantage of the abundance of domestic production of potatoes this year.[16]
- Debt forgiveness for all defaulters in the agricultural sector, especially small farmers, and enabling workers in the sector to benefit from the central bank's initiatives in this regard.
- The need for logistical coordination between the private sector and all concerned authorities in the government, so that the trucks do not return from the ports empty, but rather loaded with goods of another importer.
- Existence of uniform and clear rules regarding the exclusion of all agricultural crops from the curfew, without leaving the matter to the discretion of traffic officers, while strictly punishing any violations in this regard.
- Speeding customs clearance of all agricultural crops, especially the perishable ones such as vegetables and fruits, and exempting importers and exporters from paying any storage fees as long as the delay is beyond their control.
- Building a detailed database on the precautionary measures that have a direct impact on Egyptian exporters in general and agricultural ones in particular, and constantly updating it, provided that it is publicly available online.

[15] Source: Dr. Saad Nassar, Professor of Agricultural Economics at Cairo University and former Fayoum Governor.
[16] Ibid.

- Stricter control over illegal trade practices that can raise food prices, especially excessive hoarding, monopoly, price hikes, and increased penalties for violators.
- Monitor cooling capacity throughout the country and prepare for storing perishable crops to reduce waste.
- Conduct a rapid survey of food stocks at the national and local levels, to identify gaps and transport commodities from surplus to deficit areas when necessary.
- Including agricultural labour in the initiative of the Ministry of Manpower giving out EGP 500 for a period of three months to irregular employment.
- Temporarily subsidize agricultural production inputs, and compensate those severely affected by low prices.
- Reducing energy prices for agricultural producers, especially desert farms, in light of the low global energy prices.

Fifth: Institutional weaknesses revealed by the crisis

- The agricultural sector still suffers from many structural imbalances and institutional problems that have not been addressed despite the sector experiencing previous crises that called for reform. Examples include the global food crisis to which response was limited to a set of measures to deal with the temporary repercussions of the crisis without reforming the agricultural sector in a real and sustainable manner like most of the world during the two years following the crisis (FAO 2011).
- Among the most important and most urgent of these reforms in Egypt is the necessity of restructuring the Ministry of Agriculture because its current administrative form cannot enable managing the agricultural sector properly.
- Difficulty accessing financing due to the commercial banks' reluctance to lend to agricultural activities as they are highly risky activities. In addition to the weak financing role of the Egyptian Agricultural Bank (formerly the Agricultural Development and Credit Bank) despite its restructuring in 2016. This is due to a gap of mistrust between farmers and the Bank as a result of the many structural imbalances that persisted for decades before the reform process.[17] Therefore, the Government should devise new financing tools to encourage agricultural investment, such as issuing agricultural bonds, because the agricultural sector will not develop without good financing tools that address high risks.
- Non-implementation of agricultural laws that complement the reform of the financing system. Most importantly, the Contractual Farming and Agricultural Insurance Law due to the lack of issuance of the executive regulations. This makes the farmer extremely vulnerable to any unexpected shocks, in addition to being the weakest link in any bilateral contract, as proven in the potato crisis this year.[18]
- The absence of a clear vision of the agricultural sector in Egypt and the lack of commitment to implementing the agricultural strategies that the state put forth since the 1990s. This was reflected in the failure of these strategies to become operational plans with detailed performance indicators, relying instead on administrative decisions that change fundamentally from one minister to another, and often do not take into account the actual needs of farmers.
- Weak coordination between all those concerned with agricultural policies, which often results in a conflict between agricultural policies on the one hand, and manufacturing, export and trade on the other.

[17] Most importantly, the implementation of the policy of recycling agricultural loans and marginal interest that resulted in the default of many borrowers and the loss of their lands, which prompted many farmers to avoid as much as possible dealing with the Bank to avoid ending up with the same fate.
[18] Source: Dr. Saad Nassar, Professor of Agricultural Economics at Cairo University and former Fayoum Governor.

- Weak research and development, due to the limiting government bureaucracy as well as weak funding, most of which is spent on wages and salaries without sufficient budget for investment in research.
- Poor agricultural extension, with the failure of agricultural guides to undertake their role due to being near the retirement age. No agricultural guides have been appointed since 1982, in addition to the lack of confidence of farmers in agricultural guides in many cases, because many of them are also mandated by the Ministry to report on building violations (FAO 2017).
- The most important manifestations of poor agricultural extension are the lower productivity of agricultural crops in the fields compared to that on research farms. For example, average productivity per feddan in Egypt is 18 ardebs, while it reaches 24 ardebs on research farms, mainly due to the absence of the role of the agricultural guide.[19]
- Weak agricultural cooperatives rendering them unable to serve their members, because they lost their two most important roles: providing credit and marketing the crop since the 1970s, in addition to the complexity of the administrative structure of cooperatives in a way that limits efficiency and transparency.
- There are three vertical types of cooperatives and four unjustified horizontal levels of administration for each type. All these types and levels have the same powers and roles and belong to the same authority, and the laws of their establishment were consolidated in one law.[30] Moreover, cooperatives suffer from severe interference of the Ministry of Agriculture in their work, which made their members lose the sense of ownership and discouraged them from developing performance due to the inability of their boards to take any decision without the approval of government representatives.
- Weak market signals and failure to reach farmers correctly, which limits their ability to make sound production decisions, due to the decline in the role of cooperatives and the control of a wide network of commercial intermediaries over the supply of production requirements and marketing of the crop. This means lack of sufficient and clear information on which the farmer builds his productivity decisions.

[19] It is assumed that the function of the agrarian reform societies and land reclamation societies ends once the value of the land or the principal of the loan has been paid, with farmers turning thereafter to the agricultural credit societies. This, however, has never happened, due to the unwillingness of that branch of cooperatives to lose the contributions of its members, and the members are resisting the transition because credit cooperatives do not offer better services.

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2. Labor Market

Lead Researcher: **Salma Bahaa**

First: Brief description of the subject of the report

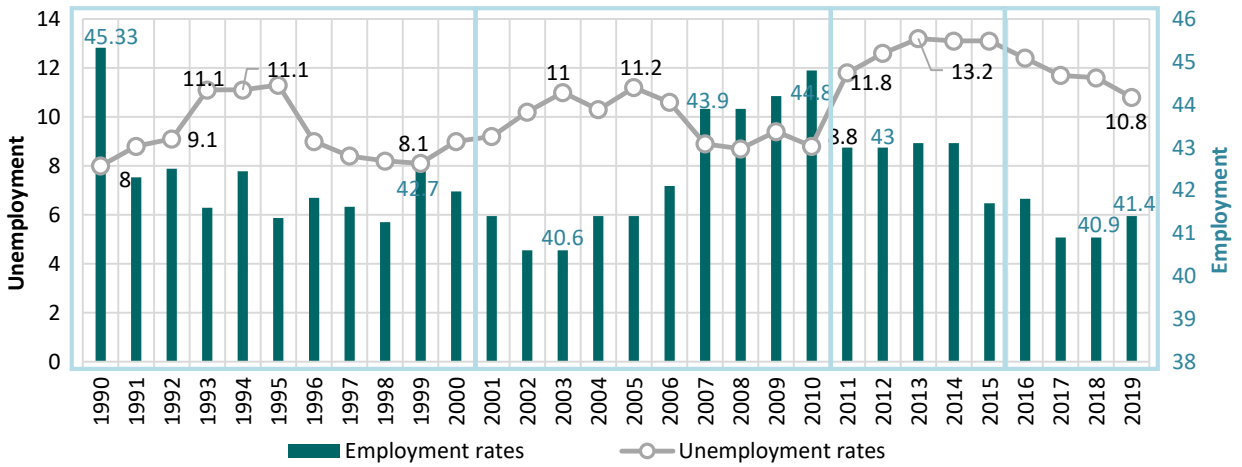
The Novel-Corona virus outbreak has revealed the fragility of labor markets around the world. Though most developing and developed economies alike are following similar containment measures to suppress the spread of the virus, yet the severity of its impact fluctuates according to the macroeconomic performance and labor market institutional and/or structural framework on one hand, and the extent to which current labor market deficiencies will absorb supply and demand shocks of the crisis on the other hand.

As the labor market dynamics vary according to external shocks and corresponding time periods, this report will evaluate these dynamics to trace the impact of the current crisis in light of the five stages of its cycle. To study the adverse impacts of COVID-19 on the Egyptian labor market, we will first point out the evolution of the labor market characteristics according to the macroeconomic situation and successive political directions towards reforming the structural and institutional deficiencies that have intensively amplified over the past decades.

Second: Evolution of Egyptian labor market dynamics during the past three decades

Egypt's labor market comprises a labor force of 28.9 million divided into 26.6 million employed and 2.3 million unemployed. The Unemployment rate reached 8 percent in the fourth quarter of 2019; 22.7 percent among females and 4.7 percent among males (CAPMAS 2019). Unemployment trends have witnessed four periods of clear transformation with the relative vibrant variations in supply and demand on the Egyptian labor over the past three decades. The first begins in the early nineties of the twentieth century, representing a starting turning point for the high rates of unemployment. This has been followed by the beginnings of the new millennium in 2003-2005, then by the end of its first decade after the Global Financial Crisis and the Revolution of January 25th in 2011. The last period came at the end of the second decade between 2016-2019. A number of factors have contributed to this, most importantly the nature of economic reform programs, employment policies, macroeconomic policies, as well as local and global shocks, that varied in its severity and significance according to the relative time period, as shown in the following figure.

Figure 2.1. Evolution of Unemployment and Employment Rates, 1990-2019



Sources: Central Agency for Public Mobilization and Statistics (CAPMAS); the World Bank, World Development Indicators database.

The first period 1990-2000: Has witnessed a remarkable increase in unemployment rates associated with the implementation of the Economic Reform and Structural Adjustment program (ERSAP) and the followed privatization programs. This period marks the beginning of a dynamic transformation in the labor market with a full shift in patterns of labor supply and demand. As Figure 2.1 shows, the largest relative change in unemployment was 44 percent in the mid-1990s. This decline can be explained through two phases:

- The first phase came with the deterioration of economic situations in the early nineties, when the Egyptian government adopted the ERSAP in 1991, that relied on transforming the Egyptian economy into a free market economy, implementing liberalization in all fields. However, it subsequently suffered a recession; given the deflationary nature of the reform program, the volume of private investment required to make up for the lack of public investment or to provide new job opportunities has diminished.[1] This is in addition to privatizing government enterprises, which resulted in increased demand for labor, but only in the private sector. Meanwhile, the supply side continued to pump more youth, which led to an increase in unemployment rates as supply and demand for labor grew simultaneously.
- The second phase occurred when the negative effects of the government policy followed from the 1960s to guarantee employment in the public sector began clearly to emerge. As, with the huge bulge of civil servants in the country's administrative body, persuasive unemployment rates increased. This prompted the Egyptian government to back down from its commitment to employ graduates, which negatively affected the demand side from the government sector. With the ceiling of skills required by the private sector rising, it was also unable - given the persistent skill gap and the low quality of education (supply side) - to compensate for the lack of these jobs. Especially with the acceleration of trade openness and globalization in most sectors and economic activities. This has resulted in a growing labor polarization phenomenon, and consequently an increase in structural unemployment rates.

Accordingly, this period has revealed two structural deficiencies in labor market dynamics, which have continued to worsen over time and to date. The first is the Occupation-education mismatch, especially in the private sector. And the second is the nature of the supply-driven educational system, that directly affects the labor market through an annual burden of new manpower over and above its absorptive ability, as will be seen later.

The second period from 2001-2010: The first years of the new millennium have witnessed the second peak of unemployment curves in Egypt. 2.1. above shows that unemployment increased again between 2000 and 2005. The decline in employment during this period is explained by the implementation of the floating policy for the Egyptian pound in 2003 until 2005. This drastic step has accelerated the pace of economic activity, and hence led to a higher private sector demand for labor, while the supply side has not witnessed any significant development. As noticed from Figure 2.1, the changing trends in unemployment and employment have been reversed during the period from 2005 to 2007/08.

The third period from 2011-2015: Unemployment curves started to rise again with the start of the repercussions of the Global Financial Crisis, then after the Revolution of January 25th 2011, representing the third turning point and the beginning of a new dynamic development in the Egyptian labor market at the same time. Unemployment rates reached their peak with the highest rate of change at 35 percent. Since 2011, unemployment rates exceeded the single digit barrier, moving beyond 10 percent and remain as such. It is also noted that employment rates have not recovered since they began to decline in 2011. This has pushed the private sector to adapt to the growing supply of labor and implement training programs to qualify them. Consequently, demand for labor from the private sector continued but not from the public sector, and supply continued to rise with the quality of education deteriorated.

The fourth period 2016-2019: Where labor market characteristics have been changed dramatically as a result of the skewness of the Egyptian economy towards construction sector

[1] Economists believed that investment policies at that point were inefficient, as the privatization process reduced the resources available for investment, a high percentage of which (mostly from domestic savings or credit facilities of the Egyptian government) was directed towards financing brownfield production projects rather than greenfield production capacities. The privatization proceeds were not pumped again into the national economy but were used to fund early pension schemes or bridge the country's budget deficit (Kafafi 2017).

as its pioneering sector. This has led to an increase in demand for skills related to this sector only. And as this employment pattern is related to certain age groups and educational levels, this period ended with more distortion in the labor market.

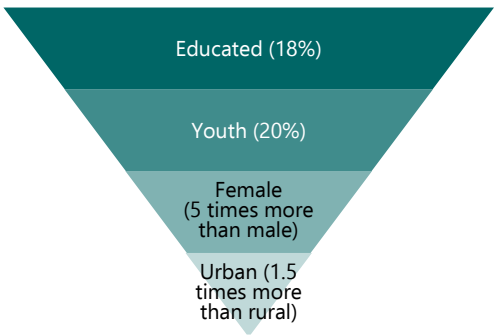
From the above, two main challenges can be concluded and traced back to the structural labor market deficiencies in Egypt. The first challenge is the weakness of Egyptian labor market and its rigidity facing external and internal crises. The second challenge is that low unemployment reflects a wrong image of the healthy labor market; as the methodology of calculating these rates disregards categories such as underemployment, discouraged employment or hidden unemployment as well as other definitions that may affect the significance of the index. Moreover, there are other forms of unemployment that are absent from the official statistics of unemployment. As such, the following points address the main structural deficiencies the labor market suffers from, in light of the aforementioned supply and demand trends for labor, during the fourth quarter (October-December) of 2019 (CAPMAS 2019).

Third: Labor market Structural deficiencies in Egypt

3.1 The Inverted Pyramid of Unemployment:

The socioeconomic characteristics of the unemployed in the Egyptian labor market reflect an inverted pyramid of unemployment, where unemployment rates rise among the educated, young, females, and urban areas. This is contrary to normal conditions in which the educated youth get better job opportunities in urban areas compared to the rural areas. In addition to a significant gender gap. This can be attributed to two main factors:

Figure 2.2. Unemployment Inverted Pyramid in Egypt



Sources: CAPMAS; the World Bank, World Development Indicators database.

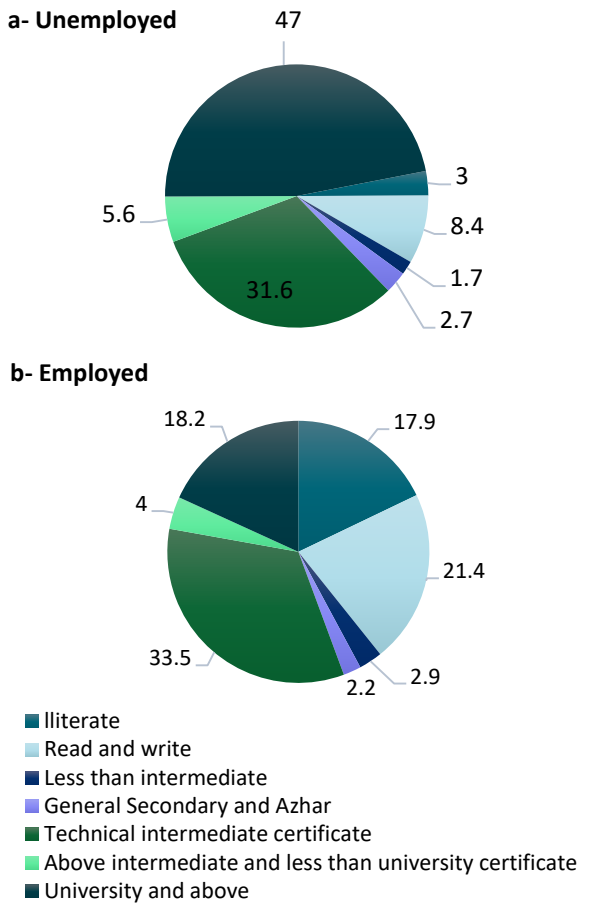
The occupation-education mismatch in the labor market in terms of both quantity and quality: This is one of the main imbalances in the labor market. From a **quantitative perspective**, the supply-driven education system shackles the labor market with a huge workforce annually that exceeds its ability to generate new job opportunities. Youth in the age 20-24 age group represent only about 11 percent of the total employed compared to more than twice this percentage (25.5 percent) for the 30-39 age group. Employment among the former is half that of the latter (28 percent versus 56 percent, respectively). And high unemployment among the former to reach about 3-fold that of the latter.

The characteristics of the new unemployed represent a clear evidence to this, as the main problem of the unemployed persons lies in the entering stage to the labor market. Most of the unemployed (60 percent) belong to the newly unemployed category, i.e., those who have never worked before, especially females (73 percent of the unemployed females have never worked before compared to 44 percent of males).

As for the **qualitative perspective**, high unemployment rates among educated and its rise with rising education levels reflect the failure of education system to meet labor market required qualifications and skills, especially in the private sector. As seen in Figure 2.3. below, those with a university education and above represent the largest percentage of the unemployed, at nearly 50 percent. Unemployment rates among them are twice those among general secondary school and Azhar graduates and more than double compared to those with an intermediate technical education. However, rates are significantly lower among the illiterate and those below secondary education level.

Also, the share of university graduates in employment is significantly low, and even approaches that of the illiterate and those who can read and write. The number of those holding a technical certificate is double that share, and 8 times higher than those who are above intermediate and less than university education. This is the result of the labor market's strong bias towards certain sectors, such as building and construction, which employ these groups in abundance.

Figure 2.3. Percentage Distribution of the Employed and Unemployed by Education, Q4 (October - December) of 2019



Source: CAPMAS, Quarterly Bulletin of Labor Force Survey 2019.

It should be noted here that educational low quality that causes educational mismatch with labor market job opportunities is mostly attributed to the government education, especially the poor technical education system[2], which significantly contributed to the growing informal sector.[3] Although data are not available on unemployment or employment by type of education, it has become a distinct phenomenon in the Egyptian labor market that only graduates of high-quality pre-university education are qualified to high quality university education and to decent sustainable jobs upon graduation.

The demographic structure: The proportion of the population in the working age[4] has increased, which puts additional pressure on available job opportunities. Such a wasted demographic dividend that should be used to mobilize economic activities and sectors. The recede in demographic pressures is associated to the expected increase in the rate of female participation in the labor force, that is related to diminishing reproduction rates, which contributes to increasing the labor force. Table 2.1 below shows the lower female participation in economic activity compared to males, especially in the younger age groups, where male contribution are 3-4 times higher than females, while these differences increase in other age groups. Unemployment rates among females are also five times higher than among males, and reach about 50 percent in the age group 20-24.

Table 2.1. The Percentage Distribution of the Labor Force and the Participation Rates in the Economic Activity among the Age Groups, Q4 (October-December) of 2019

Age Groups	Labor force (%)	Participation rates in economic activity(%)		
		Male	Female	Total
15-19	5.2	21.7	3.5	13
20-24	12.8	52.3	16.1	34.9
25-29	17	91.1	22.9	57.1
30-39	25.2	96.5	22.8	60.3
40-49	19.7	95.9	22.6	60.3
50-59	15.8	89.1	21.5	57.6
60-64	2.8	44.7	5.9	26.7
65+	1.5	20.3	2.5	11.8
Total	**100**	**68.1**	**16.4**	**43.1**

Source: CAPMAS, Quarterly Bulletin of Labor Force Survey 2019.

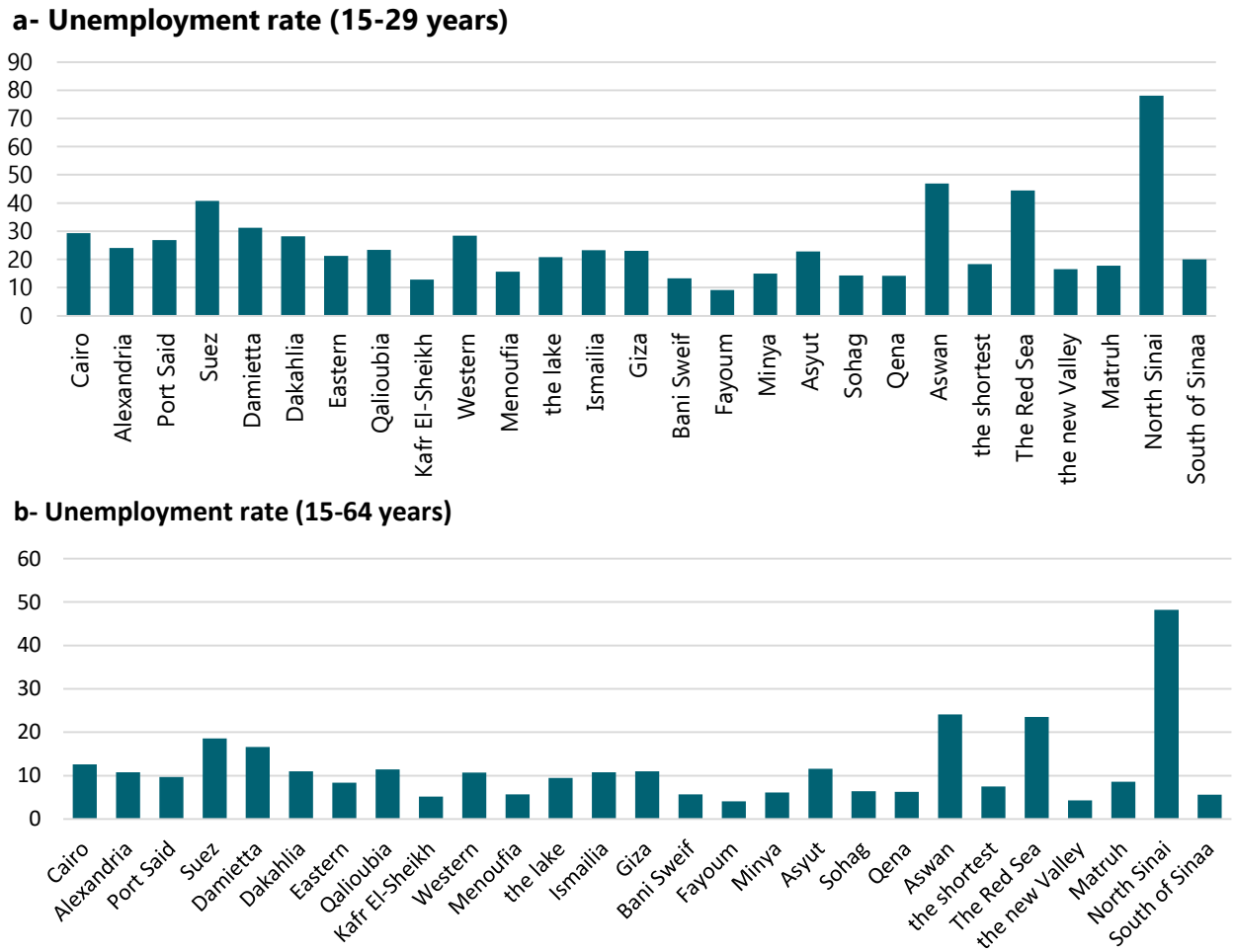
3.2 Geographical distribution disparities of unemployment

- Lower Egypt governorates are generally having the highest unemployment rates compared to Upper Egypt governorates, albeit certain governorates are exceptions, such as Aswan, which has an unemployment rate of 24 percent, Red Sea Governorate (about 23.5 percent) and North Sinai Governorate (about 48 percent); mainly due to the decline in tourism activity and the lower numbers of labor force in these governorates (Figure 2.4.).

[2] See ECES, Education, View on Crisis, issue no. 5.
[3] See ECES, Informal Sector, View on Crisis, issue no. 7.
[4] The percentage of the population in the age groups 15-35 is about 61 percent, according to CAPMAS results of the Population Census 2017.

- In general, unemployment rates among young people in the age group 15-29 are double the general average for the age group 15-64.
- Finally, the geographical distribution of unemployment rates reflects great disparities between urban and rural areas nationwide, where urban areas having the largest share of unemployment compared to rural areas in general, due to the concentration of industrial activities in urban areas (CAPMAS 2018a).

Figure 2.4. Unemployment Rate by Governorates, 2018



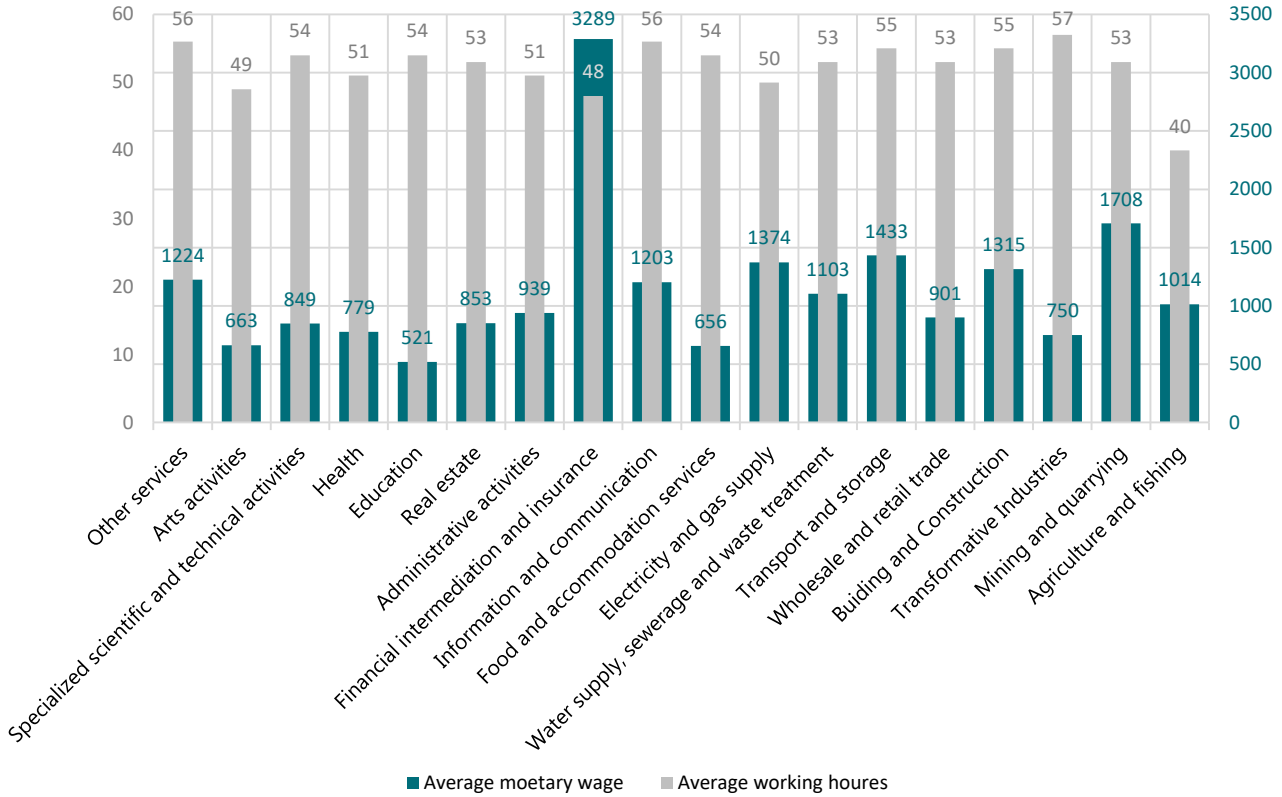
Source: CAPMAS, Annual Labor Force Survey, 2018.

3.3 Sectoral wage distortions

According to the results of the Egyptian labor market panel survey between 2012 and 2018, wages have not adjusted to the higher inflation. The high inflation that followed the floating of the Egyptian pound has led to a significant erosion in real wages. The average real monthly wage decreased by 9 percent during the same period. Likewise, the average hourly wages decreased by 11 percent. Real wage declines were even higher among women, those working in urban areas, those with medium and high skills, and those working in the private sector (formal and informal) compared to the public sector. Wage inequality has also sharply increased (Assaad 2019).

One should note the prevalence of wage differentials between economic sectors in favor of specific sectors, despite the convergence of the average weekly working hours in the sectors between 50-55 hours. Figure 2.5 below reflects the following:

Figure 2.5. Average Working Hours and Average Monetary Wages on Weekly Basis, in Economic Sectors for the Year 2018



Source: CAPMAS, Annual Bulletin for Employment, Wages and Working Hours, 2019.

- Major service sectors such as health, education, and scientific research, whose relative importance has appeared at the time of the current crisis, have the lowest return in the labor market. With the lowest average weekly wages compared to other service sectors such as telecommunications and information whose wages rates are 1.5, 2.3 and 1.4 times higher than the wages of the aforementioned sectors, respectively.
- Average wages vary greatly in favor of non-productive sectors, such as transport and storage, building and construction and financial intermediation and insurance. The latter has the highest average weekly wage, surpassing value-added production sectors such as manufacturing and agriculture by more than 4 times and 3 times, respectively. Average wages in the transportation and storage and building and construction sectors are twice the wages of manufacturing industries.
- Average wages also decrease in sectors that are most vulnerable to crises, such as tourism and wholesale and retail trade, falling below the general average by about 40 percent and 18 percent, respectively.

3.4 Inconsistent legislative and institutional framework and biased towards the government sector

3.4.1. The Labor Law guarantees many fringe benefits for civil servants compared to the private sector workers. It is also biased towards certain groups within the government sector. The following are the most important aspects of biasness included in the Egyptian Labor Law (12/2003):

- Official holidays, number of working hours, and annual wage increases
- Compulsory health and social insurance
- Difficulty in terminating contracts between the government and the worker, unlike the private sector.

- Despite the unified minimum wage law in all sectors, which theoretically applies to all workers in the government and private sectors, there is a distinction in favor of the government sector. Also, not all private sector enterprises are committed to implement it. This mainly causes unemployment to rise as young graduates are still queuing for the government job.
- Those who work in semi-governmental bodies such as public authorities and local administrations do not enjoy the same privileges as the government sector.
- Benefits for those with general education compared to technical education; in terms of career positions and promotions.

3.4.2. Contradiction between laws regulating work, leading to turmoil in the labor market. For example, there is a conflict between the new Social Insurance Law (148/2019) and the recently issued Civil Service Law (81/2016). Table A2.1 in the appendix illustrates some main advantages and disadvantages of the two laws.

3.4.3 The institutional framework governing the Egyptian labor market is represented by three main players: the government sector, the private sector, and labor unions. The Egyptian labor market faces a significant institutional miscoordination between the three parties. It recently witnessed the issuance of several laws and legislative amendments (Law 142/2019) to organize trade unions and highlight a greater role for them in the labor market, after the suffering that lasted for about 12 years due to the conflict of interests between previous parties. However, some provisions of these legislations still inhibit freedom of trade unions, especially in small and medium enterprises (which employ the largest percentage of Egyptian workers). In addition, and as usual, the problem always lies in law implementation procedures.[5]

Fourth: Employment patterns in the Egyptian labor market

Economic growth patterns have long been characterized by its non-inclusiveness, especially in the aftermath of crises. As can be seen from Figure 2.6 below, the labor market response, represented in employment rates, lags behind the economic growth recovery point. This indicates a decline in the Egyptian economy's ability to adjust to developments in the labor market and absorb the unemployed after crises.

Figure 2.6. Economic Growth Rates and Employment Rates Over the Three Decades 1990-2019*

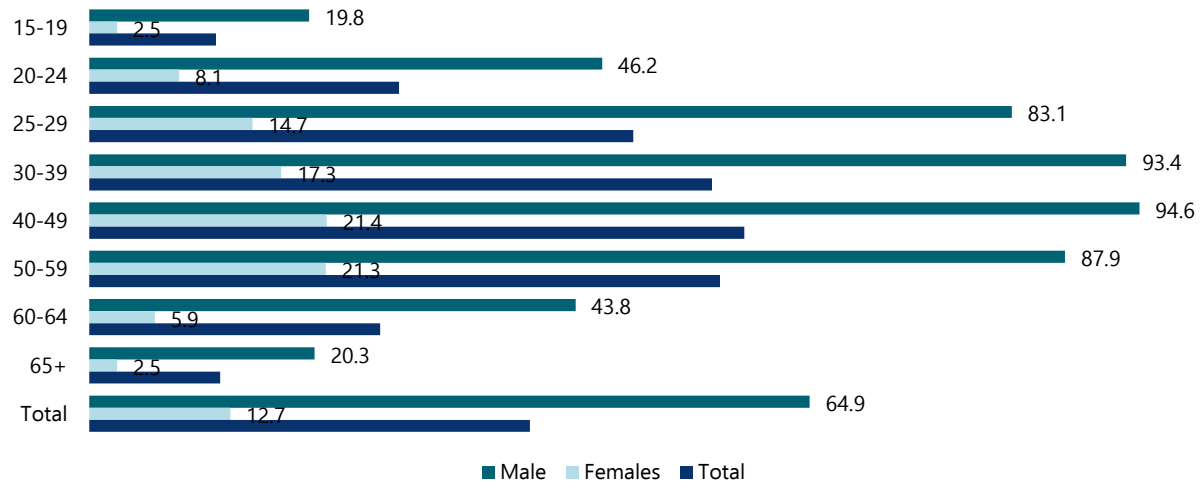
Source: The World Bank, World Development Indicators Database.

* Economic growth rate, 2019: Estimates for the fourth quarter of 2019, Views on Crisis estimates, No. 2, Egyptian Center for Economic Studies.

[5] The International Labor Organization included Egypt in the short list of countries that violate workers' rights, aka blacklisted, for the fifth time in June 2019 due to non-compliance with international treaties signed between Egypt and the International Labor Organization. Since 2008, Egypt was removed from the list only twice, the first in 2011 with the beginning of allowing independent unions. Egypt returned to the list in 2012, when reversing the decisions taken after the revolution, due to a violation of the "Co87," which Egypt signed when joining the organization more than 50 years ago. The second is in 2018, after preparing the Trade Union Law and holding labor elections after 12 years without elections. But the final version of the law had several problems and loopholes that returned Egypt to the blacklist. This forced the Egyptian government to introduce amendments to the Syndicates Organizations Law and to adjust its status within the deadline set by the International Labor Organization.

- The share of public sector from employment reached about 25 percent of the workforce in 2006 compared to 26 percent in 2012. The share of public enterprises shrank by 2.7 percent annually during the period from 2006 to 2012 (Assaad and Krafft 2013).
- The formal waged employment in the private sector witnessed a decline during the period from 2006 to 2012 by 3.4 percent compared to 7.1 percent in the period from 1998 to 2006. Hence, growth patterns shifted significantly away from working with regular wages to working with irregular wages over the course of past decades (Assaad and Krafft 2013).
- Agriculture, manufacturing, building and construction, and wholesale and retail trade accounted for the largest share of employment, followed by the transport and storage, food services and accommodation sectors during the fourth quarter of 2019 (CAPMAS 2019).
- Higher-end jobs have witnessed a significant contraction in the labor market; in addition to the decrease in the share of professional and technical jobs, especially since 2015.[6]
- The gender gap widened significantly in relation to employment rates, reaching 5-6 times more among males compared to females, especially among young age groups, as shown in Figure 2.7 below.

Figure 2.7. Employment Rates by Gender and Age Groups, Q4 (October - December) of 2019



Source: CAPMAS, Quarterly Bulletin of Labor Force Survey 2019.

- Table 2.2 below indicates that the largest percentage of workers belongs to blue-collar workers, as they account for more than half of the labor, followed by professionals and managers, and then white-collar workers.
- Looking at the details of the blue-collar group, craftsmen represent the largest percentage by about 33 percent, followed by farmers and agricultural workers with nearly 29 percent, then workers in factories by about 22 percent, and finally workers of ordinary professions.
- As for white-collar workers, we find that half of them work in the service sector.
- Finally, it is noted that the shares of specialists and those with scientific professions are almost equal to legislators and senior officials in the country, reflecting a sort of imbalance to a certain extent; as it is normal for those with scientific professions to have a greater representation in the economic and employment structure of any country.

[6] https://www.ilo.org/africa/information-resources/fact-sheets/WCMS_663785/lang--en/index.htm

Table 2.2. Percentage Distribution of Employed Persons in the Main Professions, 2018

Main Professions	Share of Profession in total Occupational Category	Share of the profession in total professions
Legislators, senior officials and managers	50.2	12.0
Specialists and scientific professionals	49.8	11.9
Professionals and Managers	**100**	**23.8**
Technicians and associate professionals	35.2	8.1
Clerks etc.	13.7	3.1
Service and retail store workers	51.1	11.7
Total White collar	**100**	**22.9**
Farmers, agricultural workers and specialized fishing workers	28.7	15.3
Craftsmen etc.	33.4	17.7
Factory operation workers, machine operators and production assemblers	21.7	11.5
Ordinary job workers	16.3	8.7
Total Blue Collar	**100**	**53.2**

Source: Own calculations based on CAPMAS data, Annual Labor Force Survey Bulletin, 2018.

Based on the above, two facts about the labor market become clear, as follows:

1. Excess supply and demand at the same time, reflecting the severe structural weakness of the labor market, and the failure of skills that join the labor market to keep pace with its requirements, resulting in a market of unbalanced standards.
2. Economic policies in general, and employment policies in particular, did not respond to the structural challenges that occurred in the Egyptian labor market that emerged from the changeable local, regional and international economic situations as well as scientific progress. Which led at the end to the weak readiness of this market facing internal and/or external crises.

Fifth: The impact of previous crises on the Egyptian labor market

The Egyptian labor market has gone through several external and internal shocks over the past three decades, which have negatively affected the quality of its performance. The most important of these shocks in chronological order are the Gulf War in the early nineties, followed by the Global Financial Crisis in 2007/2008, and the Revolution of January 25th (2010/2011). The severity of the impact on employment rates during these crises varied according to the nature of the crisis, its time span, and its impact scope, as follows:

The Gulf War (1991/1992)

The 1991 Gulf War brought about a million Egyptian workers back to the Egyptian labor market (Kafafi 2017). Consequently, the Egyptian economy faced tremendous pressure on available job opportunities. This period coincided with:

1. The beginning of implementation of the ERSAP, which involved the implementation of privatization programs, and the application of Law No. 203 of 1991, that caused a wave of layoffs and a rise in unemployment rates. As a result, the number of workers in the public sector decreased from more than a million workers in the early 1990s to about 405,000 workers in mid-2003 (Kafafi 2017).
2. The government ceases hiring more graduates in the public sector. As a result, the labor market was shackled with huge numbers of manpower who were not absorbed by the private sector.

3. Most of those who left their jobs as per the early pension program joined the lines of the unemployed due to the poor performance of the labor market and the lack of training opportunities. Therefore, they were unable to invest their end-of-service payments. Economic policies in general, and employment policies in particular, did not respond to the structural challenges occurred in the Egyptian labor market that emerged from the changeable local, regional and international economic situations as well as scientific progress. Which led at the end to the weak readiness of this market facing internal and/or external crises.

The Global Financial Crisis (2007/2008)

Studies indicate a limited impact of the Global Financial Crisis on unemployment rates and participation in economic activity (Roushdy and Gadallah 2011). Figure 2.1 shows that the rates of decrease in employment due to this crisis are minimal for two main reasons:

1. Employees in the formal sector are not affected as much as their counterparts in the informal sector, who are at the forefront of underemployment and salary deductions following crises.
2. The nature and trends of the shock, as it mainly affected the export and labor-intensive sectors with a slight impact on the rest of sectors. The tourism and textile sectors witnessed a noticeable decline in export revenues due to the global financial crisis, and were therefore the most affected with underemployment and layoffs (Klau 2010).

January 25th Revolution (2010/2011)

Unlike the aftermath of the Global Financial Crisis, the period that followed the January 25th Revolution had both political and economic disturbances in addition to the disruption of productive activities which, had dire consequences on the Egyptian labor market, as follows:

1. Decrease in net employment growth between 2010-2011 from about 500 to 400 thousand jobs as a result of the economic crisis that followed the revolution. Since then, the labor market has witnessed sluggish recovery, recording about 550 thousand annual jobs again by 2016 (Assaad and Krafft 2013).
2. Exacerbation of employment instability, especially in the informal private sector, which includes workers most affected by the crisis, namely, regular wage workers in the informal private sector, in addition to the self-employed outside the agricultural sector, and employers (Assaad and Krafft 2013).
3. The working conditions gap between government and private sectors became wider. While workers in the government sector witnessed a marked improvement in terms of working conditions, all other employees in other sectors recorded a deterioration in working conditions.[7]
4. Decreased income levels, no job security, lower female participation in the workforce, and the freezing of activities of many small and micro enterprises (Assaad and Krafft 2015).

Sixth: Supply and demand shocks in the context of the crisis cycle

A few weeks after the Corona pandemic began, the ILO estimated the number of workers affected by the virus in early April at 2.7 billion people, or 81 percent of the world's workforce. The severity of these repercussions ranged from reducing the number of working hours, lowering the associated wage, poor worker productivity due to the psychological impact of social distan-

[7] According to Labor Market Panel Survey, 2012.

cing measures, and temporary or permanent layoffs. These estimates decreased by the end of April to about 68 percent (still striking) as a result of the reopening of workplaces in China in early April.[8]

At the time of writing this report, and with the aggravation of the crisis, the International Labor Organization raised its expectations regarding the decline in working hours globally during the second quarter of 2020 by 10.5 percent compared to less than half of this percentage in the estimates of the fourth quarter of 2019 prior to the crisis. This is equivalent to 305 million full-time jobs. Among the major regional country groups, estimates indicate that the Americas suffered the largest loss of working hours by 12.4 percent, followed by Europe and Central Asia by about 11.8 percent, and then Arab countries by 10.3 percent.[9]

Recent estimates indicate that the unemployment rate in the United States increased to 14.7 percent, with the loss of 20.5 million jobs in April, compared to the lowest level of unemployment that the United States had achieved since 50 years at 3.5 percent just two months ago, in addition to the inflation in the numbers of those registered to get unemployment benefits to exceed 33.3 million since mid-March to early May.[10] In general, international surveys and estimates indicate that the continued closure of companies for one month exposes 20 percent of them to the risk of bankruptcy, this percentage increases to 40 percent if the lockdown continues for a period of three months without government intervention. Hence all countries share the severe repercussions of the crisis on the labor market, which is completely different from the aforementioned crises in terms of its multiple effect, and its impact on both the supply and demand sides.

In the next section, we discuss the impact of COVID-19 on employment in the Egyptian labor market according to the supply and demand shocks during the 5 stages of the crisis cycle. Supply and demand shocks on Egyptian labor defined as follows[11]:

- **Supply shock:** the increase in the supply of labor, as a result of layoffs either internally or abroad.[12]
- **Demand shock:** decrease in demand for labor, or its rise in specific fields in response to the crisis during its various stages, according to the dynamics of employment policies in various economic establishments.

Table 2.3 below presents detailed analysis, including possible scenarios about the impact of current crisis on unemployment rates in the Egyptian labor market, as much as possible, and in light of the following conceptions and assumptions:

- Labor demand is initially derived from the demand on the final product or service, and therefore is primarily affected by the extent to which the production process continues and the ability to market the product. Thus, production and marketing problems are translated directly into problems in labor demand for all categories.
- Any financial support provided by the government to production and service enterprises - whether financing facilitation, direct financial support, or rearrangement of financial obligations - directly affects the ability of these enterprises to retain employment, as it support them to resume the production process without salary cuts or layoffs.
- Undertaken efforts to support irregular workers help to mitigate deterioration in their living conditions and support the informal sector as well, which is typically required during the absence of unemployment benefits and also to boost economic recovery.

[8] https://www.ilo.org/global/topics/coronavirus/lang--en/index.htm
[9] Ibid
[10] https://www.bbc.com/arabic/business-52594625
[11] It refers to all employees, regardless gender or affiliation.
[12] In addition to the current supply of graduates and job seekers.

- The impact on the labor market will be analyzed against the rise in unemployment rates following the crises of the January 25th Revolution and the Gulf War. This is due to their similarity to the current crisis, though the latter is much more severe because of its dual effect of internal and external shocks.
- The expected unemployment rates for potential scenarios will be calculated assuming the following:
  - The same number of Egyptians returned in the wake of the Gulf War 1991/1992.
  - The same rate of change in the number of unemployed persons after the January 25th Revolution. The rate of change between the first quarter of 2011 and the corresponding quarter of 2010 will be relied upon.
  - Current unemployed persons are according to the latest available data for the last quarter of 2019.
- Unemployment rates in Egypt are affected by external circumstances inside other countries that are direct recipients of Egyptian workers.
- The focus will be on the formal labor market in the government and private sectors, which is linked to regular wages, while the informal sector will not be touched upon as it was covered in a separate previous report.[13]
- The current analysis seeks to present an integrated picture of the situation in the labor market attempting to answer the following questions:

1. How many jobs were lost in the crisis? What is the nature of these jobs? In what geographical area?
2. What happened to the indicators of working conditions, in terms of wage levels and social protection programs? And in which sectors?
3. To what extent have the government policies and efforts contributed to preserving and reconciling Egyptian workers, especially vulnerable groups?
4. What are the future trends that started to emerge in the Egyptian case, which will change the parameters of the labor market?

Table 2.3. Stages of the Crisis Cycle Due to Supply and Demand Shocks and the Expected Impacts on the Labor Market

Stage	Supply and/or demand shock	Analysis	Impact on the labor market
1. Emergence of the virus (December 2019 to January 2020)	- There are no supply shocks - A slight shock on the demand side in the Egyptian labor market	- The emergence of the virus in China only at this point of time, and thus slightly affecting only the factories that are fully dependent on Chinese imports. - Slight effect on Commercial activities that depend on imports from China.	- Individual cases of companies or factories have laid off workers or cut wages, because their activities are totally dependent on China.
2. The beginning of proliferation (February through mid-March 2020)	- The start of a real demand shock in the second week of March.	- The beginning of the impact on tourism sector in the second week of March. - Announcing the cancellation of 70-80 percent of reservations and the closure of many touristic resorts due to low occupancy.[14]	- Tourism revenue in March has decreased by 75 percent compared to the expected figure.[15] Consequently, the income of employees in the tourism sector is negatively affected, as their income represents the fixed wage plus a percentage from the occupancy.

[13] ECES, the Informal Sector, Views on Crisis, issue no. 7.
[14] ECES, the Tourism Sector", Views on Crisis, issue no. 3.
[15] Ibid.

Stage	Supply and/or demand shock	Analysis	Impact on the labor market
2. The beginning of proliferation (February through mid-March 2020) cont.	- There is still no shock on the supply side	- Given that the problem of returnees from abroad has not emerged yet, in addition, this period did not coincide with the end of the school year and the labor market entry. - In addition to the fact that workers in the tourism sector did not re-enter the labor market, and are awaiting recovery of the tourism sector.	- There is no noticeable impact yet on the labor market in terms of quantity and quality of jobs, and wage levels in other sectors.
3. Aggravation of the problem (From mid-March to mid-May 2020)	This stage can be divided into two sub-stages: First stage (mid-March - mid-April 2020): It witnessed the beginning of the suspension of work and complete paralysis in most sectors.	The supply shock here is represented in: 1- labor supply increase resulting from the return of Egyptians working abroad to the domestic labor market, whether permanently or temporarily due to the suspension of travelling flights. 2- The new unemployed from self-employees, or those who have been laid off completely or partially as a result of the crisis.	- The emergence of signs for workers returning from abroad, especially from the Gulf countries. - Beginning of a wave of layoffs with complete paralysis in the tourism sector. - Temporary and permanent layoffs in the wholesale and retail trade sector following the closure of shops and commercial malls. - The effect of the curfew on the factory shift system, and consequently a partial loss of some jobs and decrease in the associated wage.
	Drastic shock to both supply and demand sides, and gradually	**The peak of the crisis is realized during this period due to:** - Decision to reduce workforce to 50 percent in government sector, with some exceptions. - Tightening the precautionary measures, such as the closure of restaurants, cafes, and commercial malls and stores, which means a complete disruption for workers in these service sectors. - For the private sector, a large percentage shifted to working from home as per the nature of the activity, with the division of tasks among the existing workforce, while some establishments were completely closed. - Factories and production activities stopped to operate. Paralysis in export sectors following the suspension of international trade and aviation, and supply chain paralysis. (50 percent of the factories stopped completely at different times, including the free zone factories from which most of the exports are dispatched, while the rest of the factories operate at low productivity)[16]	- For example, in the furnishing and ready-made garments sector:[17] • About 800 thousand workers stopped working, representing 67 percent of total workers in the sector. • At least 376 thousand female workers stopped working (as women represent 47 percent of the total workers in these two industries) as a result of closing factories and suspending schooling. • 35 percent decrease in workers' wages due to the halt of allowances related to production lines. - Economic productivity varied with some professions still being practiced from home (such as administrative services, teaching, etc.). Others partially stopped due to inability to work remotely (such as the building and construction sector, transportation sector, food services). Temporary disappearance of other professions such as (Uber, students' transport services to schools, workers in

[16] ECES, Ready-made Garments and Home Textiles, Views on Crisis, issue no. 11 or Chapter 4 of this volume.
[17] Ibid.

Stage	Supply and/or demand shock	Analysis	Impact on the labor market
3. Aggravation of the problem (From mid-March to mid-May 2020) cont.		- The total closure of some factories temporarily due to the appearance of infected cases. - Factories stop working in full or in part, which results in an immediate decrease in the demand for all labor categories through laying off some workers or reducing salaries. At the same time, there is an increase in demand in some specific fields. - The tourism sector continues to collapse and stopped operating, as a result of the previous decisions on one hand, and the decision to suspend travelling flights, the social distancing measures, and the curfew on the other hand.	- industries that disappeared with the crisis - such as entertainment products, in addition to workers in the informal sector). A start of a severe blow hitting the service sector and entertainment activities such as cinemas and theatres.[18] Two scenarios can be built regarding the impact of this on unemployment rates as follows:[19] **Optimistic scenario:** - The same number of workers returned during the Gulf War. - The same percentage of unemployed persons in the aftermath of the January 25th Revolution (31 percent change) The expected change in the number of unemployed: 1. The current unemployed (2.329 million) 2. Returnees from the Gulf and other countries (1 million unemployed) 3. The unemployed due to the current crisis measured by the unemployed in the aftermath of the Revolution of January 25th (741 thousand unemployed) Total unemployed (4.07 million) Expected unemployment rate: is expected to rise to reach 14 percent, i.e., more than the current rate by about 6 percentage points. **Pessimistic scenario:** - Double the number of returnees during the Gulf War, to 2 million unemployed. - Double the number of the unemployed in the aftermath of January 25th Revolution The expected change in the number of unemployed: 1. The current unemployed (2.329 million unemployed) 2. Returnees from the Gulf and other countries (2 million unemployed) 3. Unemployed due to the current crisis measured by the unemployed in the aftermath of the January 25th Revolution (1.482 million unemployed) Total unemployed (5.811 million) Expected unemployment rate: rises to reach 20 percent, more than twice the current rate. Some professions continue working despite the suspension of productive activities such as the health sector, pharmaceutical and medical supplies, and food industries. Incentives for professionals to immigrate begin to appear.

[18] ECES, Cinema Industry, Views on Crisis, issue no. 15 or Chapter 8 of this volume.

[19] Since this report was prepared at a later date than the Informal Sector Report in "Views on Crisis" series, a new category of unemployed has emerged, represented by returning workers from abroad, and thus unemployment estimates have increased from before.

Stage	Supply and/or demand shock	Analysis	Impact on the labor market

3. Aggravation of the problem (From mid-March to mid-May 2020) cont.	Second stage (mid-April - end of May 2020). It witnesses a gradual decline in the demand shock, and continued supply shock	The decline in labor demand during this period receded for several reasons:
		1. The construction sector returned to work
		2. The incentive packages provided for some affected sectors.
		3. Relaxing curfew and other precautionary measures.
			- The food trade sector and some service activities continue to generate new but irregular jobs on a temporary basis. Consequently, there is a limited increase in demand for certain groups (such as delivery workers).
			- Workers in the construction sector return to work.
			- The actual return of workers abroad, mainly from the Gulf countries, especially that COVID-19 crisis concurred with the decrease in the oil price and the decline in religious tourism and other types of tourism in these countries.
			- Partial layoffs in some factories.
			- The disbursement of the irregular workers grant helped to improve the living conditions of the groups most affected by the crisis, as it was disbursed to about one million and 500 thousand workers until mid-April.[20]
			- There has been no change for workers in the government sector in terms of wages, with the exception of raising the value of the infection allowance in the health sector. But there is only a change in the working process in terms of reducing the number of working hours and the mechanism of completing jobs from home, with more paid leave given especially to women, and the most vulnerable groups.
			- The working woman is the most affected by the repercussions of the current crisis, for several reasons (see Chapter 10 of this volume for more details on the implications of COVID-19 on the Egyptian Woman):
			  - Women represent the largest percentage of workers in the affected sectors such as manufacturing and health.
			  - They bear an additional burden as a result of suspending schooling and closing nurseries.
			  - The high demand for nurses as a result of the outbreak of the disease thus they are more vulnerable to infection.
			  - Women represent the least protected group in terms of work conditions, social and health insurance.
			- The largest percentage of layoffs is in small enterprises, as their ability to continue is limited, unlike large enterprises.
			- A sharp drop in wage levels is expected for low-skilled workers (blue-collar) as a result of factory closures, production interruptions and international trade paralysis. The impact is less severe on specialists with specialized skills (white collar) through partial deductions of their salaries (mostly very high salaries) ranging between 30-50 percent or more. The longer the period the activity stops working, the more companies are close to bankruptcy and layoffs, especially blue-collar employees. As for white collar employees, deductions are sufficient, given the difficulty of replacing them.
			- There is a positive improvement in the standards of the labor market as a result of everyone's concern with occupational safety standards and the mandatory adoption of preventive health measures.

[20] http://www.manpower.gov.eg/news.html

Stage	Supply and/or demand shock	Analysis	Impact on the labor market
4. The crisis recedes (Mid-May-August 2020)	- Continued drastic supply shocks - Demand shock recedes gradually and partially	- As a result of the continued waves of returned workers from the Gulf countries. - The start of the gradual reopening of markets and relaxing the curfew measures, which means a gradual return to work with the trend to reduce wages due to the continued stoppage of production and world trade, especially in the export sectors. - The gradual decline is due to linkages between domestic and global economic activities.	- Increase in the number of job seekers returning from abroad, especially in the absence of databases on their various skills. Consequently, weakened government role in accelerating their absorption into the economy. - The continuation of the impact at this stage is related to the expected unemployment rates in the previous scenarios, and according to the rate of improvement in economic activity and consequently the labor market. - Increase in the number of job seekers returning from abroad, especially in the absence of databases on their various skills. Consequently, weakened government role in accelerating their absorption into the economy. - The continuation of the impact at this stage is related to the expected unemployment rates in the previous scenarios, and according to the rate of improvement in economic activity and consequently the labor market. - The wage gap between the sectors is expected to widen further, as the conditions of some non-production sectors (such as the financial sector, communications and information, building and construction) stabilize during the crisis and after the recovery, whilst the other sectors that were affected by the crisis suffer from instability and decreases in wages (such as education, health, scientific research, manufacturing, wholesale and retail trade, tourism), which receive the lowest average wages.
5. Recovery (As of September 2020)	- Decline in demand shock (largely related to world recovery from the disease)[21]	- With the Chinese economy recovering almost completely at this stage, and the European countries and the United States gradually returning to production, and thus the return of international trade, production lines are expected to start. Consequently, this will restore the demand for labor in sectors that have recovered and which had been dispensed before.	- With the return of international trade, export sector generally returns to work. - The tourism sector is not expected to recover at this stage, as it is primarily an entertainment industry. - With the gradual relaxation of the precautionary measures in Egypt, life will gradually return to the rest of the sectors, with a permanent exit of small enterprises that went bankrupt during the crisis (including their workers).
	- Increased shock on the supply side	- With the start of the season of graduates' entry into the labor market, in addition to returnees from abroad.	- New unemployed graduates will increase in the academic year 2019/2020. The total graduates of higher education are estimated at 568.8 thousand students (CAPMAS 2018b) in 2018, about 71 percent of them are graduates from public universities, 24.3 percent graduates from institutes and academies, and only 4 percent graduates from private universities.

[21] This depends on the presence of a vaccine, and it was not clear at the time of writing this chapter (October 2020) when that will be.

Stage	Supply and/or demand shock	Analysis	Impact on the labor market
5. Recovery (As of September 2020) cont.		- The problem of finding employment doubles as a result of the mandatory jump in more reliance on digital economy as a response to the COVID-19 crisis.	- Based on the previous scenarios of the expected unemployment rates, the unemployment rate for this period can be expected based on the following two scenarios: **Optimistic scenario** (The same optimistic scenario in the third stage, plus unemployed fresh graduates): Double the increase in unemployed new graduates.[22] The expected change in the number of unemployed: 1.Total unemployed in the optimistic scenario in third stage (4.07 million) 2.New unemployed (234 thousand unemployed, 41 percent of the total graduates) 3.Total unemployed (4.3 million) Expected unemployment rate: 14.8 percent **Pessimistic scenario** (The same pessimistic scenario in the third stage, plus unemployed new graduates): fold increase in unemployed of new graduates. The expected change in the number of the unemployed 1.The total unemployed in the third stage's pessimistic scenario (5.811 million) 2.New unemployed (351 thousand unemployed, 61.7 percent of total graduates) 3.Total unemployed (6.16 million) Expected unemployment rate: 21.2 percent

Source: Prepared by ECES.

* These estimates should be read with caution, as expectations may require further reviews due to the developments that occur, whether related to the day-to-day spread of the virus, whose duration and scope are still unknown, or those related to any global or local developments that may affect the estimates directly or indirectly.

Concluding remarks: the most important facts from the table of the impact of Covid-19 crisis on Egyptian labor market:

1. Women are the most hit by the crisis among vulnerable categories, given their high representation in the service sector (education and health) and informal sector activities, in addition to the negative impact on them due to precautionary measures (such as suspension of schools).[23] As well as unemployed youth, self-employed and temporary workers, and Egyptian workers abroad.
2. The impact of the crisis is clearly evident in increased youth unemployment rates in particular, especially in the sectors of food services (restaurants etc.) and leisure activities (cinemas and theatres, etc.) and related transportation services (taxis, Uber), because they are directly concentrated in these sectors and with huge numbers. Whereas, these sectors absorb huge amounts of daily workers, irregular workers and job seekers.
3. There are certain sectors that have experienced a sharp decline in employment, particularly the tourism sector, which is further compounded by the fact that its employees do not tend to search for other jobs, but rather awaiting the recovery of tourism.
4. The country's continued its biasness towards building and construction sector and its employment requirements (which reflects directly on supply and demand nature in the labor market), the thing that is considered a negative fact, as the whole world is focusing

[22] Estimated by calculating the difference between the unemployed during the last quarter (October - December) 2019 and the corresponding quarter to graduation from universities (July - September 2019).

[23] The International Labor Organization estimates that women make up 70 percent of the health care sector worldwide.

on education, health, agricultural and manufacturing production sectors, especially essential ones in the upcoming period.

5. The informal sector that absorbed previous crises is one of the sectors that was negatively affected by this crisis.
6. The government body did not lose its workforce, despite the freezing of 50 percent of the workforce.
7. The export sector is generally one of the most hit sectors.
8. It is clear that some sectors will stabilize faster than others, such as non-production sectors, in contrast to what is required at this stage, which increases the phenomenon of the inverted pyramid of wages between sectors.
9. Small enterprises that have gone bankrupt in all fields are not expected to return to operation, which will lead to an increase in the number of new jobseekers.[24]
10. The low-skilled blue-collar workers are more likely to face job losses as a result of troubled manufacturing industries, while the problem for white-collar workers appears in the form of a salary cut of 30-50 percent or more.
11. Increased severity of the structural problem of unemployment in Egypt, with clearly weak educational system and poor outcomes.
12. As a result of the crisis, a terrible exacerbation in unemployment is expected, and its rates may reach 20 percent due to the return of workers from abroad, especially the large numbers coming from Gulf countries, after the crisis.
13. Some limited groups of irregular employment (food delivery services in general) benefited from the crisis, specifically in the food retail sector.
14. Among the most unaffected are highly skilled groups in the field of communications and information technology.
15. Despite the importance of the role of the medical sector and its winning the government attention for the first time as a result of the crisis, the escape of many workers in this sector has started and a large number has decided to immigrate to the United States and European countries. These countries have opened the door to receive them over the past few weeks, taking advantage of unsuitable working conditions in Egypt (low wages, difficult working conditions), which will cause disruption in this highly specialized labor market.[25]
16. One of the positive points is that the crisis forced everyone to adopt health safety standards.
17. Finally, Egypt's entry into the crisis of COVID-19 with a labor market suffering from many structural deficiencies has exacerbated its problems (education that does not serve the market requirements, a disrupted wage structure, unemployment among young people, the absence of employment opportunities in specific governorates as well as weak institutional and legislative framework).

Seventh: The interventions required to mitigate the effects of the crisis

According to the International Labor Organization, there are four main pillars[26] to deal with the crisis and end up with the least losses in the labor market, as follows:

1. Stimulating the economy and employment: This includes adopting active fiscal policies and accommodative monetary policies, while directing financial support and incentive packages toward the most hit sectors, which directly reflects on the ability of economic establishments to maintain workers.
2. Supporting enterprises, jobs and incomes: extending the scope of social insurance to everyone, taking supportive retirement mea-

[24] According to previous crises, for example, 400 garment factories stopped during the January 25th Revolution and did not return to operation even after recovering from the crisis.
[25] For example, prevailing suggestions about turning pharmacists into physicians to bridge the shortfall.
[26] https://www.ilo.org/global/topics/coronavirus/lang--en/index.htm

sures, and providing enterprises with financial relief and tax exemptions.

3. Protection of workers in the workplace: enhancing occupational health and safety standards, adapting to emergency conditions such as working from home, prevent discrimination and exclusion between workers while providing health insurance for all and expanding access to paid leave.
4. Adopting social dialogue to come up with sound solutions: enhancing the role of workers and trade unions and their collective bargaining power.

The Egyptian government has attempted to maintain the workforce through interventions in the first and second pillars, while leaving the third pillar for private sector, which requires government control to ensure that it is achieved, especially in the current stage where the percentage of infections has increased, and in the next stage. For example, disbursement of the irregular employment, emergency disbursement to compensate the affected labor in the tourism sector, offering tax exemptions and postponing financial obligations owed by enterprises. But still remains complementing those efforts, especially in light of the uncertainty regarding the time period of the crisis.

The fourth pillar of the plan to deal with the crisis was completely absent from the Egyptian government interventions.

- The importance of continuing with the positive points associated with the crisis, specifically the high level of health and preventive protection until they become an integral part of the quality of working conditions.
- With regard to the unified minimum wage, the economic nature of each sector must be taken into account considering economic efficiency and given the existence of large differences among them in terms of labor intensity and productivity as well as profitability, being the most important element in determining the extent of the sector's ability to pay appropriate wages to workers. Social justice also entails that minimum wage must be variable according to the standard of living, which varies from one governorate to another.
- Finally, expediting administrative reforms of the government bodies and their associated evaluation of the number of jobs, workers and skills, as this has a positive impact on better and more effective regulation of the labor market in Egypt.

Eighth: Institutional weaknesses revealed by the crisis

1. The trade union role of workers has declined, both de facto and de jure. It is always perceived as a negative role that does not serve the productive process or the country's efforts towards development. Therefore, there is an urgent need to correct this situation.
2. The absence of accurate databases for supply and demand sides of the labor market that allow for effective coordination between them according to the skill level.
3. The poor performance of the educational system, especially the technical and vocational training system, and the need for a fundamental change therein to overcome the problem of structural unemployment permanently and dynamically.
4. The extreme weakness of the ability to invest in human resources in general, especially by the government, as it is the main factor responsible for many weaknesses in the Egyptian labor market.
5. The absence of a regulatory framework for the labor market, especially for technical occupations (standards for each profession and a wage schedule linked to these standards).
6. Failure of employment policies to keep pace with labor market developments.
7. The absence of an integrated strategic thought that should result in specialized

incentive employment policies (Active Labor Market Policies, for example programs for dealing with those affected by the implementation of privatization programs, incentives for small and medium enterprises, etc.).

8. The decline in the role of civil society and Non-Governmental Organizations (NGOs) in general has led to the loss of many direct specialized jobs related to the activities of these organizations, as well as job opportunities available through their executive programs.
9. Absent technological dimension and digital transformation from the employment system in Egypt (Ministry of Manpower).
10. The weak institutional and legislative readiness of the country,[27] as the compulsory digital transformation will result in emergence of other jobs with different skill requirements (the Future of Work).

[27] Lack of coordination between the different ministries concerning employment.

Appendix

Table A2.1. Main Advantages and Disadvantages of the Civil Service Law (81/2016) and Social Insurance Law (148/2019)

Civil Service Law (81/2016)	**Some Advantages**
	- Addressed the distortions in the wage structure in relation to the fixed-variable wage ratios. - Corrected the concept of rewards and bonuses so that they are awarded according to the increase in productivity, and in a variable manner. - It removed the article of hiring the workers' sons and daughters regardless of required qualifications and skills. - The law 47/1978, which guaranteed the government's hiring of graduates, was repealed. - Setting criteria for employing on the basis of eligibility and competence and in accordance to available public resources. - Categories of workers who are not covered by Labor Law 12/2003, such as public authorities and local administration units, are included. - It has included representation of trade unions on the Civil Service Council to develop civil service.
	Some Disadvantages
	- There is still bias in terms of fringe benefits compared to the private sector. - Continuing with the unified minimum wage law at the sector level, which affected certain sectors, such as some branches of manufacturing industries.[28] - It did not address wage differentials between sectors in favor of certain sectors (as mentioned above). - It did not include a mechanism to monitor the private sector and other informal forms of work. - It still guarantees a wide range of official holidays causing a shortage of staff in public establishments. - The government job is still the guaranteed mean of living that many young graduates aspire.
Social Insurance Law (148/2019)	**Some Advantages**
	- Linking the minimum pension and the minimum wage, to ensure that the pensioner gets an amount that is appropriate to the standard of living, and establishing a mechanism to increase pensions proportional to the rate of inflation. - Establish a uniform pension rule for all categories of the country's workforce to achieve equality. - Accounting for unemployment insurance, which the government provides to support the unemployed. - Resolving the financial conflict between the National Authority for Social Insurance, the State Treasury and the National Investment Bank, by combining the insurance and pension funds into one unified fund, provided that the National Authority for Social Insurance takes over its management, and the Authorization to have legal personality and technical, financial and administrative independence and reports to the Minister of Social Solidarity. It also allowed the Fund to invest in various activities. - Increasing penalties and fines to prevent evasion of insurance contributions and preserving the rights of insured persons. - Its application to irregular employment, including street vendors, parking attendants and other similar groups and craftsmen.
	Some Disadvantages
	- Extending the pension age to 65 years, which allows for more aged public sector, and ignoring the advantage of the demographic gift of young competencies. In addition, this conflicts with the labor and civil service laws as they set the pension age at 60 years. - Enabling the disposal thereof and investment by the National Insurance Commission and thus considered as government funds and not the property of pensioners as provided by the Constitution. - Exaggeration in setting minimum pension privileges, which led to the reluctance of many companies to insure their employees. - The exit of some categories from entitlement to certain pensions (such as divorced women who receive the pension of their deceased parents).

Source: Prepared by ECES.

[28] Despite the positive impact of this decision on the standard of living of the Egyptian citizen, attention must be paid to its negative effects on various industries, the most important is the ready-made garments industry and furniture. As the recent increases will lead to a significant increase in the cost of the products of this industry, especially with the last proposed increase to the current minimum rate between 7 and 8 percent, which far exceeds the global average estimated by 1 to 1.5 percent only, threatening the competitiveness of industry in the domestic and global markets, and resulting in losing great amount of what it brings from foreign currency.

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3. Transport Sector

Lead Researcher: **Sahar Aboud, Ph.D.**

First: Brief description of the subject of the report

The transport sector is considered one of the main drivers of economic and social development. It is the artery through which goods and services flow and through which individuals communicate internally and externally. All sectors depend on the services and capabilities that this sector provides to link production, consumption and access to raw materials and requirements. Individuals also depend on it for access to work, health services, education, and social and cultural contact. With the fragmentation of production across value chains, the cost of transport and supply has become an important component of the production and investment decision across the different stages of the value chain. Therefore, the readiness and efficiency of services in this vital sector is considered a major pillar in the competitiveness of any economy and its ability to achieve economic growth, employment and attract foreign investments.

The report begins with an overall picture of the transport sector in Egypt, and then focuses on the maritime and air transport sectors, being the most affected by the crisis.

1.1 Overall picture of the transport sector

1.1.1 The contribution of the transport sector to the Egyptian economy:

- Despite the economic importance of the transport sector, independent data that reflect its contribution to the national economy are not available. Therefore, all data related to the transport sector is added to storage, which makes the sector's contribution to the national economy inaccurate.

  The transport and storage sector contributed about 5 percent of GDP in FY 2018/2019 compared to 4 percent in 2008/2009. It achieved a growth rate of 4 percent during the past two years, which is lower than that of 2008/2009, which was in the order of 6 percent. The private sector contributed about 82 percent of output in 2018/2019 compared to 74 percent in 2008/2009.

- The transport and storage sector is the fourth largest sector in terms of the value of investments. Total investments in the sector amounted to about EGP 97 billion, representing 11 percent of total investments executed during FY 2018/2019, and this percentage has not changed since 2008/2009. Over the past decade, public investments accounted for about two-thirds of these investments compared to a third for the private sector (Ministry of Planning and Economic Development, 2020).

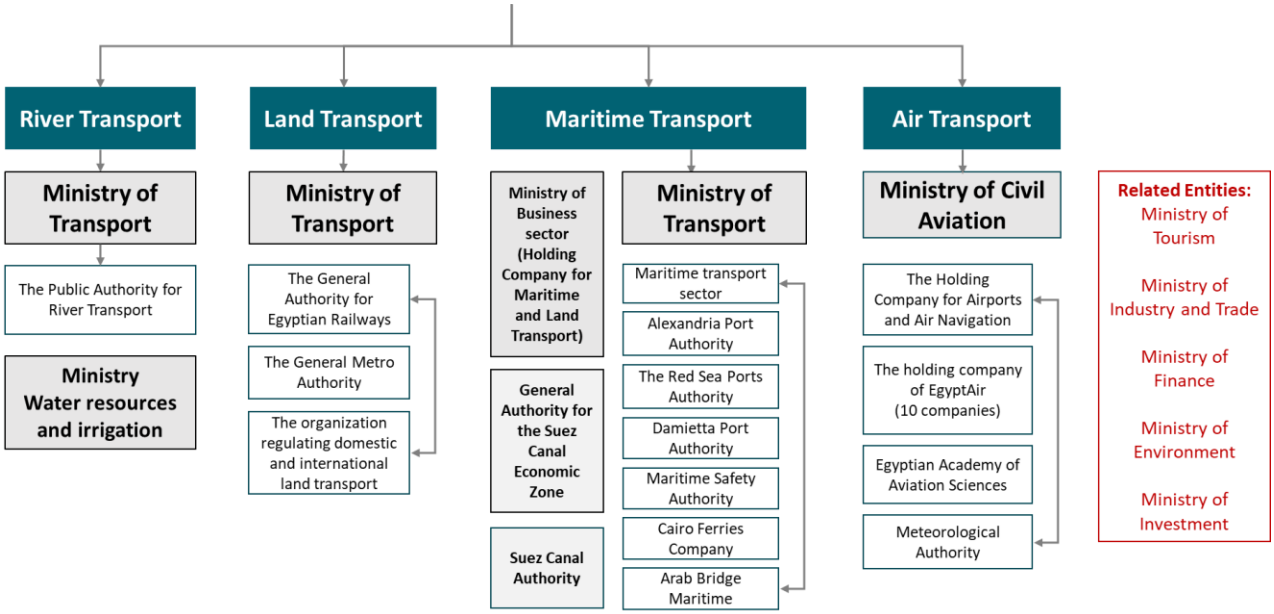
- Finally, the transport and storage sector is the fifth largest sector in terms of labor absorption, as it accommodates more than 2 million workers, representing 8 percent of the total employed in 2018 (Central Agency for Public Mobilization and Statistics, 2019).

- According to the data of the last economic census for the year 2017/2018, the number of employees in the transport sector is estimated at about 70,000, representing 0.5 percent of total employment in all economic activities, 58 percent of them in the private sector and 42 percent in the public and public business sectors.

1.1.2 The structure of the transport sector:

Egypt has a diversified transport network that includes many sub-sectors. Figure 3.1 below shows these sectors and the entities affiliated to them.

Figure 3.1. The Structure of the Transport Sector



Entities that provide services related to transportation (licenses / planning...):
1. Ministry of Interior 2. Ministry of Defense 3. Ministry of Local Development 4. Governorates

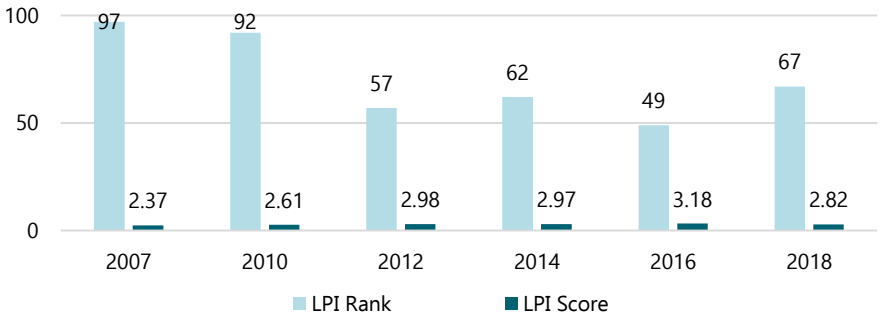
Source: Prepared by ECES based on the ministries' organizational structures available at their websites.

Consequently, public policy planning for transport, and the management and operation of the system is carried out by many actors, headed by the Ministry of Transport and the Ministry of Civil Aviation, and considers various legislative and administrative frameworks. There are no institutional guarantees for the existence of sufficient coordination to serve unified strategic objectives.

1.1.3 Key indicators that reflect the performance of the sector:

In the Logistic Performance Index,[1] Egypt advanced by about 30 points, coming 67th in 2018 compared to 97 in 2007, as shown in Figure 3.2.

Figure 3.2. Egypt's Performance in the Logistics Performance Index, 2007-2018



Source: The World Bank, Logistics Performance Index Report, various years.
* Ranking 1 best - 160 worst, score 5 best 1 worst.

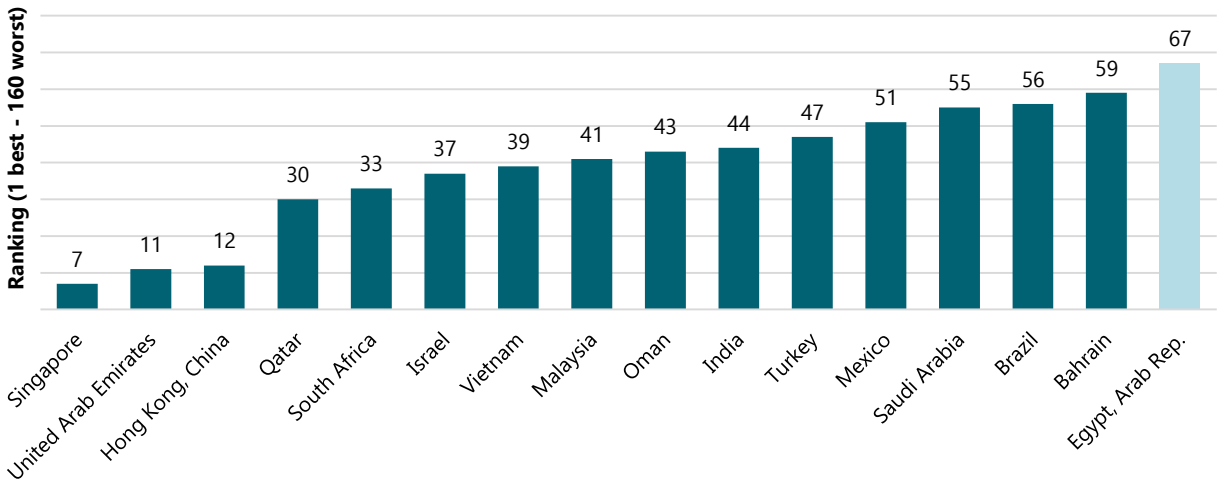
By tracking the performance of the sub-pillars as shown in Table A3.1 in the appendix, we find that this progress in the ranking is due to improved performance in all sub-pillars. The best performance was in the infrastructure pillar, including the development of ports and customs. The lowest performance was in the shipment tracking and delivery time.

[1] A multidimensional indicator of logistics performance issued by the World Bank. It is an average of countries' performance in six sub-indices: efficiency of the clearance process, quality of infrastructure related to trade and transportation, ease of arranging shipments at competitive prices, efficiency and quality of logistics services, ability to track and trace shipments, time taken for arrival and delivery. Country data are collected through quantitative and qualitative questionnaires that reflect performance. Index values range from 5 for best performers and 1 for worst performers.

However, tracking performance over the last two years indicates a decline in Egypt's ranking in the index by about 18 points from the 42nd position in 2016 to the 67th position in 2018. This is due to the decline in performance in all pillars, especially international shipping, shipment tracking, quality of logistics services and the time taken for arrival and delivery.

Although Egypt is ranked high in the index, it is considered a poor performer compared to other countries, as shown in Figure 3.3a.

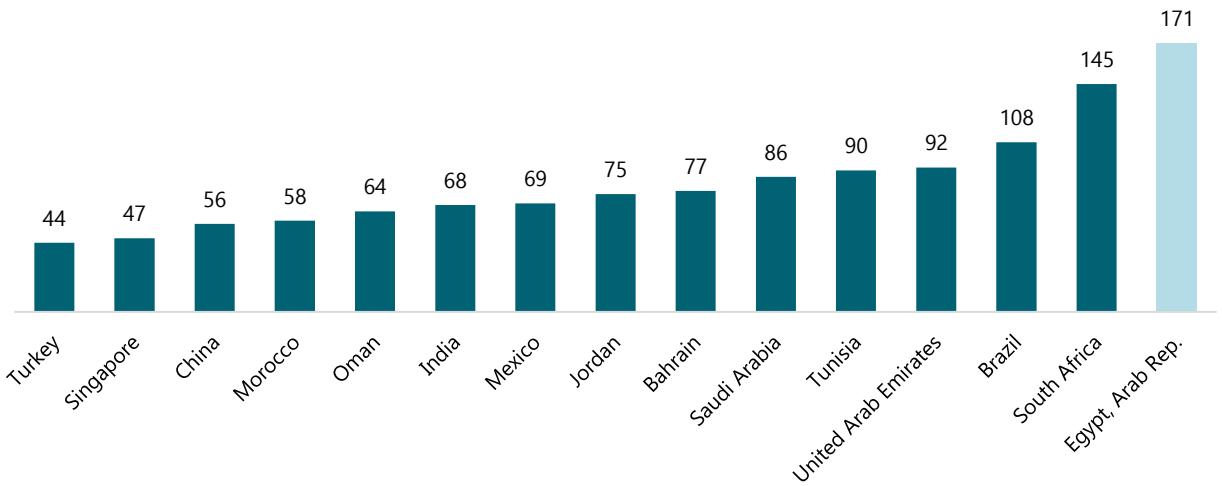
Figure 3.3a. Ranking of Egypt and Selected Countries in the 2018 Logistics Performance Index



Source: The World Bank, Logistics Performance Index Report, various years.

The customs system in Egypt still suffers from multiple challenges that keeps Egypt in a low ranking in the Trading Across Borders Index[2], especially when compared to the performance of a group of neighbouring and competing countries, as shown in Figure 3.3b.

Figure 3.3b. Egypt's Performance in the 2020 Trading Across Borders Index



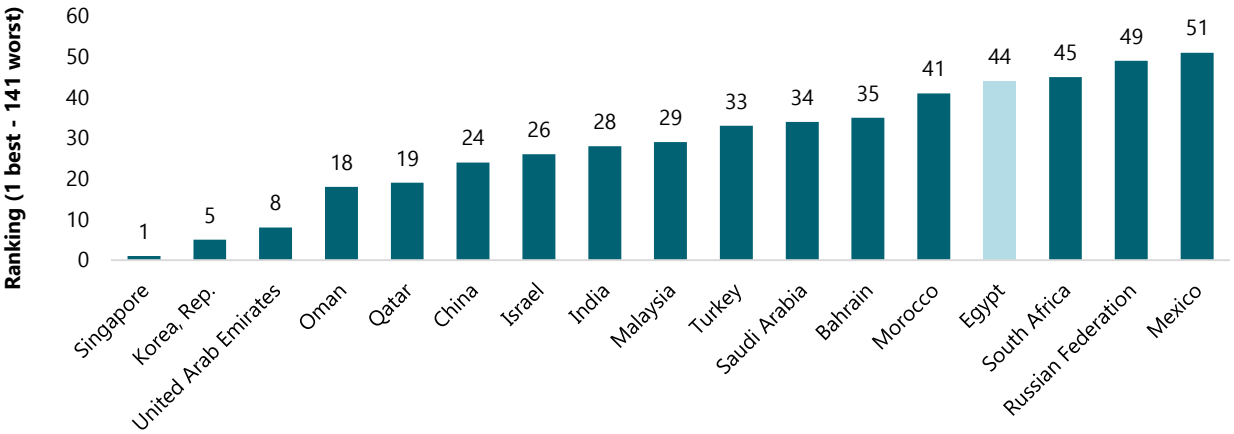
Source: The World Bank, Doing Business Report 2020.
*Ranking (190 worst - 1 best).

[2] One of the sub-indicators of the Ease of Doing Business Index issued by the World Bank in 2020. It evaluates countries according to a set of variables that include the duration, cost, and number of import and export documents, then countries are ranked according to their score, with 100 being best performance achieved by 16 countries worldwide (World Bank 2020).

Consequently, customs procedures are still complex and the customs clearance period is long and costly, especially since the automated system for the one-stop shop has not been implemented to clear import and export procedures in all ports, airports and land ports, as evident from Table A3.2 in the appendix (Federation of Egyptian Industries 2019).

Despite Egypt's advanced ranking in the index of competitiveness of transport infrastructure of all kinds[3], it ranked 44 out of 141 countries. However, there is still room for development, especially as many neighbouring and competing countries achieved better performance in the same indicator, which is shown in Figure 3.4.

Figure 3.4. Transport Infrastructure Index for 2019



Source: WEF, 2019.

1.2 The maritime and air transport sectors:

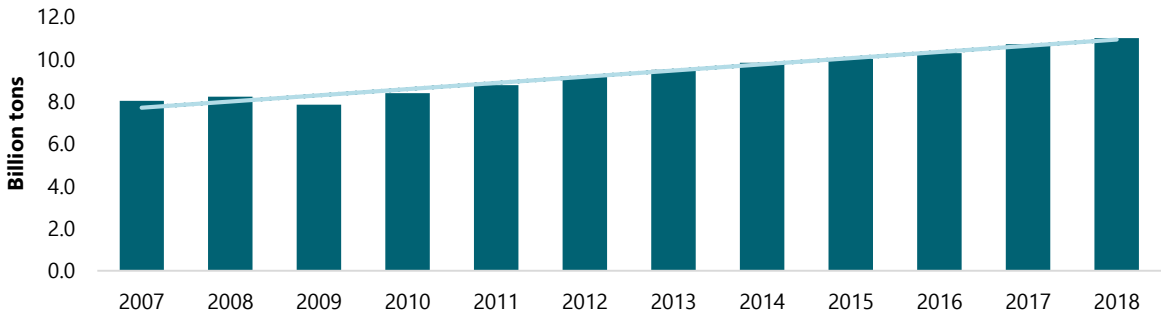
1.2.1 Maritime Transport:

- **Global maritime transport:**

- Maritime transport is the backbone of international trade, through which 80-90 percent of international trade is transported.

- The volume of global maritime trade increased from 8 billion tons in 2008 to 11 billion tons in 2018, an increase of 32 percent, as shown in Figure (3.5).

Figure 3.5. Evolution of the Volume of Global Maritime Trade, 2008-2018



Source: Prepared by ECES based on the UNCTAD database.

[3] The index corresponds to a simple average of the score of any given country/ economy in eight sub-indicators for road network connectivity, quality of roads, railway density, train service efficiency, airport connectivity, air transport service efficiency, international shipping network connectivity, and port service efficiency. The score scale ranges between 0 for the least competitive and 100 for the most competitive. Countries are ranked according to their scores (World Economic Forum).

- Table 3.1 shows the most important features of global maritime trade in terms of the nature of goods transported by sea, the relative distribution of maritime trade between countries and regions, and finally the size of the global maritime fleet.

Table 3.1. Key Features of the Global Maritime Trade, 2018

Nature of goods	Dry cargo represents about 69 percent, on average, of total global maritime trade, followed by crude oil by about 19 percent. This structure did not differ much during the past decade despite the slight decline in the share of crude oil, coinciding with the decline in world oil prices, against a slight increase in the share of dry goods as shown in Figure (A3.1) in the Appendix.
According to the nature of countries and territories	1. Developing and emerging countries contribute about 60 percent of the total global maritime trade compared to 34 percent for developed countries. This distribution did not differ during the past decade, despite a slight decline in the contribution of developing countries, coinciding with the decline in petroleum trade, compared to a slight increase in the contribution of developed countries, as shown in Figure (A3.2) in the Appendix. 2. Given the pivotal role of Asia in global supply chains over the past decade, it had the largest share of global maritime trade. China alone accounted for half of the growth rate of international maritime trade during the past decade, as it imported a quarter of global maritime imports in 2018. So, the growth rate of global maritime trade declined due to trade conflicts between China and the United States to reach 1.8 percent in 2015 compared to 3.5 percent in 2014. 3. America's share of international maritime trade has remained stable at around 22 percent. 4. The decrease in the relative weight of Europe. 5. Finally, Africa's share remained modest, not exceeding 5 percent of unloaded goods, and it declined from 9 to 7 percent for loaded goods (exports), as shown in Figure (A3.3) in the Appendix.
The size of the global merchant fleet	1. The total global merchant fleet reached 95.4 thousand ships, with a tonnage of 1.97 billion tons in 2019. 2. The size of the global merchant fleet (2014-2019) has grown by about 8 percent in terms of the number of ships and containers and by about 17 percent in terms of net tonnage in million tons. 3. Dry bulk vessels and oil tankers account for the largest share of this fleet with rates of 43 percent and 29 percent, respectively. 4. In terms of the number of ships, there are five countries that own 50 percent of the global merchant fleet: China, Japan, Greece, Hong Kong, and Singapore. China, Japan, and Korea account for 90 percent of shipbuilding activities worldwide. 5. By reviewing the last five years, it is clear that shipbuilding activity has declined in Germany, Japan, and Korea, compared to an increase in Greece, Singapore, and China. 6. Maritime transport is witnessing an increase in alliances and mergers between global shipping lines, as the market share of the 10 most important regular transportation lines from east to west increased from 68 percent in 2014 to 90 percent in 2019. This may be due to the increase in supply and thus its pressure.

Source: UNCTAD, 2019.

- **Maritime transport in Egypt:**

Key sector performance indicators:

- Despite the distinguished geographical location that Egypt enjoys and the length of its marine coasts (representing 0.36 percent of total coasts worldwide), Egyptian ports rank low in the list of the 100 most important container ports in the world. Port Said Port ranked 57th in 2019 and the Alexandria Port ranked 94th for the year 2018. This is due to the slow growth rate of its container handling compared to other ports,[4] while the Chinese port of Shanghai came as the largest port in the world in

[4] The Journal of Commerce annual Top 50 World Container Ports, Lloyd's List annual Top 100 Ports, AAPA World Port Rankings, Drewry World Container Traffic Port Handling and individual port websites, American Journal of Transportation Top 100 ports (Retrieved at: https://www.ajot.com/premium/ajot-ajots-top-100-containerports-a-to-z/P0)

2019; It accounts for about 42 million tons of twenty- foot equivalent units,[5] followed by the Port of Singapore (36.6 million tons), then Jebel Ali in the UAE in the tenth place, then the port of Jeddah in Saudi Arabia in the 40th place, and the Moroccan port of Tangier in the 47th place, in the list of the 100 most important ports in 2019 .

- At the level of all Egyptian ports, container port throughput did not exceed 6 million twenty-foot equivalent units (TEU) during the period (2010-2018), so Egypt's share is limited compared to the shares of countries at similar levels of development, as evident from Table (3.2).

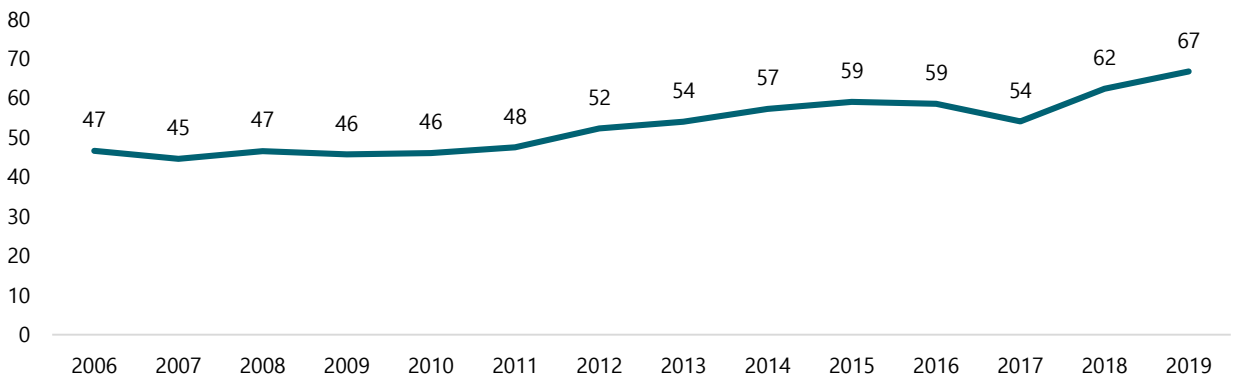
Table 3.2. The Volume of Cargo Handling in the Ports of Egypt and Selected Countries in 2018

Country	Value in 2018	Global share %	Change 2010-2018
China	225.8	28%	58%
Singapore	36.6	5%	26%
Malaysia	25.0	3%	38%
UAE	19.1	2.4%	26%
India	16.4	2.1%	84%
Vietnam	16.4	2.1%	174%
Indonesia	12.9	1.6%	33%
Thailand	11.2	1.4%	48%
Brazil	10.3	1.3%	38%
Turkey	9.9	1.3%	51%
Saudi	8.7	1.1%	49%
Mexico	7.0	0.9%	88%
Egypt	6.2	0.8%	-10%
South Africa	4.9	0.6%	24%
Morocco	4.8	0.6%	70%

Source: UNCTAD database.

- Egypt achieved a score of 67 out of 100 in the Liner Shipping Connectivity Index in 2019, thus advancing by about 20 points compared to 2006, as shown in Figure 3.6.

Figure 3.6. Evolution of Egypt's Score in Liner Shipping Connectivity Index, 2006-2019

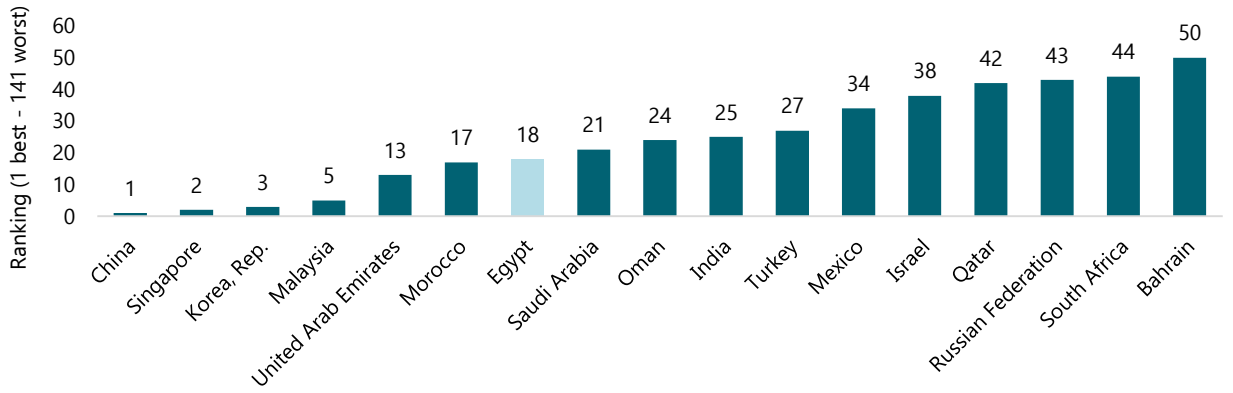


Source: UNCTAD, Liner Shipping Connectivity Index Report, various years.
* Performance is better if the index is 100 or more.

[5] Twenty foot equivalent units TEU.

- Despite Egypt's advancement in Liner Shipping Connectivity Index, its ranking is still low compared to some neighbouring and competing countries. It ranked 18th out of 141 countries, as can be seen in Figure 3.7.[6]

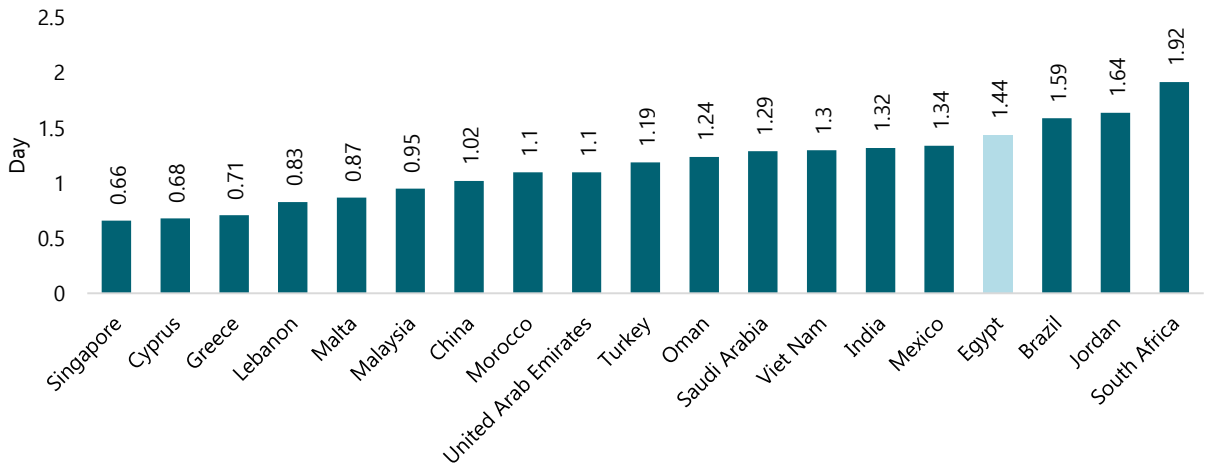
Figure 3.7. Ranking of Egypt and Selected Countries in the Liner Shipping Connectivity Index 2019



Source: WEF, Global Competitiveness report, 2019.

- The time spent in the port is one of the key indicators that reflect the efficiency and competitiveness of the port. According to the UNCTAD database, the average time spent in ports was about 23.5 hours, or 0.97 days. Dry bulk vessels take 2.05 days, which is three times the time spent on containers.
- Figure 3.8 shows the average time spent in ports for all types of ships in Egypt compared to selected countries. The Figure shows that there is still a need to reduce the time of ships' presence in ports, especially dry bulk ships, which take 4.4 days, double the global average.

Figure 3.8. Average Time Spent At Port for Egypt and Some Selected Countries, 2018



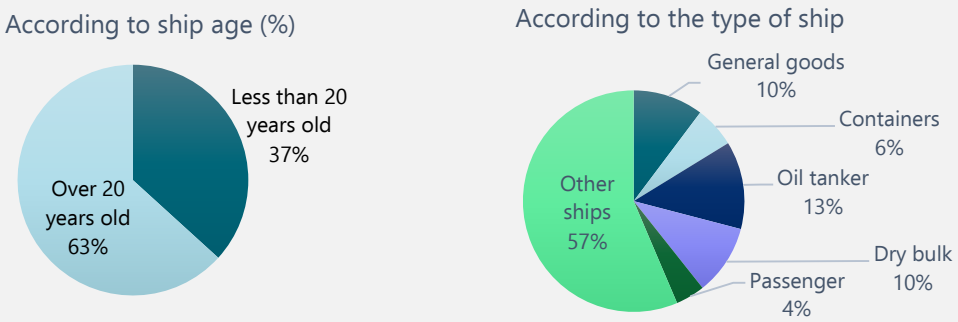
Source: UNCTAD Database, 2020.

1.2.2 Features of the sector:

- Table 3.3 shows the most important features of the maritime transport sector in Egypt in terms of the size of the merchant fleet, the number and capacity of seaports, and the volume of handling.

[6] An UNCTAD index that aims to assess the international shipping network connectivity of countries. It is based on five components in the maritime transport sector: the number of ships, container capacity, the maximum size of the vessel, the number of services and the number of companies that deploy container ships in the country's ports. The World Economic Forum calibrates the original index values so that the closer the index value is to 100, the better the performance is.

Table 3.3. Key Features of Maritime Transport in Egypt

Size of the maritime fleet	1. The Egyptian merchant fleet included 117 ships in 2018, two-thirds of which are more than twenty years old. The following two figures show the distribution of the Egyptian fleet according to the type and age of ships. **Figure 3.9. The Egyptian Maritime Fleet in 2018**  *Source:* Prepared by ECES based on Ministry of Transport data, the Maritime Transport Sector. 2. By following the development of the size of the Egyptian maritime fleet over the past two decades, it becomes clear that the number of ships in the Egyptian fleet has decreased by 32 percent. The number of ships reached 211 ships in 2001 compared to 117 ships in 2018. It is clear from Table A3.3 in the Appendix that the decline is in all types of ships, although the biggest decline is in cargo transport ships.
Ports	1. Egypt has 48 ports, including 15 commercial ports, two of which belong to the General Authority of Alexandria Port, while one port belongs to the Damietta Port Authority, 6 ports belong to the Red Sea Ports Authority, and 6 other ports belong to the Suez Canal Economic Zone, in addition to 33 specialized ports to serve a variety of mining, petroleum, tourism and fishing activities along the coasts of the Red Sea, the Mediterranean, the Gulf of Suez and Aqaba. 2. The design capacity of the Egyptian commercial ports varies in terms of area, maximum capacity, berths, and container berths as shown in Table A3.4 in the Appendix. 3. There are about nine commercial ports that do not have container berths, including Safaga Port in the Red Sea. 4. Efforts have focused over the past decade on increasing the length and number of berths other than container berths, which weakens the ability to achieve the targets of increasing the volume of handling to 20 million containers, and increasing the capacity of ports to 370 million tons by 2030.
Volume of handling	1. The Egyptian ports handled 172 million tons during 2019, an increase of 9 percent over that of the previous year. The Alexandria port alone handled 62 million tons, or 36 percent of the total handled by all ports, followed by the ports of the Suez Canal Economic Zone (58 million tons, 34 percent), then Damietta Port (36 million tons) and finally the Red Sea ports (5 million tons only). 2. The volume of containers handled in Egyptian ports during 2019 reached about 7.24 million containers, representing an increase of 8 percent over their volume in the previous year. The containers were divided into 3.6 million containers of imports, while the outgoing and transit containers also recorded 3.6 million containers. The ports of the Suez Canal Economic Zone are the most active in this area, handling 61 percent of them. 3. The number of ships visiting Egyptian ports in 2019 reached about 13.6 thousand vessels, which is 2 percent less than in 2018, and more by 7 percent than in 2016. 4. The number of vessels passing the Suez Canal reached 18,000 vessels in 2018/2019, with a tonnage of 942 million tons. Petroleum products represent 23 percent of the goods handled through the Canal, and 77 percent are non-petroleum products (the Suez Canal Authority). 5. In a previous report, the Egyptian Center for Economic Studies addressed in detail the impact of the crisis on the Suez Canal revenues.[7]

Sources: Central Agency for Public Mobilization and Statistics (CAPMAS) 2018, Maritime Transport Bulletin; Ministry of Transport, 2018, Egyptian Maritime Transport Strategy, Development and Increasing the Competitiveness of Sea Ports; Ministry of Transport, Maritime Transport Sector Database.

[7] ECES, Suez Canal Revenue, Views on Crisis, issue no. 4.

1.3 Air transport:

1.3.1 Global air transport

-The following table shows key features of the air transport sector worldwide in terms of its contribution to GDP and employment, the development of passenger and freight traffic during the past decade, and the relative distribution of passenger and cargo movement according to region.

Table 3.4. Key Features of Global Air Transport, 2018

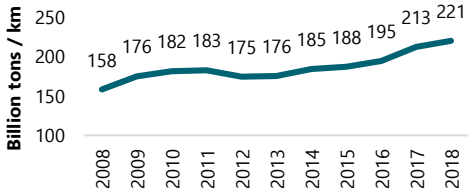
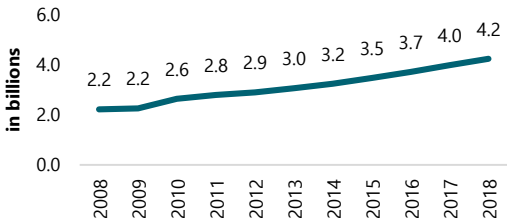
<table>
<tr><td>Economic importance in output and employment</td><td>- The output of the air transport sector is about $2.7 billion, or 3.6 percent of the world GDP.
- It avails about 65.5 million direct and indirect job opportunities, and transports goods worth $6 trillion annually.
- Across the Middle East, it contributes about $130 billion to economic activity, or 4.4 percent of GDP, and creates about 2.4 million direct and indirect job opportunities (ATAG 2020).</td></tr>
<tr><td>Development of passenger and cargo transportation</td><td>- Air transport is the backbone of passenger and cargo transport worldwide, as the number of air passengers worldwide doubled from 2 billion in 2008 to 4 billion in 2018. Air freight traffic also increased from 158 billion tons / km in 2008 to 221 billion tons / km in 2018, i.e. an increase of 40 percent (Figures 3.10 and 3.11)
Figure 3.10. Evolution of Air Freight Movement of Goods, 2008-2018
 

Figure 3.11. Evolution of the Number of Air Passengers Globally, 2008-2018
 

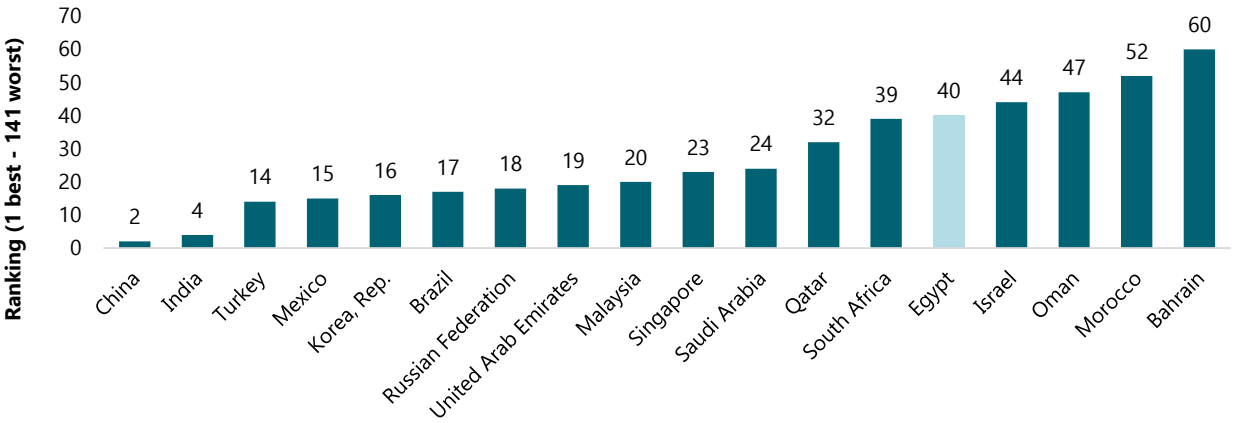
Source: The World Bank, World Development Indicators database.</td></tr>
<tr><td>Relative distribution of passenger and freight traffic</td><td>- Three regions account for more than 80 percent of total passenger and air freight traffic globally during the past decade. They are East Asia and the Pacific, North America, and Europe and Central Asia, as shown in Table 3.5:
Table 3.5. Relative Distribution of the Global Movement of Passengers and Air Shipments by Region, 2008-2018
<table>
<tr><th></th><th colspan="2">Passenger air transport</th><th colspan="2">Air transportation, freight</th></tr>
<tr><th></th><th>Average % (2008-2018)</th><th>Change (2008-2018)</th><th>Average % (2008-2018)</th><th>Change (2008-2018)</th></tr>
<tr><td>East Asia and the Pacific</td><td>29%</td><td>33%</td><td>36%</td><td>-0.3%</td></tr>
<tr><td>Europe and Central Asia</td><td>26%</td><td>-9%</td><td>24%</td><td>-7%</td></tr>
<tr><td>North America</td><td>27%</td><td>-32%</td><td>22%</td><td>-18%</td></tr>
<tr><td>Middle East and North Africa</td><td>6%</td><td>39%</td><td>12%</td><td>68%</td></tr>
<tr><td>Latin America and the Caribbean</td><td>7%</td><td>14%</td><td>3%</td><td>-13%</td></tr>
<tr><td>South Asia</td><td>3%</td><td>64%</td><td>1%</td><td>26%</td></tr>
<tr><td>Sub-Saharan Africa</td><td>1%</td><td>17%</td><td>1%</td><td>44%</td></tr>
</table>
Source: The World Bank, World Development Indicators database.</td></tr>
</table>

1.4 Air transport in Egypt:

1.4.1 Key sector performance indicators:

- Egypt ranked 40th out of 141 countries in the air connectivity network. It is a low rank compared to some neighbouring and competitor countries,[8] as shown in Figure 3.12.

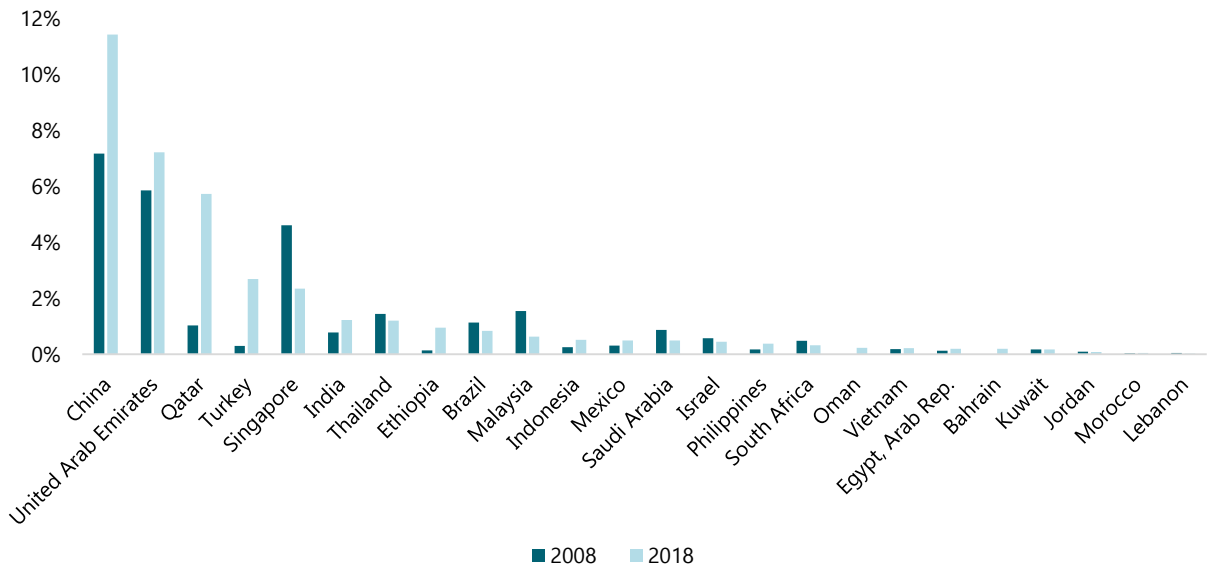
Figure 3.12. Air Connectivity Index 2019



Source: World Economic Forum (WEF), Global Competitiveness Report, 2019.

- Despite the privileged position that Egypt enjoys, its share of global air freight does not exceed 0.2 percent and its share of global air passenger transportation does not exceed 0.3 percent, surpassed by countries with comparable levels of development. Even Arab countries succeeded in achieving leaps in their share of global freight and air transport, as shown in Figures 3.13 and 3.14.

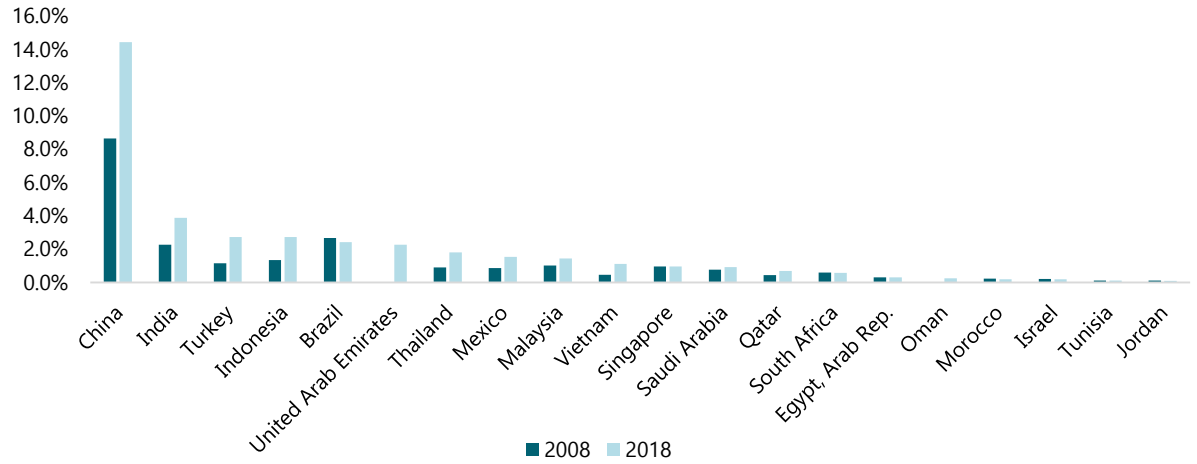
Figure 3.13. Evolution of the Share of Egypt and Selected Countries in Global Air Freight, 2008 and 2018



Sources: International Civil Aviation Organization, Civil Aviation Statistics of the World; ICAO staff estimates .

[8] An index issued by the International Air Transport Association (IATA), which assesses the extent of a country's integration into the global air transport network. At the level of each airport, the number of seats available for each receiving country is weighted by the size of the receiving country's airport (measured by the number of passengers), then these weights are collected for all the receiving countries. This is repeated on the rest of the airports and a score is calculated for each country. The World Economic Forum calibrates index values so that the closer the value is to 100, the better the performance.

Figure 3.14. Evolution of the Share of Egypt and Selected Countries in Total Global Passenger Air Transport, 2008 and 2018



Sources: International Civil Aviation Organization, Civil Aviation Statistics of the World; ICAO staff estimates.

- Despite the doubling of passenger and air freight traffic in the Middle East and North Africa over the past decade, Egypt's share of air freight in the region remained within one percent, and its share of passenger air transport decreased from 9 percent in 2008 to 5 percent in 2018, as evident in Figures 3.15 and 3.16.

Figure 3.15. Evolution of Egypt's Share of Passenger Air Transport in the Middle East and North Africa and the Development of the Region's Share of Passenger Air Transport, 2008-2018

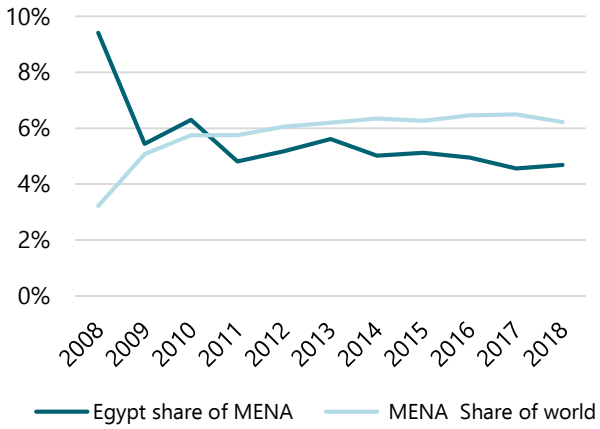
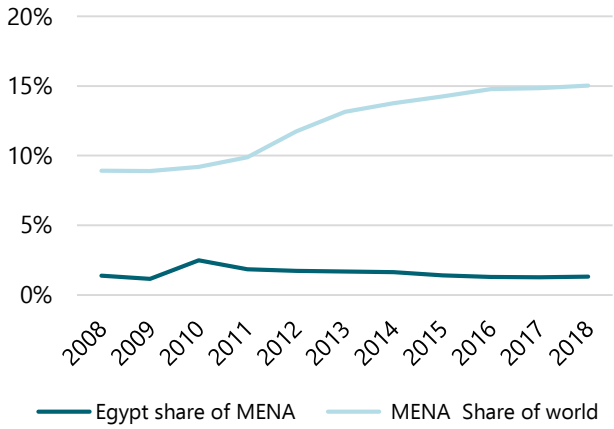


Figure 3.16. Evolution of Egypt's Share of Air Freight in the Middle East and North Africa Versus the Development of the Region's Share of Global Air Freight, 2008-2018

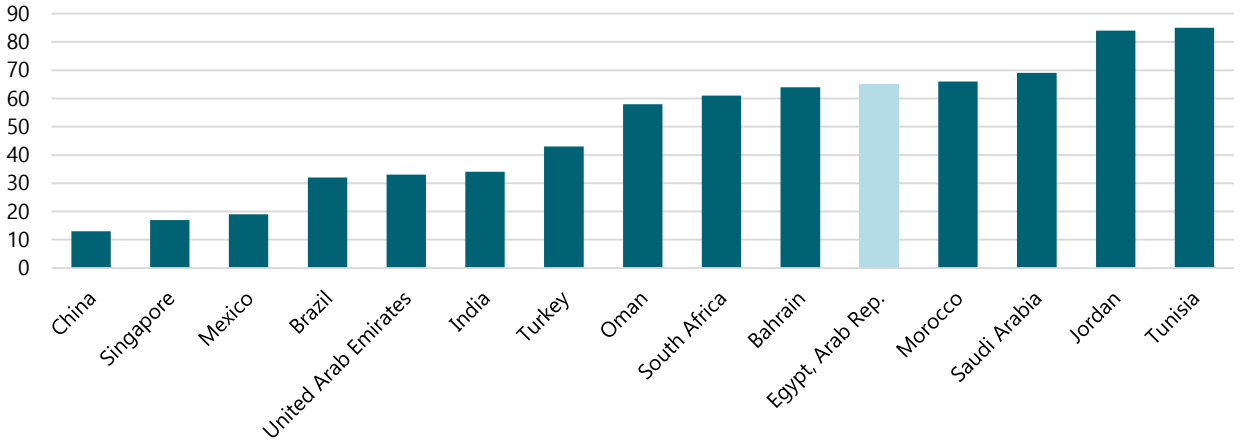


Sources: International Civil Aviation Organization, Civil Aviation Statistics of the World; ICAO staff estimates.

- The previous figure indicates that air freight represents a missed opportunity for Egypt that exceeds its opportunity to transport passengers.
- The poor performance of air transportation in Egypt is reflected in the modest ranking of Egypt in the Travel & Tourism Competitiveness Index.[9] Egypt ranked 65th out of 140 countries, which is lower than many countries that are not comparable to Egypt in terms of its cultural heritage.

[9] An index issued by the World Economic Forum, which is a simple average to measure the performance of countries in 14 pillars and 90 sub-indicators that reflect the factors and policies that contribute to a sustainable environment for the travel and tourism sector, which in turn contributes to the competitiveness of countries. The index ranges from 100 (the best) to 0 (the worst).

Figure 3.17. Performance of Egypt and Selected Countries in the Tourism and Travel Competitiveness Index, 2019



Source: World Economic Forum (WEF), Travel and Tourism Competitiveness Report, 2019.
* 140 worst- 1 best.

- According to this indicator, Egypt is still one of the least open countries in the world,[10] as it ranked 124 out of 140 countries. The performance is still relatively modest in the pillar of air transport infrastructure, where Egypt ranked 55, while the UAE is fourth globally.[11]
- Egypt's performance in the Travel Facilities Index is considered modest,[12] with a score of 3.8 out of 10 in this indicator.
- According to the Air Trade Facilitation Index,[13] Egypt ranked 78th out of 124 countries and 34 out of 135 countries in the Freight Friendliness Index.[14]

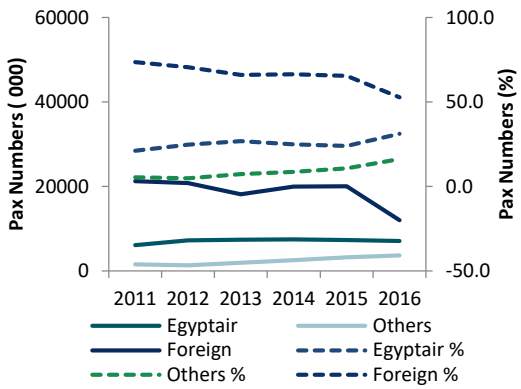
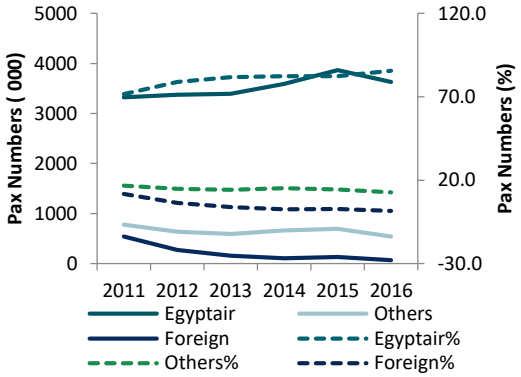
1.4.2 Features of the sector

- Table 3.6 shows the key features of the air transport sector in Egypt in terms of its contribution to GDP and employment, the development of passenger and freight traffic during the past decade, and the relative distribution of passenger and cargo traffic by region.

Table 3.6. Key Features of Air Transport in Egypt, 2018

Economic importance in output and employment	- The sector, including its supply chain, contributes about 1 percent of Egypt's GDP in 2018, and this figure doubles if we add to it the contribution of tourism, whether in employment or output. - According to IATA (2019), the sector employs about 97,000 direct jobs, most of which are highly skilled jobs, in addition to 102,000 indirect jobs related to the supply of goods and services. It is estimated that one direct job in the air transport sector creates six indirect jobs in the economy, which is evident in the establishment of an increasing number of companies near Cairo International Airport (World Bank 2010).
Development of passenger and cargo transport	- Air transport activities are concentrated in the transportation of passengers. The number of passengers who are dependent on air transport reached 31 million, while the amount of cargo transported by air reached about 269.2 thousand tons in 2018.

[10] The index measures requirements for obtaining a visa, signing open skies agreements, and the number of trade agreements in progress.
[11] The index measures the number of airports, their density, the number of airline operations, and the quality of infrastructure for air transport, and international and domestic flights.
[12] One of the indicators of the Air Transport Regulatory Competitiveness issued by IATA in 2018 and monitors the extent of the facilities provided to facilitate the movement of individuals worldwide and thus assess the progress of governments in the agreements of open skies, progress in passenger information systems, automation of border control systems, visa requirements. The closer the index is to 10, the better the performance.
[13] The index assesses the extent to which the country provides facilities for transporting goods by air, whether through customs regulations or border procedures (IATA).
[14] The index assesses actual penetration of electronic transactions and documents in IATA air cargo shipments.

Development of passenger and cargo transport (cont.)	- Despite the increase in total passenger traffic at Egyptian airports (international, domestic and transit) from 27.2 million passengers in 2016 to 31 million in 2018, it is 11 percent less than the figure in 2008. This is much less than the capacity of Egyptian airports, which is estimated at 73 million passengers annually. - The amount of cargo transported from Cairo airport remained around 300 thousand tons annually during the last seven years, which represents only half of its capacity (600 thousand tons) (Ministry of Civil Aviation, 2018).
Egyptian airports	- In Egypt, there are 23 airports owned by the state, apart from Marsa Alam and El Alamein airports with the BOT system. The airports include about 11 international airports and four domestic airports used for international charter flights, and only four domestic airports. Three new airports have been established, namely Sphinx, Al Melis, and Kattameya, with Berenice airport under construction, bringing the number of airports to 27 (Ministry of Civil Aviation, 2018). - According to passenger and cargo traffic, Cairo International Airport is the largest international airport in Egypt and the second largest in Africa after Johannesburg Airport in South Africa. Cairo Airport received about 18 million passengers in 2018, or 58 percent of the total passengers, as well as in terms of cargo transportation.
International and domestic passenger traffic	- Decline in international passenger traffic on foreign airlines versus an increase thereof on Egyptian airlines. Domestic passenger traffic, however, is mainly acquired by EgyptAir and some other Egyptian airlines, as can be seen from the following two figures: **Figure 3.18. The Development of International Air Passenger Traffic, 2011-2016**  **Figure 3.19. The Development of Domestic Air Passenger Traffic, 2011-2016**  *Source:* A conference held by ECES entitled "Opening Egyptian Skies: Lost Opportunity? Or Waste of Resources?", September, 2018.
Air Fleet	- Egypt has a diversified structure of air transport and freight companies. Besides the holding company of EgyptAir (10 subsidiary companies) there are 10 private companies, 3 public sector companies and public business sector companies in addition to foreign airlines. - EgyptAir owns the largest part of the Egyptian aviation fleet. The number of EgyptAir aircraft is 64, including 61 for passenger transport and 3 cargo aircraft, while the size of the remaining fleet of Egyptian companies is 47.

Source: Prepared by ECES based on various sources indicated within the table.

Second: Demand and supply shocks considering the crisis cycle

This part reviews the repercussions of previous crises on the maritime and air transport sectors, then the repercussions of the Corona crisis and expectations for 2020. Finally, it provides an analysis of the demand and supply shocks resulting from the Corona crisis on the maritime and air transport sectors during the crisis cycle.

2.1 Implications of previous crises on the maritime and air transport sectors:

Theoretically, the demand for transport of all kinds is primarily derived from economic activity, international trade, and the movement of people across countries. Therefore, it is a sensitive sector for any external or local crises that would affect any of the previous variables.

Globally, the maritime transport sector was affected by the global economic crisis of 2008, which contracted global economic growth by -1.9 percent in 2009, and lowered the volume of international trade by 13.7 percent in 2009 (value decrease by -22 percent), i.e., a decline seven times that in economic growth.

The crisis led to a decline in the growth rate of the global maritime trade volume to reach -4.5 percent in 2009, compared to 2 percent in the previous year. The volume of global container trade also decreased by 7-8 percent because of the crisis (UNCTAD 2010).

Air transport was also affected by the decline in demand for tourism and travel and the number of international tourist arrivals after the crisis by -1.1 percent and -4 percent, respectively, in 2009 compared to 2008. (Arab Air Carriers' Organization 2020)

The global economy, international trade, and consequently the air and maritime transport sectors recovered quickly from the repercussions of the global financial crisis due to the limited scope of the crisis. As its impact was more severe on developed countries compared to developing and emerging countries, which are the main actors in the two sectors, as mentioned earlier in the first section of this report.

Locally, Egypt's maritime and air transport sectors are affected by global and local crises. The global financial crisis led to a slowdown in economic growth, in addition to a decline in the value of Egyptian foreign trade, as shown in Table 3.7:

Table 3.7. The Impact of the Global Crisis on Egypt's Foreign Trade

	Total Egyptian trade (Billion $)		Percentage change (%)
	2008	2009	
Value (billion dollars)	79	69	-12
Trade via Egyptian seaports	67	59	-11
Trade via Egyptian airports	12	9.7	-19

Source: Own calculations based on CAPMAS data, Foreign Trade Bulletins.

The passengers and air freight traffic at Egyptian airports was also affected by global or local crises,[15] as shown in Table (3.8):

Table 3.8. The Impact of Global and Local Crises on Air Transport

	2008 Global Financial Crisis	The Revolution of 25 January 2011	Some countries barred their citizens from traveling to Egypt after the Russian plane crashed
The growth rate of passenger traffic at Egyptian airports*	-14%	-12%	-22%
The volume of cargo shipped by air to all airports**	-8%	-20%	

Source: Own calculations based on:
* CAPMAS, Annual Bulletin of Air Transport Statistics.
** The World Bank, World Development Indicators Database.

[15] ECES, the Tourism Sector, Views on Crisis, issue no. 3.

2.2 Implications of the corona crisis since its inception and expectations for 2020:

The economic and social repercussions of the Corona crisis are expected to exceed the repercussions of previous crises, including the global economic crisis of 2008/2009. The Corona crisis caused the global economy to enter into an economic recession, according to what the International Monetary Fund announced on April 1, 2020, which negatively affects the expected growth rates for all regions and countries.[16]

The crisis also led to a decline in demand, slowing economic activity and caused disruptions in global supply chains, and a decline in international trade by about 3 percent during the first quarter of 2020, falling again by about 18.5 percent during the second quarter.

Table 3.9 presents the repercussions of the crisis on the global maritime and air transport sectors, according to the latest available data.

Table 3.9 Implications of the Crisis for the Global Maritime and Air Transport Sectors

Maritime Transport	Air Transport
- Global container trade traffic decreased in February 2020 by 8.6 percent compared to February of the previous year. The decline was greater in the Far East, where the crisis began (a decline of 17.5 percent) against a smaller decline in Europe and then America (ITF 2020).[17] - The decline in demand led companies operating in shipping to reduce and cancel trips to the extent that operating capacity of containers decreased by about 10.6 percent of the total operating capacity last March, and cancellation reached 30 percent for containers heading from the Far East to Europe. - The number of containers has also been reduced to avoid oversupply and thus having to reduce prices of shipping services.	- The decline in international and domestic air traffic led to global passenger transport revenue losses estimated at about $126 billion during the period from January to May 2020. The Asia-Pacific region accounted for 38 percent of the losses, followed by Europe at 24 percent and North America by 22 percent. The regions of the Middle East, Latin America and Africa are the least affected regions, with rates not exceeding 10 percent. - In the Middle East and North Africa, international aviation revenues declined by 97.3 percent in April 2020, compared to a decrease of 50.3 percent in March 2020. - Air cargo freight has seen a less severe drop than that of passenger transport, as the former decreased in March 2020 by 15.2 percent compared to the previous year and by 32 percent from its value in 2008, compared to a decrease in passenger transport by about 30 percent during March 2020 compared to the previous year. This is due to the doubling of air freight for preventive and medical supplies and many commodity requirements (IATA 2020a).

Source: Prepared by ECES based on various sources indicated within the table.

Third: With regard to the outlook for 2020:

3.1 Maritime transport:

The World Trade Organization expects the volume of trade to decline by the end of 2020 compared to 2019 by rates ranging between 13 percent and 32 percent, according to the extent of controlling the virus and the extent to which global economic growth is affected by its repercussions.

It is also expected that the global container trade will witness a decrease by more than 10 percent as a result of the impact of the Corona crisis, surpassing the decline witnessed as a result of the Global Financial Crisis, which ranged between 7 percent and 8 percent.

3.2 Air transport:

- The International Civil Aviation Organization (ICAO) expected an unprecedented decline in the performance of the aviation sector globally because of the Corona crisis. The following Table 3.10 shows the sector's performance outlook for 2020.

[16] According to the latest update by the International Monetary Fund in June 2020, global economic growth is expected to achieve -4.9 percent in 2020, -8 percent for developed economies and -3 percent for emerging and developing economies, with varied growth rates between regions and countries of the world.

Table 3.10. Performance Expectations of the Global Aviation Sector in 2020 Compared to 2019

Variable	Optimistic scenario	Pessimistic scenario
Passenger air traffic	-48%	-62%
Number of passengers carried by air	-2.3 billion passengers	-2.9 billion passengers
Passenger air transport revenues	$308 billion	$391 billion
Number of seats available through airlines	-42%	-52%

Source: ICAO, Effects of Novel Coronavirus (COVID-19) on Civil Aviation: Economic Impact Analysis Economic, June, 2020.

- ICAO expects Europe will witness the largest decline in passenger numbers, revenues, and capacity, followed by Asia and North America.
- The losses in passenger traffic and reduction in capacity are reflected in airport revenues, which are expected to decrease by about $ 97.4 billion in 2020, representing losses of more than 50 percent for all airports, in all regions, of their expected value in the case of the usual scenario, with the exception of Europe, whose losses represent 60 percent.
- Airline revenues are also expected to incur net profit losses of $84 billion, meaning that the net profits of all airlines in the various regions will decline by more than 50 percent in the usual scenario.
- Flight rates are expected to improve in the following year but will remain lower than in 2019 by 32-41 percent. It takes two years for the civil aviation to recover after global GDP recovers (IATA 2020b).
- The Arab Air Carriers' Organization developed three scenarios about the impact of the virus on the aviation sector, expectations of recovery at the level of the global and Arab economies, and its expectations to recover from the crisis and return to 2019 rates = 100, as shown in Table 3.11:

Table 3.11. Scenarios for the Impact of the Crisis on the Aviation Sector Globally and in the Arab World

		Quick recovery scenario		Moderate recovery scenario		Slow recovery scenario	
		2020	2023	2020	2024	2020	2026
International Economy	Passenger revenue (RPKs)	-48%	2.30%	-56%	-0.60%	-65%	6%
	Numbers of international tourist arrivals	-58%	5.60%	-70%	-0.10%	-78%	9.60%
Arab economy	Passenger revenue (RPKs)	-47%	4.30%	-55%	-0.20%	-47%	4.30%
	Number of international tourist arrivals	-55%	6.60%	-63.50%	-0.30%	-55%	6.6

Source: Arab Air Carriers' Organization, 2020.

- The International Air Transport Association (IATA) expects a lower decline in air freight of goods than the decline in passenger transport due to the increase in reliance on it to ship preventive and medical supplies and food commodities. The decline in cargo freight during the year 2020 was estimated between 14 percent - 31 percent.[17]

[17] The two scenarios relate to what the World Trade Organization expected regarding the impact of the crisis on the volume of global merchandise trade during the year 2020, which is expected to decline by about 13 percent from its value in 2019 in the optimistic scenario, i.e., the end of the crisis by June 2020, or the decline may reach 32 percent in the pessimistic scenario, i.e., continuation of the crisis until the end of 2020.

Fourth: Demand and supply shocks in light of the crisis cycle from its inception until now and future outlook:

The expected impact on demand and supply is related to the stage we are facing in the crisis cycle. The analysis is based on a set of concepts that include:

1. **Demand shock:** Change in the demand for maritime and air transport services as a result of change in economic activity, trade, and travel, both internationally and locally.
2. **Supply shock:** Change in the ability of the global and local maritime and air transport system, with all its material, human and organizational elements, to cope with changes in demand.

The analysis is based on a set of assumptions as follows:

1. Linkage of maritime and air transport in Egypt to changes in global maritime and air transport, which is affected by economic activity, international trade movement, and demand for tourism and travel. All of which are negatively affected by crises, as we have already indicated, and their recovery is related to controlling the virus, the speed of discovering a vaccine or treatment for it, and the extent of the ability to adhere to precautionary measures.
2. Egypt's main trading partners,[18] namely China, the European Union, the Gulf countries, and the United States are among the economies most affected by the Corona crisis. In an attempt by these countries to contain the crisis, each of them adopted a set of precautionary measures that led to the suspension of some economic activities, which negatively affected Egypt's foreign trade.
3. Although six months have passed since the beginning of the global crisis, data related to sea and air transport traffic in Egypt are not available monthly for the impact to be accurately tracked. Therefore, the analysis depends on available data in addition to estimates based on specific assumptions related to global performance.
4. The analysis is based on the latest available official data, specifically data on Egypt's air and sea transport and foreign trade published by the Central Agency for Public Mobilization and Statistics, in addition to the responses of a sample of businessmen in various fields.
5. Data reflecting the monthly traffic of passengers at Egyptian airports are not available, so the latest available data on 31 million passengers in 2018 was relied on to calculate the average monthly traffic rate, which ranges between 2-2.5 million passengers.
6. The monthly traffic of Egypt's foreign trade through ports and airports reflects the impact of the crisis on the maritime and air transport sectors, which is detailed in Table A3.6 in the Appendix.

The following table presents an analysis of the impact on the maritime and air transport sectors of the crisis since its inception and currently and forecasts for the next phase until June 2021. The analysis is based on rates of change only, while total values are included in Table A3.6 in the appendix:

[18] In 2019, the European Union accounted for 42 percent of Egyptian exports, followed by 23 percent for non-Arab Asian countries, 13 percent for the United States and 9.4 percent for Saudi Arabia. While 34 percent of Egyptian imports came from the European Union, 19 percent from China, and 8.4 percent from the United States (CBE 2020).

Table 3.12. Estimated Impact of the Corona Crisis on Maritime and Air Transport in Egypt

Stage	Demand and/or supply shock	Analysis	Implications for the maritime and air transport in Egypt	
			Maritime transport	Air transport
1. The emergence of the virus (From December 2019 to January 2020)	Demand and Supply Shock in China (Global) There is no local demand and supply shock	- Slowdown in economic activity in China, factory closures, and supply disruptions to and from China and in many of China's trading partners - Decline in container activity in most of the world's ports - Decline in the number of travelers to and from China.	- The crisis in China led to a slight decline in the total value of Egyptian foreign trade to $7.7 billion in January 2020 compared to $8.6 billion in December 2019. - Maritime trade accounted for 91 percent of the total value of Egypt's foreign trade, with a value of $7.1 billion, as shown in Table A3.3 in the Appendix. - The impact of the crisis on maritime trade is very limited, as the value of maritime trade during January decreased by only 2 percent from its value in the previous month and by 8 percent from its value last January.	**Passenger Transport:** Passenger traffic at Egyptian airports is proceeding normally. **Air Freight:** - The value of air shipped trade reached $703 million in January 2020, which represents 9 percent of the total value of Egyptian foreign trade. - Although the crisis is confined to China, its impact was significant on air cargo traffic, whose value declined in January by about 50 percent from its value last month. - The limited share of air freight in the total value of Egyptian foreign trade reduced the impact of this decline on the value of total Egyptian foreign trade during January.
2. The beginning of the spread (From February to mid-March 2020)	- Increased global demand and supply shock and the onset of a slight shock in domestic demand and supply	- Beginning of a limited recovery in China, the escalation of the crisis dramatically in European countries, and the beginning of the Arab countries being affected by the crisis - Countries have adopted precautionary measures such as partial closure of economic activities. - Disruption of global transport and freight traffic, canceling many shipping dates, as well as canceling specific routes due to the decline in demand. - Reducing the number of workers in ports and shipping services - Worldwide passenger numbers decreased by 48 percent in March, because of tightening transit procedures, reducing foreign air traffic and imposing quarantines on arrivals.	**February 2020** - Further limited decline in the total value of Egyptian foreign trade by 6 percent - The impact on maritime trade of the crisis remains limited; as it fell to $6.6 billion in February compared to $7.1 billion in the previous month, a decrease of 6 percent. - The main reason for the decline in maritime trade is the decline in imports, which represent 70 percent of the total value of maritime trade, by 12 percent. - Egyptian imports from China, Europe and the United States declined by 36.2 percent, 20 percent, and 45 percent respectively in February 2020 compared to their value in February 2019. The largest decline was in China's share due to its large relative weight in Egyptian imports, while the United States' share was modest, reducing its impact on imports. **March 2020** - A further limited decline in the total value of Egyptian foreign trade by about 2 percent. - Maritime trade declined by 5 percent, 1 percent less than the average in the previous month. - As China has recovered relatively, the rate of import decline has gradually decreased. It decreased by only 3 percent, compared to 12 percent decline in February. - Maritime exports decreased by 8 percent due to the impact of the	**February 2020** **Passenger transport**: Several airlines, including EgyptAir, have suspended flights to China and some countries where the virus appeared. The normal passenger traffic at Egyptian airports continues at an average of 2- 2.5 million passengers per month, according to the latest data of the Ministry of Civil Aviation. **Air Freight:** - The value of air-shipped trade decreased by only 3 percent. - Egyptian exports witnessed a slight increase of 5 percent. - On the other hand, Egyptian air-shipped imports declined by 45 percent. - The modest share of Egyptian imports in total Egyptian air-shipped trade (9 percent) has limited the impact of the decline in imports on total air trade. **March 2020** A limited decline in the number of travelers to and from Egypt during March due to the spread of the virus around the world. Thus, the maximum number of passengers at Egyptian airports during March is estimated at 2-2.5 million passengers. **Air Freight:** - The value of air shipped trade has increased by about 20 percent. - This improvement is mainly due to the recovery of air shipped imports to $492 million in March, compared to $59 million in the previous month. This recovery is linked to the start of China's recovery. - The negative impact of the crisis on

Stage	Demand and/or supply shock	Analysis	Implications for the maritime and air transport in Egypt	
			Maritime transport	Air transport
2. The beginning of the spread (From February to mid-March 2020) cont.		- The emergence of the virus in Egypt at the beginning of March - Egypt announced many precautionary measures to confront the virus, including cancelling some activities, suspending schools, and suspending air traffic as of March 19.	crisis in recipient markets, particularly Europe, the Arab countries, and the United States of America. - Thus, the decline in Egyptian exports and imports reflects the direct impact on European countries of the crisis, as they are Egypt's main trading partners.	European countries was reflected in the decline in air shipped exports by 47 percent. - The modest share of air shipped trade (11 percent) limited the impact of this increase on the total value of Egyptian foreign trade during March 2020.
3. Aggravation of the problem (From mid-March to mid-May 2020)	- Peak of global demand and supply shock - Greater domestic demand and supply shock - Attempts to increase supply efficiency	- Further recovery of China and its gradual return to its position in the global economy - European and Arab countries are still strongly affected by the virus, while the United States has begun to be affected by the crisis - The period witnessed tightening precautionary measures and complete lockdown in most countries, which led to a decline in demand - A decline in transport and freight activity to a greater degree than what happened in the first stage and increase in blank sailing (AmCham Egypt 2020) due to the high operating costs. However, it began to recover in May due to the further recovery of the Chinese economy, but the decline in performance in various ports of the world continues. - Decline in the number of passengers by 94 percent in April, then by 100 percent in May (IATA 2020c). - Locally: Continued suspension of foreign airline traffic, the closure of some economic activities, reduction of the number of workers in establishments, including ports, airports and government agencies, and the imposition of a partial curfew.	According to the results of the questionnaire prepared by the International Transport Services Division at the Alexandria Businessmen Association, the crisis affected a sample of transport and freight companies as follows: - 52 percent of companies have reduced their operating capacity - 74 percent of companies believe that the virus has a negative impact on their activity - 45 percent of companies have had difficulty in their employees arriving to work and their regularity because of the precautionary measures - 58 percent of companies will reduce their investment in the field - 71 percent of companies believe that the operational challenges were the decline in demand and the weakness of logistical services. Adherence to precautionary measures and lockdown, in addition to reducing the number of workers in international and Egyptian ports and airports, has resulted in late arrival of documents and the accumulation of goods in ports Egypt has offered many facilities in import and export procedures (detailed in Table A3.5 in the Appendix) **April 2020** - The great turmoil witnessed by Egypt's trading partners as a result of the lockdown, in addition to the decline in domestic demand and supply, led to a significant decline in the total value of Egyptian foreign trade to $6.3 billion in April compared to $7.1 billion in March, a decline of 16 percent. - This decline is due to the major impact on maritime trade as a result of the lockdown in most countries, which led to a decrease in the value of maritime trade to $5 billion compared to $6.3 billion in March and $6.6 billion in the previous month, a decline of 21 percent, which represents a decline by about four	**Passenger transport:** - Passenger traffic to and from Egypt was halted during April, resulting in a decline in the number of passengers at Egyptian airports by 2-2.5 million passengers - The suspension of air traffic resulted in losses estimated at $1.2 billion to the civil aviation sector a month, according to the Ministry of Civil Aviation **April 2020** - A further improvement in the value of air-shipped trade, which rose by about 20 percent. - This improvement is mainly due to the recovery of exports, especially agricultural crops, and food products. The value of exports reached $592 million in April compared to $332 million in the previous month, an increase of 78 percent. - Imports declined by about 11 percent, reflecting a gradual response to the Chinese economy's recovery and its return to global trade. - The modest share of air-shipped trade (17 percent) limited the impact of this increase on the total value of Egyptian foreign trade.

<table>
<tr><th rowspan="2">Stage</th><th rowspan="2">Demand and/or supply shock</th><th rowspan="2">Analysis</th><th colspan="2">Implications for the maritime and air transport in Egypt</th></tr>
<tr><th>Maritime transport</th><th>Air transport</th></tr>
<tr><td>3. Aggravation of the problem (From mid-March to mid-May 2020) cont.</td><td></td><td></td><td>times the rate during the period between March and February 2020.
- Exports were affected by the lockdown more than imports; exports declined by 35 percent, while imports decreased by 15 percent.</td><td></td></tr>
<tr><td>4. Receding of the crisis (from mid-May to mid-September 2020)</td><td>- Continuing crisis in global and local demand and supply
- Signs of gradual recovery from the beginning of June
- Ambiguity of the situation thereafter because it is related to the developme nt of the virus</td><td>- Further easing of precautionary measures in Egypt and worldwide, including reducing curfew hours and gradually returning economic activities.
- The gradual return of aviation and tourism under different operating rules to adhere to social distancing and increased preventive measures</td><td>This period is divided into several stages:
The first stage: May 2020: The closure will continue in many countries, and some will gradually ease the lockdown measures.
Second stages: June - July 2020
The virus continues to decline, and the precautionary measures are further eased.
Although these stages have already passed, their data are not available.
The value of maritime trade in the period June-July is expected to be higher than in May, due to recovery of economic activities and global trade with the easing of the lockdown.

The third stage: August 2020: This stage is characterized by increased uncertainty related to the virus, so two scenarios are possible:
<table><tr><th>Optimistic scenario</th><th>Pessimistic scenario</th></tr><tr><td>- The virus ends and all precautionary measures are lifted
- The return of maritime trade to rates that are in line with global trade and economic activity.
- However, it is certain that the value will be lower than that of the previous year.</td><td>A new cycle of the virus as a result of openness in most countries and lack of a vaccine or treatment, followed by retightening procedures and thus the negative impact on economic activities and global trade, which leads to another decline in maritime trade.
In this case, it is expected that the decline will be less severe, due to increased ability to adapt to the virus.</td></tr></table></td><td>Passengers: This period is divided into several stages:
Stage 1 May - June 2020:
Air traffic is still suspended and consequently a loss of 4-5 million passengers
The Egyptian aviation sector's losses will continue, reaching about $3.5 billion until June 2020, according to the Ministry of Civil Aviation
Second phase July 2020:
The beginning of the resumption of air traffic, starting July 2020
The number of international tourists coming to Egypt did not exceed 4000, apart from Egyptians returning from abroad.
Continued commitment to social distancing and implementation of precautionary measures imposed operational restrictions on aviation that reduced the operational capacity of aircraft and air traffic. This makes a return to pre-crisis operation rates unthinkable, at least during 2020.
<table><tr><th>Optimistic scenario</th><th>Pessimistic scenario</th></tr><tr><td>Return of passenger traffic by about 25 percent, meaning that the number of passengers at Egyptian airports is about 500-625 thousand passengers</td><td>Return of passenger traffic by about 10 percent only, that is, the number of passengers at Egyptian airports is about 200-250 thousand passengers.</td></tr></table>The third stage: August 2020: This stage is characterized by increased uncertainty about the virus, so two scenarios are possible:
<table><tr><th>Optimistic scenario</th><th>Pessimistic scenario</th></tr><tr><td>More limited and gradual passenger traffic recovery that may reach 10 percent, so that the</td><td>A new cycle of the virus because of openness in most countries and the lack of a vaccine or treatment followed by retightening procedures, thus</td></tr></table></td></tr>
</table>

<table>
<tr><th>Stage</th><th>Demand and/or supply shock</th><th>Analysis</th><th>Implications for the maritime and air transport in Egypt</th></tr>
<tr><th></th><th></th><th></th><th>Maritime transport</th><th>Air transport</th></tr>
<tr><td>4. Receding of the crisis (from mid-May to mid-September 2020) cont.</td><td></td><td></td><td></td><td>
<table>
<tr><td>estimated number of passengers at Egyptian airports is between 200 and 250 thousand passengers, at most.</td><td>negatively affecting the movement of passengers and travel.
In this case, the decline is expected to be less severe, due to the increased ability to cope with the virus.</td></tr>
</table>
Air Freight:
This period is divided into several stages:
Stage 1: May 2020 - July 2020
Limited and slight improvement in air freight
Although this stage has already passed, its data are not available at the time of this report.
The second stage: August 2020: This stage is characterized by increased uncertainty about the virus, so two scenarios are possible:
<table>
<tr><th>Optimistic scenario</th><th>Pessimistic scenario</th></tr>
<tr><td>- The virus ends and all precautionary measures are lifted
- A more gradual recovery of air cargo traffic</td><td>A new cycle of the virus as a result of openness in most countries and lack of a vaccine or treatment, followed by retightening procedures and thus the negative impact on economic activities and global trade, which leads to another decline in air freight, but it is expected that the decline will be less severe, due to increased ability to adapt to the virus.</td></tr>
</table>
</td></tr>
<tr><td>5. Recovery (from mid-September to June 2021)</td><td></td><td></td><td>Projections for this period are related to a set of criteria that include:
1. What happens in the immediately preceding stage regarding the evolution of the virus?
2. The stimulus global economic policies that are taken to accelerate the ability of the economy and trade to recover
3. The institutional reforms that the Egyptian state is undertaking to raise the efficiency of the customs and logistical services system.</td><td>Projections for this period are related to a set of criteria that include:
1. What happens in the immediately preceding stage regarding the evolution of the virus?
2. The stimulus global economic policies that are taken to accelerate the ability of the economy and trade to recover
3. The extent of the ability to adhere to the precautionary measures and new operational controls for the aviation sector
4. State policies to stimulate inbound tourism and its ability to receive tourists and to manage the system more safely.</td></tr>
</table>

Source: Prepared by ECES.

* These estimates should be read with caution, as expectations may require further reviews due to the developments that occur, whether related to the day-to-day spread of the virus, whose duration and scope are still unknown, or those related to any global or local developments that may affect the estimates directly or indirectly.

We conclude the following from the analysis of the impact of the crisis on international and local maritime and air transport sector:

- The expected repercussions of the Corona crisis outweigh any repercussions from previous crises - including the global financial crisis and the January 2011 revolution - on Egyptian foreign trade. This is logical given that it is both an external and internal crisis. Previous estimates are consistent with World Bank estimates as well as with the World Trade Organization estimates regarding the impact of the crisis on international trade.
- Though the crisis negatively affected both the maritime and air transport sectors, its greatest impact was on air transport, for passengers or goods.
- The limited share of air freight in Egypt's total foreign trade has limited the impact of the crisis on the total value of Egyptian foreign trade.
- Fluctuations in air freight reflect what happened in the international trade in general, namely, a big shock as a result of the lockdown in China and the global economic turmoil, then a greater recovery with the recovery of China and its return to its position in the global economy, and then stability of rates thereafter.
- Continuation of trade traffic in ports, even if the operating rate is lower compared to before the crisis. The emergence of problems in the import and export process during this period relates to customs procedures in each port.
- The performance of Egyptian seaports varied during the first quarter, January - March 2020. The value of trade in Alexandria port decreased (37 percent of imports, 33 percent of exports) by about 22 percent and 9 percent of Egyptian imports and exports, respectively. Other ports witnessed an increase in the value of trade, including an increase in the value of imports coming to Dekheila and Safaga Ports by 11 percent and 213 percent, respectively. Likewise, exports through the ports of Suez and Damietta increased by 8 percent each during the first quarter of 2020.
- It is important to emphasize that the performance of foreign trade relates to the performance of ports, airports, and logistical services. Therefore, the challenges they face negatively affect the performance of trade. So, policies that countries have taken to facilitate trade, simplify the customs system, raise the efficiency of logistical services, and digitize the system improve their ability to increase trade regardless of emergence of a new wave of the virus.

Fifth: Required interventions to mitigate the effects of the crisis

Globally, due to the magnitude of risks that the transport sector faces, especially air transport, as a result of the crisis, many countries have taken the initiative to support companies operating in this vital sector so that they are not vulnerable to bankruptcy. The International Air Transport Association estimated the value of financial aid needed by airlines worldwide at about $200 billion. The following table shows some examples of support extended to the civil aviation sector:

Table 3.13. Examples of Support Extended to the Civil Aviation Sector

Country	Measure
European Union	Support valued at 600 million euros for companies operating in maritime transport, shipping, and storage, in the form of loans, grants and tax exemptions.
Germany	$10 billion rescue package has been earmarked for Lufthansa Airlines.
United States	Supporting the US aviation sector with about $85 billion, half of which is allocated to cover employee salaries.
France	The French government has provided support estimated at 7 billion euros to AIR France
Italy	Provision of a 600-million-euro bailout package to support the aviation sector.

Source: Abdel Moneim and Ismail, 2020.

In Egypt:

A set of measures have been announced to support the civil aviation sector in countering the crisis, and to facilitate customs clearance procedures throughout. Table A3.5 in the Appendix lists the most important measures.

Despite the importance of these measures, there is still a need for:

1. Integrated packages to support all companies according to their different needs. In this regard, the following is suggested:
   - The need to prepare a complete database of all companies operating in the sector so that the required support can be estimated considering actual needs.
   - Supporting private Egyptian airlines, as they are vulnerable to bankruptcy and exit from the market permanently.
   - Improving terms of credit available to companies operating in the civil aviation sector. It is suggested that interest-free financing be made available to pay wages, aircraft leases and operating expenses with a grace period of not less than two years or until air traffic recovers.
   - Setting adequate guarantees to ensure easy access for Egyptian Airlines to these credit facilities, especially in light of the high uncertainty and consequently the absence of incentives that drive banks to provide credit facilities to lossmaking companies, as the crisis is expected to continue to continue, affecting their financial solvency.
   - Expanding the scope of support and assistance to the remaining subsectors that come under the transport sector.
   - Extending the period of tax exemptions or credit facilities and any fee reductions for companies until they restore normal operating rates on average.
2. Continuing efforts to upgrade the customs regime and facilitate procedures, which the State actually did during the crisis to ensure goods are not accumulated in ports, the speed of customs clearance of goods, and the facilitation of arrival of components and supplies so the production process continues.
3. The need to review the one-stop shop system and the single window system applied to customs due to the many challenges it faces, such as: difficulty of tracking shipments, slow and delayed clearance procedures, lack of a clear and announced timeframe to reduce customs clearance time, in addition to the following problems: (FEI 2020)
   - Lack of periodic updating of indicative prices for imported raw materials
   - Double inspection of imports: pre-shipment inspections and random checks at ports are adequate
   - Weak electronic connectivity between the various customs outlets, especially the remote land ports, as well as with other supervisory authorities
   - The multiplicity of customs clearance procedures, as well as fees for handling containers between ports
   - Delay in activating the electronic payment of customs duties and dues
   - Failure to apply the green track clearance system for factories and companies that maintain a good track record as an importer, as well as supplier and customs brokers as a single entity.

Sixth: Institutional weaknesses revealed by the crisis

Although Egypt possesses many potentials that make it a major trade corridor worldwide and an international center for production and distribu-

tion serving Europe, Africa and the Middle East, its competitiveness and attractiveness for investments in the field of maritime and air transport is less compared to many neighboring countries that do not possess the same potentials.

The following is a set of suggested pillars to be taken into consideration when adopting a comprehensive and integrated reform of the system:

1. Dynamism of the maritime and air transport system, its linkage to developments in the global system, performance of other countries, and methodology for development require policy makers to take into account these developments when upgrading the national system because it does not lie in isolation from the aforementioned developments.
2. Need for a clear and declared strategic thinking that leads any efforts to develop the Egyptian sea or air fleet. [19] The absence of this thinking and weak governance reduces the attractiveness of private investment in all areas of development and limits appropriate financing opportunities. (EBA 2018)
3. The need to create a detailed database on the transport sector in general as well as sub-sectors. If it already exists, it is not readily available and not updated, which is essential for careful planning of the sector, assessing its performance and developing relevant future scenarios in light of developments.
4. Address the weak governance of the transport system, as the general transport policy planning, management and operation of the system are being carried out by many actors, in the context of various legislative and administrative frameworks. Also, there are no institutional guarantees for adequate coordination that serves unified strategic objectives. Forms of institutional weakness in the system include the following:

Table 3.14 Forms of Institutional Weaknesses in the System

Maritime transport	- The multiplicity of the governing bodies of the system and consequently the different organizational frameworks for work in each port. This raises questions about to what extent the Supreme Council of Ports is enforced (Council of Ministers Resolution No. 399 of 2015) and the nature of its duties. - The multiplicity of legislations, laws and decisions regulating maritime transport and investment in the relevant fields, especially that some of them have become obsolete and are not in line with the developments in maritime transport activity. - Delayed issuance of the general plan for Egyptian ports. The plan would identify the projects needed by each port in a way that would ensure integration between Egyptian ports and lack of competition between them for the same projects.
Air transport	- Separation of planning, implementation, and follow-up functions in the aviation sector. The Ministry of Civil Aviation plays the role of planner, enforcer, and observer of all civil aviation activities, especially considering the lack of complete independence of the Holding Company for the Operation of Airports. This is in addition to the need for more coordination between the Ministry of Civil Aviation and the Ministry of Transport. - Announcing the long-term investment and planning priorities of the civil aviation sector. - Addressing the challenges that hinder the private sector from entering in the civil aviation sector and operating therein, including restrictions on fleet size, preferential prices for fuel and payment terms, the capital required to establish a company, operating restrictions, and ground services.[20] - The existence of a framework through which concessions are granted to new airports, making them competitive, and linking these concessions to tourism development plans.

[19] The obsolescence and limitations of Egypt's merchant maritime fleet; as only 5 percent of Egypt's foreign trade is carried out using Egyptian ships. So, transportation of oil and cargo depends on a fleet of foreign shipping companies.
[20] A conference held by ECES entitled "Opening Egyptian Skies: Lost opportunity? Or Waste of Resources?" September, 2018.

Management and operation of ports and airports	- The multiplicity of agencies responsible for managing ports and airports, and the fragmentation of responsibility among them, which leads to operational imbalances that reduce their competitiveness. For example, passengers are congested at Cairo Airport due to overlapping international and domestic flight schedules. - The performance of each port varied in terms of cost, services provided, management and operating systems, given the different natural and logistical potentials and basic infrastructure of each port.

Source: Prepared by ECES.

Among the most important proposals to address institutional weakness:

- A comprehensive restructuring of EgyptAir
- Restructuring the way airports are managed and operated
- Reviewing the delay in entering into Open Skies Agreements,[21] despite the many inherent opportunities
- Comprehensive review of service fees in Egyptian ports, whose rise led to the withdrawal of many shipping lines
- Standardization of fees and customs clearance procedures between ports

5. Expanding on utilization of technological developments to digitize the system and its related services, a trend that the crisis has proven inevitable as a way-out for the continuation of the import and export process, especially in light of the world's move towards smart ships and ports, uses of blockchain, the Internet of things and artificial intelligence, which requires training workers on this modern technology.

[21] Ibid.

Appendix

Table A3.1. Egypt's Position in the Logistics Performance Index and its Sub-Pillars, 2007-2018

	Ranking							Score						
Year	2007	2010	2012	2014	2016	2018	Change (2007-2018)	2007	2010	2012	2014	2016	2018	Change (2007-2018)
Logistics Performance Index	**97**	**92**	**57**	**62**	**49**	**67**	**31**	**2.37**	**2.61**	**2.98**	**2.97**	**3.18**	**2.82**	**19**
Customs	122	122	69	57	65	77	**37**	2.08	2.11	2.6	2.85	2.75	2.6	**25**
Infrastructure	121	106	45	60	50	58	**52**	2	2.22	3.07	2.86	3.07	2.82	**41**
International shipments	111	110	51	77	45	73	**34**	2.33	2.56	3	2.87	3.27	2.79	**20**
Logistical efficiency	95	54	50	58	43	63	**34**	2.38	2.87	2.95	2.99	3.2	2.82	**18**
Tracking	72	101	66	43	54	89	**24**	2.62	2.56	2.86	3.23	3.15	2.72	**4**
Timing	96	81	64	99	48	74	**23**	2.85	3.31	3.39	2.99	3.63	3.19	**12**

Source: The World Bank, Logistics Performance Index Report, various years.

Table A3.2. Position of Egypt and Selected Countries in the Sub-Pillars of the 2020 Trading Across Borders Index

country	Trading across Borders rank	Time to export: Border compliance (hours)	Cost to export: Border compliance (USD)	Time to export: Documentary compliance (hours)	Cost to export: Documentary compliance (USD)	Time to import: Border compliance (hours)	Cost to import: Border compliance (USD)	Time to import: Documentary compliance (hours)	Cost to import: Documentary compliance (USD)
Turkey	44	10	338	4	55	7	46	2	55
Singapore	47	10	335	2	37	33	220	3	40
China	56	21	256	9	74	36	241	13	77
Morocco	58	6	156	26	67	57	228	26	116
Oman	64	28	279	7	107	39	244	7	124
India	68	52	212	12	58	65	266	20	100
Mexico	69	20	400	8	60	44	450	18	100
Jordan	75	53	131	6	100	79	206	55	190
Bahrain	77	59	47	24	100	42	397	60	130
Saudi Arabia	86	37	319	11	73	72	464	32	267
Tunisia	90	12	375	3	200	80	596	27	144
United Arab	92	27	462	5	140	54	553	12	283
Brazil	108	49	862	12	226	30	375	24	107
South Africa	145	92	1257	68	55	87	676	36	73
Egypt, Arab	171	48	258	88	100	240	554	265	1000

Source: The World Bank, Doing Business report 2020.

Table A3.3. Evolution of the Egyptian Commercial Fleet, 2001-2018

	Total fleet	Other ships	Container ships	Bulk	Passenger	Oil tankers	Cargo
2001	211	59	5	7	12	30	98
2002	126	4	3	12	13	22	72
2003	128	4	3	12	13	22	74
2004	132	4	5	13	13	23	74
2005	146	17	5	13	13	24	74
2006	170	67	5	15	9	20	54
2007	171	73	5	12	8	21	52
2008	170	77	6	12	7	17	51
2009	101	11	3	12	7	18	50
2010	171	82	6	15	7	17	44
2018	117	66	7	12	5	15	12
Change between 2018 and 2010	-32%	-20%	17%	-20%	-29%	-12%	-73%
Change between 2018 and 2001	-45%	12%	40%	71%	-58%	-50%	-88%

Source: CAPMAS, Maritime Transport Bulletin, various issues.

Table A3.4. Designed Capacity of Egyptian Commercial Ports

Commercial ports	Area		Max. design capacity		Docks			Total docks including container berths		
	Total km2	Land km2	Cargo (mn tons)	Containers million)	.No	Lengths (m)	(m)Draft	No	Lengths (m)	(m)Draft
Alexandria	8.6	1.8	37.9	1	5	967	14	64	9697	14
Dekheila	6.2	3.5	27.1	1	6	1520	14	20	4660.5	20
Damietta	11.8	8	21.75	1.4	4	1050	14.5	23	5880	14.5
Port Said	3	1.3	12.175	1.1	3	350	13.2	32	4427	13.2
Arish	0.23	0.05	1.2	0	0	0	0	2	364	8
East Port Said	72.1	70.6	12	5.4	4	2400	19	4	2400	19
Suez	158.7	2.3	6.6	0	0	0	0	14	2100	8.2
Petroleum basin		1.16	8	0	0	0	0	7	828	10
Adabeya		1.1	11	0	0	0	0	9	1840	13
Sokhna	87.8	22.3	23.5	1.1	1	750	17	9	2400	17
Hurghada	9.94	0.04	0	0	0	0	0	1	330	10
Safaga	57.15	0.62	6.5	0	0	0	0	6	1327.4	14
Al-Tor	1.65	0.5	0.38	0	0	0	0	1	75	5
Nuweiba	9.9	0.4	2.5	0	0	0	0	3	385	9
-Sharm El Shaikh	88.3	0.2	0	0	0	0	0	2	741	10
Total 2018	515.37	113.87	170.605	11	23	7037		197	37454.9	
Total 2008	515.37	113.87	133.85	5.6	23	5775.4		180	32401	
The change between 2018 and 2008			27%	96%	0%	22%		9%	16%	

Source: Ministry of Transport, Maritime Transport Sector, 2018.

Table A3.5. Key Measures Taken by Egypt to Support the Transport Sector and Facilitate Trade

Area	Measures
Policies to support the civil aviation sector	1. Allocating an additional EGP100 billion to EgyptAir Holding Company for air freight while extending support for the air freight program for agricultural crops to include the Arab Gulf states. 2. Granting additional reductions on the price of aviation fuel, bringing the total value of reduction to 10 cents per gallon, to be applied upon the return of air traffic. 3. Granting the EgyptAir Holding Company a 50 percent reduction in landing, waiting and boarding fees for its passenger aircraft. 4. A support loan was provided for civil aviation with a grace period of two years, provided that the Ministry of Finance bears its burden until operating rates are equal to 80 percent of operating rates in 2019. 5. Payment and scheduling of dues for electricity, water and gas consumption for tourism and hotel establishments and airlines for a period of 6 months.
Facilitating customs clearance procedures	1. Providing an exception for imports from submitting the original invoices, and using copies on condition that the concerned party attests to the validity of the documents submitted and the originals are submitted and approved by the chambers of commerce within a maximum period of 6 months from the date of clearance or until the circumstances related to the spread of the Coronavirus have passed, whichever is earlier). 2. Imports are exempted from the provisions of Article 12 of the executive regulations of the Customs Law issued in 2006 with regard to the requirement of Egyptian embassies or consulates abroad to certify certificates of origin, which are documents indicating the origin, or other documents accompanying the goods in cases other than those exempted from the certification requirement. 3. Continued use of inspection and conformity certificates submitted by the companies for imported shipments of goods mentioned in Resolution No. 2 of 2020, with a warning to those companies that it is necessary to register with the National Food Authority, for food commodities and tools that come into contact with food until the end of next May. 4. The Food Safety Authority also decided to examine only 25 percent of finished food commodities, for which a pre-inspection was performed before shipment, if they are accompanied by an inspection certificate approved by the inspection companies registered with the Authority. 5. In case of pre-inspection certificates issued by companies not listed with the Authority, or in the event that the shipments are not accompanied with a pre-inspection certificate, a full inspection of these shipments shall be carried out according to the previously applied ratios, with a warning to importing companies that by the end of May of 2020, inspection procedures will be reconsidered of any shipments received from the goods attached to Resolution No. 2 of 2020 in the event that they are not accompanied by a pre-inspection certificate from the inspection and conformity companies registered with the National Food Safety Authority. 6. It is sufficient to examine 25 percent of factory production requirements shipments for the factories included in the list approved by the National Food Safety Authority "White List". 7. Unifying the customs compass form in transporting goods from one customs unit to another at the level of Egyptian ports.

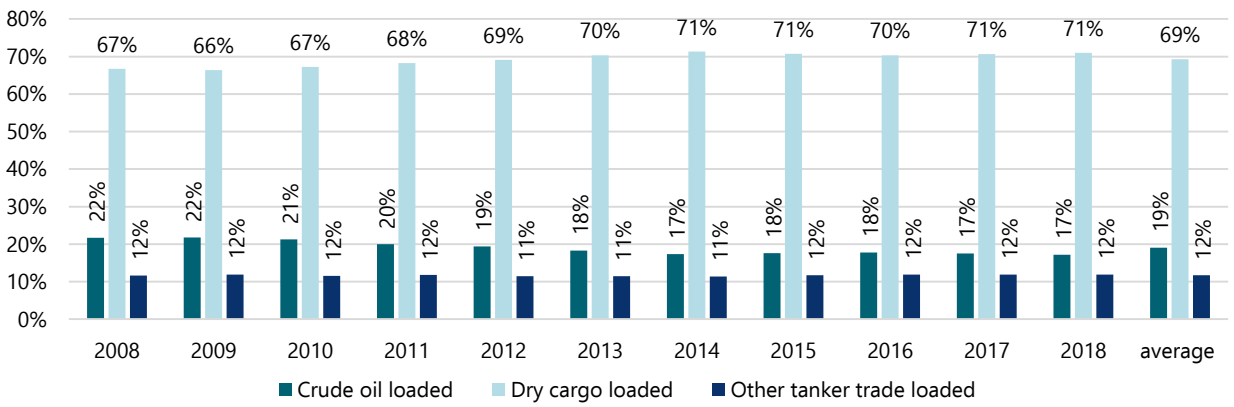
Source: Own calculations based on CAPMAS data, Monthly Foreign Trade Bulletin, various issues.

Table A3.6. Monthly Traffic of Egyptian Foreign Trade from January to April 2020

Jan-20							
	Trade movement in Egyptian ports			Trade movements in Egyptian airports			Total trade
	Exports	Imports	Total trade	Exports	Imports	Total trade	
Value ($ billion)	1.9	5.2	7.1	0.596	0.107	0.703	7.8
Change in January 2020 compared to January 2019	-1%	-10%	-8%	11%	-85%	-43%	-13%
Change in January 2020 compared to December 2019	-3%	-1%	-2%	-7%	-86%	-50%	-10%
Feb-20							
	Trade movement in Egyptian ports			Trade movements in Egyptian airports			Total trade
	Exports	Imports	Total trade	Exports	Imports	Total trade	
Value ($ billion)	2	4.6	6.6	0.626	0.059	0.685	7.3
Change in February 2020 compared to February 2019	1%	-21%	-15%	13%	-93%	-51%	-20%
Change in February 2020 compared to January 2020	10%	-12%	-6%	5%	-45%	-3%	-6%
Mar-20							
	Trade movement in Egyptian ports			Trade movements in Egyptian airports			Total trade
	Exports	Imports	Total trade	Exports	Imports	Total trade	
Value ($ billion)	1..9	4.4	6.3	0.332	0.492	0.824	7.1
Change in March 2020 compared to March 2019	-14%	-29%	-25%	-34%	-40%	-38%	-27%
Change in March 2020 compared to February 2020	-8%	-3%	-5%	-47%	735%	20%	-2%
Apr-20							
	Trade movement in Egyptian ports			Trade movements in Egyptian airports			Total trade
	Exports	Imports	Total trade	Exports	Imports	Total trade	
Value ($ billion)	1.2	3.8	5	0.592	0.435	1.03	6.03
Change in April 2020 compared to April 2019	-41%	-34%	-36%	23%	-40%	-15%	-33%
Change in April 2020 compared to March 2020	-35%	-15%	-21%	78%	-11%	25%	-16%
Change in January 2020 compared to December 2019	**-3%**	**-1%**	**-2%**	**-7%**	**-86%**	**-50%**	**-10%**
Change in February 2020 compared to January 2020	**10%**	**-12%**	**-6%**	**5%**	**-45%**	**-3%**	**-6%**
Change in March 2020 compared to February 2020	**-8%**	**-3%**	**-5%**	**-47%**	**735%**	**20%**	**-2%**
Change in April 2020 compared to March 2020	**-35%**	**-15%**	**-21%**	**78%**	**-11%**	**25%**	**-16%**

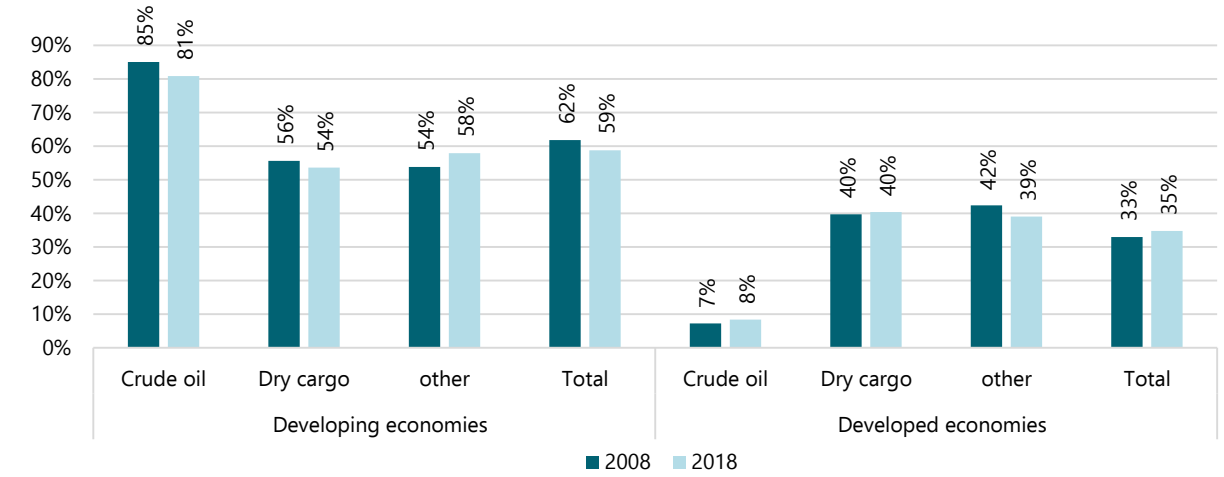
Source: Own calculations based on CAPMAS data, Monthly Foreign Trade Bulletin, various issues.

Figure A3.1. Evolution of Global Maritime Trade according to the Type of Cargo, 2008-2018



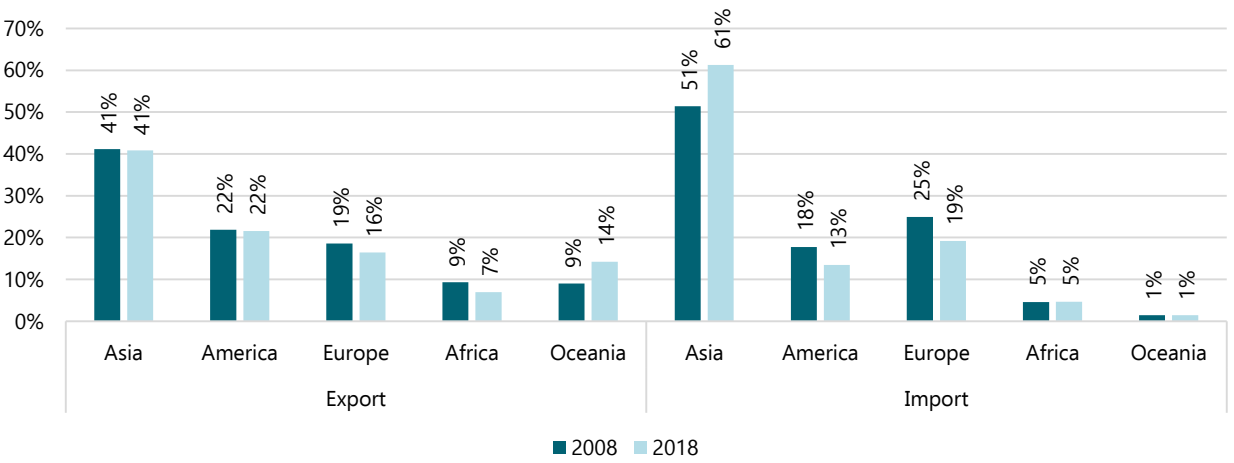
Source: Prepared by ECES based on the UNCTAD database.

Figure A3.2. Percentage Distribution of International Maritime Trade in Developing and Developed Countries according to Type of Cargo in 2008 and 2018



Source: Prepared by ECES based on the UNCTAD database.

Figure A3.3. Percentage Distribution of Global Maritime Trade According to Region in 2008 and 2018



Source: Prepared by ECES based on the UNCTAD database.

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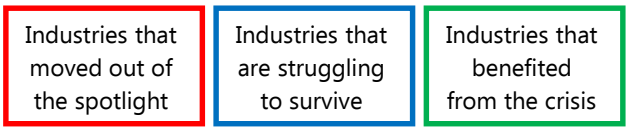
4. Manufacturing Industries (cont'd): Struggling Industries: Readymade Garments and Home Textiles

Lead Researcher: **Rama Said**

First: What is meant by industries struggling to survive

This represents the vast majority of industries that benefited from the product boom at the time of the crisis, at least in the short term such as food industries, disinfectants, medicines, and other industries that moved out the spotlight as a result of tending to be luxury items like automotive and engineering and electronic industries, as shown in Figure 4.1.

Figure 4.1. Types of Manufacturing Industries according to the Impact of the Crisis



This group of industries varies in the size of employment, export capacity, degree of linkage with other sectors and importance in the economy such as ready-made garments and textiles industries in general, plastics and other intermediate industries.

Second: Why was the garment and home textile industry chosen to represent this group?

The readymade garments and home textiles industries have been subject to a sever shock not only locally but also globally, according to international reports such as a report by the United Nations Conference on Trade and Development (UNCTAD) and a report by Moody's, the ready-made garments and home textiles industries are one of the sectors most affected by the crisis.

In addition, these two industries are of special importance to the Egyptian economy, as follows:

1. **The second largest employer** among the manufacturing industries,[1] employing about 15 percent of total employment in the manufacturing industry.
2. **The largest employer of women**, as female workers in these two industries constituted 42 percent of total female workers in the manufacturing industry in 2016.[2]
3. **The Two are mainly exporting industries,** where 44 percent of total production was exported in 2016.[3] The exports of these two industries amounted to $3.3 billion dollars in 2019,[4] representing 13 percent of total manufacturing exports, and this percentage will increase significantly if fertilizers are excluded.
4. **Generates the cheapest job opportunity in Egypt**, whose cost does not exceed EGP 15 thousand on average in the ready-made garments industry.

Third: An outline of the value chain in the garment and home textile industries

The value chain consists of upstream activities as in the textile industry and downstream activities as in ready-made garments, home textile, medical cotton and other woven and non-woven products. The value chain is complemented by a huge group of industries and services such as accessories, designs, packaging, transportation and logistics and others, in addition to huge internal and external commercial activity.

Although the value chain of the textile and garment industries in general is present in Egypt from the cultivation of cotton through to the final product, many production requirements are imported from abroad, namely, fabrics, dyes, and thick yarns. Hence, the impact on the industry by external developments, especially during the crisis.

[1] Total employment in the readymade garments and home textile industries.
[2] Latest data available from the Central Agency for Public Mobilization and Statistics (CAPMAS) Annual Industrial Statistics: Private Sector, 2016. The garment and home textile industries include ISIC codes: 1392,1393,1399,1410,1430
[3] Latest data available from CAPMAS, Annual Industrial Statistics: Private Sector, 2016.
[4] HS codes: 57, 61,62,63,65.

Fourth: How was the value chain of ready-made garments and home textiles affected by the crisis?

As already mentioned, the garments and home textiles industries in Egypt are closely related to the outside world. To know how the value chain of ready-made garments and home textiles has been affected by the crisis, we must refer to the geographical distribution of Egyptian imports of production requirements and exports of final products, shown in Tables 4.1 and 4.2.

Table 4.1. The Five Largest Countries from Which Egypt Imports Yarn and Fabrics *

Country	Share in Egypt's imports of yarn and fabrics
China	50%
India	11%
Turkey	9%
Indonesia	4%
United States of America	3%

Source: Own calculations based on Trade Map data, 2020.
* Yarn and fabrics account for 60 percent of the value of the product.

Table 4.2. The Five Largest Countries to Which Egypt Exports Ready-Made Garments and Home Textiles

Country	Share in Egyptian exports of ready-made garments and home textiles
United States of America	44%
Spain	8%
Germany	7%
United Kingdom	7%
Turkey	6%

Source: Own calculations based on Trade Map data, 2020.

From these two tables, we find that the Corona virus crisis has violently affected both production requirements and export markets for the ready-made and home textiles industries in Egypt. In an attempt to identify the possibility of finding alternative countries for China wherefrom to import production requirements, ECES conducted a detailed analysis of the top 20 countries exporting synthetic yarn and fabrics by dividing those countries according to the rate of growth of their yarn and fabric exports and the rate of growth of their market share at a detailed level (four digit). The analysis concluded that although there may be promising alternatives for China in the future, as these countries are characterized by a high rate of growth in their exports and high growth of market share compared to China such as Belgium and Vietnam [in the case of synthetic filaments (HS-5402) as shown in Figure 4.1 in the Appendix], their export capacity does not rise to the size of China, and therefore cannot fulfil the requirements of Egypt's production requirements. Also, they cannot be relied on as a source of raw materials on an immediate basis, and hence cannot be used at the time of the crisis. This is supported by the fact that China is the main actor in the global markets for the production requirements of ready-made garments and home textiles as shown in Table 4.1 in the appendix. This means that the role of China will continue as is even after the crisis.

Fifth: How the garment and home textiles industries were affected by the external and internal supply and demand shocks in the context of the crisis cycle

The expected impact on the demand and supply sides depends on the relevant stage in the crisis cycle.

Below we present possible scenarios[5] for the development of indicators of the ready-made garments and home textiles industries in the context of the crisis cycle in light of the following concepts and assumptions:

- **Global demand shock:** Low demand for Egyptian products of ready-made garments and home textiles from various countries of the world.
- **Global supply shock:** Low ability of different countries to supply products that Egypt imports as production requirements and final goods of ready-made garments and home textiles.

[5] These estimates should be read with caution, as expectations may require further revision due to the evolving nature of the outbreak day by day, and its duration and scope are still unknown.

- **Egyptian export supply shock:** Low ability to export ready-made garments and home textiles.
- **Domestic demand shock:** low domestic consumption of ready-made products and home textiles.
- **Domestic supply shock:** low production capacity of ready-made garments and home textiles factories to cover domestic market demand.

Assumptions of the analysis

Estimates presented in Table 4.3 are based on the following assumptions:

- The size of the local market is EGP 240 billion, of which 20 percent is imported products, most of which are low-priced and low-quality products.
- A change in the nature of demand for different products of ready-made garments and home textiles due to the shift towards home-based work that is expected to continue in the future as a result of the health crisis.

Estimates for each quarter in 2020 are calculated on the basis of the value of exports and imports in the corresponding time frame in 2019, based on mirror data.[6]

The dynamics analysis of the interconnection mechanism between the elements of the value chain was based on a specialized study of the Egyptian Center for Economic Studies on the two industries.[7]

Finally, the analysis bears in mind the characteristics of the capital, production and export cycle, in the ready-made garments and home textiles in particular.

Table 4.3. Potential Scenarios for the Impact of the Crisis on the Ready-Made Garments and Home Textiles Industries based on the Aforementioned Crisis Cycle and Assumptions

Stage	Demand and/or supply shock	Analysis	Impact
1. The emergence of the virus (From December 2019 to January 2020)	Global supply shock in imports from China (requirements and finished products)	▪ Although more than 50 percent of imported inputs for the garment and home textiles industries mainly comes from China (including fabrics, yarns and garment accessories), the factories were not affected by the supply shock because production currently serves the spring and summer season, whose supplies have been provided six months earlier. ▪ Import of final products from China are affected. These represent 20 percent of local market needs.	▪ There is no shortage of production requirements in this period ▪ Egyptian imports of finished products of ready-made garments and home textiles from China decrease by $81.4 million during the first quarter of 2020.
2.The beginning of proliferation (February through mid-March 2020)	▪ Shocks continue in China and spread to India ▪ The start of a demand shock in European and Arab countries	▪ No change in the situation of production inputs, but the beginning of a future problem because India is also a major source of imports of production inputs for both industries of cotton products. ▪ Violent demand shock due to cancellation of 80 percent -85 percent of future export contracts, and the start of cancellation of many production contracts that are underway (15 percent) ▪ Continued supply shock of imported products in the local market due to the absence of products of China, in addition to Turkey and other Asian countries (most of which are in markets of low priced products).	▪ Since production inputs represent about 60 percent of the value of the final product, the cancellation of export contracts that are currently underway by a percentage of 15 percent translates into a loss of approximately at least $77 million in the first quarter of 2020.[8] ▪ Demand for summer clothing decreased this season by 70 percent compared to last season.[9]

[6] 2019 data is only available as mirror data.
[7] The Egyptian Center for Economic Studies is currently preparing a study entitled "Readymade Garments and Home textiles in Egypt: Specific proposals to address industry problems considering the global competitive situation".
[8] In many times, this is done by postponing delivery for one year, which causes a strong liquidity problem and interim losses for factories.
[9] https://www.youm7.com/story/2020/4/1/٤٦٩٨٥٤٥/غرفة-الملابس-توقف-المبيعات-خلال-مارس-و٣٠-تراجعا-على-الشتوى

Stage	Demand and/or supply shock	Analysis	Impact
2. The beginning of proliferation (February through mid-March 2020) cont.		▪ Demand shock appears in the local market (low domestic demand as a result of precautionary measures in Egypt, though still far from well-known seasons in the local market for buying clothing (festive seasons and schools)	
3. Aggravation of the problem (From mid-March to mid-May 2020)	▪ Continued shock in global demand and its spread to Arab countries and the United States ▪ Demand and supply shocks continue in the domestic market	▪ The emergence of a problem of accumulation of inventory of final products that have not been exported and the impact thereof on liquidity in the factories that are trying to continue. ▪ By the end of March, China started production again, which means factories should be preparing to buy the fall and winter production inputs, but they have no liquidity for the above reasons. ▪ This is in addition to factories suffering from a shortage of production inputs coming from India due to continued crisis there. ▪ Accordingly, the timing of purchasing production inputs coincided with a reduced ability to import supplies. This impact is compounded by buyers extending the payment period from 90 to 120 days. The problem is mitigated partly by the fact that global demand is in itself low. ▪ There is a problem in international trade movement as a result of slow shipping and transportation due to the slow recovery of China while India has not recovered yet.[10] ▪ China's return to production means the return of supply of imported clothing to the domestic market. ▪ The emergence of the virus in the Arab countries does not affect the exports of ready-made garments and home textiles, given that the Arab markets are not essential export markets for Egypt in such products. ▪ The local market may be somewhat active due to the festive season.	▪ 50 percent of the factories stopped operation completely at different points in time (including free zone factories from which most exports originate). The rest operate at lower productivity (Table 2 in the appendix shows a sample of the problems that factories suffer from and their geographical distribution). ▪ About 800,000 workers stopped working from a total of one million two hundred thousand workers (67 percent) as a result of shutdown of factories. ▪ Given that female employment represents approximately 47 percent of total employed in these two industries today, women who are unemployed are not less than 376 thousand. This is not only related to the shutdown of factories, but to women not working due to the suspension of schools. It is likely that formal workers in these factories receive no more than 65 percent of their usual wages (i.e., basic wage only) because allowances associated with working on production lines and regularity of attendance are discontinued. ▪ A loss of approximately $809 million in export earnings in the second quarter of 2020, as a result of cancellation of 85 percent of export contracts and approximately $782 million during the period March - May 2020. ▪ The liquidity crisis from the cancellation of export contracts resulted in factories inability to import the inputs they need for production, estimated at $900 million for the fall and winter seasons.

[10] Usually ships are loaded with the products of these countries and return with export products.

<table>
<tr><th>Stage</th><th>Demand and/or supply shock</th><th>Analysis</th><th>Impact</th></tr>
<tr><td>3. Aggravation of the problem (From mid-March to mid-May 2020) cont.</td><td></td><td></td><td>▪ The festive season is not expected to lead to a significant improvement in domestic sales due to the continued curfew and the low incomes of individuals, though some indicators of improvement may start to appear in markets for low priced products where compliance with the curfew is less and sales are not related to stores.</td></tr>
<tr><td>4. The crisis recedes (Mid-May-August 2020)</td><td>▪ The Chinese economy recovers and the European and American markets begin to recover
▪ Egypt's late recovery due to its late entry to the crisis, unless levels of virus spread differ with the heat or the validity of some theories regarding the different Egyptian conditions.[11]</td><td>▪ The relative return of demand in European countries and the US due to the nature of the product (the necessity of clothing) but not to the same extent in the case of home textiles (considered less important by citizens, in addition to facing a problem even before the virus crisis).
▪ The re-import of low-priced clothing from China, other Asian countries, Turkey, etc. Thus, gradual return of the domestic market to its normal sales volume, especially because of its association with the activity of the informal sector[12] which easily responds to changing demand patterns. But the current market activity in general is related to the logistics and transportation system.
▪ Without such system, it is not possible to obtain imported products, and the return of factories to meet needs of the local market. This is still linked to the size of available liquidity and its ability to continue in the previous period.</td><td>The first scenario: optimistic<table><tr><td>Closed factories</td><td>75 percent of factories return to operation at full capacity</td></tr><tr><td>Employment</td><td>Return of 75 percent discontinued workers</td></tr><tr><td>Exports</td><td>$585 million in the third quarter of 2020, which represents 75 percent of the value of exports in the third quarter of 2019</td></tr><tr><td>Domestic sales</td><td>80 percent of domestic sales return to normal in the same period</td></tr></table>The second scenario: medium<table><tr><td>Closed factories</td><td>50 percent of closed factories are back to full operation</td></tr><tr><td>Employment</td><td>Return of 50 percent of discontinued workers</td></tr><tr><td>Exports</td><td>$390 million in the third quarter of 2020, which represents 50 percent of the value of exports in the third quarter of 2019</td></tr><tr><td>Domestic sales</td><td>Domestic sales continue as in the previous period (the second stage of the crisis)</td></tr></table>The third scenario: pessimistic<table><tr><td>Closed factories</td><td>30 percent of factories are back to full operation</td></tr><tr><td>Employment</td><td>Return of 30 percent of discontinued workers</td></tr><tr><td>Exports</td><td>234 million in the third quarter of 2020, which represents 30 percent of the value of exports in the third quarter of 2019</td></tr><tr><td>Domestic sales</td><td>Decline in domestic sales after the festive season</td></tr></table></td></tr>
</table>

[11] ECES, the Health Sector, Views on Crisis, issue no. 10.
[12] ECES, the Informal Sector, Views on Crisis, issue no. 7.

<table>
<tr><th>Stage</th><th>Demand and/or supply shock</th><th>Analysis</th><th>Impact</th></tr>
<tr><td>5. Recovery (As of September 2020)</td><td>▪ No global supply and demand shocks
▪ Egyptian factories continue their slow response to demand</td><td>▪ Demand for ready-made garments will return due to the necessity of the product. Its nature, however, will differ, so it will tend to favor basics and production lines that are inspired by the crisis due to the gradual recovery of economies and low per capita income in all countries in general, in addition to decrease in demand for specific products (such as suits)
▪ Egyptian factories, at best, will be able to fully return to the export market in March-April 2021 if they have sufficient liquidity to source inputs in a timely manner. (nine months before).[13]</td><td>▪ Increasing volume of e-commerce in home textiles and ready-made garments, especially basic products of typical size such as underwear and children's clothing.
The first scenario: optimistic
<table>
<tr><td>Closed factories</td><td>All factories return to operating at full capacity</td></tr>
<tr><td>Employment</td><td>The return of all workers to their jobs</td></tr>
<tr><td>Exports</td><td>$551 million in the fourth quarter of 2020, which represents 75 percent of the value of exports in the fourth quarter of 2019</td></tr>
<tr><td>Domestic sales</td><td>Domestic sales returned to normal in the same period</td></tr>
</table>
The second scenario: medium
<table>
<tr><td>Closed factories</td><td>It is assumed that 75 percent of the remaining factories will return to operating at full capacity</td></tr>
<tr><td>Employment</td><td>75 percent of discontinued workers return to their jobs</td></tr>
<tr><td>Exports</td><td>$ 367 million in the fourth quarter of 2020, which represents 50 percent of the value of exports in the fourth quarter of 2019</td></tr>
<tr><td>Domestic sales</td><td>Return of 80 percent of domestic sales in the same period</td></tr>
</table>
The third scenario: pessimistic
<table>
<tr><td>Closed factories</td><td>It is assumed that 75 percent of the remaining factories will return to operating at full capacity</td></tr>
<tr><td>Employment</td><td>75 percent of discontinued workers return to their jobs</td></tr>
<tr><td>Exports</td><td>$ 367 million in the fourth quarter of 2020, which represents 50 percent of the value of exports in the fourth quarter of 2019</td></tr>
<tr><td>Domestic sales</td><td>Return of 80 percent of domestic sales in the same period</td></tr>
</table></td></tr>
</table>

Source: Prepared by ECES.

* These estimates should be read with caution, as expectations may require further reviews due to the developments that occur, whether related to the day-to-day spread of the virus, whose duration and scope are still unknown, or those related to any global or local developments that may affect the estimates directly or indirectly.

We conclude from the above analysis that:

- The ready-made garments and home textiles industries have been severely affected by the crisis. This effect applies also to the rest of the value chain due to the interlinkages between its components. This effect also extends to employment. For example, every $10 million decrease in ready-made garment exports means depriving labor of $1.3 million, as its share represents 13 percent of the value of the product.
- The export sector recovery is linked to the recovery of demand in the US and European countries (Egypt's export markets).
- China's dominance of production requirements also means the export system is linked to reco-

[13] Including three months for maritime transport to Western markets.

very in China. However, this is more related to the financing capacity and availability of liquidity to the factories.

- Cancelling export contracts and forced postponement to the next spring 2021 until the sector recovers does not necessarily mean

  stopping production lines, shutting down factories and laying off workers because it is possible - and it is truly a global trend - to redirect these factories to producing masks, medical clothing and hospital supplies.

- The current global lockdown gives factories a greater opportunity to direct their production to the local market to fill the import gap from China (equivalent to EGP 48 billion) if they are keen now, and in the future, to reduce the prices of their products. However, this opportunity is limited because China will not remain long outside the global market in this Industries, as explained.

Sixth: Measures required to mitigate the negative impact during the time of the crisis[14]

Here we distinguish three sets of procedures:

1. General procedures that benefit the industry as a whole, including the garments and home textiles industries
2. Specific procedures for the garment and home textiles industries
3. Proposals to redirect production lines proportionate to the crisis (this has already started but needs further promotion)

a. First set: general procedures

By studying the general procedures that have been applied by various countries, especially countries that are pioneers in this regard, such as England, France, Turkey and the US, and others, we find that these measures vary, including postponing and cancelling government dues. This is in addition to a set of financial measures, such as grants and subsidies or debt facilities and special measures to maintain employment by providing wage subsidies.

Comparing what has been applied in various countries of the world with the measures applied by Egypt, it is clear that Egypt has taken many important positive measures gradually, but there is a need to complement them as follows:

i. Paying all export subsidy arrears due to exporters, as 30 percent is not enough to provide liquidity to exporters.

ii. The speedy refund of the value-added tax on goods exported and the return of tax amounts withheld, without linking them to the payment of tax dues, government procedures and requirements followed in usual circumstances.

iii. The Ministry of Finance reverting to the old system of maintaining the temporary admission period of two years, and extending it for a similar period for shipments received from abroad for the purpose of manufacturing and re-export, with payment in instalments of the value of customs duties on imported production requirements.

iv. Implementing an urgent executive mechanism to activate the emergency fund of the Ministry of Manpower, to which factories contribute 1 percent per month. These funds are intended to be used in cases of emergency to cover workers 'salaries, as factories will not be able to bear the burdens of workers' salaries.

v. Correct the indirect signal of the central bank's measures that seem to support defaulters or those who have stopped production more than factories that are trying to continue production.

[14] Some of these proposals have been submitted to the official authorities through the Readymade Garments and Textiles Chamber.

b. Specific measures for the garment and home textiles industries

From the analysis of the value chain of this industry, we find that it is very sensitive to availability of liquidity due to the capital and production cycle, especially in the export sector (we mentioned above that factories need to purchase production requirements six months ahead). In addition, the limited profitability of this industry and its association with low prices and large export quantities. Therefore, these factors make the problem of lack of liquidity more dangerous in the readymade garments and home textiles industries, compared to other industries. The liquidity problem previously led to the shutdown of 400 factories during the January 25, 2011 Revolution. These factories did not return to operation after the economy recovered. Therefore, it is important to avoid this problem in the current crisis, especially as this sector suffers from intense external competition.[15] In view of the importance of these two industries, some countries have paid special attention to providing them with incentives, particularly Bangladesh, which provided incentive packages to help the ready-made garment and other export industries by financing workers 'wages as well as providing specific financing for working capital at very low interest rates (See the appendix for more details on the Bangladesh experience).

c. Proposals to redirect production lines in proportion to the crisis

One of the bright spots is that there is large room for converting production lines in ready-made garment factories into producing medical supplies such as masks and hospital supplies. The investment cost of directing the production line in a private sector factory is estimated at about EGP 30 million in order to produce 750 thousand masks daily. The starting point for implementing this shift in production lines is for the Ministry of Health to clarify the technical standards for masks, the required sterilization method and take measures to initiate tenders for purchase from factories.

Responding to new global trends such as increased opportunities for electronic commerce, especially for some products such as baby products and lingerie. This definitely requires strengthening of procedures related to electronic commerce.[16]

Seventh: Institutional weaknesses revealed by the crisis

The same institutional weaknesses that the industry as a whole suffers from, which were mentioned in ECES Views of Crisis, "Manufacturing Industries Combined", issue no. 6.

[15] The Egyptian Center for Economic Studies is currently preparing a study entitled "Ready-made garments and home textiles in Egypt: Specific proposals to confront the problems of the industry in light of the global competitive situation," which details the sharp competition to which the two industries are exposed, and compares the support Egypt provides this industry with other countries such as Bangladesh, Ethiopia, and India.
[16] ECES has recently organized a seminar discussing Egypt's position regarding WTO negotiations in terms of e-commerce and investment facilitation.

Appendix

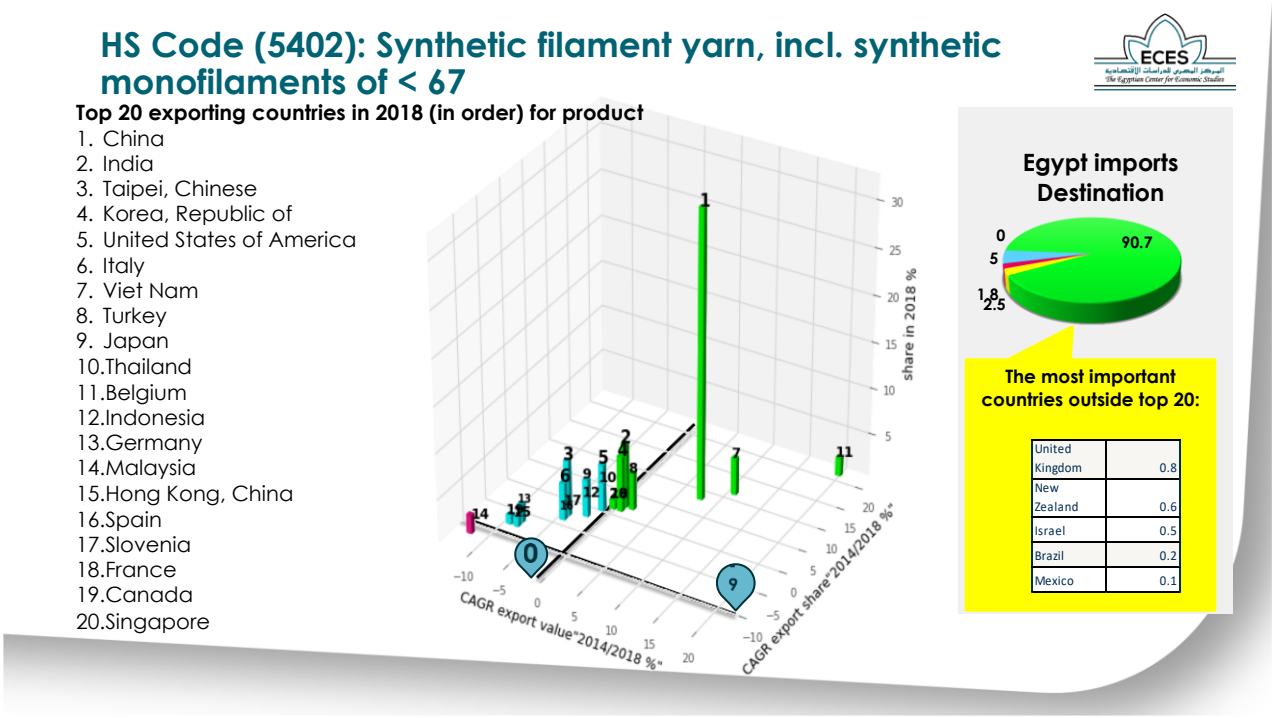
Table A4.1 China's Share of Total World Exports of Yarn and Textile Products

Code	Product label	Share in world exports (%)	Ranking in world exports
'5004	Silk yarn (excluding that spun from silk waste and that put up for retail sale)	31.1	1
'5005	Yarn spun from silk waste (excluding that put up for retail sale)	75.8	1
'5006	Silk yarn and yarn spun from silk waste, put up for retail sale; silkworm gut	9.8	3
'5007	Woven fabrics of silk or of silk waste	51.1	1
'5108	Carded or combed yarn of fine animal hair (excluding that of wool or that put up for retail ...	61.8	1
'5107	Yarn of combed wool (excluding that put up for retail sale)	21	1
'5112	Woven fabrics of combed wool or of combed fine animal hair (excluding fabrics for technical ...	13.7	2
'5106	Carded wool yarn (excluding that put up for retail sale)	27.9	1
'5111	Woven fabrics of carded wool or of carded fine animal hair (excluding fabrics for technical ...	12.6	2
'5109	Yarn of wool or fine animal hair, put up for retail sale	8.5	4
'5103	Waste of wool or of fine or coarse animal hair, incl. yarn waste (excluding garneted stock, ...	13.7	1
'5113	Woven fabrics of coarse animal hair or of horsehair (excluding fabrics for technical uses of ...	20.7	3
'5110	Yarn of coarse animal hair or of horsehair, incl. gimped horsehair yarn, whether or not put ...	8.1	4
'5208	Woven fabrics of cotton, containing >= 85% cotton by weight and weighing <= 200 g/m²	56.7	1
'5209	Woven fabrics of cotton, containing >= 85% cotton by weight and weighing > 200 g/m²	34.5	1
'5211	Woven fabrics of cotton, containing predominantly, but < 85% cotton by weight, mixed principally ...	57.5	1
'5205	Cotton yarn other than sewing thread, containing >= 85% cotton by weight (excluding that put ...	9.4	3
'5210	Woven fabrics of cotton, containing predominantly, but < 85% cotton by weight, mixed principally ...	48.5	1
'5206	Cotton yarn containing predominantly, but < 85% cotton by weight (excluding sewing thread and ...	25.5	1
'5212	Woven fabrics of cotton, containing predominantly, but < 85% cotton by weight, other than those ...	16.4	2
'5207	Cotton yarn put up for retail sale (excluding sewing thread)	8.6	3
'5204	Cotton sewing thread, whether or not put up for retail sale	16	1
'5202	Cotton waste, incl. yarn waste and garneted stock	0.1	42
'5309	Woven fabrics of flax	49.9	1
'5311	Woven fabrics of other vegetable textile fibers; woven fabrics of paper yarn (excluding those ...	87.2	1
'5306	Flax yarn	58.3	1
'5308	Yarn of vegetable textile fibers; paper yarn (excluding flax yarn, yarn of jute or of other ...	30	1
'5310	Woven fabrics of jute or of other textile bast fibers of heading 5303	1.8	4
'5301	Flax, raw or processed, but not spun; flax tow and waste, incl. yarn waste and garneted stock	0.4	9
'5307	Yarn of jute or of other textile bast fibers of heading 5303	0.6	6
'54	Man-made filaments; strip and the like of man-made textile materials	40.1	1
'55	Man-made staple fibers	33.7	1
'58	Special woven fabrics; tufted textile fabrics; lace; tapestries; trimmings; embroidery	39.6	1
'59	Impregnated, coated, covered or laminated textile fabrics; textile articles of a kind suitable ...	30.1	1
'60	Knitted or crocheted fabrics	49.2	1

Source: Trade map 2020.

Codes 50-53 indicate at 4digit level to separate the raw material from yarn and fabrics.

Figure A4.1. Model for Export Market Analysis of Ready-Made Garment and Home Textiles Requirements



Source: ECES, Current and Future Trade Map of Egypt, Forthcoming.

Table A4.2. The Current Status of Establishments Operating in the Ready-Made Garments and Home Textiles Industries *

	Governorate	Industrial zone	Status of operation
1	Cairo	Gesr Essweis	80% suspended
		Badr	80% suspended
		Ain Sokhna Road	80% suspended
		Tagamu Talit	80% suspended
		May 15	80% suspended
		Free Zone	100% suspended
2	Giza	6 October	80% suspended
3	Alexandria	Burj Al Arab	80% suspended
		Muharram Bey	80% suspended
		Free Zone	80% suspended
		Merghem	80% suspended
		Sobhia	80% suspended
4	Kafr Sheikh	Burullus	100% suspended
5	Qalyubia	Obour	80% suspended
6	Sharqia	10th of Ramadan	80% suspended
7	Port Said	Free Zone	100% suspended
		Raswa	100% suspended
8	Suez	Suez Canal	100% suspended
9	Ismailia	Qantara	100% suspended
		Free zone	100% suspended
10	Gharbia	Mahalla Al-Qobra	80% suspended
11	Menoufia	Sadat	80% suspended
		Quesna	80% suspended
12	Damietta	New Damietta	80% suspended
13	Beheira	Kafr Al Dawwar	80% suspended
14	Fayoum	Com Ashim	80% suspended
15	Minya	New Minya	100% suspended
16	Asiut	Dairut	100% suspended
17	Dakahlia	Gamasa	100% suspended
18	Beni Sweif	Bayadh Al-Arab	100% suspended
		New Beni Suef	100% suspended
19	Sohag	Akhmim	100% suspended
20	Red Sea	Safaga	100% suspended

Source: The Readymade Garments and Textile Chamber.
* Establishments registered with the Chamber

Bangladesh experience:[17]

Bangladesh was chosen because it is one of the leading countries in the garment industry, and the garment industry was severely affected by the Corona virus. According to the Bangladesh Garment Manufacturing Exporters Association on April 1, export contracts with an estimated value of about $3 billion were canceled or postponed. Several factories have announced their closure and the laying off of workers under the Labor Law regarding forced layoffs. The following table summarizes the measures taken by Bangladesh to deal with the crisis in the garment and other export industries.

Table A4.3. Measures Taken by Bangladesh to Deal with the Crisis in the Garment and Other Export Industries

	Measures
Government.	▪ Allocating an incentive package to pay the salaries of workers for a period of three months at $590 million, at an interest rate of 2 percent. Borrowing factories are given a grace period of six months. ▪ The announcement of four additional incentive packages worth of Tk 67750 crore * as follows: 1. The first package: worth Tk 30,000 crore, will be provided to affected industries as working capital through banks at low interest loans. The commercial banks will provide the amount as loans from their own funds to the industries and institutions concerned on the basis of relations between banks and customers, at an interest rate of 9 percent. Interested industries and commercial organizations will pay 4.5 percent interest, while the government will pay the remaining half to banks as support. 2. The second package, SMEs will get Tk 20,000 crore in working capital, at 9 percent interest rate, and the industries and business organizations involved will pay interest on this loan at 4 percent, while the government will provide the remaining 5 percent as support. 3. The third package aims to strengthen the Bank of Bangladesh's Export Development Fund - $3.5 billion to $5 billion - to facilitate imports of raw materials under mutual credit. 4. The fourth package, according to which the Central Bank introduces new credit facilities with a value of Tk 5000 crore as a "pre-shipment credit refinance plan" and its interest will be 7 percent. ▪ The government also obtained $1 billion in financial support from the International Monetary Fund and the World Bank to support the government in helping citizens.
Banks	HSBC Bangladesh has announced a set of measures to help textile and apparel clients overcome the economic consequences of the epidemic as follows: - The bank will provide special short-term loans of up to one year, with a temporary suspension of four months, which can be used for the purpose of supporting payroll and utility payments. The bank also allows a three-month moratorium on current term loans of companies affiliated with the textile and clothing sector. The Bank of Bangladesh asked banks to provide similar business support.
Business organizations	▪ **Follow-up and continuous monitoring of the situation and availing information** ▪ **The Industrial Bangladesh Council (IBC) has submitted a request to the government that includes proposals to deal with the crisis and involves:** Close factories, including ready-made clothes, and pay dues to workers until the situation improves. Workers cannot be laid off or downsized under this disastrous situation. All measures must be taken and special treatment be provided if any worker becomes ill or is infected with the virus, including taking steps to ensure the good health and safety of all workers. Factories cannot close or lay off workers without paying the worker's dues. In any emergency, the government must guarantee monetary assistance to workers. A tripartite working group (government, employers group at BGMEA and IBC) should be established under the leadership of the Ministry of Labor. Urging brands and buyers not to cancel their work orders.

[17] https://www.fairwear.org/covid-19-dossier/covid-19-guidance-for-production-countries/covid-19-impact-and-responses-bangladesh

5. Manufacturing Industries (cont'd): Industries that Benefited from the Crisis: Food Industries - Dairy Products

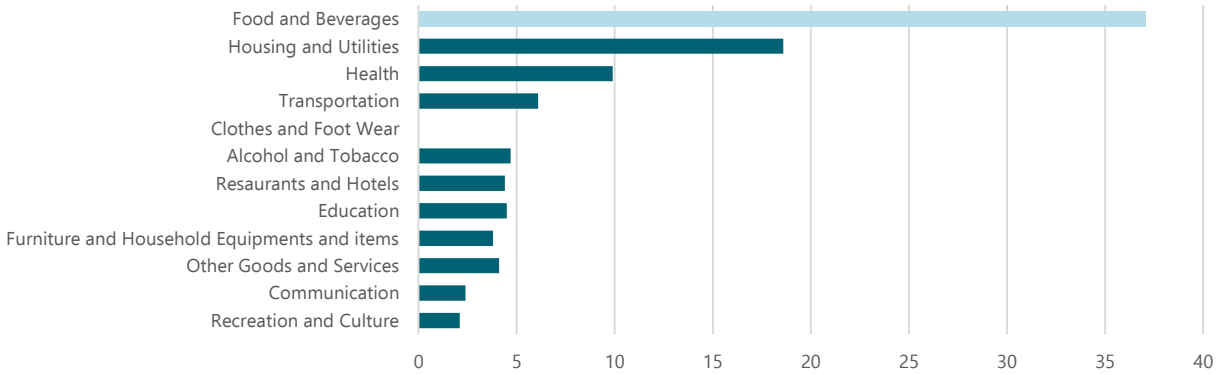
Lead Researcher: **Rama Said**

First: Why was the food industry chosen as a model for the industries that benefited from the crisis?

The food industries are among the list of industries that ECES classified as industries that benefited from the crisis, which is the group of industries that witnessed great demand during the pandemic at least in the first stage. Further, the food industries have great importance, as follows:

- The need for food is at the forefront of the basic needs of the individual, as food and drink formed the first item in the total expenditure of families in 2017/2018[1] with a share of 37.1 percent as shown in Figure 5.1. This percentage increases in the rural areas to reach 40.2 percent compared to 33.9 percent in urban areas.

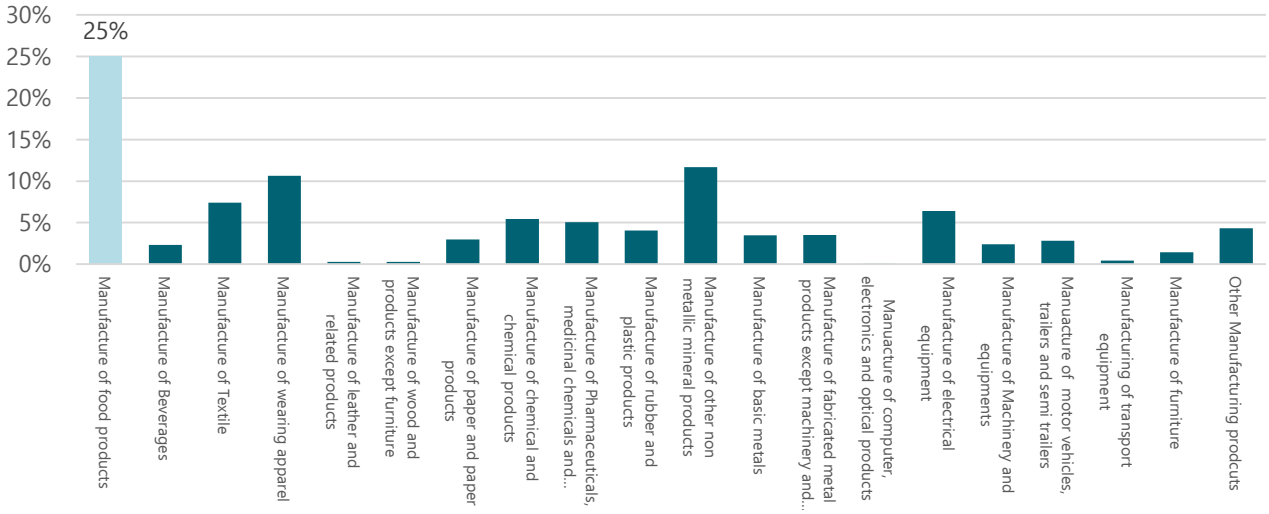
Figure 5.1. Actual Consumption/Household Expenditure in Total Expenditure according to the 2017/2018 Expenditure Items



Source: CAPMAS, 2019.

- The food industry sector is the largest employer among manufacturing industries, with about 25 percent of total workers in the manufacturing industry.

Figure 5.2. Percentages of Workers in the Manufacturing by Sector

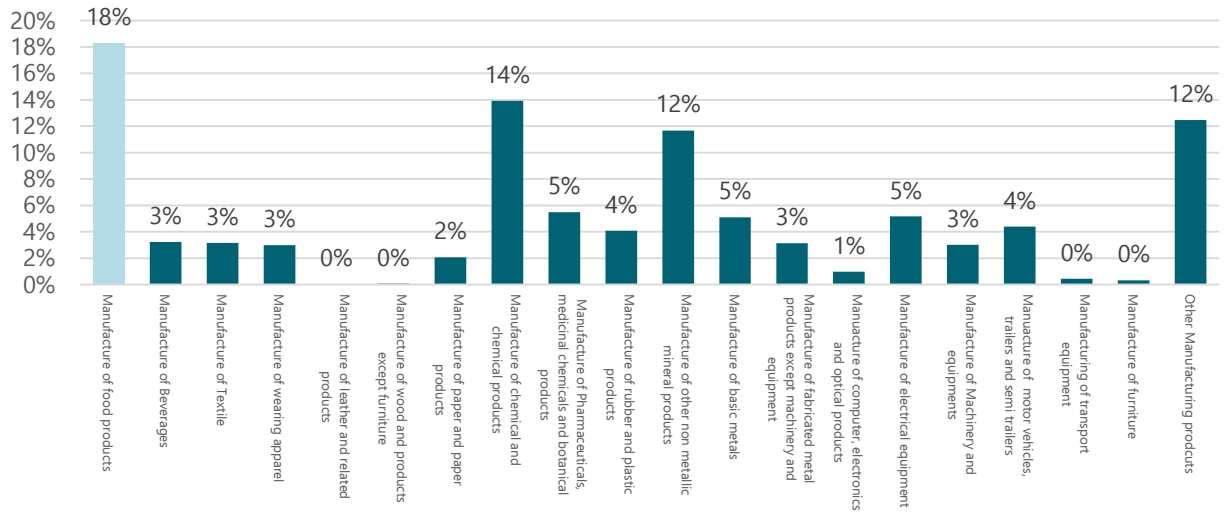


Source: Own calculations based on CAPMAS data, Annual Industrial Statistics, Private Sector, 2016.

[1] Latest available data.

- The food industry is the largest industry in terms of its share in the net manufacturing value added, as shown in Figure 5.3.

Figure 5.3. Sectoral Contribution to Net Value Added



Source: Own calculations based on CAPMAS data, Annual Industrial Statistics, Private Sector, 2016.

- Food industries are considered one of the industries for which most of the links of the value chain are locally available, because they depend primarily on agricultural activity. Thus, food industries play an important role in the agricultural sector, whether in developing agricultural strains used or improving agricultural practices by generating demand for high-quality agricultural products, which ultimately reflects on increased farmers incomes' and reduction of rural poverty levels.

Given that the food industries include a variety of products that differ in terms of value chain, we will focus in this analysis on a few products selected based on the following criteria:

1. Products of strategic importance from the consumer and producer perspectives
2. Most of their value chain elements are available locally
3. The product is linked to international trade (imports and exports)
4. There is a demand for this product at the time of the crisis

Based on these criteria, two sectors of the food industry were chosen for the detailed analysis: the dairy and confectionery industries. In this report, we will focus on the dairy industry.

1.1. Dairy industry

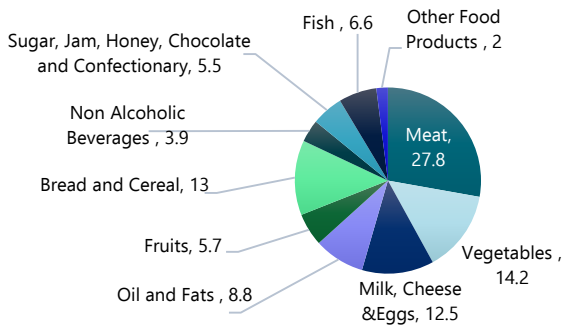
1.1.1. Why the interest in the dairy industry?

The dairy industry is one of the industries, where preliminary research proved that it could have been positively affected by the crisis via an increase in demand for its products. Further, the dairy industry has great health, social and economic importance. The following are the most important facts related to this sector:

- The dairy industry includes a variety of products, including pasteurized milk, all types of cheese, butter, ghee, yogurt, and ice cream. Dairy also enters other food industries such as chocolate, biscuits, and sweets.
- Dairy industry is generally considered to be an important source of low-priced protein compared to other protein sources,[2] and thus accounts for a large proportion of actual household consumption as shown in Figure 5.4.

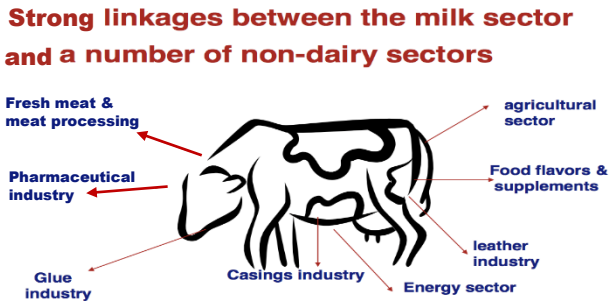
[2] Each kilogram of cow's milk contains 3.2 grams of protein, 3.7 grams of fat, and 4.6 grams of starches.

Figure 5.4. Relative Distribution of Actual Household Consumption in the Food and Beverages Group, 2017/18[3]



Source: CAPMAS, 2019.

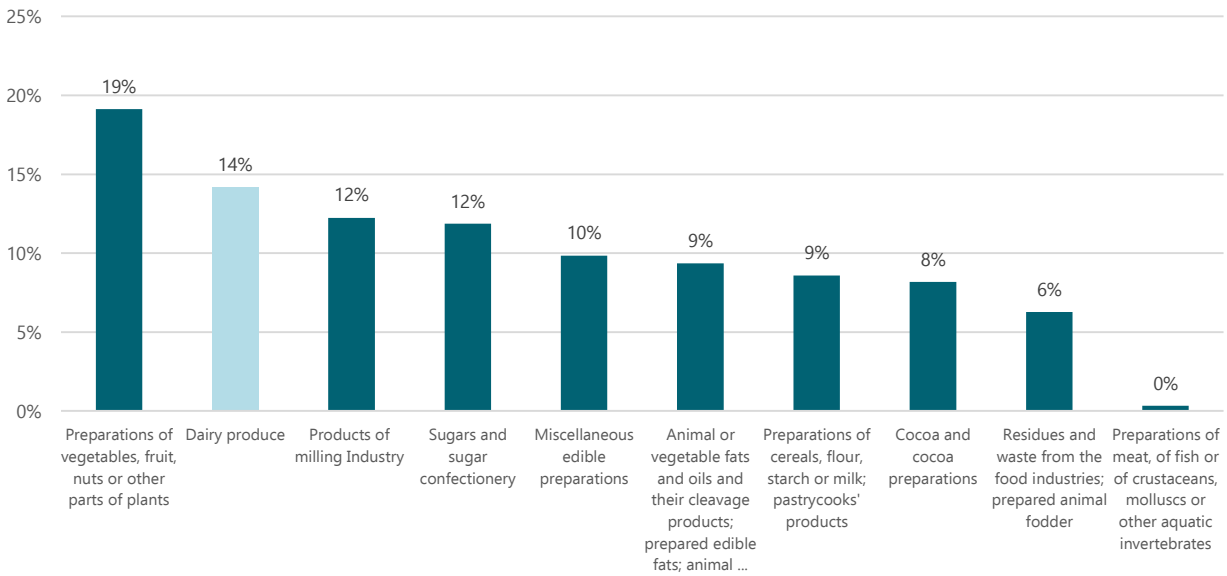
Figure 5.5. Interlinkages Between the Dairy Production Sector, Economic Activities, and Other Industrial Sectors



Source: Abdel-Latif, 2018.

- The dairy industry can play an important role in achieving inclusive growth. On the one hand, we find that the vast majority of dairy production in Egypt comes from rural areas, and thus the dairy industry can contribute to job creation and increasing incomes in rural areas. On the other hand, a large part of the dairy industry and its products are linked to micro and small enterprises, and thus can contribute to job creation especially among the youth and women, in addition to employment in larger enterprises (medium enterprises).
- The dairy industry is characterized by strong linkages with a few sectors and other value chains: agriculture, processed meat industries, flavourings, leather, medicine, glue, and energy as shown in Figure 5.5.
- Dairy products are considered an important export product, as they are the second export product in the food industry after preparations of vegetables and fruits. The dairy industry represents 14 percent of total exports of the food industry in 2019, as shown in Figure 5.6.

Figure 5.6. Export Structure of the Food Industry Products



Source: Trade map, May 2020.

[3] Latest available data.

- Seven percent of the total employed in the food industries work in this industry, and they constitute 9 percent of the value added in the food industries as shown in Table 5.1.

Table 5.1. Dairy Industry's Share of Total Employees and Net Value Added in Food Industries

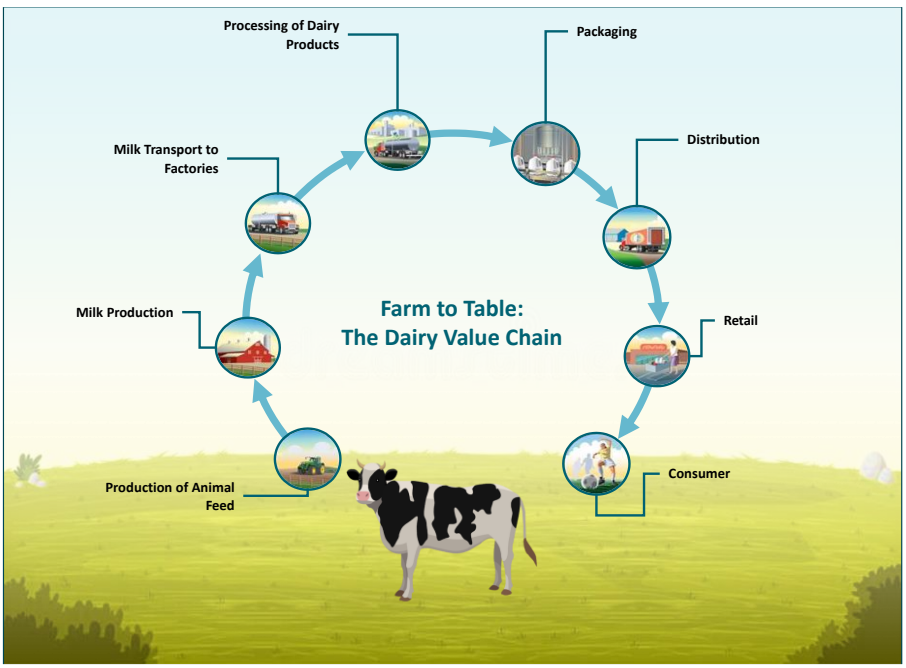
Product	Share in the total employed	Share in net added value
Processing and preserving meat and meat products	5%	5%
Processing, preserving fish, crustaceans and mollusks	0%	0%
Processing and preserving fruit and vegetables	14%	15%
Manufacture of vegetable and animal oils and fats	5%	13%
Manufacture of dairy products	7%	9%
Manufacture of grain mill products	8%	8%
Manufacture of starch products	1%	2%
Manufacture of bakery products	35%	15%
Manufacture of sugar	4%	5%
Manufacture of Cocoa, chocolate, and sugary confectionary	2%	1%
Manufacture of Macaroni, noodles, couscous & similar farinaceous products	2%	3%
Manufacture of prepared meals and dishes	1%	1%
Other food products n.e.c	13%	20%
Manufacture of prepared animal feed	2%	3%

Source: Own calculations based on CAPMAS data, Annual Industrial Statistics, Private Sector, 2016.

1.2. The value chain in the dairy industry

The value chain of the dairy industry in Egypt is a complex one, due to multiplicity of actors and their different sizes. The following is a brief description of the value chain:

Figure 5.7. The Value Chain in the Dairy Industry



• **Raw materials**

It is possible to distinguish between two types of raw materials:

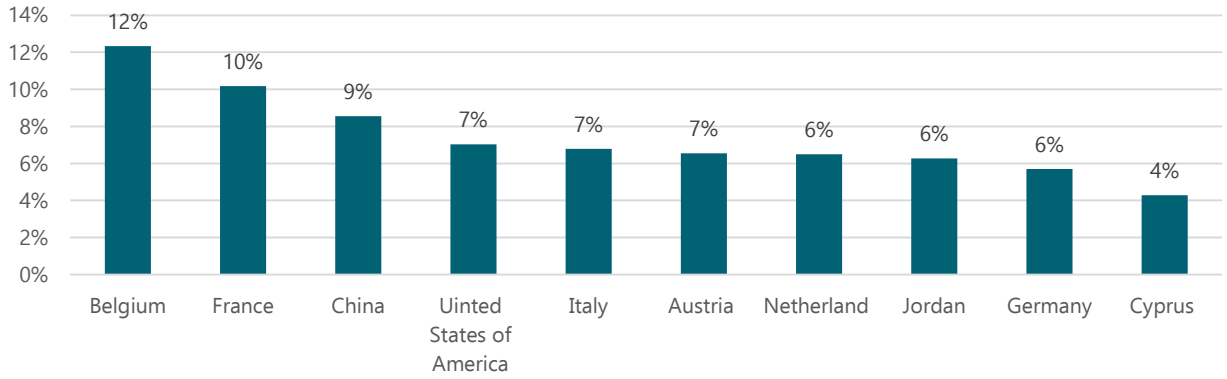
- The raw materials associated with dairy production, the most important being the animal feed.
- The raw materials used in the manufacture of dairy products, which comprise milk, whether in liquid form or powdered, packaging materials and other raw materials related to the manufacture of dairy products.

We will discuss each in more detail as follows:

• **Animal feed**

Egypt imports about 12 percent of the total quantity available for consumption of animal feed in 2014-2015.[4] European countries are at the forefront of countries from which Egypt imports animal feed as shown in Figure 5.8, as seven European countries account for 52 percent of total Egyptian imports of these products.[5]

Figure 5.8. Top Ten Countries from which Egypt Imports Animal Feed in 2019*



Source: Trade Map, 2020.
* HS 230990 including vitamins and antibiotics not including cat and dog food sold in retail stores.

The industry is currently benefiting from the apparent downward trend in global feed prices since 2013, driven by a decline in global prices for both maize and wheat.

Figure 5.9. World Feed Prices (January 2006 - March 2020)

Source: IFCN, May 2020.

[4] Latest available data.
[5] Animal-based animal feed constitutes the majority of Egyptian imports of feed with a share of 61 percent, followed by additives containing vitamins and plant-based antibiotics with a share of 28 percent.

- **Milk**

There are three types of dairy farmers in Egypt: small farmers, commercial barns, and large specialized livestock farms. The characteristics of each product are reflected in the way milk is supplied as shown in Table 5.2.

Figure 5.2. Top Ten Countries from Which Egypt Imports Animal Feed in 2019*

Producer	Characteristics	Method of Supply	Most Common Problems
Small farmers (Farm size ranges from 1-20 cows)	▪ Considered the traditional dairy supplier in Egypt. ▪ Responsible for producing nearly 70 percent of milk production in Egypt ▪ Cows are milked via traditional methods	There are four main channels for selling dairy: ▪ From the farmer to the consumer directly ▪ From farms to factories directly within the same village, if available. ▪ From the farmer to a middleman who then delivers the milk to the dairy factory. ▪ From the farmer to the collection point inside the village and from there to the wholesaler and then to major dairy factories or retail stores then to the consumer.	▪ Need for high-yielding breeds of cows. ▪ Inability to provide quality feed for cows. ▪ Primitive methods for milking cows and transporting and collecting milk. ▪ Weak technical support services provided. ▪ Increased informal activity in relation to dairy collection centers ▪ Monopolistic position of feed producers and traders ▪ The credit system of paying the price of raw milk from the collection point to farmers ▪ Multiple supply chains
Commercial Barns (farm size ranges from 10-50 cows)	▪ Located on the borders of major cities. ▪ These farms are concerned with livestock feed. ▪ Cows are milked via traditional methods ▪ These barns can use refrigerated containers to keep milk fresh	▪ Dairy produced from commercial barns is usually sold directly to consumers in major cities through retail shops.	▪ Primitive methods for milking cows and transporting and collecting milk. ▪ Dependent heavily on imported feed, which exposes them to fluctuations in world feed prices and high production costs.
Large specialized livestock farms (farm size over 50 cows)	▪ Big farms usually specialized in one type of livestock. ▪ Responsible for producing approximately 10 percent of the total milk production ▪ Depend on modern technology and mechanical means in milking cows. ▪ These farms are a priority for large collection centers and large dairy factories. ▪ There are some livestock farms owned by the major dairy farmers.	▪ These farms supply their production to collection centers owned by a large dairy factory or independent collection centers.	▪ Dependent heavily on imported feed, which exposes them to fluctuations in world feed prices and high production costs. ▪ Lack of regulated relationship between dairy producers and dairy factories. The price of raw milk is determined by the large dairy factories (3 factories)

Sources: Abdel Latif, 2008; Soliman and Mashhour, 2011.

- The milk production season is in winter and spring, with 65-75 percent of the total annual milk production being produced during that period. According to the 2016 Annual Bulletin of Livestock Statistics, Egypt produces 5,088 million tons of milk, 51 percent of which is cow milk and 45.8 percent is buffalo milk.[6]

[6] Latest available data.

The governorates of Lower Egypt[7] are the main source of milk, with a share of 58 percent of total milk production in Egypt, led by Beheira Governorate, with a share of 21 percent (Figure A5.1 in the appendix shows the geographical distribution of milk production in Egypt).

Dairy factories use powdered milk to make up for the shortage of local milk supply. Powdered milk is mainly imported, as it made up 44 percent of total Egyptian imports of dairy products in 2019 (Table A5.1 in the appendix shows the structure of Egyptian imports of dairy products). Egypt imports from only five countries (New Zealand, Germany, France, Canada, and the United Kingdom) 69 percent of its total imports of these products. Meanwhile, the global price of powdered milk (both full-fat and skimmed) witnessed a declining trend since mid-December 2019, after rising during the previous months of 2019,[8] to reach the lowest level in May, and then rose again in June and July (Figures A5.2 and A5.3 in the appendix show the evolution of international prices of whole and skimmed powdered milk. The demand from China plays an essential role in determining the prices of powdered milk and dairy products in general.

Raw milk is the main cost item in total production costs of dairy products. According to (Abdel Salam 2015), raw milk accounted for 76 percent of yogurt production costs, 85 percent of white cheese production costs, and 91 percent of pasteurized milk production.

- Other intermediate products

The dairy industry uses a range of other intermediate products, primarily packing products,[9] as well as other intermediate products such as rennet, calcium balance salts, table salt, stabilized salts, emulsifiers and vegetable fat, in addition to the machines used in the dairy industries.

Plastic products represent 58 percent of total imported packing materials,[10] followed by aluminium foil by up to 28 percent, then paper products, including paperboard, with a share of 14 percent, in addition to machinery and equipment for packaging, cleaning, drying, filling, and sealing bottles and containers, as well as spare parts, valued at nearly $235 million.[11] Regarding the most important countries from which Egypt imports packaging products, we find that although China is one of the five largest suppliers of packaging products to Egypt, it does not enjoy a monopolistic position in this regard except in aluminum foil, as Egypt imports 96 percent of its aluminium foil from China followed by India. As for plastic products, Saudi Arabia comes at the top of the list with a share of 37 percent, then China with a share of 11 percent, and finally in terms of paper, China tops the list of suppliers with an estimated share of 25 percent, followed by Saudi Arabia with an estimated share of 21 percent.

In general, this stage of the dairy value chain is characterized by high risks associated with this activity, as a result of the following:

- Primary capital is cows, which have special care requirements in nutrition and health care that vary with the life cycle of cows.
- If the herd is exposed to an epidemic-like disease, it may affect the entire farm, which causes the farm heavy losses.
- Dependence on imported feed.
- The main product (milk) is a perishable product that is extremely sensitive to refrigeration, hygiene, and all elements of handling.
- There is some seasonality in dairy production.
- Milk is delivered on a daily basis with payment made between 10-25 days, which exposes farmers to a real crisis in the event of any shock,

[7] Lower Egypt includes the following governorates: Beheira, Sharqia, Gharbiya, Menoufia, Dakahlia, Damietta, Qalyubia, Kafr El-Sheikh and Alexandria.
[8] Although it witnessed an increase during the month of January, it did not reach the levels during the previous months of 2019, and it fell again in February.
[9] There are six types of packaging used by dairy industries: multi-layer cardboard, metal packaging, plastic packaging, glass packaging, aluminum foil, cardboard.
[10] The codes include: 760711, 392020, 3923550, 392329, 481910, 4808010, 481159, 4808049, 480820, 4808030.
[11] These figures represent the total Egyptian imports of those products, of which the dairy products industry is considered one of its most important users.

especially in light of the need to buy animal feed in large quantities and maintaining an acceptable amount of stock in some types of feed.

The process of exiting this activity is slow and costly, as dairy farmers cannot sell the whole herd without incurring significant losses, and therefore, farmers resort to gradual selling, and the degree of risk is higher for small farms (Abel-Latif 2008).

• **Manufacture of dairy products**

- The dairy industry is characterized by significant size of the informal sector. According to data of the Chamber of Food Industries, there are 1144 dairy products factories registered with the Chamber in the year 2020. However, we find that according to data of the Ministry of Agriculture there are only 1147 factories for manufacturing white cheese in 2015. This discrepancy in numbers indicates that there is a huge informal activity in this sector that is not reflected in the numbers registered with the Chamber (Figure A5.3 in the appendix includes the geographical distribution of dairy products factories and dairy production areas in Egypt).
- In general, not all factories take advantage of their full production capacity, with differences between governorates, which results in higher costs[12] (Figure A5.4 in the appendix shows the ratio of actual production capacity to maximum capacity for white cheese production in the governorates).
- The sizes of establishments operating in the dairy industry vary between small and medium in addition to large factories, and factories that operate informally, and each group of enterprises faces a set of its own problems as summarized in the following table:

Table 5.3. Characteristics of the Different Sizes of Enterprises Operating in the Dairy Industry and the Most Common Problems they Face

Enterprise size	Characteristics	Most common problems
Small enterprises (formal and informal)	▪ Traditional technologies. ▪ A limited range of dairy products. ▪ The majority of them are in the governorates, especially in the villages. ▪ Obtain dairy directly from farmers, wholesalers, or traditional collection centers. ▪ Dependent on powdered milk. ▪ Much of its production is not packed through automated methods ▪ Direct its production mainly to the local market. ▪ The traditional grocery store is the primary distribution channel.	1. Problems related to raw materials: ▪ High rate of milk waste ▪ Bad quality of the milk supplied ▪ Problems with other production inputs, especially rennet. ▪ Inability to use good packaging products. ▪ The high cost associated with importing powdered milk. 2. Problems related to the production process: ▪ High percentage of waste in the final product. ▪ Shortage of liquidity to upgrade production technologies. ▪ Lack of tests required for checking product quality. 3. Problems related to distribution and marketing: ▪ High percentage of waste and returned goods. ▪ Lack of marketing information. ▪ Low demand for traditional cheeses, such as Damietta cheese.

[12] For example, with regard to white cheese, the ratio of actual production capacity to maximum capacity ranges between 21 percent at a minimum achieved in Gharbia Governorate, and 89 percent at a maximum achieved in Cairo Governorate.

Enterprise size	Characteristics	Most common problems
Medium and large facilities	▪ There are only three large companies in the production of pasteurized milk and yogurt. ▪ Automated modern technologies ▪ A variety of dairy products ▪ High-quality products ▪ Obtain milk from either its farms or major farms and collection centers ▪ Direct its production to the local and export markets	1. Problems related to raw materials: ▪ Increased production costs due to the import of a large portion of production requirements. 2. Production problems ▪ Shortage of skilled manpower ▪ Weak research and development ▪ Absence of research activities to develop traditional products (from Damietta cheese) ▪ Lack of an Egyptian standard for nutritional value in various dairy products ▪ Unavailability of laboratories to perform some tests, as well as problems related to the accuracy of test results and the speed of obtaining them. 3. Distribution and Marketing problems ▪ Lack of marketing efforts for traditional cheeses, such as the presence of brand names. ▪ Bad handling and storage by wholesalers and retailers. 4. Problems related to foreign trade, such as ▪ Length of customs clearance periods ▪ No differentiation in customs based on the protein content of the product. ▪ Lack of bilateral trade agreements with some potential export markets such as Brazil ▪ Unavailability of the necessary market information, and weak marketing effort in some non-traditional export markets such as the African market, Russia, and China ▪ Slow refunds of the export subsidy entitlements to exporters.

Sources: Soliman and Mashhour, 2011; Kassem et al., 2018.

• **Marketing and distribution**

As for the marketing of final products, we find that dairy products are mainly consumed locally, as Egypt exports 22 percent of the total production of dairy products in 2016 (CAPMAS 2018). In general, traditional grocery stores are the main outlet for selling dairy products in Egypt with a share of 54.2 percent (EU 2019) (Figure A5.5 in the appendix shows dairy distribution channels in Egypt). The channel through which the distribution is made varies according to the type of cheese as shown in Table 5.4, and there are some cheeses, especially European cheeses, that are sold mainly to restaurants and hotels.

Table 5.4. Different Types of Cheese and their Distribution Channels

Type of cheese	The channel through which it is distributed:
Cheese made from vegetable oil	▪ wholesalers ▪ Cheese Traders ▪ Direct selling to retailers using refrigerated vehicles ▪ Refrigerated distribution area ▪ Factory outlet direct sale to the consumer
Damietta cheese	▪ Cheese traders
Roumy cheese	▪ Cheese traders
Malawi cheese	▪ Cheese Traders, mainly distributed in Upper Egypt ▪ Hypermarket
European cheeses	▪ Hotels, restaurants, supermarkets, and hypermarkets
Syrian cheeses	▪ Hotels, restaurants, wholesalers, and retailers (grocery stores specializing in Syrian products)
processed cheese	▪ wholesalers ▪ Retailers
Ghee	▪ large companies ▪ Confectionery factories and stores ▪ Homes in rural areas
Instant soluble milk	▪ Supermarkets and hypermarkets ▪ Retailers ▪ Sales representatives

Source: Kassem et al., 2018.

Egypt's market size is witnessing increasing growth for all dairy products. For example, the market size for yogurt and curdled milk achieved an average growth rate of about 13.3 percent during the period 2012-2017, followed by both milk and cheese with an average annual growth rate of about 12.3 percent and 7.4 percent, respectively (EU 2019). Figure A5.6 in the appendix includes growth rates for the size of the dairy products market in Egypt during the period 2012-2017 and expectations for future growth rates during the period 2017-2022.

As for exports, Egyptian exports of dairy products are concentrated in cheese, which constitutes 83 percent of total Egyptian exports of dairy products in 2019. By focusing on exports of cheese, we find that it is concentrated in processed cheese and fresh cheese "un-ripened or uncured cheese," with the two representing 80 percent of total Egyptian exports of cheese. Egypt is one of the largest exporters of processed cheese in the world. However, it was not able, at any stage, to have a product brand of its own despite the fact that Damietta cheese has the characteristics that qualify it for that.

Despite concentration of Egyptian exports of cheese in these two products, Egypt has managed to achieve a degree of diversification in Egyptian exports of cheese in recent years, with blue veins and other cheeses achieving the highest average growth in exports during the period 2016-2019 compared to declining growth rates of traditional Egyptian exports of processed cheese and un-ripened fresh cheese (Figure 5.7 in the appendix includes the growth rates of Egyptian exports of different types of cheese).

Egypt exports dairy products mainly to the Arab countries, as this group constitutes 92 percent of total Egyptian exports of milk in 2019. Saudi Arabia, Libya and Jordan are among the top countries to which Egypt exports dairy products, with shares estimated at 19 percent, 16 percent, and 14 percent, respectively, of total Egyptian exports of dairy products. As for non-Arab countries, Russia, Turkey, and Eritrea are at the forefront of countries to which Egypt exports dairy products, with shares of 1.2 percent each. Small enterprises export through an exporting agency.

Third: How the dairy industry was affected by previous crises

The dairy industry, like other manufacturing industries, was affected by previous crises, which were analyzed in detail in Chapter 4, "the Manufacturing Industries Combined", in Sectoral Analysis of the Impact of COVID-19 on the Egyptian Economy, Part 1.

However, due to the fact that dairy products are an essential commodity (and hence the low elasticity of demand for them), in addition to the fact that the vast majority of its sales are directed to the local market, the impact on that industry from previous crises was less severe than the rest of manufacturing industries. Also, the impact most of the time was temporary. Here we will focus on analyzing how the dairy industry was affected by the latest shock that faced the manufacturing industry, namely the flotation of the Egyptian Pound in 2016. The flotation of the pound had two main effects:

1. **Increase in the price of production inputs:** Here, a distinction must be made between two types of production inputs:

   1-a. Packaging materials (tetra pack, aluminium foil and plastic products):

   Enterprises dealt with the increase in the cost of packaging materials according to the availability of a local substitute to these products. In the case of packaging materials with no local substitute, such as aluminium foil and tetra pack, companies gradually passed the cost on to the consumer. As for packaging material such as plastic for which there may be a local substitute, enterprises resorted to using the local substitute, even partially, provided that the quality is appropriate.

   1-b. Powdered milk: The increase in the price of powdered milk as a result of the dollar price hike drove establishments to increase the percentage of liquid milk used in production (from farms and collection centers), especially companies producing pasteurized milk and yogurt, subject to milk quality and the appropriate bacterial count. The substitution process resulted in the saving of hard currency, in addition to availing greater liquidity with companies, as liquid milk is paid in instalments based on supply, unlike powdered milk, which is purchased in large quantities at once and stored. The cheese producing companies were unable to replace powdered milk, because the nature of its production process necessitates the use of milk powder.

2. **Decreased demand:** Due to the decrease in the purchasing power of citizens. This resulted in a decrease in the volume of sales, and the industry was expected to return to its normal levels by the year 2020.

Fourth: How the dairy industry has been affected by supply and demand shocks in the context of the crisis cycle

The expected effect on the demand and supply sides relates to the stage we are dealing with in the crisis cycle. Accordingly, we can track five stages according to the crisis cycle. In Table 5.5, we will show the impact on the dairy industry from the crisis since its inception and analyze the current situation and expectations for the next phase starting from August 2020 until June 2020, in light of the following concepts and assumptions:

Concepts

- **Demand shock:** A sudden change in demand for dairy products and consumption patterns
- **Supply shock:** Dairy factories are unable to meet demand or align with consumption patterns

Assumptions of analysis

1. Demand for dairy products is tracked through supermarket ordering.
2. The supermarket's demand for prepacked dairy products relates to its storage capacity.

3. The nature of the capital cycle in the dairy industry, which is linked to the impact of the crisis on the sector, has the following characteristics:
    a. Seasonality in producing liquid milk.
    b. Need to store an acceptable amount of feed products to ensure sustainable feed availability.
    c. Need to store powdered milk, which in some cases may reach maintaining a sufficient stock for six months.
    d. Limited ability of farmers in general, especially small livestock breeders, to control the price, with dairy factories paying the price of milk supplied from dairy farms on credit.
4. The degree to which dairy farms are affected by the crisis is linked to the degree to which dairy factories are affected.
5. Focusing mainly on the local market, given that the dairy industry in Egypt is primarily geared to the local market.
6. Exports are not analyzed in the table, not only because it constitutes a small share in total production but also because processed cheese (the main export product for Egypt) is a basic consumer product for all citizens all over the world, and thus export performance has not been affected by the crisis.[13]
7. The quantitative estimate of the change in sales was made roughly through a limited questionnaire directed to a number of dairy factories producing different varieties of dairy products.[14]

Table 5.5. Potential Scenarios for the Impact of the Crisis on the Dairy Industry, Analysis of the Current Situation and Expectations for the Next Stage (August 2020-June 2021), based on the Aforementioned Crisis Cycle and Assumptions

Stage	Demand and/or supply shock	Analysis	Impact on Egypt
1. The emergence of the virus (December 2019 - January 2020)	No shocks	▪ The emergence of the virus in China but Egypt was not affected during that period, thus economic activity continued normally ▪ Decrease in the world price of powdered milk in the second half of December, mainly driven by the decrease in China's imports of milk as a direct result of COVID-19, in addition to a surplus in milk production, due to expectations of positive growth rates in the largest seven dairy producing regions in the world during the second quarter of the year 2020.[15] ▪ China's inability to supply production requirements of packaging products and feed.	▪ There is no impact on the demand side. ▪ There is no effect on production cost as producers purchased production requirements of powdered milk and stored them prior to the lower price. ▪ As for other production requirements, especially packaging products, the fact that producers, whether dairy farms or dairy products factories, maintain some stock has mitigated the impact of the crisis in China on the availability of production requirements, especially with regard to aluminum foil, in addition to availability of alternative markets, especially Saudi Arabia and Turkey, in the case of plastic and paper products.

[13] According to the limited survey conducted with a number of dairy factories.
[14] Meeting was arranged with the group of dairy products manufacturers in cooperation with the Chamber of Food Industries.
[15] https://www.dairyreporter.com/Article/2020/03/17/The-ripple-effects-of-COVID-19-A-look-into-global-dairy

Stage	Demand and/or supply shock	Analysis	Impact on Egypt
2. The beginning of the virus spreading (February - mid-March 2020)	Limited demand shock and no supply shock	▪ The global situation continues as before ▪ The beginning of the increase in local demand for dairy products, especially with the start of precautionary measures in March, driven by consumer fear of the future of their food security and the extent of availability of their food needs. ▪ The decision to suspend schools and implement some precautionary measures. ▪ Unclear sources of disease transmission.	▪ Supply was not affected as producers maintain a stock of production inputs, especially considering Ramadan preparations. ▪ Consumption patterns change in the direction of larger containers due to lack of demand for small packages with the suspension of schooling, in addition to the desire of consumers to store. ▪ A slight reduction in restaurants and cafes ordering as a result of the beginning of consumer tendency to avoid eating outside homes, because they are not sure if the disease is transmitted via food.
3. The crisis worsening (mid-March to mid-May 2020)	▪ Significant demand shock ▪ Limited supply shock	▪ Significant increase in demand for all food products, including dairy products, specifically driven by the consumers' desire to store, due to their fear with the strengthening of precautionary measures and the effecting of curfews.[16] ▪ The worsening of the crisis coincided with the advent of the month of Ramadan at the end of April ▪ The complete suspension of tourist activity ▪ Increased health awareness of citizens due to fearing Covid-19, and hence lack of demand for certain products and not others.	▪ High demand for dairy products was reflected in increased demand for milk but was not clearly reflected in the price.[17] ▪ Demand continued to rise despite declining consumer desire to store due to the large demand for milk and yoghurt during the month of Ramadan, coupled with the promotional offers made by companies. ▪ Demand came mainly through sales outlets (supermarkets, hypermarkets, and grocery stores), while demand from hotels, restaurants, and cafeterias[18] decreased due to precautionary measures and the suspension of tourism. ▪ The impact of curfew measures on the movement of goods and workers was limited to the first two weeks, and that effect was eliminated after the Government's decision to exclude industrial activity from curfew hours' subject to obtaining the necessary permits. ▪ Establishments managed to increase the supply of dairy products due to a combination of factors: 1. The companies' prior readiness for the month of Ramadan and thus availability of all production requirements. 2. The presence of idle capacity in some establishments and consequently the ability to increase production to meet increasing demand, or resort to work with more than one shift to meet the increase in demand. ▪ Supply shock in some establishments, especially small ones, due to their inability to meet demand for automatically packaged products due to the inability of these factories to shift towards packed products. This attributed to the high costs associated with this and the need to inject new investments. ▪ This effect varied according to the sales outlet for unpacked products, as supply to supermarkets and hypermarkets decreased by 20-25 percent. Meanwhile, supply stopped completely to companies that provide meals to their employees, which represents a large

[16] For more details on the impact of the crisis on grocery retail trade, see Chapter 6 of this volume (page 139) or Views on Crisis, issue no. 12.
[17] The price of raw milk is determined by dairy factories.
[18] For more details on the impact of the crisis on demand for restaurants and cafes, see Chapter 7 of this volume (page 154) or Views on Crisis, issue no. 16.

Stage	Demand and/or supply shock	Analysis	Impact on Egypt
3. The crisis worsening (mid-March to mid-May 2020) cont.			▪ percentage of the activity of some small factories, which may reach 40 percent and above. ▪ The significant decline in demand for fresh European cheeses, which are required by hotels primarily. The producers in this group of products were exposed to a liquidity crisis due to the return of goods sold to hotels with the vast majority of it damaged, and the presence of delays in payment of dues, which led to some factories resorting to producing cheese with a longer shelf life. ▪ As a result of losses incurred by some factories, they resorted to a reduction in workers' salaries and a limited reduction in employment ▪ Increase in domestic sales of basic dairy products such as milk and yogurt by 12 percent -13 percent in the first quarter of this year compared to the first quarter of last year, mostly in the last half of March.
4. The crisis receding (Mid-May-august 2020)	▪ Continued major shock in demand ▪ Continued limited supply shock	This period can be divided into three stages: **The first stage (May)**: This period witnessed a decline in demand for dairy products due to the low purchasing power of consumers and the decline in incomes, in addition to careful spending in the case of high-income brackets as a result of uncertainty about the future of the virus. **The second stage (June – July):** With the easing of precautionary measures and gradual return of restaurants and hotels activity, the demand for dairy products improves. **The third stage: (August)** There are three scenarios according to the evolution of the virus: ▪ **Optimistic scenario:** continued low rates of virus infection and further mitigation of precautionary measures ▪ **Medium scenario:** virus infection rates continue at the same level as July and extending the same precautionary measures ▪ **Pessimistic scenario:** Rise in infection rates again as a result of mitigation of precautionary measures during the months of June and July.	**The first stage:** ▪ Sales of milk and yogurt decreased during the month of May by about 5 percent compared to the previous year. ▪ Dairy farms suffered during the month of May for only one week due to the presence of stocks in dairy factories and decrease in demand during the month of May ▪ Manufacturers continued to produce cheese with a higher shelf life and to move away from fresh and expensive cheese products. ▪ Factories plan to update production lines to automated packaging methods, provided the necessary funding is available. **The second phase** ▪ The slight increase in demand during the months of June and July was reflected in the increase of sales by 2 percent -3 percent compared to the same period last year. **The Third Stage** ▪ **Optimistic scenario:** Gradual improvement in sales continues during August ▪ **Medium scenario:** Sales remain at the same levels achieved during July ▪ **Pessimistic scenario:** Sales fall to May levels

Stage	Demand and/or supply shock	Analysis	Impact on Egypt
5. Recovery (beginning from September 2020 to June 2021)	▪ Demand and supply shocks are related to the pace of recovery.	▪ **Optimistic scenario:** The recovery continues until the crisis ends completely during the second half of September, and thus economic activity returns to normal and schools start in October, as announced by the Ministry of Education. ▪ **Medium scenario:** The continuation of the virus until the end of the year and the continuation of precautionary measures applied in the medium scenario from the previous stage. ▪ **Pessimistic scenario:** Emergence of a second wave of the virus with the onset of winter, and schools not returning.	▪ **Optimistic scenario** - Significant improvement in demand and a return to the levels of demand achieved during the same period of the previous year, but without realizing what was expected by dairy manufacturers of a return of profits to pre-flotation decision levels in 2016. - The tendency of small factories to modernize the manufacturing process towards investing in packaging due to increased health awareness of citizens, albeit this depends on the availability of financing. - Return of previous consumption patterns in the size of packages sold or the types of cheese sold with the return of tourist activity and the return of the activity of restaurants and cafes. ▪ **Medium scenario** - Sales remain at the same levels achieved during July - Factories continue to shift their production lines away from fresh cheese. ▪ **The pessimistic scenario** - Demand levels fall to the level achieved during the month of May at the height of the crisis - Some small and micro factories shut down due to not being able to invest in modernizing their production process and moving towards automatically packaged products. - The tendency of some enterprises to reduce employment levels.

Source: Prepared by ECES.

* These estimates should be read with caution, as expectations may require further reviews due to the developments that occur, whether related to the day-to-day spread of the virus, whose duration and scope are still unknown, or those related to any global or local developments that may affect the estimates directly or indirectly.

We conclude from the previous analysis that despite the apparent benefits for the dairy products industry from the crisis, these benefits are in reality temporary being related to citizen fear, and were not achieved for all establishments and all products, as follows:

- Not all sub-sectors of the dairy products industry benefited, as the main benefit was in favor of products with higher storage capacity, basic products in the citizen's food pattern, and low-priced products. This group of products includes pasteurized milk, yoghurt, and dry and processed cheese. However, fresh cheese products and European types of cheese suffered losses during the crisis.

  Not all enterprises have benefited from the crisis. Enterprises that benefited include those who use automated packaging methods and have the production capacity to meet increased demand during the period of crisis aggravation.

- The temporary benefit achieved for the industry will not repeat in the event of the emergence of a second wave of COVID-19 as a result of citizens acclimatizing to the existing situation of the virus and the existence of a kind of reassurance about their food security. However, the negative impact associated with the low purchasing power of citizens is expected to continue in the case of non-recovery or slow recovery.

The expected change in the consumption patterns of citizens is also expected to continue.

Here, it is worth noting that the dairy products industry can benefit greatly from increasing the citizen's health awareness to modernize production lines by using automated packing methods and increasing the quality of products. This requires government support for this industry by providing the necessary financing, and overcoming the institutional obstacles facing this industry, which will be addressed in the following section.

Fifth: Measures required to mitigate the negative impact at the time of the crisis

Enterprises, especially small ones, currently suffer from a liquidity crisis as a result of very low demand, which requires:

1. Revisiting policies adopted by the Micro, Small and Medium Enterprise Development Authority to be, at a minimum, in line with the policies approved by the Central Bank of Egypt, both with regard to the period of postponing loan repayments or the administrative expenses prescribed in exchange for postponing loan repayment.
2. Paying all arrears of export subsidies due to exporters.
3. Designing a financing program for the benefit of small enterprises working in the dairy industry to modernize production lines and purchase equipment for automated packaging on concessional terms.

Sixth: Institutional weaknesses revealed by the crisis and proposals to overcome them

Analysis of the value chain of the dairy industry has revealed a set of institutional problems that the industry suffers from, impede its growth. This requires the implementation of a set of integrated measures to address these problems within the framework of a clear vision for the future of the sector. These measures include, but are not limited to, the following:

1. The need to organize the relationship between dairy farms and factories to reach a fair formula for the price of milk supply.
2. The importance of developing a different model for the improvement of dairy collection centers (similar to the Dutch model) and not just a set of partial reforms, due to their important role in increasing benefit from liquid dairy through improving its quality and suitability to the specifications required for dairy products industries. This ultimately reflects in the reduction of costs associated with importing powdered milk.[19]
3. The need to provide technical support from specialized government institutions for small farmers to improve the quality of milk.
4. Study the possibility of expanding the feed industry in Egypt so that imported feed is minimized.
5. Expediting the process of issuing and updating the specifications for dairy products, and the participation of small-scale producers in the committees concerned with setting these standards.
6. The necessity of fully activating the role of the Food Safety Authority, as some regulatory authorities, such as health and supply, still operate separately despite the existence of the authority.
7. The importance of developing government laboratories to increase the accuracy of results, ensure they are not contradictory, and reduce the time period for obtaining results.
8. The necessity of providing government agencies with the necessary financial and

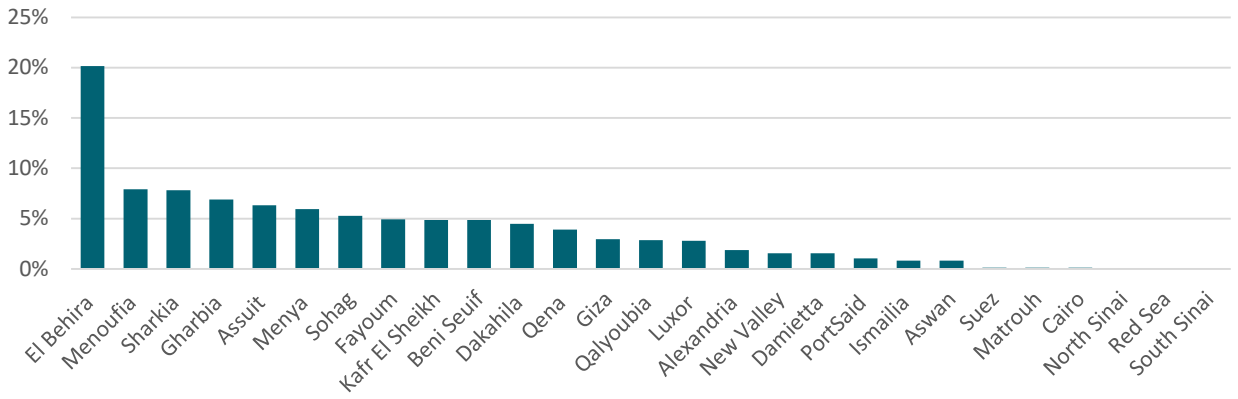
[19] At the beginning of this year, the Government announced its plan to increase dairy production in Egypt by organizing work and expanding dairy collection centers and organizing them through issuing licenses for this operation in addition to genetic improvement programs for livestock breeds. There is also an experiment carried out through the Food Industries Chamber in cooperation with the International Labor Organization to develop a center through a model based on the partnership between companies and dairy collection centers. These efforts should be coordinated within the framework of a comprehensive review of the dairy production system in Egypt, and its link to the rest of the links of the value chains of associated industries.

human resources (including veterinary units, supervisory bodies, and laboratories) in order to carry out their duties to the fullest.

9. The need to increase research and development to promote the value added of this important industry and achieve more diversity in its products as found in the global markets (example, lactose-free milk).
10. Increasing the role of commercial representation in attracting export opportunities, especially in the African continent.
11. The need to provide benefits to export and import companies like those provided to manufacturers due to the role these companies play in serving small enterprises that do not export and import directly.

Appendix

Figure A5.1. Geographical Distribution of Domestic Milk Production, 2016



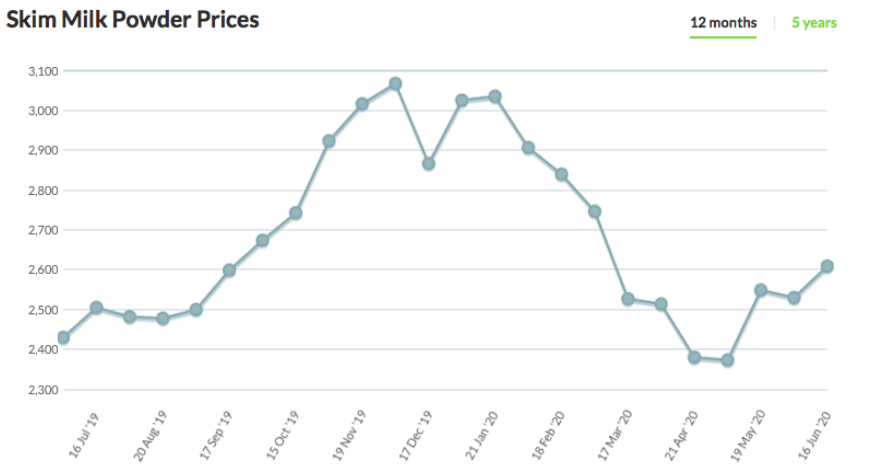
Source: CAPMAS, Annual Bulletin of Livestock Statistics, 2018.

Table A5.1 Structure of Egyptian Imports of Dairy Products, 2019

Code	Product Name	Share in total dairy imports
'040110	Milk and cream of a fat content by weight of <= 1%, not concentrated nor containing added sugar ...	0%
'040120	Milk and cream of a fat content by weight of > 1% but <= 6%, not concentrated nor containing ...	0%
'040130	Milk and cream of a fat content by weight of > 6%, not concentrated nor containing added sugar ...	0%
'040150	Milk and cream of a fat content by weight of > 10%, not concentrated nor containing added sugar ...	0%
'040210	Milk and cream in solid forms, of a fat content by weight of <= 1,5%	30%
'040221	Milk and cream in solid forms, of a fat content by weight of > 1,5%, unsweetened	14%
'040229	Milk and cream in solid forms, of a fat content by weight of > 1,5%, sweetened	0%
'040291	Milk and cream, concentrated but unsweetened (excluding in solid forms)	0%
'040299	Milk and cream, concentrated and sweetened (excluding in solid forms)	0%
'040310	Yogurt, whether or not flavoured or containing added sugar or other sweetening matter, fruits, ...	0%
'040390	Buttermilk, curdled milk and cream, kephir and other fermented or acidified milk and cream, ...	0%
'040410	Whey and modified whey, whether or not concentrated or containing added sugar or other sweetening ...	3%
'040490	Products consisting of natural milk constituents, whether or not sweetened, n.e.s.	10%
'040510	Butter (excluding dehydrated butter and ghee)	14%
'040520	Dairy spreads of a fat content, by weight, of >= 39% but < 80%	0%
'040590	Fats and oils derived from milk, and dehydrated butter and ghee (excluding natural butter, ...	8%
'040610	Fresh cheese "unripened or uncured cheese", incl. whey cheese, and curd	0%
'040620	Grated or powdered cheese, of all kinds	1%
'040630	Processed cheese, not grated or powdered	4%
'040640	Blue-veined cheese and other cheese containing veins produced by "Penicillium roqueforti"	1%
'040690	Cheese (excluding fresh cheese, incl. whey cheese, curd, processed cheese, blue-veined cheese ...	14%

Source: Trade map 2020.

Figure A5.2. Evolution of International Prices for Skimmed Powder Milk

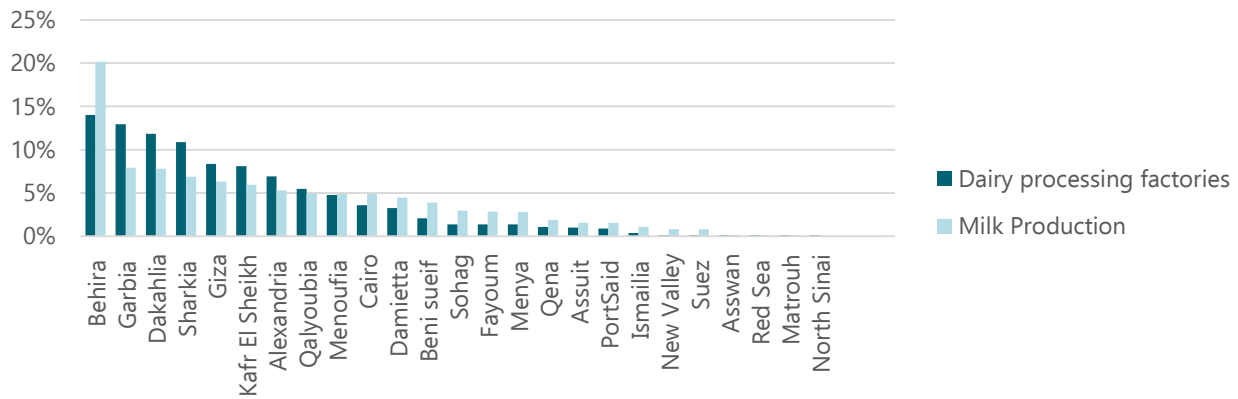


Source: https://www.globaldairytrade.info/en/product-results/.

Figure A5.3. Evolution of International Prices for Whole Powder Milk

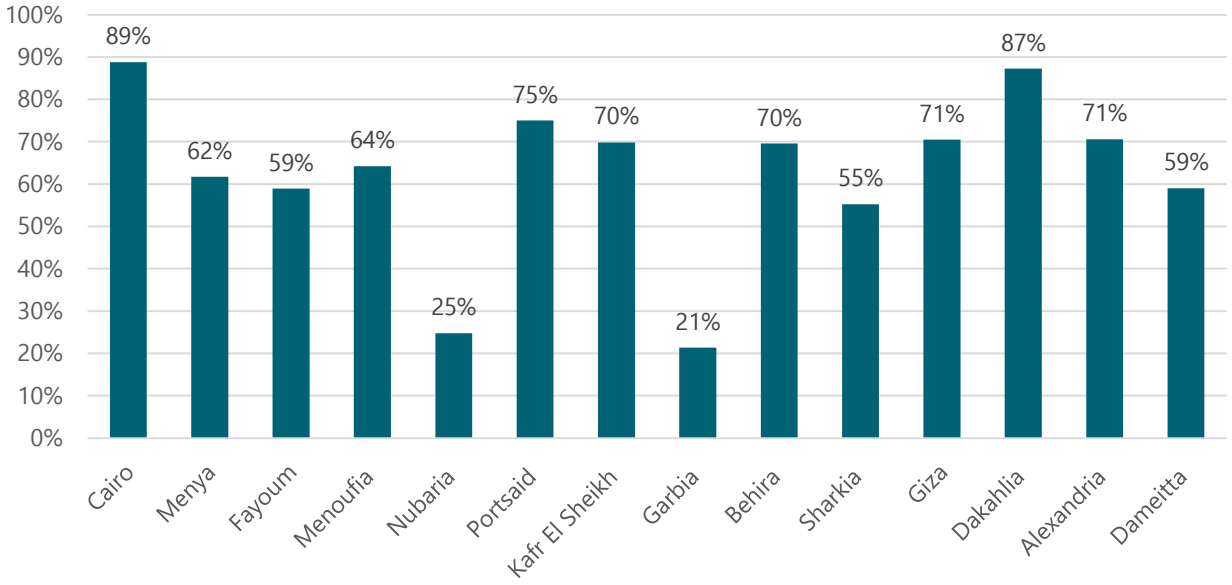
Source: https://www.globaldairytrade.info/en/product-results/.

Figure A5.4. Geographical Distribution of Dairy Products' Facilities and Dairy Production Regions in Egypt



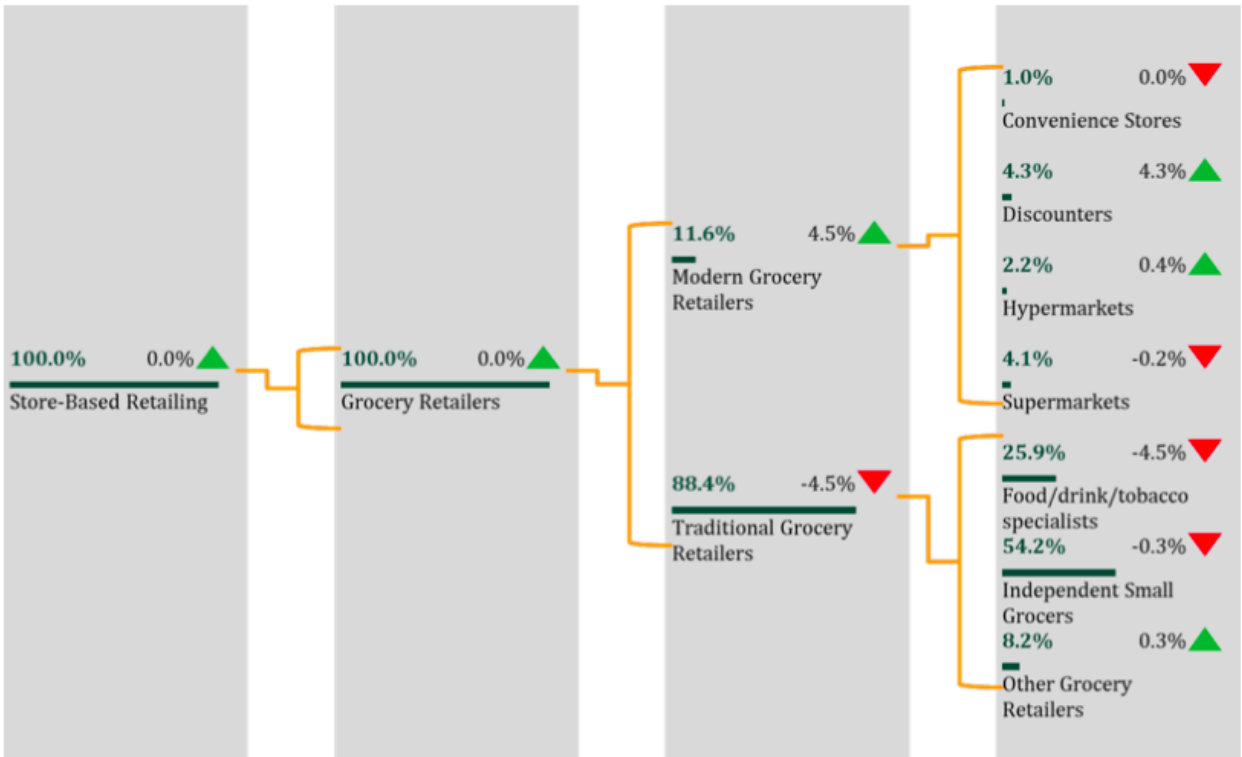
Source: Own calculations based on data from both the Chamber of Food Industries and CAPMAS.

Figure A5.5. Ratio of Actual Production Capacity to Maximum Capacity for Producing White Cheese in Governorates



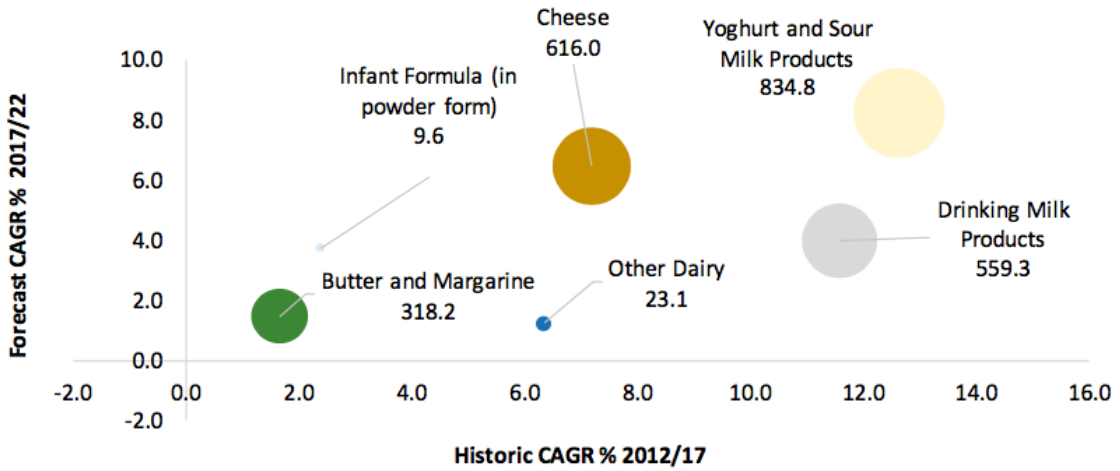
Source: Own calculations based on data from (Kassem et al 2018).

Figure A5.6. Dairy Products Distribution Channels in Egypt



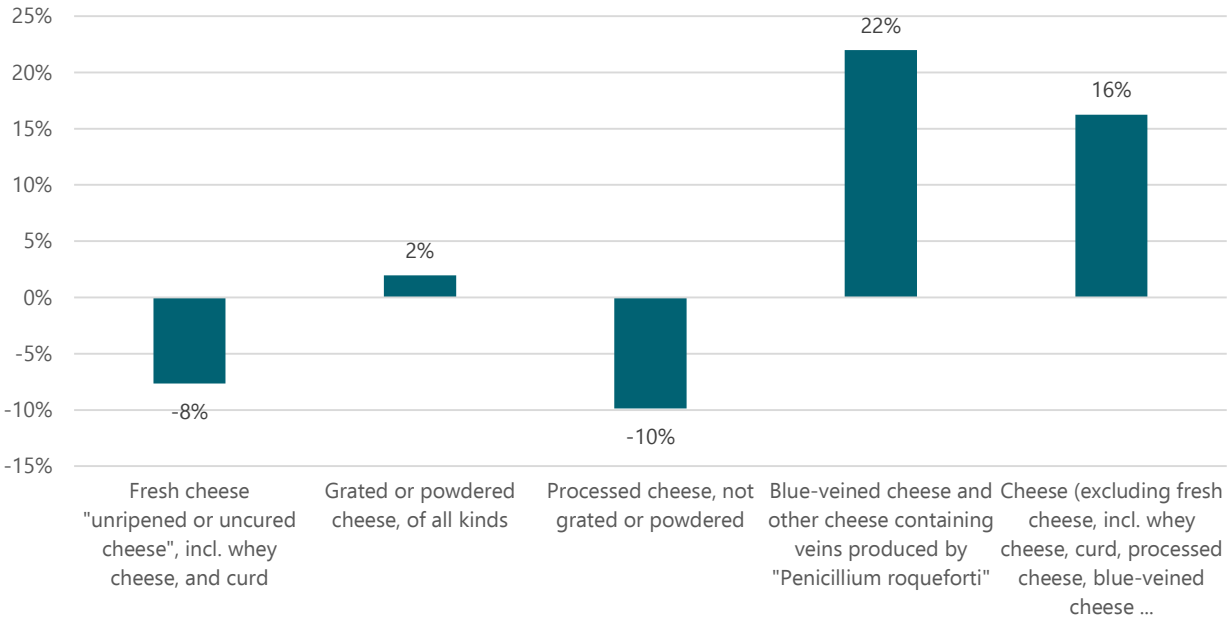
Source: Euromonitor International: Packaged Food, 2018

Figure A5.7. Growth Rates of the Dairy Products Market in Egypt and Expectations of Future Growth Rates



Source: Euromonitor International: Packaged Food, 2018.

Figure A5.8. Average Growth Rate of Egyptian Exports of Cheese (2016-2019)



Source: Trade map 2020.

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6. Grocery Retail Trade

Lead Researcher: **Mohanad Mahdy**

First: Brief description of the subject of the report

- Internal trade is considered one of the main pillars of economic and social development in Egypt, as it is the second source of employment after agriculture accounting for 13 percent of total employment, followed by manufacturing (12.5 percent), not including logistical support services such as storage and transportation, which if added, the internal trade sector will become the top employer with 20.7 percent.[1]

- The sector has witnessed huge growth in recent years, with annual investments increasing 21 times between 2002 and 2017 from only EGP 791 million to EGP 16.661 billion. Annual investments in the supporting logistics sector such as storage and transport doubled five times in the same period from EGP 9.801 billion to EGP 51.115 billion, according to central bank data.

- The retail sector is one of the most important sectors of internal trade, as it is directly linked to citizens and their consumption. Its sales during 2016 alone reached EGP 1383.3 billion compared to EGP 8.6 billion in 2009. In other words, the value of sales increased more than 161 times during that period. It is one of the most labor-intensive sectors, as the number of employees registered about four million workers in 2016, according to the latest data of the Central Agency for Public Mobilization and Statistics (CAPMAS).

- The retail food and beverage sector (grocery trade) is the second in size in the retail sector, following the automotive sector (cars and others), as Egypt has the largest consumer market among Arab countries. Some analysts estimated the size of that sector at about $15 billion in 2018 (US Embassy 2019). - a growth rate of more than 71 percent compared to 2011. The number of employed reached about 1,442,939, or 36 percent of total employment in the retail sector, according to (CAPMAS 2016).

- Aside from the Coronavirus crisis, most estimates indicated that the market would grow over the coming years at rates ranging from 15 percent to 20 percent as a result of the continuous increase in population, especially the youth, which reflects in the continuous increase in the demand for food (US Embassy 2019).

- The relative importance of online retail platforms has notably increased in recent years, with the volume of online food and beverage trade reaching about 5.18 percent of total online retail trade, and about 0.08 of total retail trade in Egypt in of 2018 (Wamda research lab 2019). [3]

- Grocery products are divided into local and imported products. The value of imported products was estimated at about $1.8 billion in the first half of 2018 and was extensively found in hypermarkets and supermarkets. Table 6.1. shows the most important of these products as well as their import shares in total imports of grocery products according to the latest available data in the first half of 2018.

Table 6.1. The Most Important Imported Grocery Products

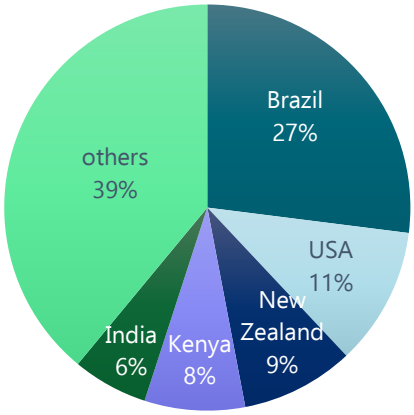
The imported product	Imports (million dollars) during the first half of 2018	The share of products in total Egyptian imports during the period
Frozen meat and liver	652.5	36%
Dairy, cheese, and derivatives	179.8	10%
Red tea	152	8%
Apples and food preparations	142.4	8%
Butter, fats, and oils	132.5	7%

Source: Prepared by ECES based on data of the Retail Foods Report, US embassy in Cairo Office of the Agricultural Affairs, 2019.

[1] Source: Federation of Chambers of Commerce.
[2] We would like to point out that these figures represent the numbers of employed in each of the specialized food stores, as well as the non-specialized stores where food and beverages are dominant commodities.
* It should be noted here that, according to CAPMAS estimates, the volume of food sales in specialized and non-specialized stores was estimated at EGP 351 billion pounds in 2016, at 25 percent of total retail trade sales as a whole. This difference in determining the size of the market is likely related to the informal sector.
[3] Online grocery retail in MENA.

1. Brazil accounts for the largest share, followed by the United States, New Zealand, Kenya, and India, as shown in Figure 6.1.

Figure 6.1. Countries' Share of Egyptian Imports of Consumption Goods, %



Source: US Embassy in Cairo, Office of Agricultural Affairs, Retail Foods Report, 2019.

- The sales volume of goods is affected by their nature, whether local or imported, as well as by factors pertaining to individuals' income, purchasing power, consumption patterns, and geographical location. High-income groups control most of the imported products market, especially recreational goods. Presenting these factors helps shed light on the nature of the market, its dynamics, its response, and its interaction with economic crises.

- The volume of commodity sales is also affected by the consumption pattern of citizens. The 2017 income and expenditure survey data showed a decline in the annual consumption of households of the higher-priced food items despite their importance such as meat, fish, dairy and eggs, compared to spending in 2015. However, spending on bread, grains and vegetables increased due to higher prices resulting from the liberalization of the exchange rate in 2016. The rural areas had the largest share of that consumption decline due to the higher proportions of limited income groups. Table No. 6.2. shows the annual consumption rates of households for some commodities and the rate of change during the period (2015-2017).

Table 6.2. Relative Distribution of Annual Household Consumption of Food and Beverages, as well as the Rate of Change, 2015-2017

Commodity	Annual consumption shares (2015) %	Annual consumption shares (2017-2018) %	Percentage of change (2015-2017)
Meat and poultry	29.8	27.8	-2% ↓
Greens	13.9	14.2	0.3 %↑
Grains and bread	11.2	13	١,٨% ↑
Dairy, cheese, and eggs	13.7	12.5	-1.2 %↓
Oils and fats	7.9	8.8	٠,٩% ↑
Fish	6.7	6.6	-0.1% ↓
Fruit	6.4	5.7	-0.7% ↓
Sugar and sugary foods	4.7	5.5	0.8% ↑
Non-alcoholic drinks	3.7	3.9	0.2% ↑
Unclassified food products	2	2	

Source: Prepared by ECES based on data from CAPMAS, Income and Expenditure Survey (2017-2018).

- The grocery retail market in Egypt is divided into four main types:[4]

  1. Hypermarkets
  2. Supermarkets and mini markets
  3. Convenience stores
  4. Traditional grocery stores: Small stores located in most parts of the country and kiosks (both formal and informal)

- Regarding the characteristics of each type, Table 6.3. shows statistics for each of the four types in 2017 (most recent detailed data), as well as the characteristics of each:

[4] It should be noted that this chapter addresses food outlets (grocery stores), including hypermarkets, supermarkets and formal and informal traditional grocery stores. The food market associated with restaurants, fast food restaurants and cafes is addressed in Chapter 7 of this volume (page 154). It should also be noted that data on the grocery retail sector is rare and inconsistent due to overlapping among sectors.

Table 6.3. Statistics and Features of All Grocery Outlets

	Hypermarkets	Supermarkets	Convenience stores (at gas stations and highways)	Traditional grocery stores
Number of outlets (2017)	37	1215	253 in 2020 3597	115041 in addition to 18,000 rationed grocery stores and consumer cooperatives affiliated with of the Ministry of Supply
Percentage of outlets for each type of the total number of grocery outlets in Egypt (FAS 2017)	0.03%	1.02%	0.21%	96.71%
Outlet growth rate of each type (2016-2017)	Increase ↑ By 6% Average growth rate	Increase ↑ By 15% Significant growth rate	Increase ↑ 10% Significant growth rate	Decline ↓ By 1%
Percentage of sales of each type from total grocery retail sales in 2017	25%			75%
The real value of average sales per unit of each type (million pounds) in 2017	122.7	18.5	4.7	0.58
Closing rate	Weak	Weak	Moderate	High except for groceries and consumer cooperatives
Outlet size	Relatively large	Average		Relatively small
Concentration areas	- Concentrated in urban areas - Relatively far from population densities due to their large size and need to provide parking spaces	- Concentrated in urban areas - Concentrated in densely populated areas	- Concentrated in urban areas - Concentrated in gas stations and highway rest-houses	- Concentrated in urban and rural areas - Prevalent in most streets and roads
Purchase cycle (for consumers)	Regular, semi-monthly (many families go to the hyper markets periodically to buy enough for storage)	Regular daily, weekly, monthly	Irregular	Regular daily (to meet daily needs) except for the rationed groceries (monthly)
Storage capacity	Strong	Medium	Weak	Weak
Supply chains	Most products are sourced from the point of origin (factories and direct import)	Some products are sourced from the point of origin as factories, some are from wholesalers or goods imported through import companies		Most of them are through wholesalers except for ration groceries from wholesale and public companies of the Ministry of Supply
Multiplicity of suppliers	Multiple	Medium		Not multiple

	Hypermarkets	Supermarkets	Convenience stores (at gas stations and highways)	Traditional grocery stores
Nature of the products offered	Dense, highly diverse, with the ability to meet the needs of most groups	Average density and diversity		Weak density and diversity, with inability to meet most groups
Legal form (formal, informal)	Formal	Formal	Formal	Formal and informal. Informal is in popular and weekly markets, road kiosks and inside government buildings
Employment	Intensity of formal employment	Medium intensity of formal employment	Medium intensity of formal employment	Mostly informal employment, and are of low intensity
Online purchase	The possibility of buying via online and app stores	The possibility of buying online	Difficulty buying online (Though there is an initiative for financial inclusion that includes 40,000 grocery stores annually, which the Federation of Chambers of Commerce will start implementing)	
Delivery	Enabled but not widespread due to the stores' distance from residential neighborhoods and citizens	Widespread due to the proximity of shops to residential neighborhoods and citizens	Not widespread	Only widespread in urban areas, and not in rural areas
Negotiating power and profitability methods	High negotiating ability - modern profitability methods (rental of premium shelves, discounts for quantities, etc.) - offers from suppliers - advertising campaigns			Traditional trade methods
Facilities	- Strong facilities and offers in commodity prices. - Payment facilities through formal channels (such as banks and others)	- Strong facilities and offers in commodity prices		- Weak facilities and special offers on commodity prices. - Payment facilities through informal channels
Outlet fragility (ability to withstand shocks)	Relatively strong due to the complexity of administrative structures, and maintaining a strong inventory	Relatively strong due to the complexity of administrative structures and maintenance of stocks	Medium fragility	Very fragile
The most important outlets in Egypt	- Carrefour - Hyper One	- Carrefour - Ragab's sons - Kazion - Fathallah - BIM - Spinneys - Alpha Market - Saudi - Metro - Kheir Zaman	- On the run - Chillout - Emirates Egypt - Mobil market - Bonjours - Smile	All grocery stores throughout the country

Source: Prepared by ECES.

The following are important notes to the above table:

1. Traditional stores constitute the vast majority of grocery stores in Egypt, accounting for about 98 percent of enterprises, and about 75 percent of grocery sales in Egypt, while modern stores account for only about 2 percent of enterprises. However, modern stores account for 25 percent of the volume of sales. The performance of one unit of those stores is much greater than that of traditional store units, due to its large storage capacity and its ability to withstand shocks in times of crisis.
2. The linkage of modern stores to a huge value chain contributes significantly to the upgrading of the product in terms of quality and packaging, as well as the low price of the commodity. It also contributes to increasing the number of workers and suppliers in a way that exceeds traditional stores.
3. There is a relative shift in the purchase pattern of citizens from daily purchase to weekly purchase, as hypermarket and supermarket outlets located in commercial centers provide an opportunity for entertainment alongside purchase, which calls for a program to support small groceries to help them align with the new purchase pattern.
4. The informal sector accounts for a large proportion of the grocery retail sector, represented in the kiosks scattered on the streets and street vendors, whether in the streets or inside government buildings as well as popular and weekly markets. The number of employed in this sector (in addition to the construction sector) is estimated at about 30 percent of the size of the informal labor sector in Egypt.[5]
5. The grocery sector and its various outlets are affected by the logistics associated with the supply of goods to factories, the distribution of products after their manufacture to wholesalers and retailers, the availability of transportation and ease of movement.
6. Supply chains are also affected by the availability of liquidity, as all stages operate with cash. This effect was evident when the central bank set limits for withdrawals and deposits, which negatively affected all supply chains to small grocers.

1.1 The impact of previous crises on the grocery retail sector

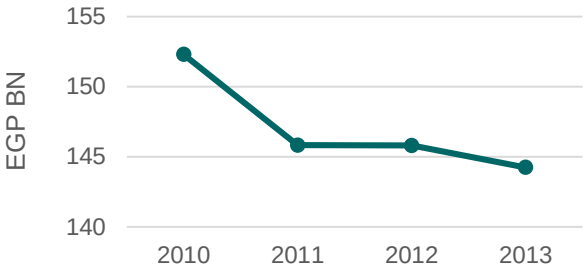
- The focus here is on two phases: The January 25th Revolution in 2011 and the beginning of economic reform and in the heart of it liberalizing the exchange rate in November 2016. The choice of each was driven by its clear impact on the grocery sector, as well as its relation to the income of individuals, the purchasing power of consumers, high inflation, as well as the logistics associated with obtaining food.

The January 25th Revolution Crisis

- **In 2011, despite the sharp decline in the retail sector in Egypt, as sales posted an estimated decline of about 47 percent (CAPMAS 2012), the decline in grocery sector sales was less severe than that in the retail sector as a whole, which was estimated at only 4 percent in the year of the Revolution, as shown in Figure 6.2.** This is mainly due to the nature of the sector, which assumes its permanent growth as it is related to meeting the basic needs of citizens in terms of food and drink, as well as other requirements that are indispensable.
- As for the number of employees, the retail sector has also witnessed a decline, reaching nearly 50 percent, according to (CAPMAS 2012). Although the exact percentages of decline in the grocery sector are unknown, they are likely lower by far than those of the retail sector as a whole due to the predominance of traditional outlets and the nature of commercial activity.
- The sector also experienced many logistical problems during that crisis due to the imposition of curfews and lack of liquidity in the Revolution year.

[5] ECES, the Informal Sector, Views on Crisis, issue no. 7.

Figure 6.2. Development of the Real Value of Grocery Trade Sales (2010-2013) in Billion EGP after Excluding the Effect of Inflation (Base Year 2010)



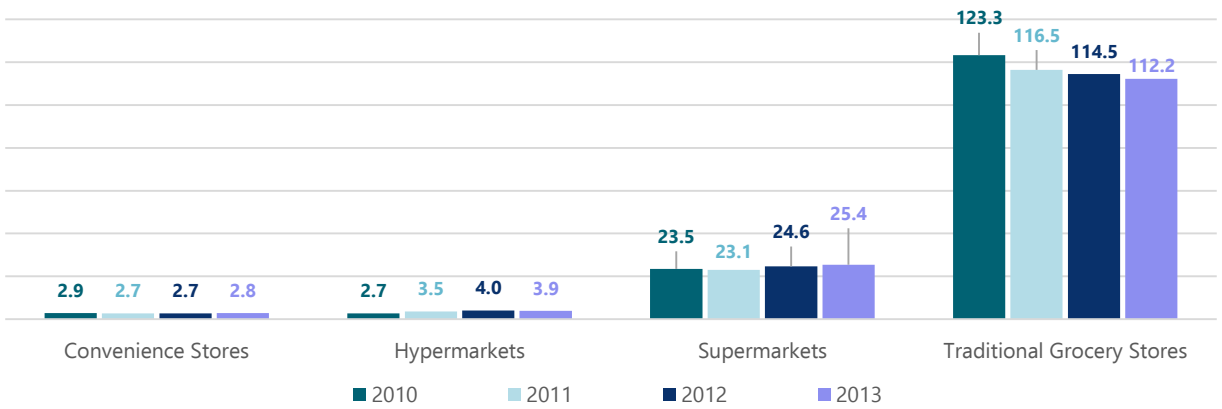
Source: Own calculations based on data of the US Embassy in Cairo Office of Agricultural Affairs, Retail Foods Report 2015.

- The impact of the crisis on the grocery sector can be analyzed in two phases: **The crisis phase itself and the recovery phase.**

1. The year of the crisis itself, 2011

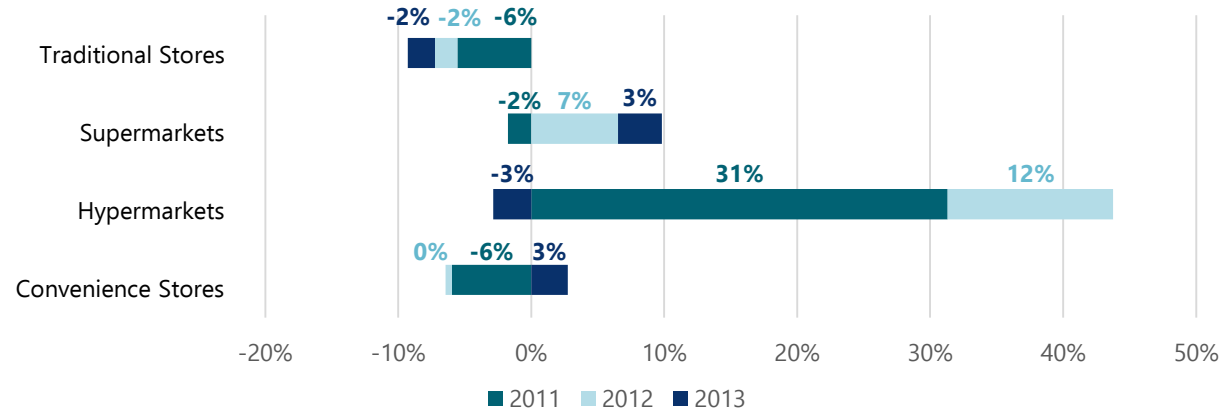
- By calculating the real value of grocery sales as a whole, we notice that sales fell sharply during 2011 by 4 percent, as the real sales value reached about EGP 146 billion, compared to EGP 152 billion in 2010, as shown in Figure 6.2. We notice that the largest percentages of decline are mainly due to the shortage of imported high-priced commodities and not due to lower sales quantity.
- Despite that general decline, we find a clear difference between the different grocery outlets in terms of the nature of that decline, and the percentages of each outlet, as shown in Figure 6.3.
- The actual sales of traditional stores, supermarkets, and convenience stores in 2011 decreased by 6 percent, 2 percent, and 6 percent, respectively, compared to 2010, as illustrated in Figure 6.4. It is noted that the largest percentages of decline were in the share of traditional outlets and convenience stores due to their weak storage capacity and services provided to citizens, and being impacted by curfews, as well as the shortage of imported high-priced goods.
- **The situation is significantly different in the case of hypermarkets.** The real sales of these outlets achieved a high growth rate of 31 percent in 2011, as shown in Figure 6.4. This is largely attributed to increased spending on food and drink for the purpose of storage in times of crisis, in addition to factors related to economies of scale and the consequent decrease in costs and prices as well as increased storage capacity. **However, the impact of hypermarket growth on the growth trends of the grocery sector as a whole has been limited due to weak sales relative to the sector's total sales, which is still dominated by traditional stores.**

Figure 6.3. The Real Value of Retail Store Sales, 2010-2013, in Billion Pounds, the base year 2010 = 100



Source: Own calculations based on data of the US Embassy in Cairo Office of Agricultural Affairs, Retail Foods Report, 2015.

Figure 6.4. Real Growth Rate of Sales of Each Outlet, 2011-2013, %



Source: Own calculations based on data of the US Embassy in Cairo Office of Agricultural Affairs Office, Retail Foods Report, 2015.

2. The recovery phase

As for the recovery phase that followed the year of the Revolution, we notice a relatively slow recovery of the grocery sector compared to the recovery of the retail sector as a whole, whether in terms of sales or the return of workers, as shown in Figures 6.5. and 6.6, respectively. This means that the difference between the retail sector as a whole and the grocery sector was not limited to the year of the crisis, but also extended to the recovery phase. The retail sector witnessed a stronger decline in sales but a relatively faster recovery, while the grocery sector witnessed a lower decline in sales and a slower recovery.

Figure 6.5. The real value of sales and purchases of the retail sector, 2011-2013, in billion EGP / base year 2010

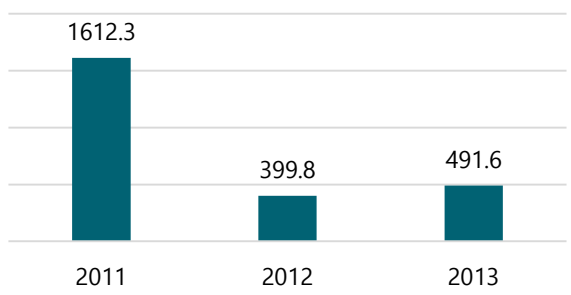
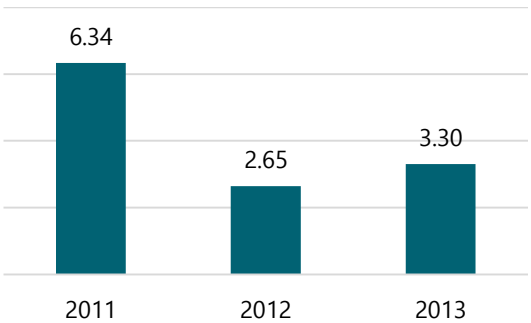


Figure 6.6. The number of employed in the retail sector, 2011-2013, in million



Source: Prepared by ECES based on CAPMAS data, Wholesale and Retail Bulletin, 2013.

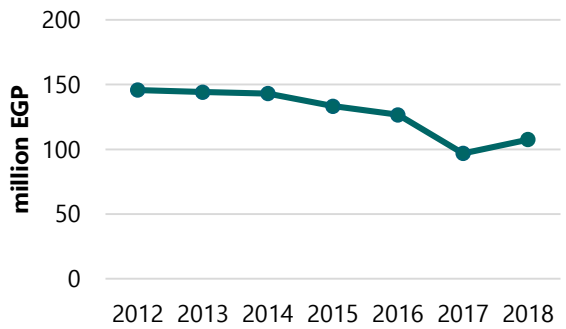
- Real hypermarket sales growth rates continued to rise, achieving a growth rate of 12 percent in 2012, albeit lower than the rate of growth in 2011.
- Traditional stores continued to post losses, but with decreasing rates, from 6- percent in 2011 to 2- percent in 2012, mainly due to their weak ability to withstand shocks, limited capital, and their dependence on daily income. In addition, most of these stores are located in remote and less developed neighbourhoods in the rural and urban areas—whose demand recovers at slow rates because their incomes are the most affected compared to all other classes during crises.

- As for the supermarket outlets, they witnessed a faster recovery than others, as their sales increased during the year 2012 to reach EGP 24.6 billion, with a growth rate of 7 percent compared to 2011, as shown in Figure 6.4. Perhaps the reason for this is its spread during that period and their increasing number, which made it a more attractive alternative, given its presence near population density in all neighborhoods of major cities on the one hand and providing the same service offered by the hyper with similar quality on the other hand.

US Dollar shortage crisis and exchange rate liberalization 2016

- With the beginning of economic reforms, preceded by the US dollar shortage crisis, and the noticeable increase in inflation rates, the grocery sector experienced a serious problem, as the rise in prices coincided with the sharp decline in the value of individuals' savings and incomes, especially the middle and low-income groups. This was translated into a decrease in the sector's sales by up to 23 percent in 2017. Figure 6.7 shows the evolution of the real value of sales from 2014 to 2018 in Egyptian pound:

Figure 6.7. Evolution of the Real Value of Grocery Sales (in Million EGP) after Excluding the Effect of Inflation (Base Year 2010)

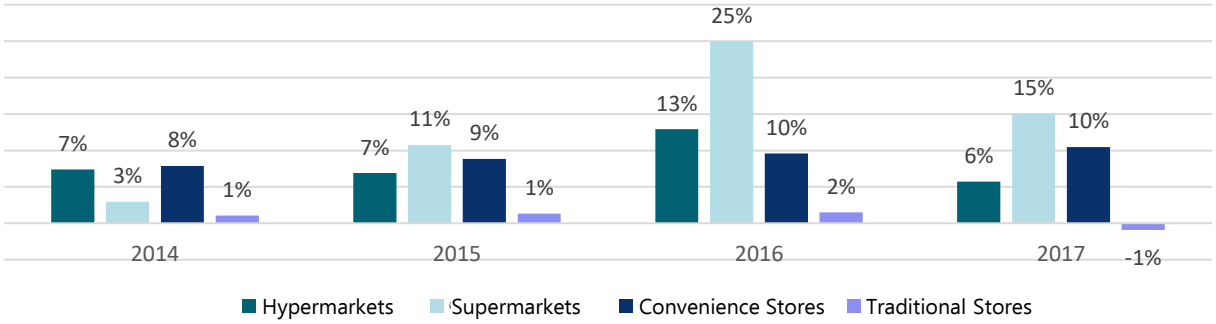


Source: Own calculations based on data of the US Embassy in Cairo Office of Agricultural Affairs, Retail Foods Report, 2017.[6]

- The above figure shows that the decline began in 2016. Perhaps one of the factors associated with it is the decision of the Minister of Trade and Industry to register companies eligible for exporting to Egypt, which limited high-price imports. But that effect did not continue for long, as after registering the main companies the commodities started to flow again. This was evident on the hypermarkets, supermarkets, and convenience stores, but had little effect on traditional grocery stores.
- Despite the general decline in the grocery sector, we notice differences between the four outlets, whether in terms of their numbers, sales, or in the recovery phase from the crisis shocks.
- The stage that preceded the crisis witnessed a boom in the number of supermarket and hypermarket outlets in Egypt as shown in Figure 6.8, as they increased by up to 25 percent and 13 percent respectively in 2016. In fact, that period was associated with a large expansion network and an increase of investments in the sector due to the entry of various commercial chains to the Egyptian market, such as Kazion and BIM. However, these percentages did not last long, as the growth rates in the number of those outlets declined to 15 percent in the case of supermarkets and 6 percent in the case of hypermarkets in 2017.
- Traditional stores and convenience stores did not witness a major change before the crisis, as their growth rates remained almost constant. But what is noticeable is that traditional stores achieved negative growth rates after liberalizing the exchange rate, as the growth rate of their number reached -1 percent, which indicates the closure of many of these small outlets due to their inability to withstand crisis shocks.

[6] The value of sales for 2018 was obtained from the same report issued in June 2016, in which the retail volume was estimated at about $16 billion.

Figure 6.8. The rate of change in the number of retail grocery outlets, 2014-2017



Source: Own calculations based on data of the US Embassy in Cairo Office of Agricultural Affairs Office, Retail Foods Report 2017.

- As for the volume of sales, hypermarkets have witnessed a noticeable decline in their sales since 2016 by -2 percent,[7] which continued until reaching -19 percent in 2017.
- With regard to supermarket outlets, the increase in their number translated into a noticeable increase in the volume of sales in the period before the crisis, achieving a growth rate of 8 percent in 2016. They were not surpassed in performance except by convenience stores. But these rates have declined significantly during 2017, as they decreased by -21 percent compared to 2016.
- Meanwhile, traditional stores continued to decline in performance both before and after the crisis, although the impact of the crisis on them was more detrimental. They posted a real sales decline of 23 percent during 2017 compared to the previous year. Tables 6.4 and 6.5 show the real sales per outlet, and average real value of sales per unit of the total sales of its outlet, which changed in the same direction but with higher proportions consistent with the number of those outlets.

Table 6.4. Real Values of Grocery Outlet Sales, 2014-2017

Year	2014	2015	2016	2017	Real sales value growth rate in 2017
Real sales of hypermarkets in billion pounds	4.6	5.7	5.6	4.5	-19%
Real sales of supermarkets in billion pounds	27.4	26.5	28.6	22.5	-21%
Real sales of convenience stores in billions of pounds	1.0	1.1	1.2	1.2	-4%
Real sales of traditional stores in billion pounds	110.1	91.5	88.7	67.8	-23%

Source: Own calculations based on data of the US Embassy in Cairo Office of Agricultural Affairs Office, Retail Foods Report 2017.

Table 6.5. Average Real Sales Per Outlet Unit, 2014-2017

Year	2014	2015	2016	2017	The percentage change in average sales per unit in 2017
Average real sales per unit of hypermarkets in billion pounds	158	185	160	123	-23%
Average real sales per unit of supermarkets in billion pounds	36	31	27	19	-32%
Average real sales per unit of convenience stores in billion pounds	5	5	5	5	-13%
Average real sales per unit of traditional stores in billion pounds	1	1	1	1	-23%

Source: Own calculations based on data of the US Embassy in Cairo Office of Agricultural Affairs Office, Retail Foods Report 2017.

[7] Compared to 2015.

- As for the recovery phase, we do not have detailed data for that period, although recovery is expected to be relatively slower than in the 2011 case, given that the dollar exchange rate did not change much until late 2019, which may have led to some recovery.
- The sector was not exposed to logistical problems during this crisis.

Second: Demand and supply shocks in the context of the crisis cycle

The expected impact on the demand and supply sides depends on the relevant stage in the crisis cycle. As for the supply and demand shocks, they are defined as follows:

- **Demand shock:** Sudden and large changes in the demand for food products sold in various outlets as a result of the crisis.
- **Supply shock:** The inability of various sales outlets to adapt to developments in demand, or other problems that affect their ability to supply products as a result of the crisis and the precautionary measures associated with it.

Different scenarios will be analyzed by examining the change in the level of sales, the number of employees, the number of outlets, and the impact of the logistics system.

According to the following concepts and assumptions:

1. The magnitude of the demand shock varies according to the stages of the crisis, the type of outlet, and its geographical location.
2. Precautionary measures and the associated closure of restaurants will unexpectedly lead to an increase in the demand for basic products sold in outlets.
3. With the issuance of the curfew decision, all citizens rushed to buying and storing goods, which reflected noticeably on the sales volume, and also in a decrease of sales during the "Welcome Ramadan Initiative" compared to the previous year despite the discounts granted, which ranged between 15 percent and 30 percent due to citizens resorting to hoarding in the beginning of the crisis.
4. The ability to provide delivery services and allow payment by bank cards represents a comparative advantage for sales outlets that provide these services.
5. The precautionary measures impact the arrival time of citizens to the outlets, and the ability of the outlets to provide the goods.
6. The offered products relate to the industrial production value chain for each of them, and therefore any interruption in industrial production will affect the sales of the various outlets.
7. All factories have a stock of final products in preparation for variations in demand, but this stock is usually for a limited time.
8. The sales activity is affected by decisions that are not related to the sector, such as decisions regarding withdrawals and deposits issued by the Central Bank.
9. The quantitative assessment of the percentage of change in sales and employment is estimated according to three sources:
    a. Limited survey of several supermarkets, hypermarkets, and traditional stores.[8]
    b. The percentage of change during the aforementioned crisis periods.
    c. The average percentage of decline in the volume of fast food restaurant sales. [9]

Two remarks should be noted here before starting the crisis analysis:

First: Many of the hypermarket and supermarket outlets resorted to **manufacturing** recently and provided many ready-made meals, which made them an alternative to fast food restaurants during the crisis period.

Second: Most of the hypermarket outlets are in malls, which affected their sales activity as a result of precautionary decisions to close the malls.

[8] These percentages were obtained from a survey conducted by the Egyptian Center for Economic Studies on a limited number of different outlets in Cairo and Alexandria.
[9] These percentages were obtained from a video recording of the Center for International Private Enterprise (CIPE) on April 30, 2020.

- The following table presents potential scenarios for the crisis impact on the sector according to the above-mentioned crisis cycle and in light of the assumptions made:

Table 6.6. Potential Scenarios for the Impact of the Crisis on the Retail Sector, based on the Aforementioned Crisis Cycle and Assumptions

Stage	Supply and/or demand shock	Analysis	Impact
1. The emergence of the virus (December 2019 to January 2020)	There are no shocks to most grocery stores either in demand or supply	This is due to the emergence of the virus in this period in China only. Despite the large volume of Egyptian imports from China, most of the food products are sourced from other countries such as Brazil, US, New Zealand, and others.	There is no effect since supply and demand have not changed.
2. The beginning of proliferation (February through mid-March 2020)	- Very limited shock in demand and supply	- A limited shock to the demand appeared at the end of February, as some citizens began to worry about the virus in Egypt and this was translated into a desire for hoarding. But the real pressure did not come about until mid-March with the beginning of the precautionary measures. - As for the supply shock, the increase in the volume of demand has been absorbed by various sales outlets, but the shock has appeared in some complementary non-food products that are offered in large outlets such as hypermarkets and supermarkets.	A slight increase in the volume of hypermarket and supermarket sales, but no noticeable change in anything else.
3. Aggravation of the problem (From mid-March to mid-May 2020)	This stage is divided into two periods: **<u>First period</u>: starts from mid-March to 24 April (beginning of Ramadan)** - This period witnessed a severe shock in demand, and a limited supply shock that progressively increased in difficulty as events unfolded	**<u>The first period</u>** The beginning of the crisis, especially in the first three weeks, created a state of anxiety and fear among citizens, especially with the beginning of precautionary measures and the imposition of curfews, which led most citizens to purchase more basic commodities for the purpose of storage. This resulted in an unprecedented demand for grocery outlets of all kinds, but to varying degrees, according to the nature of the outlet and the day of the week. Most factory owners resorted to intensifying work in order to meet the increasing demand during the first period of the crisis, with the emergence of gradual problems associated with fear of health measures. Large transport vehicles used in the transfer of goods were not exempted from the decisions of the curfew (at the beginning of the crisis), unevenly affecting outlets as follows: - **Hypermarkets and supermarkets:** Hypermarkets and supermarkets contributed to increasing the volume of demand and the influx of citizens due to the availability of products and their relatively low prices, and availability of parking spaces, achievement of social distancing, as well as the ease of delivery and use of bank cards. Sales increased unprecedentedly, especially for basic commodities of rice, pasta, sugar, fatty oils, ghee, and flour, in addition to detergents and disinfectants.	**<u>The first period</u>** - Hypermarket and supermarket outlets witnessed an unprecedented increase in the volume of their daily sales during the first three weeks, reaching from 40 percent to 100 percent according to the nature of the outlet, its quality, the level of health measures, and the ability to deliver orders to homes faster. - The period also witnessed an increase in the number of workers (especially delivery workers), with rates between 20 percent and 40 percent, albeit most of them are irregular and temporary workers. - As for the traditional stores, their sales volume increased during that period by rates ranging between 20 percent and 40 percent, though they did not reach the same percentages of increase as in the case of the supermarket and hypermarket, due to the changing consumer habits and their resorting to safer outlets in addition to their weak storage capacity.

Stage	Supply and/or demand shock	Analysis	Impact
3. Aggravation of the problem (From mid-March to mid-May 2020) cont.		We note that the largest percentages of the increase were in the case of supermarket outlets due to their proximity to citizens and the speed of their delivery of orders, unlike hypermarkets whose outlets are located inside the malls (which have been closed) and are relatively far from residential areas. - **Traditional stores:** Traditional stores also witnessed an increase in the volume of demand, especially in the areas where supermarket outlets do not exist, although that increase was less compared to supermarkets and hypermarkets. While the decline was higher in rural areas, where most of the inhabitants depend on domestic stocks of agricultural crops and the basic commodities, they obtain using the ration cards. - **Convenience stores:** Convenience stores have witnessed a huge decrease in the volume of demand because of the application of precautionary measures (as they mainly depend on the movement of cars and pedestrians). We note that the previous effect applies to the first three weeks, while the fourth week witnessed lower percentages than those achieved in the previous weeks.	- Traditional stores were also affected by the decision to cap withdrawals and deposits issued by the Central Bank, which had a negative impact added to the problems of limited potentials. - We note in general the increase in the volume of sales, especially deliveries, on Fridays and Saturdays, due to the presence of most citizens in their homes. - The abolition of popular markets also increased unemployment and the difficulty of life for low-income people, especially in rural areas. - As for the fourth week, the percentages decreased between 20 percent and 60 percent because of most citizens being satisfied with what they stored, as well as feeling reassured about the availability of goods at the time of the crisis. - As for the factories, they resorted to increasing the number of working hours from 12 hours to 24 hours to increase production and dividing workers over different tasks - A decline was noted in the supply of imported products sourced from European countries and America, where the virus has spread significantly
	<u>The second period:</u> **Starts from April 24 and continued to mid-May** - This period witnessed the persistence of demand and supply shocks, though less severely	**<u>The second period</u>** The second period witnessed a relative decline in the volume of sales compared to the first period. Despite the advent of Ramadan, during which outlets experience a large increase in sales, a decrease in the volume of sales was observed compared to previous years (except for a few). This could be ascribed to the end of the state of extreme fear and anxiety that afflicted many at the beginning of the crisis and which already started to decline since the last week of the first period, in addition to the decline in the storage capacity of citizens, the increase in the unemployment rates, the decrease in income levels, and the decision to cancel Ramadan charity banquets.	**<u>The second period</u>** - Supermarkets and hypermarkets have witnessed an increase in the volume of sales by rates ranging between 20 percent and 60 percent. However, this increase was lower compared to the previous period, and to the advent of the month of Ramadan in the past years. - The number of employed did not witness an increase, though, as most of the outlets were satisfied with those appointed during the first period. - As for traditional stores, they have returned to their normal levels, with the beginning of a gradual decrease in the volume of sales.

Stage	Supply and/or demand shock	Analysis	Impact
4. The crisis recedes (Mid-May-August 2020)	Supply and demand shocks during this period are related to the persistence of the precautionary measures and the periods of curfew	Perhaps this stage of the crisis easing is the most important stage for the grocery sector. A rapid recovery or deterioration might occur subject mainly to traditional outlets, which constitute more than 70 percent of the sector's sales volume, and accordingly there are more than one scenario: - **The first scenario:** It is the optimistic scenario in which the outbreak is expected to subside, and the precautionary measures will end at the end of May (as indicated by some officials). It is expected that the growth rates of the sector will return to their normal of the previous years. It is also expected that the additional employment that took place in the first period of the crisis will gradually be eliminated - **The second scenario:** It is the pessimistic scenario in which the large increases in infections during the second half of Ramadan are expected to lead to the continuation of the precautionary measures. In this case, the growth rates associated with the month of Ramadan are likely to continue, and an increase in the sales volume will occur again due to the depletion of the stocks stored by most households. As for traditional stores, the continuity of the crisis for more than 3 months exposes these outlets to severe losses not only in the volume of their sales but also in the continuity of investment therein as a result of the resort of many of their owners to closures. As for the convenience stores, a decrease in the volume of sales is also expected, but investments therein will not be affected due to being connected to gas stations and car traffic.	**In the first scenario:** - It is expected that normal growth rates will return, with the hypermarkets and supermarkets reaching rates ranging between 7 percent and 15 percent annually - Traditional stores will gradually start to recover - The volume of sales of convenience stores will increase significantly due to the end of the curfew and increase in car traffic and pedestrians **In the second scenario:** - Hyper and supermarket sales are expected to increase at the same average rates of Ramadan, which range from 20 percent to 40 percent. - As for traditional stores, they will resort to closure, achieving an estimated decrease of -6 percent annually.
5. Recovery (As of September 2020)	The supply and demand shocks here are linked to the previous stage scenarios	- Continuity of the **optimistic scenario** means the return to a normal lifestyle and thus a return to normal rates. - As for the **pessimistic scenario**, it is expected that the number of problems associated with traditional stores will increase, and that these problems may extend to some supermarket outlets, as a result of increased obligations in light of declining income levels and increasing unemployment.	**In the case of the optimistic scenario:** Annual growth rates return to normal as in the previous stage percentages. **In the case of the pessimistic scenario:** A sharp decrease in the volume of sales, exit of investments, and the growth rates of the sales of the grocery sector fall to less than -20 percent, similar to the exchange rate liberalization period. Also, a closure of many of stores is expected, with their return to operation becoming very difficult.

Source: Prepared by ECES.

* These estimates should be read with caution, as expectations may require further reviews due to the developments that occur, whether related to the day-to-day spread of the virus, whose duration and scope are still unknown, or those related to any global or local developments that may affect the estimates directly or indirectly.

Third: Interventions required to mitigate the effects of the crisis

1. Strict control over all outlets to counter any monopolistic practices, or attempts to hide commodities, while adopting legislation related to health procedures, and ensuring health and safety standards.
2. Encouraging outlets to adopt health and safety procedures and treating them as permanent with a future return rather than merely an increase in cost through sterilization gates, purification of shopping carts, obliging employees to wear masks and gloves, and setting a specific system to achieve social distancing between people and avoid crowding as much as possible. The Egyptian Center for Public Opinion Research (Baseera) conducted a survey inside 25 branches of large and medium stores to measure the extent of following the proper health procedures and the extent of disinfection and sterilization of the shopping carts. The result was 92 percent of carts were not disinfected.
3. **Strengthening the e-commerce system** to increase online purchase.
4. Continuous coordination between the chambers of commerce, sales outlets, and the Ministry of Interior, and implementing the special decisions regarding exempting grocery outlet labor from curfew decisions, as many of those workers resort to staying overnight in workplaces until the curfew ends.
5. Establishing a branch of the crisis management committee to follow up on the inventory status in each governorate and every sub-region, so that the surplus from the strategic stock is directed from one governorate to another or from one region to another in the event of any deficit.
6. Providing the necessary support to owners of small grocery stores especially in the rural areas, and enabling them to get the 500-pound grants, or providing facilities and exemptions that enable them to increase their sales and restore their growth rates.
7. Encouraging and assisting civil society organizations and societies to provide basic commodities to limited income citizens, activating supply chains, and creating economic activity. This was already done by some voluntary associations, as amounts of money were transferred to small grocery stores in villages and neighborhoods instead of buying and delivering goods to the citizen directly, so that the citizen gets the support provided, while grocery store owners also benefit.

Fourth: Institutional weaknesses revealed by the crisis

1. **The absence of accurate databases** on retail outlets in Egypt and their distribution in the rural and urban areas. Such databases can be used to determine the required assistance or intervention, especially since many workers in that sector are under the umbrella of informal employment.
2. **Weak percentage of organized retail trade in food.** There is a need to expand it due to its association with a huge productive value chain, which guarantees more efficient quality of the product and packaging methods.
3. **Weak system of communications and information technology and e-commerce,** as well as lack of platforms for direct communication between supply chains and outlets.

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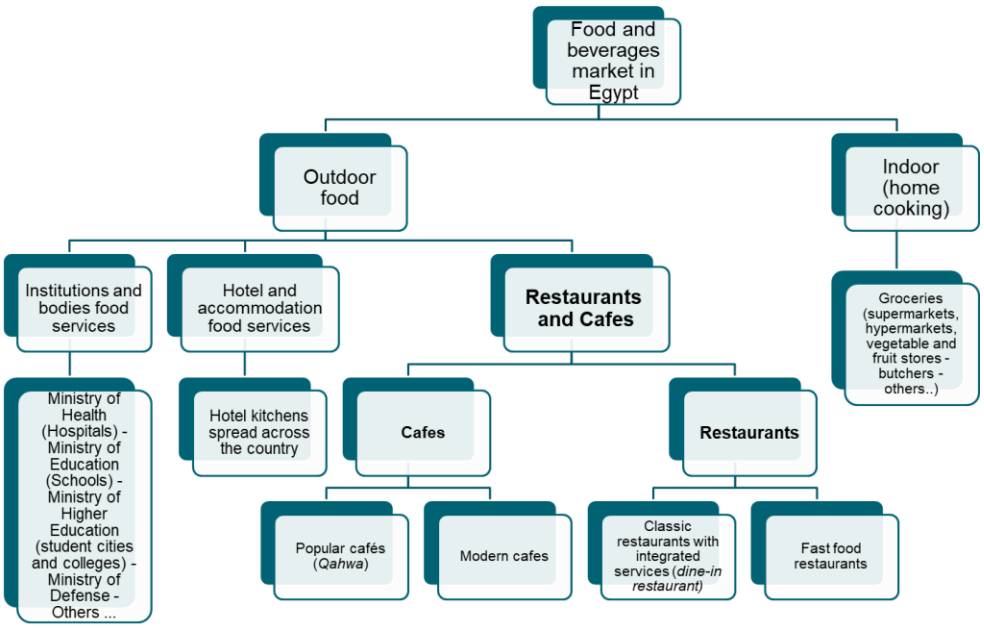
7. Restaurants and Cafes

Lead Researcher: **Mohanad Mahdy**

First: Brief description of the subject of the report

- Recent years have witnessed an increase in the economic importance of the service sector in providing ready-to-eat food and beverages. The rates of eating meals and drinking beverages outdoors increased, and so have the rates of eating ready-to-eat foods that are brought from restaurants. This was reflected on the volume of sales of that sector, which was valued at about $8 billion in 2018.[1]
- Household spending on outdoor food represents a large percentage of spending on food and beverages of all kinds, which is valued at EGP 200 billion annually,[2] up to 46 percent of the total expenditure of Egyptian families according to the 2017/2018 Income and Expenditure Survey data.
- There are various facilities for serving outdoor food and beverages, including fast food outlets, classic and popular restaurants, as well as cafes, cafe cars and others. Figure 7.1 below shows the structure of the food market in Egypt and the associated food services provided to families and citizens.

Figure 7.1. Food and Beverages Market Structure



Source: Prepared by ECES.

- The traditional sources of outdoor food and beverage services are mainly restaurants and hotels, in addition to the food services provided by institutions and bodies whose services are largely offered through chains of restaurants and cafes.
- Restaurants and cafes spread throughout the country, account for the largest proportion of outdoor food services as a result of structural developments in the Egyptian labor market[3] over the past decades. This was reflected in the volume of investments in that sector, and in a significant increase in the number of outlets throughout the country, with their total revenues amounting to about EGP 104 billion in 2017 (CAPMAS 2020). This sector will be covered in detail in the analysis.

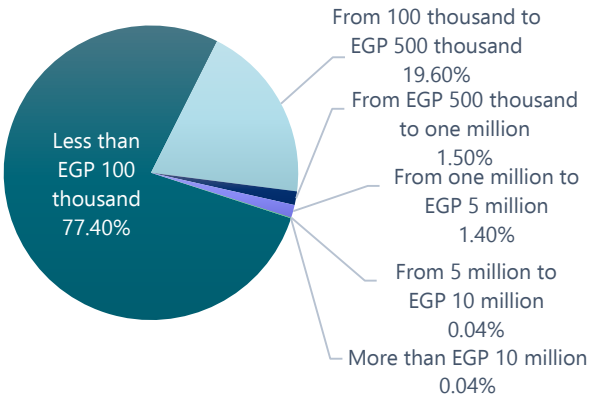
[1] The figure for sector sales in 2018 reflects the estimates of the Agricultural Affairs Office of the American Embassy in Cairo (El-Habbal 2017).
[2] https://cutt.us/q7PC5.
[3] These developments were linked to structural changes on the supply and demand sides. On the supply side, they include the increasing size of the informal sector, increasing unemployment rates, and irregular operations. As for the changes on the demand side, many citizens spend most of their time outdoors and the entry of many women into the job market.

- As for hotels and accommodation, the food services offered account for a large percentage of their revenues, ranging between 37 to 40 percent, and sometimes even exceed 75 percent, especially in some five-star hotels that provide high-quality mostly imported food and beverages. The amount of spending by hotels in that regard reached about $28 million during 2015, (US Embassy 2017) with meat, poultry, and fish accounting for up to 85 percent of the volume of that spending.
- There are also many institutions and bodies whose services include the provision of food services such as government and private hospitals that provide meals to patients. The armed forces are also another example. The food services provided vary from central kitchens through which food is distributed to all units, which are managed by private companies or famous restaurant chains through tenders, or kitchens operated by workers in the place. Despite the difficulty of obtaining detailed data for these institutions, the amount of spending on nutrition in the Ministry of Health was estimated at $28 million during FY 2017/2018. Also, the volume of investments of the Ministry of Education, the Ministry of Agriculture, and the Ministry of Social Solidarity in school feeding programs is estimated at $56.5 million.

In what follows, we analyze in detail the food and beverage services offered by restaurants and cafes in the Egyptian market

- Restaurants and cafes of all kinds account for up to 5 percent of total economic establishments in Egypt. They are considered second in size to the retail and wholesale sector, as their number is estimated at about 180 thousand establishments nationwide (CAPMAS 2020). The private sector has complete control over that sector.
- By measuring the size of these facilities to the total inhabited area in Egypt (about 79 thousand km), **we find a dense spread of restaurants and cafes throughout the country, as there is a restaurant or a café in approximately every 400 meters.** The value of fixed assets of the sector amounted to about EGP 21 billion, including buildings, furniture, equipment, and others. Its net value added was estimated at about EGP 46 billion, according to the latest economic census published by the Central Agency for Public Mobilization and Statistics (CAPMAS 2020).
- As for expenditures, they were estimated at more than EGP 60 billion. Commodity requirements such as key raw materials, goods, electricity, water, and others constitute up to 73 percent of the value of these expenditures, with about 3.4 percent for service expenses, such as advertising, maintenance, transportation, etc., and 23 percent for other expenses such as rents, bank interest, taxes, and others.
- The sector is dominated by small and traditional enterprises, which account for 97 percent of all enterprises in terms of size nationwide. More than 75 percent of enterprises employ between one to four workers, and about 21 percent of enterprises has from 5 to 10 workers, while there are only 45 enterprises with the number of employees estimated at a hundred. Figure 7.2 shows the percentages of enterprises according to categories of invested capital, considering the last economic census issued by the Central Agency for Public Mobilization and Statistics.

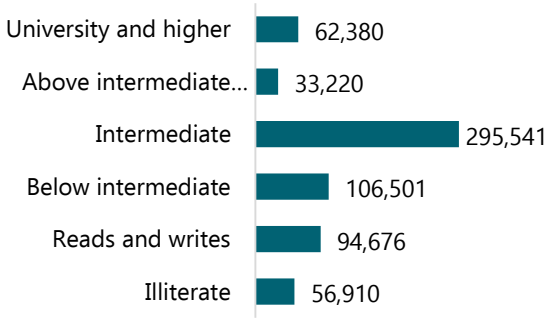
Figure 7.2. Percentage of the Number of Establishments according to Capital Invested in Restaurants and Cafes



Source: Prepared by ECES based on CAPMAS data, Fifth Economic Census, 2017/2018.

- As for employment, it is noted that this sector is labor-intensive and relies on unskilled labor, especially technical and operating workers, who account for up to 70 percent of total workers in the sector,[4] estimated at about 700 thousand workers based on the last economic census, at a percentage exceeding 5 percent of total workers in economic activities in the country.
- But according to unofficial sources,[5] the number of workers has been estimated at about 2 million workers, i.e., up to 3 times the official figure. Perhaps these discrepant estimates are due to the nature of the sector being dominated by informal employment. In other words, those who work without contracts or insurance, as well as irregular and temporary employment such as delivery workers and others who find an additional opportunity in restaurants and cafes to increase their income.
- Workers also vary in terms of educational attainment. Intermediate and lower qualifications constitute the largest percentage of total educational attainment of workers by up to 62 percent. Figure 7.3 shows the numbers of workers according to educational attainment:

Figure 7.3. The Number of Workers according to Educational Attainment



Source: Prepared by ECES based on CAPMAS data, Fifth Economic Census, 2017/2018.

- The restaurant and cafe market are divided into independent outlets, which have one or more branches, or those associated with global or local chains, which have many branches throughout the country. Table 7.1 shows the different sales percentages and growth rates in these outlets, as well as the most important characteristics. Independent restaurants and cafes constitute the largest percentage of the sector's sales, while growth rates of the chains remain higher than those of the independent restaurants.

Table 7.1. Differences Between Independent Restaurants and Chains

Type of restaurant and café	Percentage of restaurant sales during 2015 from total sales of the sector (in million $)	Growth rate 2011-2015	The most important characteristics
Independent restaurants and cafes	84%	29%	Weak quality and management systems
Restaurants and cafes with chains	16%	17%	The strength of quality and management systems

Source: US Embassy Cairo, Office of Agricultural Affairs, Food Services Report, 2017.

[4] Including operating workers, technical service workers, salespersons, and other operators.
[5] These sources vary between press reports and estimates of experts within the sector.

- Table 7.2 also shows the most important restaurants and cafes inside the country, as well as their sales during 2016:

Table 7.2. The Most Important Restaurant and Café Chains in Egypt in 2016

Chain type	The most famous restaurant chains and cafes	Sales (millions of dollars)	Numbers of branches and outlets
International restaurant chains	KFC	154	135
	Pizza Hut		64
	McDonald's	77	91
	Burger King	21	22
	Chili's	33	22
Regional restaurant chains	MO'MEN	54	40
	GAD	25	30
	Cook Door	21	66
	Tikka	19	21
	Fish Market		7
	Grand café		13
Local restaurant chains	Spectra	25	34
	Cilantro	28	60
	Abu El Sayed		8
	Abu Shakra	24	12
	.....	.....	.....

Source: US Embassy in Cairo, Office of Agricultural Affairs, Food Services Report, 2017.

We note from the previous table that restaurants with international chains had the largest percentage of branches and sales. Their association with a huge value chain contributed greatly to upgrading their product in terms of quality and packaging, and to increasing the number of workers and suppliers in a way that surpasses local restaurants.

Despite the many types of restaurants and cafes and the different criteria for dividing them according to the nature of the service offered, we can divide them as follows:

1. Restaurants:

a. Fast food restaurants

b. Classic restaurants with integrated services (dine-in restaurant)

2. Cafes

a. Modern cafes

b. Popular cafés (Qahwa)

Table 7.3 shows those characteristics, and similarities and differences between them:

Table 7.3. Types of Restaurants and Cafes

Feature/ outlet	Fast food restaurants	Classic restaurants	Modern cafes	Popular cafes
Definition	Restaurants in which meals are served quickly, whether through take away or delivery at relatively low prices.	Restaurants where the menu consists of interconnected meals, at fixed prices and an experienced chef usually manages the restaurant.	Places that specialize in providing drinks and some special foods, but they are not considered restaurants, such as breakfast, sandwiches, and meals that are prepared in advance. They are characterized by the privacy they provide in sitting and elegance in serving drinks.	Places that specialize in providing drinks and tobacco (hookah and others). They are characterized by low prices and non-compliance with the rules of "etiquette" in sitting.

Feature/outlet	Fast food restaurants	Classic restaurants	Modern cafes	Popular cafes
Sales (in millions of dollars in 2015) (US Embassy 2017)	1099	823	1338	-
The size of the hall	Relatively small	Large	Large	Medium and relatively large
The size of the kitchen	Relatively large	Relatively large	Medium	Small
Closing rate	Weak	Weak	Medium	High
Concentration	Concentrated in urban areas and areas with a high population density, in shopping centers and malls, as well as areas of student concentration in universities.	Concentrated in the urban areas, especially upscale areas and inside the hotels.	They are concentrated in urban areas, commercial centers, and malls.	- Concentrated in urban and rural areas - Spread over most streets and roads.
Purchase cycle (For consumers)	Regular, semi-monthly, or weekly (Many families and young people- especially workers) use fast food as their main source of food)	irregular	Almost weekly	Regular (daily)
Quality control	High and medium	High	High and medium	Weak
Storage capacity	Large	medium	medium	Weak
Supply and import chains	Most products are sourced from the point of origin (factories and direct imports) for major and international stores, while smaller shops source from wholesalers.	Some products are sourced from the point of origin as factories, some from wholesalers. Goods may also be imported via import companies.		Mostly from wholesalers and retailers.
Multiplicity of suppliers	Medium			Not multiple
Legal form (Formal, informal)[7]	Formal and informal	Formal	Formal	Formal and informal, road stalls and inside government buildings
Type of labor required	Trained and untrained labor, whether in the hall or the kitchen	Trained manpower inside the kitchen (specialized chef)	Untrained, unskilled labor that is easy to lay off	Untrained, unskilled labor, easy to lay off

[7] Informality here means 3 main types: informal employment, informal enterprises, and informal transactions. ECES issued a detailed report on the informal sector on April 6, 2020 and it is available at the ECES website.

Feature/ outlet	Fast food restaurants	Classic restaurants	Modern cafes	Popular cafes
Nature of sales	Sales are divided among take away, delivery, and meals inside the restaurant (with percentages of approximately 35 percent for delivery, 35 percent take away, and 30 percent inside the restaurant)[8]	Sales are divided among eating meals inside the restaurant and delivery, with eating meals inside the restaurant representing the largest percentage of sales (80 percent in the restaurant, 15 percent delivery, and 5 percent take away).[9]	Sales are divided between take away and meals and beverages inside the restaurant.	Mostly limited to drinking beverages only inside the cafe.
Buying online	The possibility of buying via the internet and food-related applications (ELmenus, Otlob, Tayari etc.)	The possibility of buying online	Difficulty buying online	Buying online
Delivery	Enabled and widely spread	Enabled and prevalent	Not widespread	Not enabled and not prevalent
Bargaining power and profitability methods	High negotiating ability - modern profit methods, market studies, forecasts and offers from suppliers - advertising campaigns, especially for major fast food restaurants	Modern profit methods, market studies and offers from suppliers - advertising campaigns.	Traditional profit methods - advertising campaigns	Traditional profit methods (heavy reliance on tipping and hookah sales)
Facilities	Attractive offers on meal prices	Poor facilities and offers.		Poor facilities and special offers for drinks prices. Facility to pay through unofficial channels (on credit)
Outlet resilience (Ability to withstand shocks)	Relatively resilient due to the complexity of administrative structures, especially major restaurants, while small restaurants are fragile.	Relatively resilient due to the complexity of the administrative structures.		Very fragile
The most important outlets in Egypt	- KFC - McDonald's - Hardee's - Cook Door - others	- Abu Shakra - Spectra - Vivo - LEXIE'S - Osmanli - Others	- Starbucks - Cilantro - Costa - Grand Cafe - Modern cafes spread throughout the country - Others	All cafes scattered throughout the country

Source: Prepared by ECES.

The sector has witnessed many developments over the past decades, which are necessary to mention, as follows:

1- There is an increase in the relative importance of online sales of foods and beverages in recent years. Had it not been for the Corona pandemic, it was expected that sales during 2020 would reach about $81 million,[10] according to the Statista website, while the number of users is about 3.5 million people.

[8] Obtained through a webinar held by the Center for International Private Enterprise (CIPE) on April 30, 2020.
[9] Ibid.
[10] https://www.statista.com/outlook/374/340/online-food-delivery/egypt

2- The delivery of orders is divided between delivery to consumers directly through restaurants, which was expected to reach $56 million in 2020 and nearly 2.7 million users, or through various other platforms whose sales were expected to reach $26 million and with about 1.5 million users.

3- The restaurants and cafes sector and its various outlets are affected by the logistics related to the supply of goods to factories, as well as the distribution of products after their manufacture to wholesale and retail merchants, and the associated availability of transportation and mobility.

4- The consumption of narghile tobacco reached 50 thousand tons annually at a value of EGP 3 billion, and hookah smokers accounted for 19.9 percent of the number of smokers,[11] 17.2 percent among the age groups 15 to 29 years, 18.6 percent among the age group 30 to 44 years, and 23.4 percent among the age group 45 to 59 years, and 27.3 percent among the age group 60 to 69 years.[12]

1.1 The impact of previous crises on the restaurants and cafes sector in Egypt

- The focus here is on two phases: the January 25 Revolution of 2011 and the beginning of economic reform, at the heart of which is the liberalization of the exchange rate in November 2016. The choice of each comes due to the impact it had on the food and beverage sector, as well as their association with individual incomes, the purchasing power of consumers, high inflation rates, and the logistics associated with obtaining food.

- It is important here to point out the differences between the two crises. The 2011 Revolution was linked primarily to security problems and high rates of inflation, which had a rapid impact on the restaurants and cafes sector. The liberalization of the exchange rate was linked to multiple problems such as the high price of the US dollar, low purchasing power, and lower levels of individual income. Therefore, its impact was more profound and slower in recovery compared to the 2011 crisis, which probably continues to this day despite absence of sector data for the past 3 years.

- In spite of the rapid development of the food and fast food sector in Egypt as a result of various economic and social conditions, especially in major cities with high population density, it is noticeable that the sector slows and declines during periods of crisis. This is evident in Figures 7.4 and 7.5, where a decline is observed in the number of new facilities during 2011 and 2017 by approximately 26 percent during both crises.

Figure 7.4. Annual Increase in the Number of Restaurants and Cafes, 2010-2013

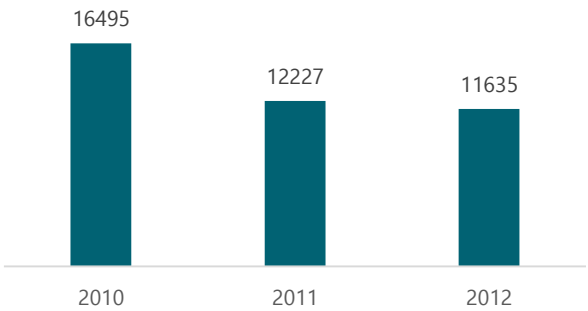
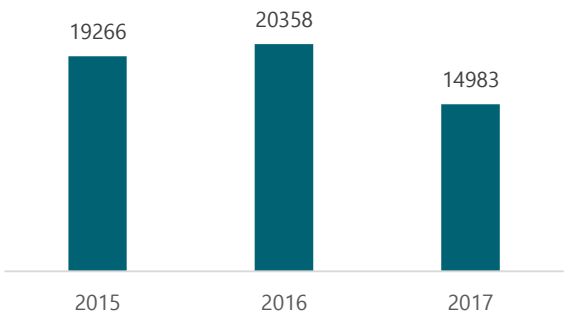


Figure 7.5. Annual Increase in the Number of Restaurants and Cafes, 2015-2017



Source: Prepared by ECES based on CAPMAS data, the Fourth and Fifth Economic Censuses for the years 2012/2013 and 2017/2018.

[11] Household spending on tobacco and alcoholic beverages constitute up to 4.7 percent of the total annual household spending according to the income and expenditure survey data.
[12] https://2u.pw/stW7C

These two crises also led to a decrease in the extent of job stability, due to the predominance of the informal sector that account for a large percent of the sector. This means the shift of informal employment from regular to irregular work, which proves the lack of fixed income.[13]

Second: Demand and supply shocks in the context of the crisis cycle

First, we would like to emphasize that the impact of the current crisis on the food and beverage sector is significantly different from previous crises, whether the January 2011 Revolution or the liberalization of the exchange rate in 2016. The reason is the nature of the precautionary measures and associated lockdown of most restaurants and cafes.

The expected effect on demand and supply also relates to the stage we are dealing with in the crisis cycle. If we assume the seasonality of the virus, we can track five stages according to the crisis cycle.

As for the supply and demand shocks, they are defined as follows:

- **Demand shock:** Decrease in demand for food products sold in various outlets because of the crisis.
- **Supply shock:** Inability of different outlets to offer products and provide services as a result of the crisis and precautionary measures.

The different scenarios will be analyzed by studying the changes in the level of sales and the number of employees, according to the following concepts and assumptions:

1- The magnitude of the demand shock varies according to the stages of the crisis and the type of outlet.

2- With the curfew decision, there was a rush to purchase and store needs from grocery outlets, and a sharp decline in sales and demand in the case of restaurants and cafes, as a result of citizens' anxiety about the transmission of the disease.

3- The ability to provide delivery services and allow payment by bank cards represents a comparative advantage for the different restaurants that provide services.

4- Precautionary measures have an impact on the arrival time of citizens to restaurants and cafes, as well as the ability of outlets to provide goods.

5- The products offered are primarily related to the industrial productive value chain for each of them, and therefore any interruption in industrial production will affect sales of restaurants and various cafes.

6- The quantitative evaluation of the percentage of change in sales and employment will be estimated according to the following sources:

   a. Limited survey of a number of restaurants and cafes nationwide.[14]

   b. Percentages of change during the two crisis periods.

It should be noted here that many of the hypermarket and supermarket outlets recently resorted to manufacturing and the provision of many ready-to-eat foods, making it a relative alternative to fast food restaurants during the crisis.

The following table shows the extent of the impact on the restaurants and cafes sector during the crisis cycle, by analyzing what has already occurred on the ground, offering a descriptive analysis of the current situation, as well as providing possible future scenarios in light of the assumptions mentioned:

[13] ECES, the Informal Sector, Views on Crisis, issue no. 7.
[14] Obtained from a survey conducted by the Egyptian Center for Economic Studies (ECES) of a limited number of restaurants and cafes in different governorates via the social media sites (Facebook), as well as through a webinar held by the Center for International Private Enterprise (CIPE) on April 30, 2020.

Table 7.4. Potential Scenarios of the Impact of the Crisis on the Restaurants and Cafes Sector, based on the Aforementioned Crisis Cycle and Assumptions

Stage	Demand and/or supply shock	Analysis	Impact
1. Emergence of the virus (December 2019-January 2020)	No shocks to most restaurants and cafes, whether in demand or supply	This is due to the emergence of the virus in China only, and Egypt has not been affected yet	There is no effect since supply and demand have not changed
2. The start of the virus spreading (February - mid-March 2020)	Very limited shock in demand and supply	A limited shock in demand appeared at the end of February, when some citizens began to worry about the virus in Egypt. This was translated into a desire to buy and store needs from grocery stores and avoid eating outside, but the real pressure did not materialize until mid-March with the beginning of the precautionary measures.	A slight decrease in the volume of sales of some restaurants, with no noticeable change in anything else.
3. The problem worsening (mid-March to mid-May 2020)	• This period witnessed a great shock in demand, and a severe shock in supply, which became progressively difficult with the development of events	The beginning of the crisis, especially the first three weeks, has created a state of anxiety and fear among citizens, especially with the beginning of precautionary measures and the imposition of a curfew. This was followed by extreme fear of most citizens from eating outside, considering the uncertainty surrounding the virus and its behavior and fear of transmission through food. This led most citizens to avoid buying food from outside, and many of them resorted to buying more basic commodities for storage from grocery stores. This resulted in an unprecedented demand for grocery outlets and avoidance of restaurants and cafes of all kinds, but with varying degrees according to the nature of the outlet.	
		Classic restaurants (with integrated services) * These restaurants have witnessed a severe decline due to mostly relying on providing meals inside the restaurant.	• Restaurants with integrated services have witnessed a decrease in their revenues estimated at about 80 percent or more. Likewise, the numbers of employees have decreased by higher percentages than fast food restaurants, reaching 60 percent in some restaurants, because of the increase in the workers in the hall in those restaurants than in other restaurants.
		Modern Cafes and Popular Cafes The largest decline was related to cafes and popular cafes as a result of precautionary measures and related full lockdown of most of these outlets.	• The worst situation was related to cafes and popular cafes, where the loss rate reached 100. Many of their owners (especially popular cafes) resorted to changing their activities (by converting the outlet into a supermarket or grocery outlet) or closing it permanently and laying off workers.
		Fast food restaurants (providing delivery service) There has been a sharp decline in the volume of demand, but less than restaurants with integrated services as well as cafes, as these restaurants, have multiple sales methods such as delivery and take away. They also enjoy the ease of delivery and avail use of bank cards besides their proximity to citizens and the speed of delivery.	• Fast food restaurants witnessed a decline that ranged from 50 percent to 65 percent of their daily revenue, especially during the first three weeks of the crisis, according to the nature of the outlet, its quality, the level of health procedures available, and the ability to deliver orders faster. • The period also witnessed a decline in the numbers of workers, especially kitchen and hall workers, with rates ranging between 20 percent and 40 percent. However, the percentage of delivery workers remained somewhat the same, although most of them are irregular labor with temporary contracts.

Stage	Demand and/or supply shock	Analysis	Impact
4. Crisis recedes (Mid-May-August 2020)	Demand and supply shocks were related in that period to the continuity of precautionary measures and the curfew, as well as persistence of fear among citizens. Therefore, it can be divided into 3 stages:	This stage relates to two scenarios, either a rapid recovery or further deterioration, mainly depending on the following: 1. End of the precautionary measures 2. The virus outbreak receding 3. Changing consumer trends and tastes, lower anxiety, and fear, and return to the pre-crisis norm, which is mainly related to the decline of the virus. Accordingly, the situation varies according to the three stages as follows:	
	1.The first stage (from mid-May to June 27)	The first stage witnessed more loss for owners of restaurants and cafes due to peaking of the disease during that stage and increased rates of infection, which prompted citizens to be more cautious, and the government to tighten precautionary measures.	This stage witnessed the continuation of losses for all outlets, with a slight increase in the volume of sales of fast food and delivery restaurants, especially in the second half of Ramadan.
	2. The second stage (from June 27 to the end of July (now).	The second phase witnessed a partial reopening of activities since June 27, as the government allowed occupancy rates estimated at about 25 percent, with some precautionary measures in providing food and beverages, but still not allowing hookah.	During this stage, relative recovery started with more sales compared to the previous period, and a slight increase in the different rates of employment.
	3. The third stage (August)	For this stage, there are two scenarios: * **The first scenario**: the optimistic scenario in which the disease is expected to subside, with further mitigation of precautionary measures and increased levels of reassurance among citizens.	**In the case of the first scenario**: It is expected that there will be a gradual return to the sector's normal rates and a slight increase in the volume of employment for restaurants, while popular cafés and modern cafés revenues will remain low due to the lack of permitting hookah,[15] which constitutes a large percentage of the cafés revenue.
		* **The second scenario:** It is the pessimistic scenario in which the situation is expected to continue as is (the same scenario of the previous stage) with a continuation of the disease and anxiety.	**In the case of the second scenario:** In this case, sales are more likely not to increase compared to July, and similarly employees will not increase.
5. Recovery (beginning September to June 2021)	The supply and demand shocks here are linked to the previous stage scenarios.	Continuity of the optimistic scenario relates to the return to normality, which occurs either with finding treatment or full acclimatization with the virus, and thus the return of normal rates.[16]	**<u>In the case of an optimistic scenario:</u>** Annual growth rates return to normal and full recovery achieved during the second or third quarter of 2021.
		The pessimistic scenario is linked to the return of the virus,[17] and consequently the return of the precautionary measures.	**<u>In the case of a pessimistic scenario:</u>** The magnitude of problems for popular cafes and cafes will increase. These problems may affect some small popular restaurants because of increased obligations in light of reduced levels of income, increase in the numbers of unemployed, and realizing the rates of decline in the previous scenarios.

Source: Prepared by ECES.

* These estimates should be read with caution, as expectations may require further reviews due to the developments that occur, whether related to the day-to-day spread of the virus, whose duration and scope are still unknown, or those related to any global or local developments that may affect the estimates directly or indirectly.

[15] We would like to emphasize on the harm associated with smoking and hookahs in general, our analysis thereof is from an economic perspective only linked to the revenues of the activity.
[16] Including hookah
[17] The World Health Organization warned of the return of the virus during the winter season.

Third: Interventions required to mitigate the effects of the crisis

These measures are based on the fact that employment is now a national goal due to Corona being accountable for the loss of many jobs, as follows:

1- Providing financing packages that are commensurate with the nature of the restaurants and cafes activity, enabling them to increase their sales, as well as postponing the payment of sovereign obligations such as taxes and others without imposing fines for the delay.

2- Providing all kinds of support to the owners of restaurants and cafes, even if they are informal, such as providing one-off financial support. This would encourage these establishments to join the formal sector and making pledges of more support in the event the outlet shifts to the formal sector.

3- The requirement that workers in these establishments be insured and linking this to facilitating control and paperwork procedures.

4- Encouraging various establishments to insure temporary employment and encouraging the informal sector to formalize.

5- Linking facilities availed with the number of workers and expanding employment.

6- Strengthening the e-commerce system so that online purchase rates increase more significantly.

Fourth: Institutional weaknesses revealed by the crisis and proposals to overcome them

1. Given that more than 90 percent of restaurants and cafes obtain their licenses from the local government, there is a need to develop such governments and adopt decentralization in order to facilitate activity procedures and practice, and to achieve governance in all dealings and eliminate corruption.
2. Unifying the legal and procedural form of restaurants and cafes, regardless of the entity that grants the license to practice the activity, so that the difference between the tourist and non-tourist outlets is in the quality of the product provided only.[18]
3. Establishing an accurate database on restaurants and cafes in Egypt and distributing it to rural and urban areas so that it can be used to determine the required assistance or intervention, especially that many workers in that sector are informal employment.
4. Support the role of the Consumer Protection Authority, as well as NGOs working in the same area, to improve services.
5. Reconsidering the criteria for providing government subsidies to small and micro enterprises in the food and beverage sector, given that these standards are biased towards large entities.
6. Draw on the experiences of other countries in the strategy of supporting small enterprises in that sector.
7. Promote and strengthen e-commerce and provide platforms to communicate directly between supply chains and outlets.

[18] Only the fast food outlet differs, as it is called a take-away outlet.

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8. Cinema Industry

Lead Researcher: **Rana El-Kennary**

The importance of the cinema industry:

Although many categorize the cinema industry as a cultural and artistic activity only, it is in fact a full-fledged industry like any manufacturing industry. The movie combines script, acting, directing, production, and distribution in one system with its various stages to produce a work shown on screens.

The cinema industry is a huge global industry whose total revenue in recent years has reached more than $60 billion annually, through cinemas only. This value doubles if we add to it home entertainment revenue. Thus, the size of this industry exceeds traditional manufacturing industries, not to mention its artistic and cultural role, which supports the identity of states politically and from a touristic stance, hence being described as the soft power.

Countries have paid attention to the economic weight of this industry and have taken great interest in supporting it and reaping the fruits of such support. For example, we find that Hollywood's activity, the oldest national cinema in the world, has contributed positively and tangibly to supporting the trade balance of the US[1] since the 1980s, which offset much of the decline in manufacturing industries over this period through exporting US movies and creating high-yielding jobs in addition to supporting tourism and the software and information technology industries,[2] which showed the extent of US development in this field.

While Hollywood is still the largest in terms of total box office revenue, Indian cinema has become the largest national cinema industry since 2011 in terms of the number of movies produced and the number of annual tickets sold that surpass Hollywood and is the highest in the world. While Egypt had a great position in this industry in the middle of last century, it lagged far behind the US, India[3] and other countries' industries, as we will explain later. The global cinema industry was greatly affected by the COVID-19 pandemic, due to its close association with gatherings, thus the industry ceased completely throughout the world with the start of precautionary measures.

This report aims to assess the extent to which the cinema industry in Egypt was affected economically and socially by the pandemic over the crisis cycle in terms of income and number of employees, as well as the viability of current investments. The report comprises four sections: The first deals with performance indicators of the cinema industry in Egypt compared to its counterparts in several countries. The second provides a quick description of the development of the cinema industry in Egypt and its institutional setup, up to the point before the crisis, as well as the extent of its vulnerability to previous crises. The third section analyzes supply and demand shocks during the stages of the crisis in Egypt. Finally, the fourth section deals with global measures to deal with the crisis with regard to the cinema industry and what should be done in the Egyptian case in this regard. The report also reveals the institutional weaknesses of the Egyptian cinema industry, so as to be tackled in the future.

First: Brief description of the subject of the report

- The size and weight of the cinema industry in any country is assessed by the number of movies produced and revenue annually and the number of theatres and screens compared to the population. Table 8.1 shows the top fifteen countries in the cinema industry. India is clearly in the first place with the largest number of films (almost two thousand films per year). The table indicates three groups of countries: the

[1] The revenues of US films (in countries of the world - outside the US) are estimated at $42.5 billion, which indicates the huge export activity of this industry.
[2] The software and information technology industries have been closely associated with the cinema industry in the last decade.
[3] India produced 1,813 films in 2018, and in the same year Indian cinema achieved the highest annual box office sales in the world (3.5 billion tickets).

first group, which is the largest in the number of movies produced (India, Nigeria, China, Japan and the US), followed by the second group with half the number of US films (about 300 films)[4] and includes South Korea, France, England, Spain, Germany and Argentina. Then, there is the third group (Mexico, Italy, Brazil and Turkey) with an average of 150 films per year. It is noted that Egypt is very far from all these countries in the production of movies, producing only 33 movies in 2019, which is not commensurate with the status of this industry and Egypt's global standing.

Table 8.1. Cinema Production Worldwide

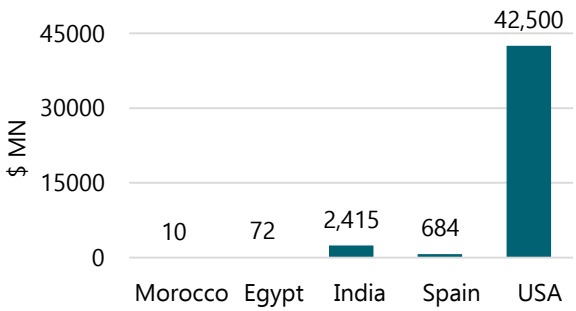
Rank	Country	No. of Movies Produced	Year
1	India	1.813	2018
2	Nigeria	997	2011
3	China	874	2017
4	Japan	689	2019
5	USA	660	2017
6	South Korea	339	2016
7	France	300	2017
8	England	285	2017
9	Spain	241	2017
10	Germany	233	2017
11	Argentina	220	2015
12	Mexico	176	2017
13	Italy	173	2017
14	Brazil	160	2017
15	Turkey	148	2017
♦	**Egypt[5]**	**33**	**2019**

Source: https://en.wikipedia.org/wiki/Film_industry[6]

Regarding revenue, Tables 8.2 and 8.3, and Figures 8.1 and 8.2 show a set of basic indicators for the following:

- Top ten ticket sale countries; size of cinema revenue in a group of different countries and the per capita annual income of cinema in some countries.
- It is clear from Table 8.2 that the highest-selling country in terms of tickets is India, followed by China and the US. But the high number of tickets sold does not necessarily mean achieving the highest revenue, as this is linked to the price of the ticket. Thus, we find that the US achieves the highest revenue by a huge difference compared to the Indian case ($42 billion[7] and 2.5 billion, respectively), then come other countries with much lower values. We note also that cinema revenue in Egypt do not exceed $72 million in the same year of comparison.
- By comparing the per capita income of cinema, we note that the per capita income in the US amounts to $136 dollars while it declines in the case of India, despite its large size due to its huge population ($1.78 dollars), while per capita income of cinema in Egypt is merely $0.72 per capita.
- Despite the low sector's revenue in Egypt, it is still higher than Morocco and many other Arab countries that are not mentioned in the table. This confirms that despite Egypt's lagging globally in terms of revenues, it is still the highest in the Arab world. Foremost is its superiority at the artistic level in all industry specializations. However, Morocco allowed moviemakers from other countries to film in its territory, which led to a significant increase in its revenues from this industry as filming for others contributes from 5 percent to 10 percent of the Moroccan cinema revenue annually. This is a huge income without the country incurring any cost. Unfortunately, Egypt rejects this trend, which deprives it of many advantages.

Figure 8.1. The Volume of Cinema Revenue in Selected Countries in 2019[8]



Source: Prepared by ECES.

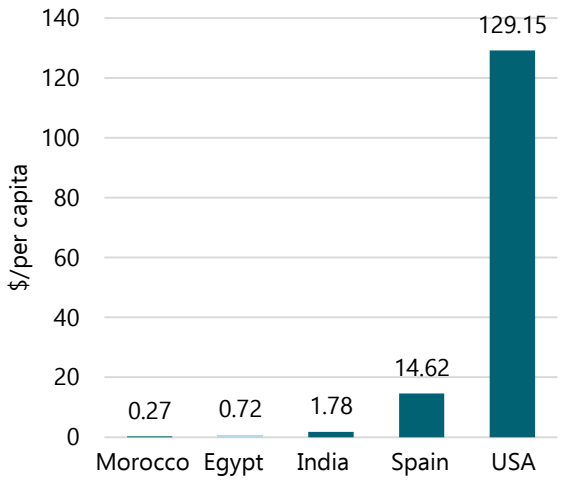
[4] With the fewest movies in the first group.
[5] This information was obtained from journalist and film critic Walid Abu Al-Saud.
[6] This source was used due to the presence of a set of data, which includes different countries in a comparative way, and it was reviewed with the experts.
[7] The US cinema industry revenue indicates the huge export activity of this industry.
[8] Information for other countries was obtained from: https://www.youm7.com/story/2019/12/21/, while information about Egypt was obtained from journalist and film critic Walid Abu Al-Saud.

Table 8.2. Number of Tickets Sold in Selected Countries

Rank	Country	No. of Tickets Sold in MNs	Year
1	India	2.020	2016
2	China	1.620	2017
3	USA	1.240	2017
4	Mexico	338	2017
5	South Korea	217	2016
6	Russia	213	2017
7	France	206	2017
8	Japan	194	2019
9	Brazil	181	2017
10	England	171	2017
♦	**Egypt**	**14.8**	**2019**

Source: https://en.wikipedia.org/wiki/Film_industry

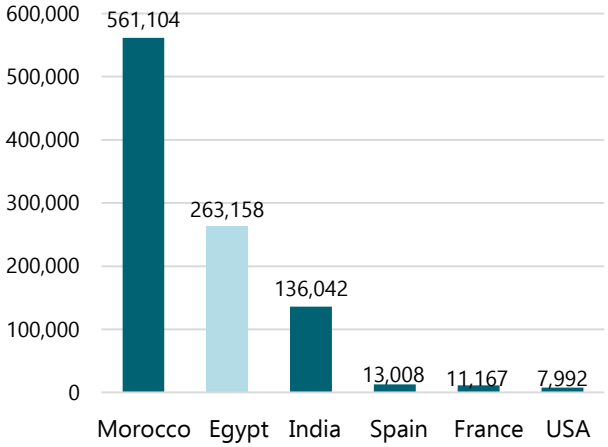
Figure 8.2. Comparison of Per Capita Cinema Revenue in 2019[9]



Source: Prepared by ECES.

As for the number of screens compared to the population, Figure 8.3 shows the huge differences between countries. For example, there is a screen for every eight thousand citizens in the US, followed by France with a screen for every 11 thousand citizens. While Egypt occupies a low rank (one screen per more than 260 thousand citizens), which means that it is far behind European and Asian countries and the US, which is not consistent with its status and ancient history, as we will explain later.

Figure 8.3. Number of Screens in Selected Countries[10]



Source: Prepared by ECES.

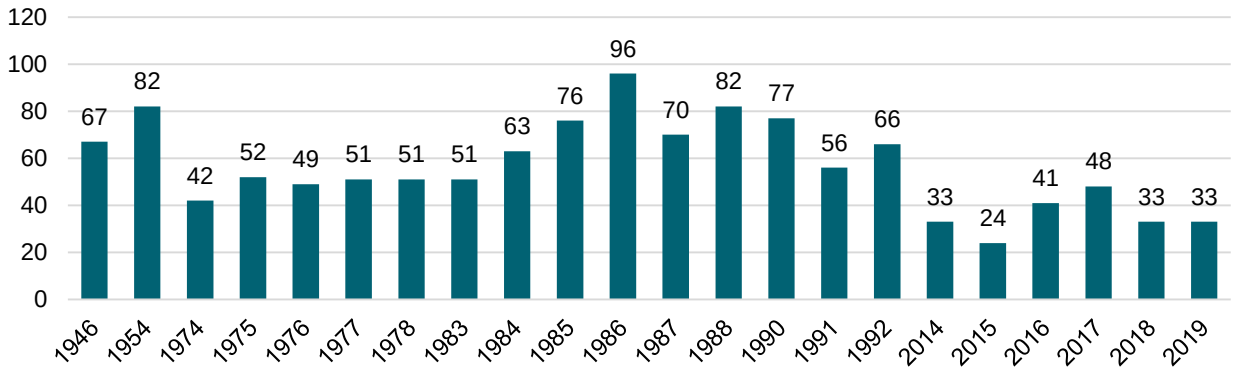
Second: Brief description of the development of the cinema industry in Egypt

- Figures 8.4 and 8.5 indicate deterioration of the Egyptian cinema industry from its inception to the present time (albeit performance has improved somewhat in recent years). It is noted in Figure 8.4 that the number of movies produced in 2019 amounted to only 33, which is almost half of the number of movies produced in 1946 (67 films). This means that Egyptian cinema activity in 2019 is much weaker than its beginnings despite eighty years have passed.
- It is also noted in Figure 8.4 that the number of movies produced in the seventies was stable but high in the eighties with the peak of cinematic production in Egypt in 1986 (96 films). This was linked to the declining role of the state in cinematic production and the emergence of the commercial private sector extensively. Since then, there has been a continuous decrease in the number of movies produced to reach its lowest point in 2015 (24 movies), reflecting severe reluctance on the part of producers.
- This lackluster picture of the movie industry is complemented with a sharp decline in the

[9] Cinema per capita revenue is calculated by dividing the cinema revenue by population of the country.
[10] Information for other countries was obtained from: https://www.youm7.com/story/2019/12/21/ while information about Egypt was obtained from journalist and film critic Walid Abu Al-Saud.

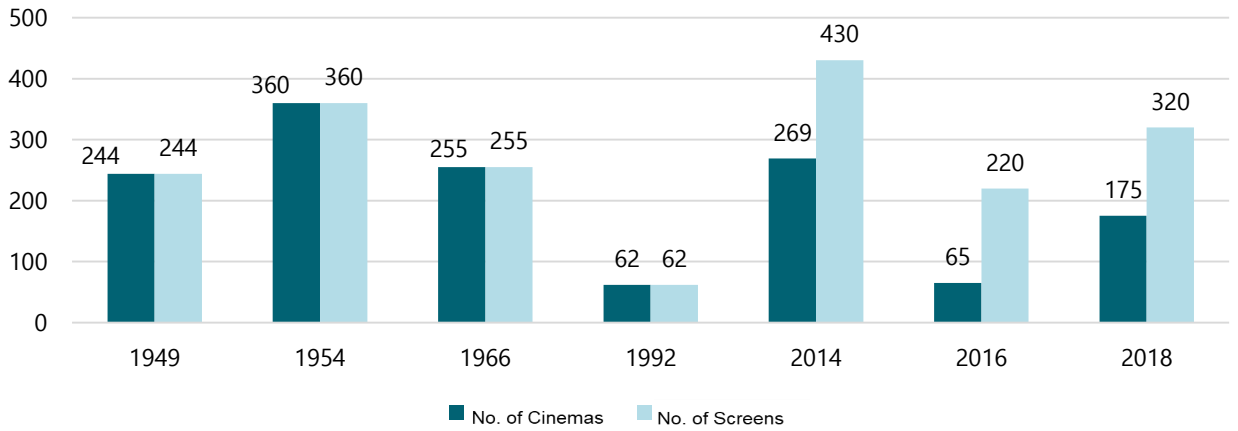
number of screens compared to population (Figure 8.5). For example, the number of screens reached 320 screens in 2019, a screen for more than 260 thousand citizens, compared to the situation in 1966 (i.e., fifty years ago), with a screen for every 117 thousand citizens.[11]

Figure 8.4. Evolution of the Number of Movies Produced in Egypt



Source: Prepared by ECES.

Figure 8.5. Evolution of the Number of Screens[12]



Source: Prepared by ECES.

- Table 8.3 and Figure 8.6 show revenue and ticket sales[13] in Egypt during the past four years, which have witnessed a continuous increase. However, this increase does not necessarily indicate a surge in performance due to its association with specific movies. The increase in revenue in 2019 was 207 percent compared to 2015 as a result of raising ticket prices, improved quality of movies and technological development. But such increase does not indicate a boom, because a boom is linked to the improvement of the industry as a whole and finding solutions to its problems. Also, half of this percentage comes from foreign movies. For example, despite the dominance of foreign movies, specially US movies worldwide, its occupation of a higher position than Arab films (the number of tickets and a percentage of not less than 50 percent of revenue) indicates the weakness of the industry in Egypt and its inability to attract the Egyptian viewers despite presenting films in their mother tongue.

[11] This decline in screen to population ratios comes despite the increase in the number of screens with the development of the cinema industry and the emergence of multiple screens per theatre.
[12] This information was obtained from journalist and film critic Walid Abu Al-Saud.
[13] The number of tickets sold reflects the true appetite for watching movies.

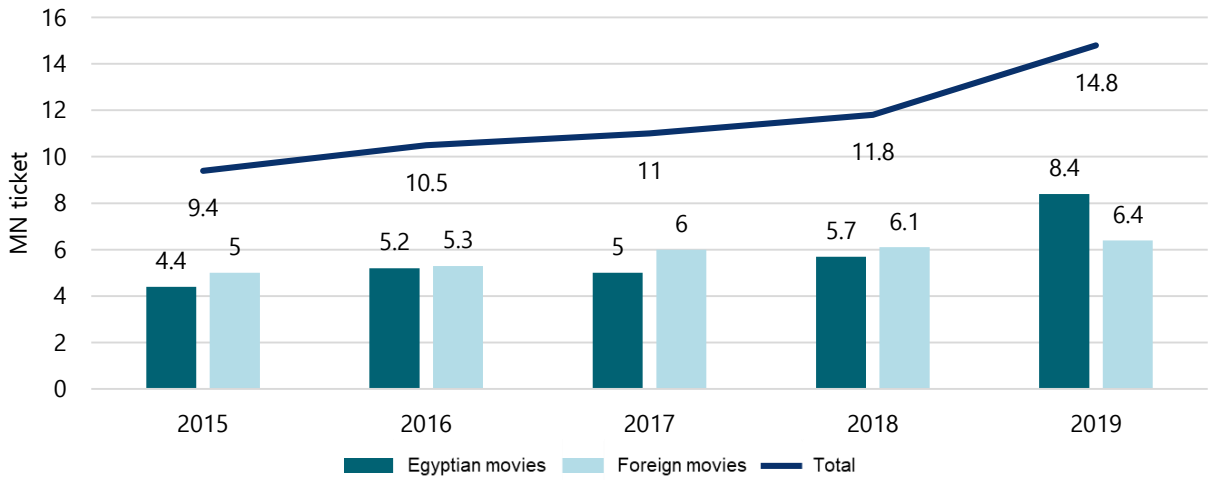
- Finally, we point out that cinema revenues do not go in their entirety to movie producers, but are divided on average as follows: 20 percent to the State in the form of tax revenue, 40 percent to the owner of the cinema, and 40 percent to the producer.

Table 8.3. Egyptian Cinema Revenue Structure*, 2015-2019[14]

Year	Total revenue annually (Million EGP)	Egyptian movies		Foreign movies	
		Value (Million EGP)	**Percent	Value (Million EGP)	**Percent
2015	378	177	47%	201	53%
2016	526	257	49%	269	51%
2017	690	316	46%	374	54%
2018	843	396	47%	447	53%
2019	1157	633	55%	524	45%

Source: Prepared by ECES.
* All revenue before tax.
** Percentage of movie revenue from gross revenue for the same year.

Figure 8.6. Number of Arabic and Foreign Movie Tickets Sold Annually, 2015-2019[15]



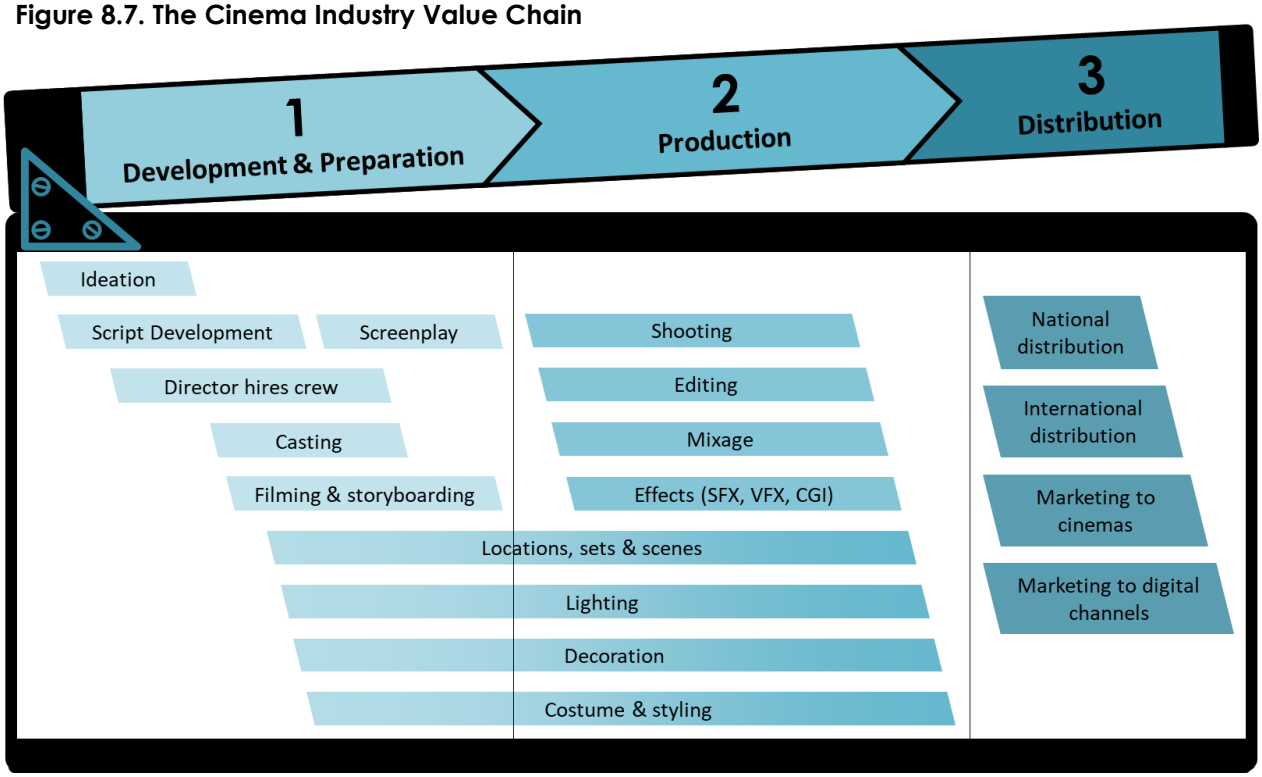
Source: Prepared by ECES.

To understand the causes of the deterioration of the movie industry, we begin by describing the value chain and the size of the sector, then identify the main features of the industry and its development over the years:

- The value chain of the movie industry (Figure 8.7) consists of three main stages: the preparation stage (idea and preparation), the implementation phase (production, photography, montage, etc.) and the post-production stage (distribution, internal and external marketing and digital marketing). Each stage has its specific requirements and expertise and its interrelations with other sectors.[16] The system as a whole operate with many internal connections and interfaces between the technical and technological dimensions, rendering the value chain in the cinema industry one of the most complex value chains. Figure 8.7 shows the activities associated with each stage.

[14] The information in the table was sourced from the following:
Data for foreign movies from Allied Film Distribution, the distributing company for Disney movies, Sony (Colombia) and independent movies, and data for Arabic films are sourced from journalist and film critic Walid Abu Al Saud.
[15] Ibid.
[16] The sectors of apparel, accessories, furniture and other industries are related to the implementation stage. The technological and software industries are related to the post-production stage.

Figure 8.7. The Cinema Industry Value Chain



Source: Prepared by ECES.

Table 8.4 illustrates some of the main features of the cinema industry in Egypt, the most important of which are as follows:

- The presence of a cinema industry chamber since 1947, which means that the State has long recognized it as an industry like any other manufacturing industry. The transformation of cinema since the beginning of the 2000s into an artistic and cultural activity comes mainly as a transformation to a weaker level with which the rights of this industry were lost such as export subsidies or any other industrial government incentives. This means that changing the institutional framework for the cinema industry has been closely related to the deterioration of the performance of this industry as a whole despite its strong beginnings.
- The cinema industry has its own economics. The presence of high fixed costs on cinemas owners means that there is a minimum level of occupancy that must be satisfied in order to cover production costs and achieve reasonable profits. This percentage ranges from 30 to 40 percent on average over the year.
- This industry is seriously affected by weak intellectual property rights in Egypt (Law No. 82 of 2002), where piracy is prevalent, leading to the reluctance of producers to produce. Piracy has begun several years ago, represented in the piracy of movies after being directly shown in cinemas and leaked to illegal sites on the Internet as well as some illegal channels that are shown on satellites. This is one of the biggest problems facing movie makers, as the movie's revenue drops by 60 percent once it is leaked.[17]
- Although the cinema industry in Egypt is a national industry, it is greatly affected by the cinema activity in the Arab countries, as well as developments of international cinema, including timing of new movies and festivals. The Egyptian cinema is particularly affected by the increase in cinematic activity in the Arab countries; in particular, the increase in the number of screens; as these countries are the primary consumers of Egyptian movies.

[17] There are currently 80,000 police reports filed by producers for piracy.

- Increasing the price of the movie ticket through additional tax obligations to the State in the form of value-added tax and the police fee means shifting the cinema from a low-cost entertainment activity that is appropriate for all groups to a high-cost activity exercised on occasions only (specifically holidays).[18]
- The cinema industry and various theatres are free to set ticket prices as long as they honor their obligations to the State.

Table 8.4. Basic Features of the Cinema Industry in Egypt

The size of the cinema sector and the nature of investment activity therein	- The number of companies operating in the sector currently amounts to a maximum of 400 companies in various specialties, although members of the Chamber of Movie Industry amount to 3000 members as the Chamber registers members of the activity rather than companies.[19] There are companies that combine more than one activity, such as production and movie theatres while others that have only one of them.[20] - The Egyptian Chamber of the Movie Industry includes three main divisions, namely: the theatres division, the production division and the laboratories and studios division, which are the three main activities related to the industry. - Movie theatres are rented by companies producing or investing in the field on an annual basis, regardless of the size. The rental value of the theater in a commercial center represents 20 percent of the income of the theater. - Therefore, the rent of theatres is considered fixed annual expenses for those who invest in the field. - In addition to fixed expenses, there are salaries of 40 percent of workers in this industry who work in activities linked to theatres (tickets, cleaning and technical teams).
Workers in the movie industry in Egypt	- The cinema industry is a labor-intensive industry with at least half a million workers (40 percent permanent labor and 60 percent variable labor[21] linked to the cinema industry in all its stages and all specialties). A significant portion of this belongs to the informal sector. - One of the most important features of this industry is that it needs graduates of specialized higher education. Therefore, it is an area that avails job opportunities for university graduates—the category that suffers the highest unemployment rates as mentioned in previous ECES reports on the labor market,[22] the informal sector,[23] and education.[24]
The institutional framework and the role of the State and the private sector	- Establishing the Cinema Industry Chamber in 1947 and including it into the Federation of Egyptian Industries. - The nationalization of the movie industry in Egypt during the 1960s, when the Public Cinema Authority was established to produce feature films. - The Public Cinema Authority was dismantled in the early 1970s and replaced by a public body that includes theater and music along with the cinema. The authority stopped cinematography, contenting itself with the activity of the private sector, and since that time the State's role in cinematography has completely receded. Over the last two years, 2018 and 2019, the role of the State in production, distribution and marketing activities has returned. - Currently, cinema in Egypt is affiliated with four ministries: • key Ministries: Culture, Trade and Industry • Sub-Ministries: Planning and Finance.[25] - In 2018, the Ministry of Culture restructured the National Cinema Center and adopted plans to protect cinematic heritage.

[18] In recent years, the ticket price has been raised in an attempt to cover the larger expenses associated with fixed costs than to increase profitability.
[19] The company may have several theatres, but joins the Chamber in the name of each screen.
[20] A number of these companies are out of business due to the deterioration of the cinema industry.
[21] i.e. all workers in this field regardless of specialization or job grade.
[22] ECES, Labour Market in Egypt, Views on Crisis, issue no. 13, or Chapter 2 of this volume (page 53).
[23] ECES, the Informal Sector, Views on Crisis, issue no. 7.
[24] ECES, Education, Views on Crisis, issue no. 5.
[25] https://masrelbalad.com/home/single_news/1934

Financial obligations towards the State	The financial obligations of the cinema industry in Egypt towards the State are divided into two types: The first type is taxes, which are divided into taxes that are imposed on foreign and Arabic movie tickets as follows: Arabic movies: • Entertainment tax (5 percent) • VAT (5 percent) • Police fee (2 pounds per ticket). Foreign movies: • Entertainment tax (20 percent) • VAT (5 percent) • Police fee (2 pounds per ticket). There is double taxation between entertainment tax and value-added tax. As for the second type, it is the cost of services related to theatres such as electricity, where cinemas are treated as a commercial category, being the highest segments in terms of electricity cost: Electricity expenditures are estimated at no less than EGP 200 thousand per screen per year on average.
The relationship of Egyptian cinema with Arab and international cinema	- With the limited number of screens, the Egyptian cinema industry has become closely linked to the role of cinema in different Arab countries. Production companies show movies in several countries at the same time so that they can maximize revenue. This applies to all Arab countries, especially the UAE, Lebanon, Tunisia, Morocco, Algeria, and recently the Kingdom of Saudi Arabia, which promises this industry great prosperity as the Saudi cultural openness started in 2019.

Source: Prepared by ECES.

- Finally, the cinema industry was not affected by any of the crises mentioned other than the Revolution of January 25, 2011, with the negative impact being slight as cinemas were closed for only one month.

Third: Demand and supply shocks in the context of the crisis cycle

The global cinema industry was directly and significantly affected by the pandemic as a result of its association with gatherings as mentioned above.

The demand and supply shocks are defined as follows:

- **Demand shock:** Sudden change in the demand to watch cinematic shows and the audience's reluctance to go to theatres as a result of precautionary measures.
- **Supply shock:** Movie makers are unable to provide the required product in response to the demand shock or other causes linked also to the pandemic.

The impact of the crisis cycle on the cinema industry will be analyzed (Table 8.5) through monitoring the rate of unemployment of workers in this industry, the ability of investments to co exist, especially the ability of theatres to adhere to precautionary measures and make profit without additional investments. The analysis is based on the following concepts and assumptions:

1. Precautionary measures directly affect the cinema industry as a result of the curfew.
2. The standard traditional theater halls do not achieve the necessary precautions required for social distancing.
3. The economics of the cinema industry require occupancy rates of no less than 50 percent in order for the producers to accept showing their movies, achieving the minimum return on investment. This ratio is higher than average due to the lack of a guarantee of show continuation.
4. The presence of 40 percent permanent employment in the cinema industry means that production companies and theatres are burdened with expenses in the absence of any type of income.
5. The Egyptian cinema is directly related to the Arab cinemas, as well as the international cinema.
6. Closing theatres also affects the State's tax revenues.
7. The season of the cinema industry in Egypt is

associated with occasions such as Eid Al Fitr, Eid Al Adha, mid-year and year-end holidays, and Sham El-Nessim.

8. The return of cinematic activity depends not only on the return of travel and tourism activities, but also on the easing of precautionary measures.

9. The impact on the cinema industry revenue was calculated in relation to the 2019 revenue.

Table 8.5. Potential Scenarios for the Impact of the Crisis on the Cinema Industry, based on the Aforementioned Crisis Cycle and Assumptions[26]

Stage	Demand and/or supply shock	Analysis	Impact
1. Emergence of the virus (December 2019 - January 2020)	• A slight shock started on the supply side. • There is no shock on the demand side at this point.	• The slight supply shock came due to the closure of cinemas in China due to the impact of the movie market in China on other cinematic markets globally. • The virus has not yet reached Egypt at this stage, so fear and anxiety have not spread among cinema goers.	• The closure of cinemas in China resulted in a decrease in revenues of foreign movies in Egypt with continued revenue from usual Egyptian movies, because until this stage there is no impact on Arab markets. • No financial pressure on producing companies to lay off labor or the like. • No effect on State revenue from taxes levied on box office revenue.
2. Start of the virus (February - mid-March 2020)	• Continued slight supply shock. • No demand shock yet.	• The virus has reached Europe, thus postponing shows of most European movies. • Some European film festivals have been postponed.	• Previous effect on Egypt continues. • A negative impact on theatres in Egypt due to limited new foreign movies.
3. The problem aggravates (mid-March to the end of May 2020)	• violent supply shock (aggravation of previous supply shock) • Violent demand shock	• A cabinet decision to close theatres in Egypt was issued on March 17, 2020. • A decision was issued to suspend events of public nature, including film festivals. • The Arab cinema market came to stop with significant impact on the revenues of Egyptian movies distributed in Arab countries as a result of taking precautionary measures. • Halting and postponing the filming of many movies as a result of precautionary measures and also due to the low optimistic outlook due to Saudi market joining the Arab markets.	• The movie sector lost EGP 270 million • (through the loss of both seasons of Sham Al-Naseem and Eid Al-Fitr).[27] The state lost EGP 288 million, which is the average tax return on tickets in recent years. • By surveying a sample of production companies, 40 percent of workers (200,000 workers) were not laid off nor their wages cut as of end of May. • theatres and production companies bear fixed costs with no return on investment[28] (each within its field) • Postponing cinematic activity means that 60 percent of workers in the sector (300,000 workers) will remain without work.
4. The crisis recedes (Last May-August 2020)	This stage is divided as follows: **From end of May to end of June:** The supply and demand shock continues almost like in the previous stage.	• According to State statements, theatres and other activities will reopen in mid-June, with precautionary measures followed. • According to the institutions concerned with the industry in many European countries, cinemas and cinema-related activities will reopen in late June with precautionary measures followed.	**The pessimistic scenario:** • Despite this opening, precautionary measures that will be taken will lead to a negative impact on cinema economics, as occupancy rates are expected to reach only 25 percent, which makes production companies reluctant to show their movies because cinema economics will not cover production costs. Therefore, there is a possibility of reducing wages or layoffs of some permanent workers (200 thousand workers).

[26] The scenarios presented depend on data collected by ECES.
[27] Assuming that 2020 will achieve 2019 revenue as a minimum and assuming the four seasons have the same weight of revenue as in 2019.
[28] Films remain packed.

Stage	Demand and/or supply shock	Analysis	Impact
4. The crisis recedes (Last May-August 2020) cont.	**From beginning of July to mid-August:** Gradual decline in supply and demand shocks.	• theatres in Egypt will continue open with precautionary measures followed. • The return of the European cinema market or non-return in the event of a setback.	**The optimistic scenario:** • theatres in Arab countries will also reopen, thus offsetting the weak revenues resulting from low occupancy rates in Egypt • The optimistic and pessimistic scenario continue according to the development of the disease in the Egyptian case. It is certain that in the event of postponing international movies expected to be shown in July, it will be a new setback for the international cinema and in turn the Egyptian cinema.
5. Recovery (beginning in September 2020)	• Supply and demand return to pre-crisis normal. • Return of supply and demand with the possibility of new shocks.	• Finding a vaccine and crisis recedes completely. • Reopening cinemas to their full capacity. • The return of cinema goers. • Producers move to complete filming suspended movies and produce new movies. • Full return of air traffic. • The return of film festivals. • Continued fluctuation regarding return of the virus locally and globally.	**The pessimistic scenario:** • Bankruptcy of production companies and layoffs. **The optimistic scenario:** • A third[29] of 2019 revenue is expected. [30] • Gradual return of the cinema industry, and thus a gradual return of its workers (500,000 workers). • Generating revenue for the state through taxes imposed on theatres. • Increasing income for cities in which film festivals are held, as cinema festivals contribute to supporting these cities at both economic and tourism levels.

Source: Prepared by ECES.

* These estimates should be read with caution, as expectations may require further reviews due to the developments that occur, whether related to the day-to-day spread of the virus, whose duration and scope are still unknown, or those related to any global or local developments that may affect the estimates directly or indirectly.

Table 8.6. Global Measures to Face Up to the Crisis

Country	Protection of workers in the sector at various stages of the industry[31]	Actions taken at the level of financial support and financing[32]	Actions taken at the administrative level[33]	Precautionary measures inside cinemas[34]	Actions taken at the level of film festivals[35]	To create new ways to distribute and show the film product[36]	Create a website or an online forum[37]	Establishment of a sector-specific relief fund (government support and financing facilities)	Attracting viewers to follow cultural activities electronically	Conduct training sessions for filmmakers	Focus on a specific type of movies
France	✓	✓	✓	✓	✓	✓					
Italy	✓	✓	✓	✓	✓						
Germany	✓	✓		✓	✓		✓				

[29] Opening is from the first of September.

[30] Part of what was lost in previous events is offset with the beginning of return of cinema in addition to the traditional summer vacation season.

[31] Such as the necessity of wearing gloves and protective masks, maintaining the rule of social distancing, and reducing the number of workers on site and other procedures.

[32] Examples of measures taken at the financing level include: setting support plans and increasing the budget for the movie sector in emergency situations, reducing the burden of taxes imposed on filmmakers in the current period, providing financial support through loans granted by banks, and postponing the due date of taxes and others.

[33] The measures taken at the administrative level were to hold meetings only through the Internet and various websites, and procedures for dealing safely at the administrative level.

[34] All cinemas have been closed in all countries, to be reopened in the coming months in the context of taking precautionary measures, such as maintaining social distancing with a distance of no less than 2 meters between each viewer and the other. Also, there are some countries that have not yet defined the precautionary measures that will be taken when opening theatres. There are some countries that have decided to subsidize the price of a movie ticket.

[35] One of the most important measures taken at the level of film festivals is the postponement of all film festivals to October, November and December, but there are some festivals that have decided to hold one of their parallel events through electronic communication.

[36] Some countries have distributed films through some viewing platforms without prejudice to the laws on intellectual property rights or the possibilities of viewing in specific times.

[37] Like Germany, which created a page to collect information about the international cinematographic market and film festivals around the world, as well as England, which created a forum to discuss all issues related to various segments of the sector.

Country	Protection of workers in the sector at various stages of the industry	Actions taken at the level of financial support and financing	Actions taken at the administrative level	Precautionary measures inside cinemas	Actions taken at the level of film festivals	To create new ways to distribute and show the film product	Create a website or an online forum	Establishment of a sector-specific relief fund (government support and financing facilities)	Attracting viewers to follow cultural activities electronically	Conduct training sessions for filmmakers	Focus on a specific type of movies
England	✓	✓		✓	✓		✓	✓			
Spain	✓	✓			✓				✓		
Sweden	✓	✓		✓							
Belgium	✓	✓	✓	✓	✓						✓
Bulgaria	✓	✓	✓	✓							
Croatia	✓	✓	✓	✓							
Czech	✓	✓	✓	✓	✓						
Denmark	✓	✓	✓	✓							
Finland	✓	✓									
Norway	✓	✓	✓	✓							
Iceland	✓	✓		✓							
Estonia		✓		✓							
Greece	✓	✓	✓	✓							
Ireland		✓	✓	✓						✓	
Lithuania	✓	✓	✓								
Malta		✓									
Netherlands		✓	✓		✓						
Poland	✓	✓	✓	✓	✓						
Portugal	✓	✓		✓	✓	✓					
Romania		✓									
Serbia	✓										
Slovakia	✓	✓	✓	✓	✓	✓					
Slovenia		✓	✓								
Switzerland		✓			✓	✓					
Ukraine					✓						

Source: Prepared by ECES based on data about European cinema's response to the crisis.[38]

Fourth: Interventions required to mitigate the effects of the crisis

1. Reducing taxes imposed on movie tickets for a period of six months so that the owners of theatres and producers can offset losses they incurred during the current period, or at least until the industry returns to its usual levels of occupancy.
2. Revisiting the tax burden on the movie sector and eliminating double taxation.
3. Postponing the tax obligations of the producing companies and theatres until the end of the year so that they can recover from the crisis.
4. Adopting measures similar to those taken by other countries (Table 8.6) in an integrated manner combining facilitating the implementation of precautionary measures by the State and financial support for the industry.

[38] https://cineuropa.org/fr/newsdetail/388352/hello

5. Adding the cinema industry to other sectors that benefit from the soft loans provided by the central bank during the crisis, as current conditions of loans do not suit the needs of the cinema industry.[39]
6. Classification of the cinema industry in an intermediate category (between manufacturing and commercial activity) so the cost of electricity and others is reduced and in order to help the sector postpone its obligation to pay rent to commercial centers until the industry gradually returns to normal.
7. Contribute to movies that are produced during the crisis period by allocating some of the state-owned advertising sites for free until the end of 2020, that is until the cinema gradually returns to normal in both operation and revenues.
8. Consulting with workers in this industry with a view to developing quick and detailed software for more comprehensive digital platforms than the ones currently in place, so that preparation can be made, even partially, if the current crisis persists or repeats.

Fifth: Institutional weaknesses revealed by the crisis

1. One body should be responsible for the cinema industry rather than the current institutional fragmentation, provided that this body is similar, for example, to the National Center for the Cinema in France.
2. Reaching a fundamental solution to the problem of piracy by updating and activating the intellectual property law, especially that the last electronic crime law does not address this problem.
3. To support the industry by establishing a fund whose financing depends primarily on a percentage of the entertainment tax imposed on the foreign movie ticket,[40] as it has annual continuity that guarantees continuous funds. This should preferably be related to the number of copies allowed for a foreign film in order to maximize revenue and thus provide additional resources to support the local cinema industry, for example, support for youth and experimental movies. [41]
4. More generally, the State's resumed support of the movie industry as a labour-intensive and economically promising industry through specialized programs as in other countries, regardless of the Corona crisis, and as was happening in Egypt before the crisis, such as: support provided from the Export Development Authority, which was offered for only two years before 2011, as well as the support provided by the National Center for Cinema, which amounted to EGP 20 million and was given for only two years, then stopped in line with benefits received from the Industrial Modernization Centre.
5. Banks should study the financing needs of the cinema industry, taking into account the special nature of this industry, in consultation with filmmakers.
6. Increasing the number of screens through the use of cultural palaces as additional cinema theatres and introducing the procedural or legal changes required. This expansion achieves more geographical and cultural justice. In addition, considering the provision of land in appropriate places at nominal prices that motivate investors to establish modern theatres, especially in non-urban provinces.
7. Cancelling all bureaucratic and customs procedures[42] related to prohibiting foreign filming in Egypt to generate income for the State.
8. The State should play its role as a regulator of the industry and not a direct participant in production and / or distribution, as most successes of the global cinema industry operate as per this model.
9. There should be a good and strong representation of the Egyptian cinema industry in various international festivals such as the Cannes Festival and others as commensurate with its heritage and its great cinematic history, regardless of whether or not Egyptian movies are shown in the festival. [43]
10. With the opening of new cinematic markets in many Arab countries, Egypt needs to promote the Egyptian cinema industry, and transfer the Egyptian expertise in this field to these countries by encouraging productive and marketing partnerships and others.

[39] Mentioned in institutional weaknesses.
[40] For example, the difference between the entertainment tax on foreign movie tickets (20 percent) and the entertainment tax on the Egyptian movie ticket (5 percent) is placed into the fund (15 percent).
[41] This proposal relates to studying the possibility of not limiting the number of copies of foreign movies in order to increase revenue.
[42] Most problems in this area are related to customs procedures.
[43] In the framework of spreading the Egyptian film internationally.

9. Manufacturing Industries - Industries that Benefited from the Crisis: Pharmaceutical Industries

Lead Researcher: **Salma Bahaa**

First: Brief description on the issue of the report

The pharmaceutical sector is one of the most critical sectors that acquires special importance among the rest of the manufacturing industries for several reasons, including:

- It is one of the necessary industries that affects human health and is closely related to the health care sector.[1]
- It is a large manufacturing industry with high added value and a different profitability rate.
- Drugs are inelastic goods, on which demand continues even with higher prices, as it is a necessary commodity whose lack affects human health. Even if there are some available substitutes sometimes, the demand for them remains inelastic, but with a different degree of elasticity.[2] The demand for drugs is also derived from high rates of disease prevalence, especially chronic diseases.
- Being an inelastic commodity makes it not much affected by periods of depression or economic recession, especially with the high prevalence of diseases. It is also not very affected by imposing precautionary measures, such as curfews, etc. As pharmacies and clinics are always excepted from these measures.
- The pharmaceutical industry is also characterized by an inelastic supply; as it is an industry with intensive research and development. Especially in Egypt, where the activity of scientific research is very low and the active pharmaceutical ingredients (APIs) are imported from abroad.
- The nature of the pharmaceutical products market varies; as it is oligopolistic by nature, of the smallest company reached $108.6 billion. where few companies dominated large proportions of the market, especially in Egypt, where this proportion is under the control of multinational companies.
- Lack of studies that dealt with the pharmaceutical industry in Egypt, especially recently.
- Its role as an industry has clearly emerged with the current Covid-19 crisis, especially with the majority of opinions turning to classifying it as an industry that benefited from the crisis, but the real impact of this will arise through assessing the situation in this report based on a detailed economic analysis of the current situation.

Below is a description of the structure of the pharmaceutical industry, starting with a global picture of pharmaceuticals production, then a description of the value chain and an analysis of the main features of the pharmaceutical industry in Egypt.

1.1 The global picture of the pharmaceutical market

The global pharmaceutical market is estimated at $1.25 trillion in 2019.[3] The pharmaceutical industry is characterized by an oligopolistic nature, its market is subject to what is known as "oligopoly power. "It means the control of few companies over the market share of pharmaceutical products. Figure 9.1

[1] The percentage of Health care spending to the GDP is considered very low (4.2 percent) compared to the global average (9.9 percent), or even to the average prevalent in the Arab countries (5.3 percent) or in the MENA region (5.2 percent). The private sector finances 68 percent of health care expenditures, while the government spends only 32 percent of it (Shuaa Securities 2020). See ECES, the Health Sector, Views on Crisis, issue no. 10,

[2] Price elasticity of demand is an economic measure of the response of quantity demanded or purchased of a product to its price change. Expressed mathematically as: Price Elasticity of Demand = % Change in Quantity Demanded / % Change in Price. A commodity is considered elastic if the change in the quantity demanded is greater than it in the price as its value is greater than one such as luxuries, and vice versa if the change in the quantity demanded is less than it in the price, then the commodity is considered inelastic good and its value is less than one, such as necessities and essential commodities like pharmaceuticals, some food products, etc.

[3] https://www.statista.com/statistics/263102/pharmaceutical-market-worldwide-revenue-since-2001/

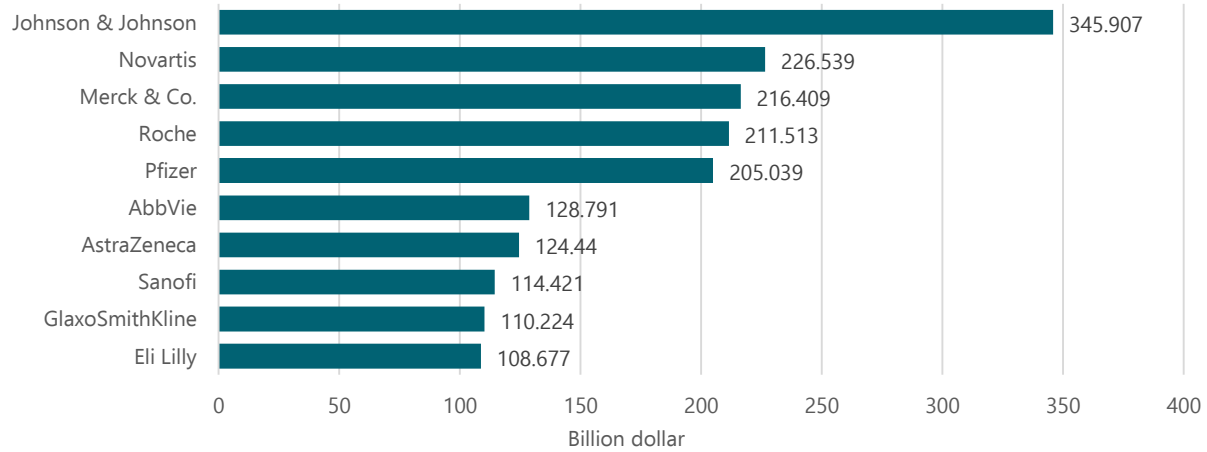
below shows the market cap of the top ten pharmaceutical companies in the world in November 2019, noting the following:

- The huge market cap of these companies in a noticeable way, so that the market share of the smallest company reached $108.6 billion.
- Johnson & Johnson tops the list with a market cap of about $346 billion,[4] classified as the single company with a market cap of over $300 billion, followed by Novartis, with a difference of about 35 percent.
- The rest of companies are divided into two groups, the first group includes companies with a market share that exceeds $200 billion, starting with Novartis and ending with Pfizer in the fifth place, with a difference of 37 percent from the next company, which is AbbVie representing the first company in the second group, the group of $100 billion, which includes four other companies.

But the matter differs with regard to the share of countries in pharmaceutical exports. Globally, in 2019, Germany is the top country exporting pharmaceutical products, followed by Switzerland and the Netherlands, while the United States is ranked seventh, followed by the United Kingdom. India is also ranked 11th, and China is ranked 19th, probably because they have a wide market for the production and export of active pharmaceutical ingredients (API).[5]

The pharmaceutical sector, of course, is more dependent than any other industry on research and development (R&D). This is due to the continuous need and importance of inventing new drugs, for public health and/or for manufacturers. As the latter retains the patent for a period of 20 years, after which other companies have the right to offer similar (generic) medicines, which forces companies to move to a new invention to preserve their market share. Therefore, the pharmaceutical sector accounts for the largest share of research and development activities[6] (15 percent compared to 10.6 percent in the information technology sector and 5.9 percent in the automotive and engine industries), according to the latest available data.[7] The United States contributes with the largest share of spending on research and development in the pharmaceutical field reaching 58 percent of total spending on research and development in this field worldwide, followed by Japan with 13 percent, then Switzerland and the United Kingdom at 7 percent, then Germany (6 percent) and France (5 percent) in 2019.[8]

Figure 9.1. Market Share* of the Top Ten Pharmaceutical Companies Worldwide in November 2019



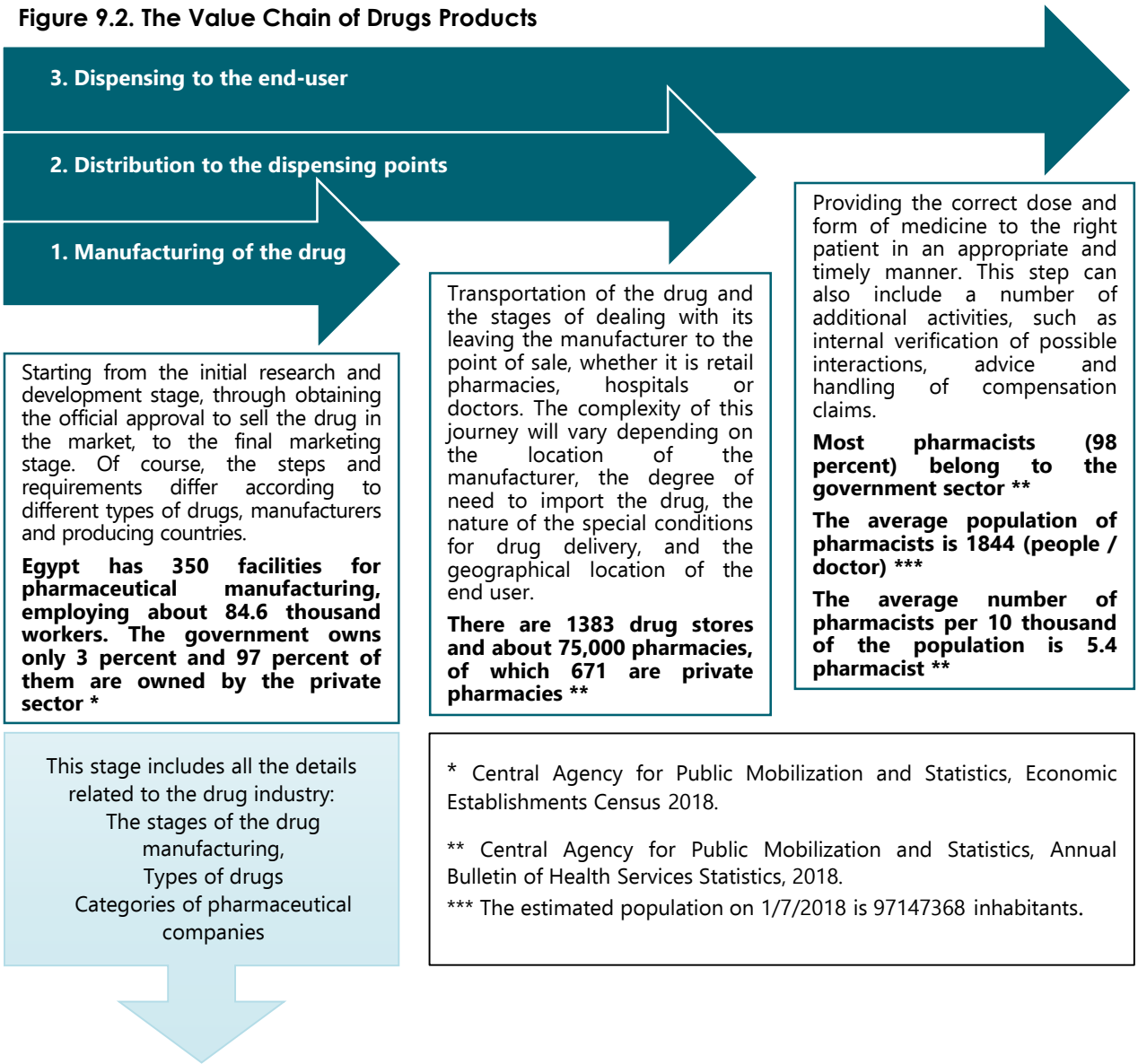
Source: https://www.genengnews.com/a-lists/top-10-pharma-companies-of-2019/
* Based on Market CAP.

[4] Johnson & Johnson's high market share is likely due to its large-scale cosmetic products line, especially for children. This means that pharmaceutical companies do not necessarily produce pharmaceutical products only.
[5] The market for producing or exporting APIs is a very competitive market, concentrated in the United States and the European Union, and throughout Asia, specifically in India and China http://www.worldstopexports.com/drugs-medicine-exports-country/
[6] The industry's R&D weight represents R&D spending as a percentage of net sales in 2016.
[7] European Federation of Pharmaceutical Industries and Associations (EFPIA).
[8] https://www.abpi.org.uk/facts-and-figures/science-and-innovation/worldwide-pharmaceutical-company-rd-expenditure-by-country/

1.2 The value chain of the pharmaceutical industry in Egypt

The following figure shows the value chain associated with drug production in general, which includes three main components: drug manufacturing,[9] distribution and end-user access. Figure 9.2 shows the details of each stage (IMC 2004) and the status of Egypt in each of them.

Figure 9.2. The Value Chain of Drugs Products



1.2.1 Stages of drug manufacturing:

The manufacture of all pharmaceutical products goes through three stages. The first and main stage includes the production of bulk pharmaceutical chemicals (BPCs) and active pharmaceutical ingredients (APIs). The second stage involves converting BPCs, and APIs, into a dosage form of tablets and capsules, topical creams, ointments and powders, injections, and others. As for the third stage, it includes packing products in their final form, storage and distribution at points of sale. For most Egyptian pharmaceutical

[9] For a detailed description of components of the drug industry, see Appendix No. A9.1.

companies, the pharmaceutical industry falls only in the second and third phases due to the almost total dependence on imported APIs (the number of pharmaceutical factories in Egypt reaches 158, while those that manufacture the raw materials do not exceed two factories[10]), as will be shown later.

1.2.2 Types of pharmaceutical products:

Medicines are divided into the following four main types: **Innovative drugs**, which are the ones that were invented as a new chemical product, and thus are patent-protected from imitation or reproduction; **generic drugs**, which are copies of innovative products that are out of protection, i.e., past their patent protection period, with different types and periods of protection; medicines with **"Added-Value Generics,"** where products rely mainly on copied molecules, but have been changed to give original added product properties; **branded drugs** with international pharmaceutical companies experiencing increasing proportions of their product portfolios being off-protection, significant efforts are applied to build-up brand loyalty to a product before it reaches this status. Due to the regulatory framework and practices in place in Egypt, only a few of the first type are available in the local market, and thus this group of products will not be covered in detail in this report. Pharmaceutical manufacturers in Egypt mainly produce the first and last types of drugs, which are "generic drugs" and "branded drugs," due to the weak capabilities of research and development to create new or high value added medicines, in addition to the control of multinationals, which hold patents for many drugs for long periods; controlling over two-thirds of the market. Thus, the previous two types become the cheapest accessible alternative for them in light of the Ministry of Health pricing ceiling and the high cost of obtaining APIs, as will be shown later.

1.2.3. Categories of drug manufacturers:

There are five categories of drug manufacturers: **Pharmaceutical Innovator and Manufacturing Companies** (PIMCs), which includes research and development activities to launch new dose products in the global market under international patent protection; **pharmaceutical innovator companies** (PICs), which focus on introducing new products to PIMCs, referring to the most important field in this activity as biotechnology; **pharmaceutical development support companies** (PDSCs), which take over the elements of the research and development process for new products by assigning third parties or so-called outsourcing services on behalf of PIMCs; **pharmaceutical manufacturing companies** (PMCs) that do not attempt to launch "innovative" products and focus on the manufacture of license-expired (generics and others) products; **pharmaceutical sales companies** (PSCs), which conduct sales on behalf of PIMCs, and PMCs. For Egypt, the drug is manufactured through the last two categories of companies: producing generic and marketing and selling drugs, due to the low costs and production capabilities compared to other companies.

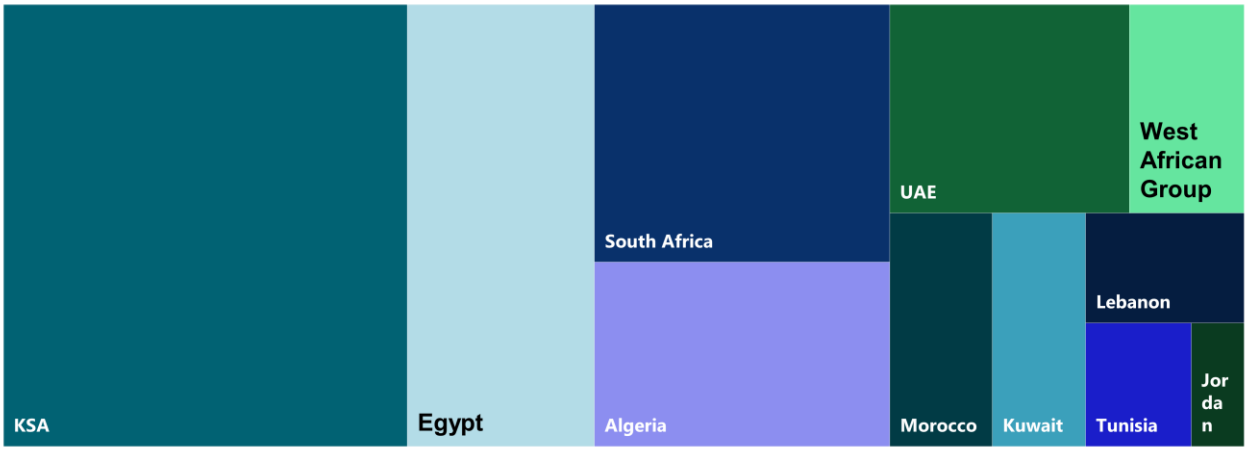
1.3 Main features of the pharmaceutical industries in Egypt

1.3.1 Egypt's regional status

Egypt achieved the highest growth rate in the Middle East for drug consumption (sales) in 2018, according to the IMS[11]. As Figure 9.3 shows, Egypt ranks second in the region after Saudi Arabia in terms of its share in the region's total market value of drug sales, followed by South Africa and Algeria, while the United Arab Emirates comes in fifth, and Jordan lags behind with a small share.

[10] ECES webinar held in May 2020, entitled "What Does the Localization of Industry Mean in the Egyptian Case"
[11] IMS is now IQVIA https://www.iqvia.com/

Figure 9.3. Countries' Share in the Total MENA Region in Terms of Drug Market Sales Volume, 2018[12]



Source: IQVIA, Middle East & Africa Pharmaceutical Market Insights, June 2019.

While the picture changes when Arab countries are ranked in terms of pharmaceutical exports, so that Jordan comes second after Saudi Arabia, which ranks 44th globally, followed by Morocco (65) and then the United Arab Emirates (67), while Egypt comes in 69th among pharmaceutical global exporters,[13] in 2019.

1.3.2. Drugs foreign trade

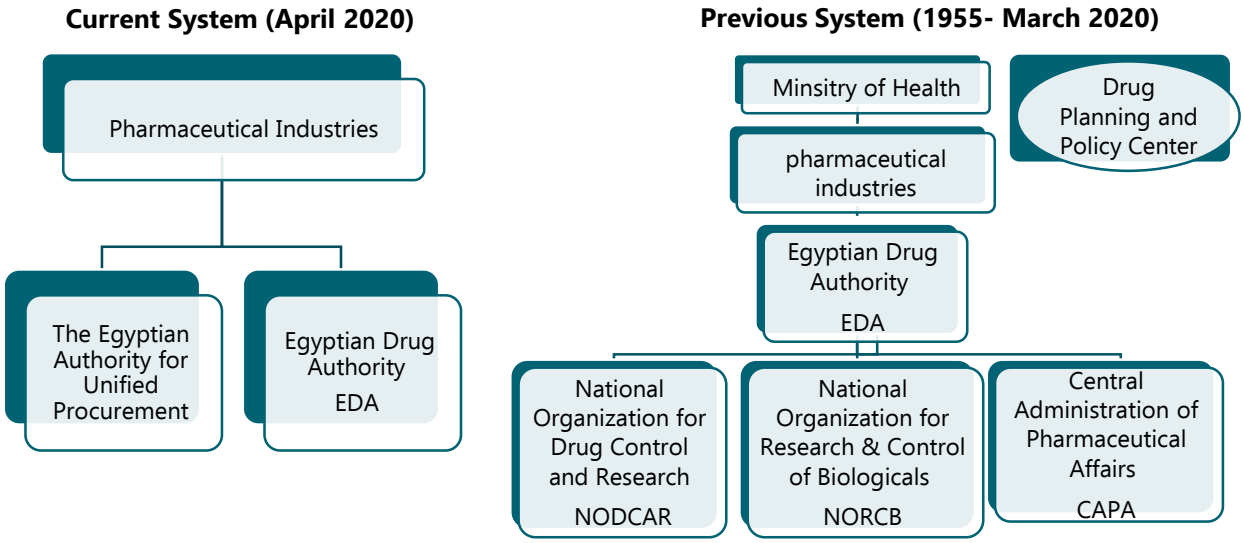
Despite the huge market value of Egypt's drug sales in the Middle East, it is not the most advanced in its industry, as Egypt's increasing production of pharmaceuticals has not been coupled with the promotion of research and development nor successful attempts to manufacture the active ingredient instead of importing foreign active pharmaceutical ingredients (API).[14] Egypt imports (CAPMAS 2015) the largest part of its inputs of active materials, packaging requirements, etc., or final products of medicines and medical supplies from abroad; more than 90 percent of raw materials used in local production are imported, which covers 93 percent of domestic consumption.

1.3.3. The regulatory framework for the pharmaceutical industry in Egypt

The regulatory framework governing the drug industry in Egypt has been completely restructured with the issuance of Law No. (151/2019),[15] which states for the establishment of the Egyptian Drug Authority (EDA) and the Unified Medical Procurement Authority (UMPA), with the aim of developing the health system, providing medicine on a regular basis, and facing monopolistic practices in the sector and the development of the medical industry, in addition to countering the phenomenon of counterfeit medicines. This is provided that these two bodies assume all responsibilities of managing the entire system replacing the Ministry of Health, all previous supervisory and research bodies and other administrative units and entities concerned with pharmaceutical, medical cosmetics and medical requirements. Details of the powers of each of the two bodies are given according to the law in Appendix No. (A2). The following figure and table illustrate the difference between the previous and current organizational structure for managing the pharmaceutical sector.

[12] Last quarter of 2018.
[13] http://www.worldstopexports.com/drugs-medicine-exports-country/
[14] https://www.ngage-consulting.com/downloads/Pharmaceutical_PDF_Final_Version_K_and_A.pdf
[15] Law provisions: https://manshurat.org/node/61255

Figure 9.4. Previous and Current Organizational Structure Managing the Pharmaceutical Industry in Egypt



Source: Prepared by ECES based on information of the Egyptian Drug Authority, and the provisions of Law No. (151/2019).

Table 9.1. Previous and Current Regulatory Framework for the Pharmaceutical Sector Affairs in Egypt

Previous (1955 - March 2020)	Current (from April 2020)
Egyptian Drug Authority (EDA), *Law (1955/127):* Reports to the Ministry of Health and supervises three regulatory bodies:	**1- The Egyptian Drug Authority (EDA),** *Law (151/2019):* An independent body whose president has the rank of minister • It replaces the Ministry of Health and Population with regard to this sector, and the Chairman of its Board of Directors replaces the Minister of Health and Population in all the authorities stipulated in Law No. 127 of 1955, so that it exclusively takes over the competencies prescribed for the Ministry of Health and Population, public bodies, and government departments in regulating registration, pricing, circulation and control of medical cosmetics and medical supplies subject to the provisions of the law and raw materials used in their manufacture. • The authority exclusively undertakes all the organizational, executive and oversight authorities necessary to achieve the objectives entrusted to it and the objectives to be achieved in accordance with the international standards of the regulatory bodies. The Drug Control and Research Authority Fund (Republican Decree 404/1983) and the Drug Planning and Policy Fund devolve to it.
1. Central Administration for Pharmaceutical Affairs (CAPA): It is responsible for approving the marketing of products in Egypt, licensing factories and implementing GMP standards for pharmacies.	
2. The National Authority for Drug Control and Research (NODCAR), *established by Republican Decree 382/1976:* It is responsible for ensuring the quality of the pharmaceutical products available in Egypt. It is concerned with granting approvals for the quality of each batch produced inside Egypt, whether intended for sale locally or for export.	
3. The National Authority for Research and Control of Biological Products (NORCB), *established by Republican Decree (398/1995):* It is responsible for ensuring that all vital biological and vaccines used meet the required quality, in accordance with international approved indicative standards. It is also responsible for licensing the registration and marketing of products, monitoring and control of marketing processes, access to laboratories and tests, and supervision of clinical trials.	

Previous (1955 - March 2020)	Current (from April 2020)
In addition to the Center for Drug Planning and Policy of the Ministry of Health under Law (127/1955), which coordinates the registration and pricing of food and drug products.	**2.The Egyptian Authority for Unified Procurement, Medical Supply and Technology Management (AUPP)** An independent body whose president has the rank of minister ● It exclusively undertakes the procurement of human medical supplies and supplies for all government agencies and bodies, in return for paying a purchase fee that does not exceed 7 percent of the net value of what the authority purchases for the authorities, bodies and companies referred to in the law, without adding customs or the value added tax or other costs. ● It coordinates with pharmaceutical and medical supplies companies, whether government, private, foreign, local or international, subject to the provisions of this law, to enhance the state's strategic medical stock to meet any exceptional circumstances that need urgent intervention and requires providing capabilities that exceed normal needs in stable conditions.

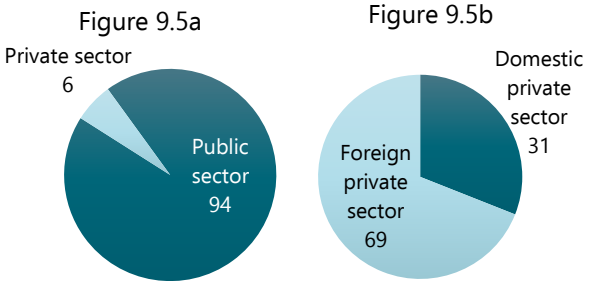
Source: Prepared by ECES based on information of the Egyptian Drug Authority, and the provisions of Law No. (151/2019).

By analyzing the main differences between the previous and current systems, compiling the opinions of some of the concerned drug companies, it is clear that one of the most important advantages of the new system is dealing with only one entity, which shortens measures, as well as achieves economies of scale in purchasing that allow for lower prices and better benefits. However, with these advantages of centralization, there are disadvantages represented in the monopoly of activity and the absence of detailed executive regulations. The disadvantages extend to the focus on purchasing at low prices as the sole objective in purchasing medicines and medical supplies. The result of this may be the exclusion/escape of local investments as a result of their inability to fulfil the needed requirements and thus depending more on international companies and imports. This is detrimental to the sector in the long term and is already felt in medical supplies.[16] This is in addition to the overlapping roles and tasks between the previous and current systems so far.

1.3.4. Structure of pharmaceutical production in Egypt

The public sector contributes to the pharmaceutical industry in Egypt by a very small percentage, amounting to only 6 percent, through 11 companies working in the manufacture, export and import of medicines and medical supplies, and it is affiliated to the Holding Company for Medicines, Chemicals and Medical Supplies. while 94 percent of the market share belongs to the private sector. Consequently, the government sector's production of medicines does not exceed 20 percent of total production, while the private sector produces about 80 percent of the medicines in Egypt. Hence, the dominance of the drug market by private sector companies, whether local or multinational, becomes evident, with the second accounting for 69 percent, while the first accounting for 31 percent of the drug's market share in 2018 (Figure 9.5).

Figure 9.5. The Sectoral Structure of the Pharmaceutical Industries in Egypt in 2018

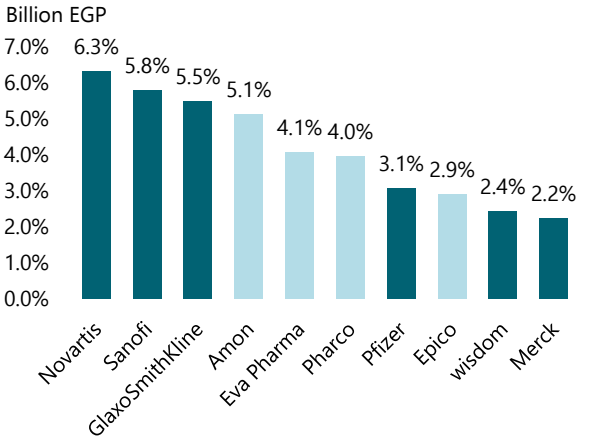


Source: SHUAA Securities Research, the Egyptian Pharmaceutical Industry: A Sectoral Vision, January 2020.

Regarding pharmaceutical companies in Egypt, the three companies, Novartis, Sanofi and GlaxoSmithKline, top the list of largest multinational companies in terms of the relative weight of their sales in the Egyptian market in the first quarter of 2020. While Amon, Eva and Pharco are at the forefront of the local pharmaceutical companies, as shown in Figure 9.6 (SHUAA Securities 2020).

[16] It is noted that the medical supplies are not the subject of this report, but they are mentioned because of their direct relationship with the method of dealing with the unified procurement authority.

Figure 9.6. The Relative Weight of the Sales of the Top 10 Pharmaceutical Companies in Egypt, Q1 2020

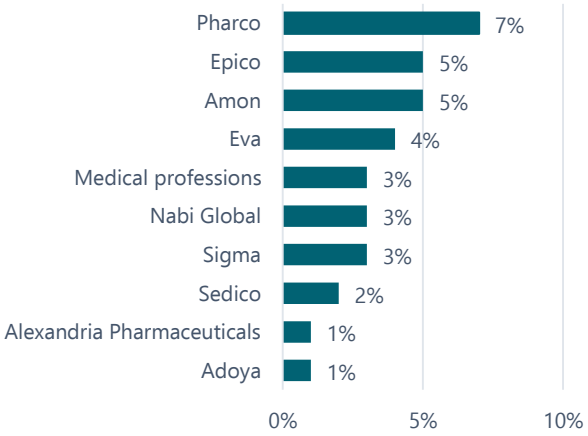


Source: Own calculations based on data from Al-Borsa newspaper (quoted by IMS).[17]

1.3.5. Volume of drug production in Egypt

The size of the drug market in Egypt is estimated at 400 billion Egyptian pounds.[18] Pharmaceutical production contributed to the GDP by 1.3 percent during 2016/17.[19] The volume of investments in the pharmaceutical industry in Egypt is estimated at EGP 80 billion (8.6 percent of total investments in 2018/19), equivalent to annual production of 2.5 billion medicine packages.[20] In terms of volume, Generic drugs represent the largest percentage, equivalent to 69.3 percent of the total pharmaceutical produced packages. In terms of value, Generic drug sales account for nearly two-thirds of the market, which represents 1.5 times the value of sales of patented drugs and generic drugs of foreign companies combined, whose total number is 89 companies that produce 1566 pharmaceutical types compared to 209 companies producing generic drugs and producing 4184 pharmaceutical types; in the private sector. This is in addition to 1400 companies working in manufacturing for third parties.[21] Figure 9.7 below shows the top ten Egyptian companies producing generic drugs in 2017. Pharco tops the list with a market share of 7 percent compared to 5 percent for both Eipico and Amon in second place, while the two companies of Alexandria—affiliated to the Holding Company for Medicines—and Adoya lag behind with a very small market share of 1 percent.

Figure 9.7. Top Ten Companies in the Production of Generic Drugs in Egypt by Market Share in 2017



Source: pharmaboardroom.com.

1.3.6. Pricing the pharmaceutical products

Drug pricing is one of the most important problems facing the pharmaceutical industry in Egypt, as it represents a constant point of contention between the three heads of the pharmaceutical industry triangle: state regulatory authorities, pharmaceutical factories and the final consumer. This is due to several factors that overlap, forming the drug pricing problem in Egypt, the most important of which are:

- **The compulsory pricing system of the medicine:** Pricing medicine in Egypt was usually conducted according to the system approved in August 1988 as per Resolution No. 314/1991. It adopts the (cost +) method or what is known as the Cost Plus Formula, whereby a profit margin is determined for the

[17] https://alborsaanews.com/2020/04/29/1329259
[18] https://www.almasryalyoum.com/news/details/1471794
[19] Own calculations based on the Ministry of Planning and Economic Development data of GDP.
[20] An ECES webinar held in May, 2020, entitled "What Does the Localization of Industry Mean in the Egyptian Case".
[21] Personal interviews with experts in the field of pharmaceutical industries, Dr. Jaber Awad, former president of the Pharmaceutical Export Council.

producing company within 25 percent of the total cost, with the exception of the list of essential medicines that get a profit margin of 15 percent on their production, with an 8 percent profit margin for the distributor and 20 percent for the pharmacist.[22] By 2009, this pricing methodology was changed and replaced, as per Decision No. 373/2009, with a reference system based on comparison with other countries' prices through a basket of 36 countries that includes Canada, European countries and the Gulf states, with these prices reviewed every three years (SHUAA Securities 2020).

In 2012, it was amended by Resolution No. 499/2012, whereby the profit margins of pharmacies were increased, and the margins of drug-producing companies reduced.

- **Exchange rate floating decisions**, that directly raise the prices of raw materials and intermediate inputs needed for drug production, which are 90 percent imported from abroad, in addition to imports of final pharmaceutical products. Consequently, producers with the fixed price ceiling of the Ministry of Health suffer from greatly increasing production costs, which put pressure on their profit margins, hence stopping their production of some important medicines. State-owned companies do not have this option, which causes a bigger problem. This prompted the government to raise the prices of some medicines after floating the exchange rate in 2016 as a first round (20 percent with a minimum of 20 EGP per package), and then in early 2017 as a second round (30-50 percent according to different price groups) (N Gage Consulting).
- **High oil prices**, as the prices of some types of active ingredients are linked to oil prices due to its direct entry into their manufacture, for example petrochemical products that are chemically extracted from petroleum products.
- **Agreement on Intellectual Property Rights-TRIPS:** The main challenge in signing the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) is to tighten the siege on local drug producers due to the commitment to the right to invent the drug, which resulted in a decline in research and development opportunities due to its high cost, lengthy validity of the license, the exit of some local manufacturers as a result of the high cost of drug licenses, the high cost of the final medicine and the raw materials, and hence the effect on the trade balance, with a decline in the share of the local industry in the market, and the control of multinational companies and their penetration in the local market. These consequences were exacerbated by Egypt's failure to fully exploit the ten years preceding the implementation of this agreement in preparing for it through adopting effective policies instead of continuing to adopt intensive defensive policies that led to a decline in the performance of the sector as a whole.
- **Monopolizing the pharmaceutical industry:** This is due to the decline in the role of the government sector in the production of medicine and the erosion of its share from 60 percent two decades ago to only 6 percent compared to the private sector companies, especially international ones. They control two-thirds of the market.
- **The repeated mergers and acquisitions**, whether between international companies or between them and local companies in developing countries, which led to the ease of monopolizing market and its polarization by a small number of companies.
- **Circumvention of drug companies to adjust prices**, meaning effecting a cosmetic change

[22] Healthcare issues with application to the pharmaceutical sector in Egypt, Central Agency for Public Mobilization and Statistics, May 2015.

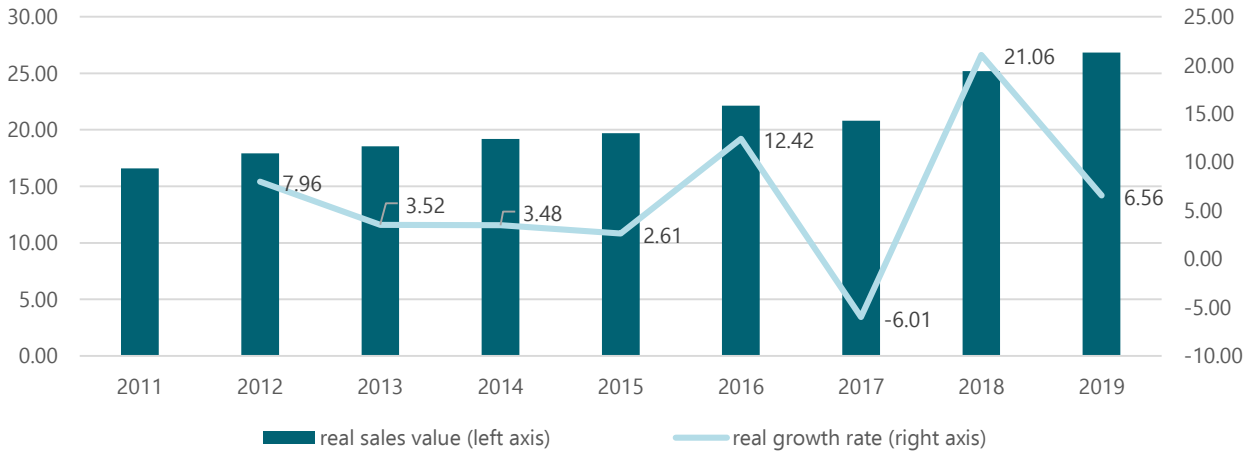
to pharmaceutical products or updating the package so that the drug is re-priced. This made it easier for multinational companies to manipulate the prices of their products in light of the lack of control, which negatively affected local producers (CAPMAS 2015).

- Other factors related to raw materials pricing mechanisms, which may be subject at times to the exaggeration of major investment companies in agreement with the approved suppliers. Also, the lack of a mechanism for adjusting prices has resulted in unfair individual differences in adjusting prices between companies, which necessitates adopting transparency principles in dealing with the pricing process (CAPMAS 2015).

Figure 9.8 below shows the development of growth rates of drug sales in real terms in Egypt for the period 2011-2019, noting the following:

- Drug sales witnessed fluctuating growth over the past decade, reaching their first peak in 2016, with a marked increase compared to 2015, possibly due to the wave of price hikes approved by the Cabinet in May 2016 by 20 percent for medicines less than EGP 30, as a direct result of the shortage of about 4000 items (N Gage Consulting 2017).
- The growth rate fell to its lowest level in 2017 due to the float of the local currency exchange rate in November 2016. This caused a sharp decline in the growth rate of pharmaceutical sales to -6 percent, cutting short the temporary recovery between 2015 and 2016.
- Sales recovered to their second peak in 2018, due to two factors: The first is the second wave of price hikes in 2017, according to the decision of the Minister of Health in January 2017 to raise the prices of 3010 drug types by 30-50 percent within a new pricing system, in an attempt to correct the effects of floating the Egyptian pound. The second reason lies in the negative base of the growth rate in 2017, which contributed to the high growth rate.
- This strong return to the growth rate in 2018 did not last for long, as there are still complaints of high import costs and foreign companies' monopoly on the market, it declined to 7 percent, which was the prevailing rate at the beginning of the series.

Figure 9.8. Evolution of Real Values* of Sales of Pharmaceutical Products and their Growth Rates in Egypt, 2011-2019



Source: Own calculations based on Pharma Boardroom data, and CAPMAS data.
* The CPI series adopts 2010 as a base year.

Second: The impact of previous crises

The analysis in the previous sectors has been linked to two major crises: the global financial crisis of 2007/08 and the repercussions of the 25-January Revolution in 2010/2011. As for the pharmaceutical sector, the market has been clearly affected by two additional crises over the past decade. The health crisis as a result of the spread of the bird-flu virus in 2006 and swine flu in 2010, and the repercussions of the decision to float the Egyptian pound exchange rate in 2016. The following are some details of each of the four crises in their chronological order:

1. **The spread of influenza epidemics (Bird flu 2006 – swine flu 2010)**

   The direct impact of the bird and swine flu epidemics on the drug market in Egypt is divided into two phases:

   - **The first phase** includes the spread of the virus, which slightly puts pressure on antibiotics, antipyretic and preventive vaccines, because it coincided with the winter season, in which seasonal influenza infection is mainly high, thus the demand for the same types of drugs is accordingly high.

     In the case of swine flu, the Tamiflu vaccine was introduced by foreign companies and imported from abroad at a cost of EGP 60 million for 1.9 million doses. the Nile Drug Company registered it and put it on the market 6 months after its appearance[23]. In other words, local firms did not benefit in the first six months.

   - **The second phase**, which is the stage of the virus receding, whose effect was to reduce the profits of some companies as a result of the decline in sales of antibiotics and vaccines. In the case of swine flu, only a few companies (such as GlaxoSmithKline, the Nile Company, being the only local company that recorded Tamiflu vaccine) achieved a significant decrease in profits as the disease subsided.

2. **The global financial crisis (2007/08) and the 25-January revolution (2010/2011)**

   Figure 9.9 shows that imports have increased significantly in the two periods between 2007 and 2008, and between 2010 and 2011, that is, after the global financial crisis and the January 25 revolution.

3. **Repercussions of floating the Egyptian pound (November 2016)**

   The Egyptian government's decision to float the exchange rate in November 2016 greatly affected the performance of the pharmaceutical industry. This was clearly evident in high production costs due to the high cost of importing intermediate inputs. As shown in Figure 9.9 below, exports have fluctuated clearly, up and down, around the same rate over the past decade, while imports continued to grow over the years, except for 2016-2017, especially due to the floatation of the Egyptian pound, which doubled the cost of production inputs, with a dual effect on the trade balance of the pharmaceutical industries:

   - Producers were unable to reduce the prices of their products in foreign markets.
   - The import proceeds decreased as a direct result of the almost total dependence of the pharmaceutical industry on imported active ingredients.

Figure 9.9. Development of Egypt's Exports and Imports of Pharmaceutical Products, 2007-2019

Source: UN COMTRADE International Trade Database.

[23] Al-Mal newspaper, "The decline in swine flu deprives pharmaceutical companies of antibiotic sales growth," February 2010.

Third: Demand and Supply Shocks in the context of the Crisis Cycle

In this section, we analyze the impact of Covid-19 on the Egyptian drug market according to supply and demand shocks during the stages of the crisis cycle illustrated in Figure 9.10. The following is a definition of the supply and demand shocks of pharmaceutical products.

- **Demand shock:** The huge increase in demand for pharmaceutical products and disinfection and sterilization supplies more than usual.
- **Supply shock:** Inability of the pharmaceutical sector to meet the needed medicines, disinfection and sterilization supplies.

Table 9.2 below presents the impact on the pharmaceutical sector during the crisis cycle, by analyzing what has already been achieved on the ground in the previous period, providing a descriptive analysis of the current situation, as well as presenting possible future scenarios starting from August 2020[24] in light of the following concepts and assumptions:

- Egypt depends almost entirely on importing active ingredients and production requirements.
- Both the supply and demand of drugs are derived from the development of the health status (degree of disease prevalence), which is directly related to reaching a vaccine.
- The method of managing the disease treatment system by the Ministry of Health directly affects the drug market.
- The prevailing uncertainty controls the health situation regarding the development of the virus and its repercussions on the pharmaceutical sector, as it is a new strain with a possible new mutation (as happened in China), and therefore it is not expected that a vaccine will be reached soon.
- The pharmaceutical sector is largely unorganized, causing monopolies and price speculation.
- Workers in the pharmaceutical sector are more susceptible to disease, just as doctors, as a result of their interaction with patients or potential patients.
- The analysis focuses on pharmaceutical products and prevention and disinfection supplies, given their direct relationship to the COVID-19 crisis.
- Due to the weak health insurance system,[25] the Egyptian citizen pays for his treatment from personal expenses.

Table 9.2. Potential Scenarios for the Impact of the Crisis on the Pharmaceutical Market based on the Aforementioned Crisis Cycle and Assumptions

Stage	Demand and/ or supply shock	Analysis	Impact on the Pharmaceutical market[26]
1. Emergence of the virus (December 2019-January 2020)	Limited supply shock in active ingredients (API) imports from China. There is no demand shock.	The beginning of disruption of global supply chains with the stoppage of companies in China (the production of 10-20 percent of APIs stopped with the onset of the outbreak[27]) and the stopping of supply, and thus the beginning of the shortage of imports of active ingredients, medical supplies and imported drugs. And relying mainly on existing stock.	The drug market is not affected due to the sufficient stock of active ingredients and production requirements for a period of six months (varies from company to company)

[24] These estimates should be read with caution, as forecasts may require further reviews due to day-to-day development of the virus outbreak, and its duration and scope are still unknown.

[25] Direct payments represent about 62 percent of total healthcare spending in Egypt, while this percentage reaches 38 percent for insured patients, according to the latest data available in 2016 for the World Health Organization database. The number of insured persons in 2018 reached about 55.6 million citizens, half of them are school students and nearly a quarter of them are currently in the workforce (12 million). This means that only about half of the employed (22.5 million in 2018) are covered by health insurance (Views on Crisis: The health sector, issue # 10, Egyptian Center for Economic Studies).

[26] All data on exports and imports of medicines and pharmaceuticals are sourced from the monthly foreign trade bulletin, the Central Agency for Public Mobilization and Statistics, various issues, unless otherwise mentioned.

[27] https://www.scienceboard.net/index.aspx?sec=sup&sub=cell&pag=dis&ItemID=700

Stage	Demand and/ or supply shock	Analysis	Impact on the Pharmaceutical market[28]
2. The beginning of the virus spreading (February – mid-March 2020)	Continued supply shock in China Supply shock extends to India	A complete paralysis in the supply chains between China and India, and India stopped supplying other countries (the US and others) with ready-made medicines as a result of this inability to supply the raw material imported from China, with the increase in the prices of active ingredients by about 30 percent. India's decision to halt the export of 26 active ingredients (APIs) in early March.[29]	Imports of medicines and pharmaceuticals decreased during the first quarter of 2020 by 29 percent compared to the corresponding quarter of last year.
	The beginning of a slight shock in domestic supply		Lack of stocks of some pharmaceutical companies
3. Crisis worsening (mid-March-mid-May 2020)	Strong supply shock from abroad.	Paralysis of global supply chains of pharmaceutical products and raw materials, and a shortage of raw materials for the manufacture of protective supplies (Egypt imports 95 percent of raw materials, packaging materials and medical supplies— 55 percent from China and 45 percent from India).[30]	- Imports of medicines and pharmaceuticals decreased by 10.4 percent during April 2020 compared to April 2019. - Exports of medicines and pharmaceuticals decreased by about 20 percent during March 2020 compared to March 2019, and the percentage increased to 30 percent during April 2020 compared to April 2019.
	Severe demand shock	The beginning of rising demand and the rush for certain types of medicines and disinfection and sterilization requirements.	- Sales increased by 12 percent during the first quarter of 2020 compared to the same quarter of 2019.[31]
	Severe domestic supply shock	- As a result of increased pressure on stocks with the increase in the number of infections and the attempt to control the outbreak more quickly. - The spread of panic among citizens and high demand for medicines and vitamins announced in the treatment protocol, and high demand for prevention supplies and sterilization medical cosmetics, in addition to the crisis reaching its peak and the inability of the health system to absorb more cases, forcing many cases to stay home and follow the self-treatment protocol.	- A shortage of certain types of medicines and vitamins and complete disappearance of some of them, which led to a notable increase in their prices. - Protective supplies such as medical masks, gloves, and sterilization cosmetics such as alcohol and others became scarce, which led to a doubling of their prices. - Decisions by the Ministry of Trade and Industry to stop the export of alcohol of all kinds and derivatives and surgical mask. - Requiring companies to supply their stock and production to the Unified Procurement and Medical Supply Authority, for which the cabinet has expedited the issuance of executive regulations specifically to fulfill this role and face up to the crisis. - Cancellation of all conferences and business related to medicines and medical cosmetics, suspending research work in relation to other diseases and the dedication of scientific research to reach a vaccine for the corona virus (there are currently more than 155 drugs and 70 vaccines for the Corona virus under development worldwide.)[32]

[28] https://www.almasryalyoum.com/news/details/1471794
[29] https://www.outsourcing-pharma.com/Article/2020/03/03/India-stops-export-of-certain-APIs
[30] https://www.almasryalyoum.com/news/details/1471794
[31] https://amwalalghad.com/2020/05/19/
[32] https://www.scienceboard.net/index.aspx?sec=sup&sub=cell&pag=dis&ItemID=700

<table>
<tr><th>Stage</th><th>Demand and/ or supply shock</th><th>Analysis</th><th>Impact on the Pharmaceutical market[36]</th></tr>
<tr><td rowspan="2">4. The crisis recedes (mid-May-Aug 2020)</td><td>Continued supply shock in China
This period is divided into two phases, Phase I (mid-May - end of June 2020). It witnessed a continued severe shock in supply and demand.</td><td>The peak of the crisis, in terms of the speed of the disease spreading and the performance of the pharmaceutical sector.
With the return of companies in China and India to production and gradual reopening of markets, supply chains of active ingredients are back to operation.</td><td>- Pressure on medicines and sterilization supplies has increased, and certain types of medicines and vitamins have disappeared from the market.
- A sharp decline in the value of exports of medicines and medical cosmetics, which reached 98 percent in June 2020 compared to June 2019, and 53 percent in the second quarter of 2020 compared to the corresponding quarter of 2019.
- Reimport and re-provision of medicines, but at a higher cost, and thus an increase in the import bill during the month of May 2020 only by 115.6 percent compared to the same month of the previous year. In June 2020 these percentages decreased to only 36 percent compared to the same period. The average increase in the import bill during the second quarter of 2020 has reached 27 percent compared to the corresponding quarter of 2019.</td></tr>
<tr><td>Phase 2 (early July - end of August 2020): A gradual decline in the intensity of the supply and demand shocks</td><td>Pharmaceutical companies in Egypt started production.
A gradual easing of precautionary measures and a gradual opening up of the economy.
The beginning of government measures to prepare for the manufacture of the vaccine in Egypt, in agreement with the Chinese government, with Egypt being the center of its manufacture in the African continent and its export to African countries.</td><td>- Limited availability of disinfectants and masks, while missing items of medicines are still under production (inline period between production of the drug and its availability in pharmacies).
- The number of infected cases decreased, and so the demand for medicines, with continued demand on masks and sterilization requirements.
Accordingly, possible scenarios can be constructed for the pharmaceutical sector, beginning in August, as follows:
<table>
<tr><td>Optimistic scenario</td><td>The intensity of the crisis continues to slow and the sector gradually recovers</td></tr>
<tr><td>Availability of medicine</td><td>The import bill will continue to rise, assuming the same rate of change between June 2020 and June 2019.</td></tr>
<tr><td>Percentage increase in import bill</td><td>36 percent</td></tr>
</table>
<table>
<tr><td>Pessimistic scenario</td><td>relapse</td></tr>
<tr><td>Shortage of medication</td><td>The continuation of the situation in May, including strict preventive measures and a shortage of available medicines, vitamins, and preventive and sterilization supplies</td></tr>
<tr><td>Percentage increase in import bill</td><td>115 percent</td></tr>
</table></td></tr>
<tr><td>5. Recovery (September 2020 - June 2021)</td><td></td><td>Recovery at this stage relates to possible scenarios above.</td><td>Based on the two previous scenarios, two scenarios for this stage can be constructed, as follows:
<table>
<tr><td rowspan="4">Optimistic scenario</td><td>The arrival of a vaccine for the disease</td></tr>
<tr><td>No new strains of the virus appear</td></tr>
<tr><td>Cautious return of the sector as the spread of the disease slows</td></tr>
<tr><td>Increase in the value of sales and exports and gradual return of imports to normality</td></tr>
</table></td></tr>
</table>

Stage	Demand and/ or supply shock	Analysis	Impact on the Pharmaceutical market	
5. Recovery (September 2020 - June 2021) cont.			**Pessimistic scenario**	Failure to find a vaccine
				New strains of the virus emerge
				Relapse to the previous pressures
				Higher prices and lack of stocks of medicines once again, with disruption of production.
				Decline in sales and exports while imports continue normally.

Source: Prepared by ECES.

* These estimates should be read with caution, as expectations may require further reviews due to the developments that occur, whether related to the day-to-day spread of the virus, whose duration and scope are still unknown, or those related to any global or local developments that may affect the estimates directly or indirectly.

Fourth: Institutional weaknesses revealed by the crisis and the required interventions to mitigate the effects of the crisis

Unlike previous industrial sectors, the measures needed to mitigate the crisis are clearly linked to the institutional weaknesses of the pharmaceutical industries. The following table divides the institutional weaknesses of the pharmaceutical sector into two types, institutional weakness that has already emerged with the change of the institutional framework of the administrative and supervisory system, and chronic institutional weakness represented by the "lack of pricing" which has existed for many years, the main dependence on imports and the irregularity of the pharmaceutical market in Egypt.

Table 9.3. Required Procedures to Address the Institutional Weaknesses of the Pharmaceutical Industries

First: Urgent measures needed to address recent institutional weakness	
Institutional weakness as a result of changing the regulatory framework	**Urgent Actions**
A terrible overlap between the specializations and roles of each of the two bodies	• Despite the importance of dealing with one party provided by the new organizational structure, it may be desirable to make a complete separation between the responsibility of the commercial part (in relation to pricing, export, etc.) and the technical part (in terms of research, control, etc.). • The new institutional form assigns the responsibility of drug distribution to the drug manufacturing management system as well, which is considered impractical for the distribution at the level of the Republic, as with the presence of about 75 thousand pharmacies nationwide, it is difficult to achieve this through Single Purchase Authority. Hence, there is an urgent need to deal with the known distribution companies to fulfill this role, as they perform it through a special financial mechanism in dealing with pharmacies using different financial method that is difficult to implement directly through dealing with the Ministry of Health or the consolidated procurement authority. • One of the important urgent procedures is to review the method of the Unified Procurement Authority with medical devices and supplies,[33] which it has been working with for two years, as the main focus is purchasing at reduced prices as the sole objective of procurement, which causes the exit of local investments as a result of its inability to meet the conditions,[34] and thus the problem must be quickly remedied so that the same type of problems do not recur with medicines.

[33] Although medical supplies are not covered in detail throughout this report due to their not being directly related to drugs, it is important to refer to them as an urgent measure that has a potential impact on the drug system.

[34] This is in addition to the merging of the executive regulations of the new pharmaceutical system pharmaceuticals with medical devices and supplies.

Institutional weakness as a result of changing the regulatory framework,	Urgent Actions
A terrible overlap between the specializations and roles of each of the two bodies	• To expedite the preparation of detailed executive regulations for the new regulatory bodies to start working regularly, with specific performance standards to avoid monopolizing the decision and causing future losses to investors, and with a clear monitoring system on the performance of the two bodies, taking into account the opinions of producers in this regard (both local and international), whether companies producing medicines or medical supplies. • Organizing the relationship between the Ministry of Health and other concerned authorities. With clarification of the tasks and roles of the ministry.
Second: The necessary measures to address chronic institutional weaknesses	
Chronic institutional weaknesses	**Required Actions**
Mystery of drug pricing	• Despite the social goal behind reducing drug prices, the method of managing the drug pricing system has led to the distortion in the Egyptian pharmaceutical sector, and the reluctance of pharmaceutical companies to invest in Egypt, especially after the Egyptian pound floated, and even after raising drug prices to more than once in less than a year. • Consequently, it is required to **review the pricing system**, benchmarking the experiences of other countries in this regard, so that certain categories (such as certain hospitals) are determined at reduced prices, but without generalizing these prices at the level of the Republic, because this causes a decline in the role of export in the field of medicines due to the strong correlation between the export price and the domestic price in the country of origin, which calls for multinational companies to escape from the Egyptian export market dragging research and development with it, while it is necessary to encourage them and encourage the entry of research and development into the local market. • Reviewing the local companies 'positions and identifying their problems, whether in relation to pricing, import, export or production.
The main dependence on imports, especially the import of active ingredients and intermediate materials required for drug production.	• Gradual reduction of this dependence on imports by creating Egyptian excellence through more research and development in the field of medicines based on Egyptian medicinal and natural plants, especially with the global interest in this type.
Market irregularity and it mainly appears in: 1- The shortage of medicines and the disappearance of important items, especially in times of crisis, as 50 percent of the registered items are not available, and there are 4 thousand items that were not produced despite their registration. [35] 2- The spread of counterfeit or smuggled medicines, where the trade of fake medicines represents about 10 percent of drug sales in Egypt, which amounted to about 60 billion EGP pounds in 2018, surpassing the global percentage estimated at 6 percent. [36]	Undertaking rapid gradual measures in a phased manner to regulate the pharmaceutical market in Egypt to eliminate the phenomena of drug shortages and the spread of counterfeit medicines. Especially the disappearance of medicines in times of crises as a result of the demand for certain items and the increase in their prices.

[35] Egyptian Initiative for Egyptian Rights, Drug Policy Assessment in Egypt, July 2019.
[36] http://alahalygate.com/?p=87444

Appendix1 (IMC 2004)

Stages of pharmaceutical production: The manufacture of pharmaceutical products goes through three stages:

Primary, involving the production of basic Bulk Pharmaceutical Chemicals (BPCs), and Active Pharmaceutical Ingredients (APIs), also including Intermediates as late stage material inputs for the manufacture of APIs. Manufacturing processes represent a series of chemical engineering unit operations, requiring equipment for: batch reaction; solid / liquid separation; milling and drying equipment; vacuum plants; nitrogen distribution; refrigeration systems; gas scrubber systems; solvent recovery; water and effluent treatment. BPCs are derived from two main sources:

- synthetics, based on petro-chemical derived chemical building blocks to produce complex organic chemicals, using techniques such as chemical synthesis, fermentation, enzymatic reactions and recombinant DNA technology;
- extraction of plant materials.

APIs are usually manufactured synthetically, or apply extensive purification of plant extracts and include excipients and additives used in final product formulations.

Secondary, involves converting the BPCs and APIs into one of six dosage forms: tablets and capsules; topicals/ creams, ointments and powders; parenterals/ injectables; inhalers; suppositories; and syrups. Manufacturing processes include milling, drying and/ or granulation to achieve the required solid particle size and blending together with the selected APIs, excipients and additives to achieve the final formulation. Secondary manufacturing typically requires relatively simple manufacturing processes, but these have to be undertaken in purpose built factories with controlled environments, often requiring sterile or aseptic conditions. In some cases, sterile products can be achieved through heat treatment when the product is in its final packaging. If this is not possible aseptic processing areas must be constructed where highly demanding design requirements must be met to achieve having a sterile environment. Critical process steps are those where the sterilized product and its container, or packaging, is exposed to the atmosphere or a surface. Manufacturers must consider product characteristics, equipment selection and facility design in order to meet product specifications, within the context of the identified critical process steps.

Tertiary, involves packing the products into their final form, storage and distribution the point of sale, or point of application. Only the PIMCs have fully integrated production systems covering each of the three stages, and therefore have the advantages of: economies of scale at the primary level; significant flexibilities at the second stage due to the range of production facilities in different countries; and vast and effective international distribution, marketing and sales networks to maximize market exposure of their product ranges.

Types of pharmaceutical products: Medicines are divided into four main types:

Innovative products, which have been developed as a new chemical entity and achieve protection from being copied. Due to the regulatory framework and practices that apply in Egypt, few of these products are available in the domestic market in significant volumes.

Generic products are copies of innovative products that are out of protection, with the different types and durations of protection. The aim of generic manufacturers is to be first into the market with a copied product, as soon as possible after protection expiry. Generic products have much lower prices, and profit margins, than innovative products, and there is a greater emphasis on out-sourcing manufacturing, with some companies only operating marketing and sales activities.

Added-Value Generic where the products are mainly based on copied molecules, but they have been changed to give the original product added properties. Depending on the extent of the added properties and the regulatory requirements in which these products are to be sold, there may need to be trials of such products before they can be approved.

Branded Products with international pharmaceutical companies experiencing increasing proportions of their product portfolios being off-protection, significant efforts are applied to build-up brand loyalty to a product before it reaches this status. This is usually based on an approach of developing the generic product label into a market-oriented brand name, where the market development activity is undertaken during the period of protection. If this approach is successful it makes it more difficult for generic product manufacturers to develop competing brands. Under these circumstances the generic manufacturer will compete more on price under the overall generic label.

Categories of drug manufacturers: There are five categories of drug manufacturers:

Pharmaceutical Innovator and Manufacturing Companies (PIMCs), which incorporate research and development activities to launch new dosage products into the global market under international patent protection. The global distribution of such products depends to a significant extent on the pricing regime that applies in each country and the extent to which manufacturers can achieve their target profit margins to recover product development costs.

Pharmaceutical Manufacturing Companies (PMCs), which do not attempt to launch new "innovative" synthetic products and concentrate on manufacturing products that are off-protection. The products can either be the original innovative product, or a generic copy, or version.

Pharmaceutical Innovator Companies (PICs) that concentrate on introducing new products to the PIMCs, with the most significant area of this activity referred to as biotechnology.

Pharmaceutical Sales Companies (PSCs), which undertake sales on behalf of the PIMCs and the PMCs on an out-sourcing basis.

Pharmaceutical Development Support Companies (PDSCs) that undertake elements of the research and development process for new products on an outsourcing basis on behalf of the PIMCs. Companies in each of the above categories are operating on an increasingly global scale, which is also resulting in increasing specialization within each category. The growth of the PIC, PSC and PDSC sub-sectors have been as a result of the PIMCs

Outsourcing activities to control costs.

Only **PIMCs** have fully integrated production systems that cover each of the previous three stages of production, thus enjoying the advantages of economies of scale at the most basic level; great flexibility in the second phase due to the range of production facilities in different countries; and extensive, efficient international sales and distribution networks. The primary manufacturing costs are increasing due to several factors, the most important of which is the increase in public health, safety and occupational standards; the increase in environmental standards and product quality; tighter regulations for manufacturing practices; and increased labor costs.

Appendix 2[37]

The specializations of the Egyptian Authority for Unified Procurement, Medical Supply and Technology Management include the following:

I. Executing plans and policies for medicines and medical technology, and taking the necessary measures to activate and implement them and include them in the state's plan, and follow up on their implementation in accordance with applicable laws and local and international health systems.

II. Setting specifications and guiding standards for requesting bodies in preparing their needs of medical cosmetics and supplies subject to the provisions of this law.

III. Coordination with medical products and supplies companies subject to the provisions of this law (governmental, private and foreign, and governmental, local and international agencies) to enhance the country's strategic medical stock to meet any exceptional circumstances that require urgent intervention and entail the provision of capabilities that exceed the normal needs in stable conditions.

IV. Setting up inventory and collection systems for the annual needs of parties requesting medical cosmetics and supplies subject to the provisions of this law.

V. Contracting with all companies, bodies and private medical institutions, inside or outside the Arab Republic of Egypt, to purchase medical cosmetics and supplies subject to the provisions of this law, for the benefit of the requesting parties.

VI. Setting the rules for customs clearance of medical cosmetics and supplies to face emergency situations after coordination with the Minister of Finance.

VII. Establishing a system for evaluating medical technology according to the latest global systems to take advantage of modern technology, in coordination with the requesting parties.

VIII. Periodic review of the stock of medical cosmetics and supplies.

IX. Establish programs and electronic registration systems for local or foreign companies operating in the field of cosmetics subject to the provisions of this law and medical services in accordance with the rules and procedures established by the Board of Directors.

X. Establishing an integrated database for medical technology in centers, hospitals, warehouses and all public health facilities to follow up on needs, use, maintenance and training.

XI. Managing the storage, transportation and distribution system for medical cosmetics and supplies, inspecting the stores of the concerned authorities, managing and following up on the inspection and receipt processes and applying the highest international standards, without prejudice to the right of those authorities to establish and manage stores of medical cosmetics and supplies subject to the provisions of this law pertaining to them.

XII. Managing the unified maintenance system for medical devices to improve after-sales services.

XIII. Subject to the provisions of this law, acceptance of medical cosmetics and supplies received from abroad in the form of grants or donations in accordance with the rules regulating this.

XIV. Determine the needs of workers in the aforementioned areas in terms of continuous development and training for cadres working in this field.

[37] Law provisions: https://manshurat.org/node/61255

The Egyptian Drug Authority's responsibilities include the following:

I. Establishing policies, rules and regulations for everything related to organizing, implementing and controlling the production and circulation of medical cosmetics, medical supplies and raw materials, and verifying their quality, effectiveness and safety inside and outside the republic within the framework of controlling Egyptian products, in coordination with the relevant ministries and bodies, in accordance with applicable international standards.

II. Developing and ensuring the quality, effectiveness and safety of medical cosmetics, supplies and raw materials for scientific innovations that are used in diagnosis, treatment or prevention in accordance with the latest developments in science.

III. Establish accurate and constantly updated databases for everything related to medical cosmetics, medical supplies and raw materials.

IV. Drug awareness and education to the community, and the delivery of health messages and documented information about the drug to professionals and to the public.

V. Regulating and controlling the production and circulation of medical cosmetics, medical supplies and raw materials, and verifying their quality, effectiveness and safety inside and outside the republic within the framework of control over Egyptian products and representation abroad.

VI. To propose and express opinion on draft laws, regulations, and decisions related to medical cosmetics, medical supplies and raw materials, as well as related regulatory matters.

VII. Cooperating and coordinating with national and international organizations and bodies concerned with cosmetics and public health and those concerned with issuing the relevant standards, within the scope of achieving the objectives of the authority, and participating in local and international conferences and organizing them when necessary.

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10. The Egyptian Woman

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First: Brief description on the issue of the report

This report aims to study the impact of the Covid-19 pandemic on women in the labor market in Egypt, and how this pandemic, despite its severe negative repercussions on all economic activities in Egypt, represents a real opportunity that must be capitalized on to focus on providing all mechanisms of policies and procedures to empower women to play their role as the main engine for economic recovery in general and to exit from the current crisis in particular.

The Egyptian economy is currently witnessing many developments that require the adoption of many reform measures and structural transformation that enable it to exploit all available resources, especially human resources – Egypt's largest wealth. Although Egyptian women represent almost half of the society in terms of demographic composition, their participation in the labor market does not exceed 24 percent of the workforce, which is a waste of an important human resource capable of real contribution to the desired growth of the Egyptian economy.

Egyptian women suffer from unequal opportunities in many fields, despite the great expected return from increasing their participation, and its positive reflection on the economic conditions of the Egyptian family, and even on the Egyptian economy as a whole. According to a report issued by the McKinsey Institute, regional GDP could increase by 47 percent over the next decade in the Middle East and North Africa region, and in Egypt by 34 percent, if the number of women equated the number of men in the labor market. [1] Therefore, enhancing the role of women will lead to a boom in economic performance, which will contribute to raising rates of GDP growth. The economic empowerment of women is considered a means to combat poverty, support social justice, and avail an opportunity for a better path for future generations, which makes women a major driving force in achieving economic recovery.

Women have witnessed, over different periods of time, a development in their economic and social conditions, with which further improvements were expected. However, with the spread of the Covid-19 pandemic, the limited gains achieved in the past decades are threatened.

About half of the female workforce works informally, with low wages, and with limited or no access to social protection mechanisms, making women and other vulnerable groups more vulnerable to poverty in the context of the Coronavirus pandemic. Women, and girls in particular, suffer from multiplied negative effects at the economic level due to their low incomes compared to males, and their working in unsafe jobs, in addition to the increase in the burden of unpaid care work as a result of children remaining out of school during the pandemic, the increase in the elderly's need for care, and the fact that health service provision authorities are currently overworked.

With the increasing economic and social pressure associated with the curfew and imposing social distancing measures due to the Covid-19 pandemic, it has become necessary to view women as a primary resource to mitigate the economic effects of this pandemic on the status of women in Egypt in particular and on the Egyptian economy in general. In this context, this report begins with dealing with the dynamics of the female labor market in Egypt historically, then sheds light on the most important characteristics of women's participation in the labor market and the reasons that prevent their optimal use. It then conducts an analysis of the impact of Covid-19 on female labor, and finally it offers a number of urgent solutions and institutional proposals to overcome the difficul-

[1] Al-Mal newspaper https://almalnews.com/%D9%88%D8%B2%D9%8A%D8%B1%D8%A9-%D8%A7%D9%84%D8%AA%D8%AE%D8%B7%D9%8A%D8%B7-%D8%AA%D9%85%D9%83%D9%8A%D9%86-%D8%A7%D9%84%D9%85%D8%B1%D8%A3%D8%A9-%D8%B6%D8%B1%D9%88%D8%B1%D8%A9-%D9%88%D9%8A%D9%85%D9%83/ dated 4 March 2020 & UN Women Egypt https://egypt.unwomen.org/en/what-we-do/economic-empowerment

ties faced by females in the labor market in general for many decades and as a result of the current crisis in particular, thus limiting the desirable growth of the Egyptian economy.

Second: Brief historical background on the dynamics of the female labor market

The role of women in the Egyptian economy has witnessed great development over time in response to the ongoing political, economic and social transformations in the country over the past few decades, especially from the beginning of the 1950s to the present day.

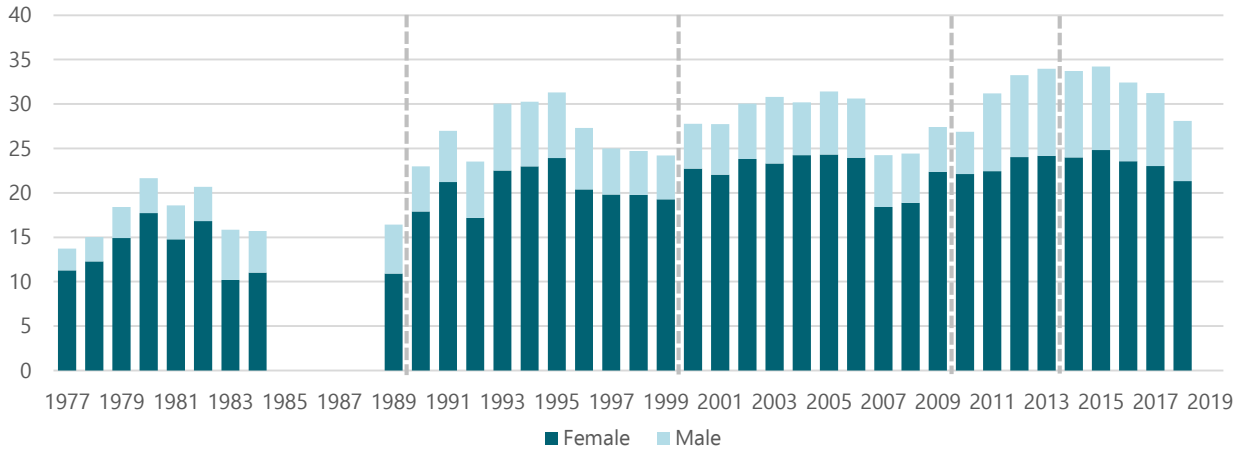
With the change of the political system in the early 1950s, many measures were adopted to enhance female economic participation, which were uncommon prior to this period. The system that guarantees a job in the public sector to everyone who gets a baccalaureate has become responsible for a significant increase in the number and proportion of women in public administration. In addition, the number of women working in industry increased during those years. The average age of working women increased significantly, as women kept their jobs after marriage, and the culture of encouraging women to work has become widespread. However, uneducated women from poorer classes had more difficulty finding work through usual formal channels.

The era of economic openness that began in the 1970s witnessed increasing difficulty in finding profitable work for women from the poor classes due to increasing competition and high standards of existing jobs at that time. Job opportunities as domestic help declined due to the increase in economic pressure on some groups, the increase in mechanization and the replacement of female workers with machines.

This was followed by the Egyptian government's adoption of economic reform and structural adjustment program, and the related policies and procedures that followed, leading to the decision to float the Egyptian pound in 2016. These successive measures resulted in reducing government support for social services and thus reducing public spending on education and parents' bearing of expenses of educating their sons and daughters, which leads to the inability of many families to send their daughters to school, and thus increased illiteracy rate among females. They also resulted in the move towards privatization and the consequent elimination of excess labor in public enterprise projects, dismissal of many female workers, and consequently high unemployment rates among them due to the weak competitiveness of the female labor force in the face of the male labor force due to deprivation of females of adequate opportunities for education and training, hence their low skill levels, in addition to lower wage levels for females than males (Ibrahim 1994). This led to an increase in the number of women working in informal jobs, especially in light of the competitive climate prevailing in the private sector that may not be commensurate with the family circumstances of many women. The informal sector became the main source of female employment, and as a result, depriving them of many rights and benefits at work.

These economic and social conditions were reflected in the features of the female labor market in Egypt and the extent of strength of their position. Figure 10.1 shows the higher unemployment rate among females compared to males by about three to four times over the various aforementioned time periods. During the period 1977-1989, the female unemployment rate was on the rise until it reached its maximum in 1980 and until 1983, and then began to decline from 1983 to 1989. Thus, it continued to fluctuate between high and low, but the periods 1993-1995, 2005-2007 and 2012-2015 witnessed the highest rates of female unemployment, which decreased again from 2016 to 2018.

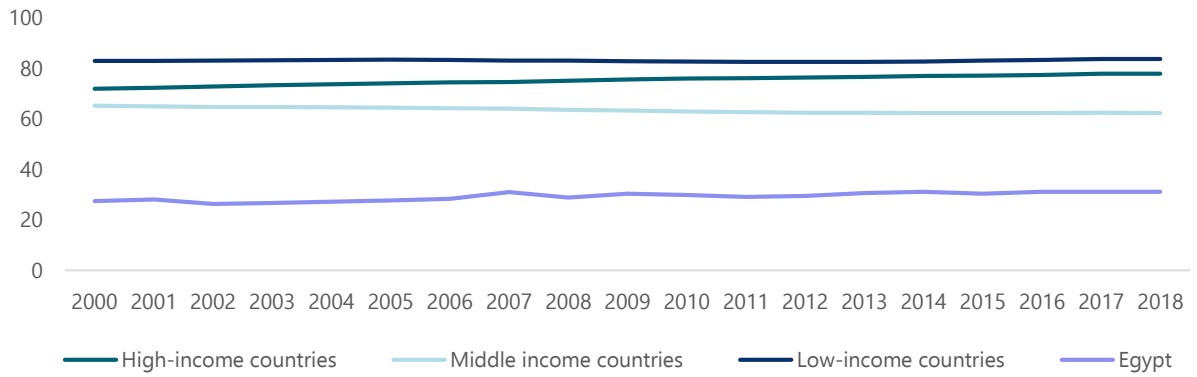
Figure 10.1. Evolution of Unemployment According to Gender, 1977-2018*



Source: The World Bank, World Development Indicators.
* Data for the period prior to 1977 not available and 2018 is the most recent data available.

In addition to the above, the female to male participation rate in the workforce[2] in Egypt is considered low compared to other countries with different levels of income, as shown in Figure 10.2. This percentage increased in Egypt in nearly twenty years by approximately 4 percent, from 27.4 percent in 2000 to only 31.2 percent in 2018.

Figure 10.2. Ratio of Female to Male Labor Force Participation Rate (%)



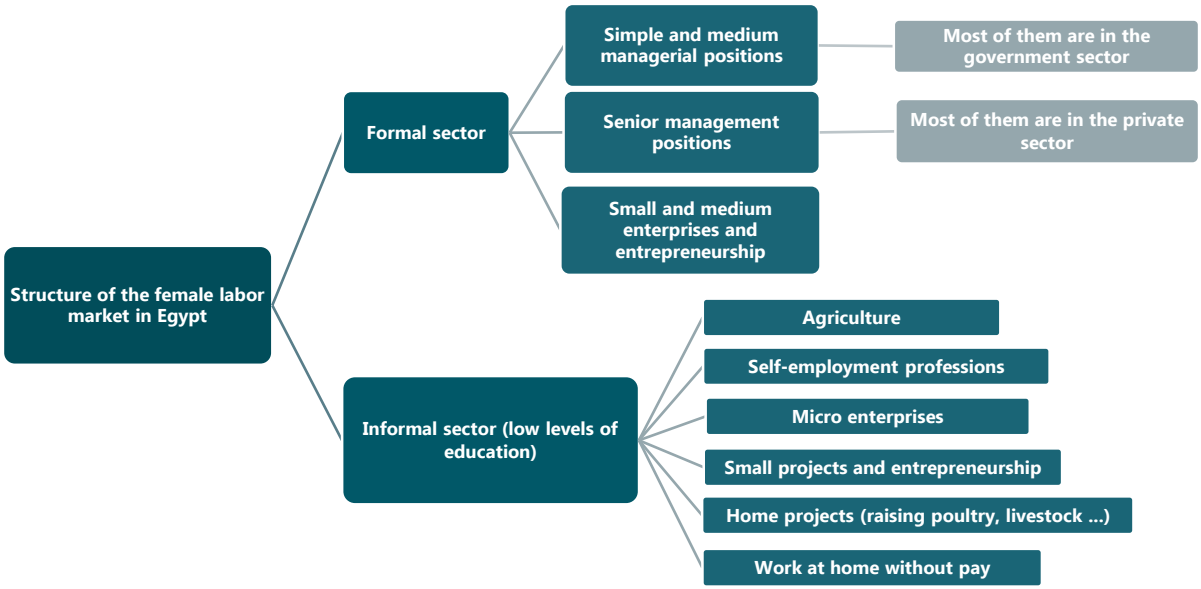
Source: The World Bank, Gender Data Portal.

Third: Characteristics of women's participation in the labor market in Egypt

Most of the indicators measuring gender inequality confirm a decline in Egypt's ranking regarding women's economic participation and opportunities. The reason for this is the structure of the labor market and its basic characteristics in Egypt, where it lacks homogeneity, but is more complex than it appears, as shown in Figure 10.3.

[2] The female to male participation rate in the labor force is calculated by dividing the female labor force participation rate by the male labor force participation rate and multiplying it by 100.

Figure 10.3. Structure of the Female Labor Market in Egypt



Source: Prepared by ECES.

The most important characteristics of the female labor market in Egypt are summarized as follows:

1. Low female participation in the labor market compared to males.

2. Females' preference for governmental work versus the private sector.

3. The sectors of education, ready-made garments, health, social work activities, telecommunications & information, agriculture, retail, food and accommodation are the most sectors employing and attracting females.

4. Half of the female workforce is employed in paid jobs.

5. A wage gender difference in several economic activities and occupations.

6. The largest percentage of unemployed women are among those with a technical, university or postgraduate education.

7. More than half of employed females work in the informal sector.

8. "Necessity" is the most motivating factor for female self-employment.

9. The limited role of women in decision-making.

- Weak political empowerment of women despite its improvement in recent years.
- Low representation of women on boards of directors.

10. A large gender gap confirmed by international reports.

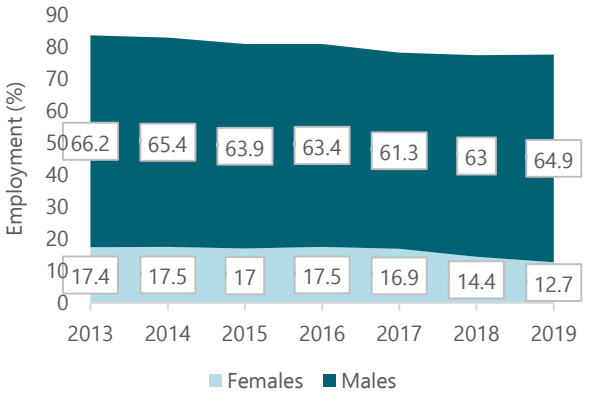
The following is a detailed explanation of all the characteristics:

1. Low female participation in the labor market compared to males:

As shown in Figure 10.4 below, the employment rate[3] decreased, for both males and females during the period 2013-2017, [4] and then increased for males to reach 64.1 percent in 2019, but continued to decline among females, reaching 12.2 percent in 2019. This is inferred from the widening gender gap in the employment rate to reach approximately 52 percent.

[3] Employment rate = number of employed/ population * 100.
[4] The most recent year published by the Central Agency for Public Mobilization and Statistics (CAPMAS) for the employment rate.

Figure 10.4. Evolution of the Employment Rate of Individuals (15 Years and Above) According to Gender, 2013-2018



Sources: CAPMAS, Annual Compiled Bulletin of Labor Force Survey Results, 2019 and Manpower Bulletin (October-December 2019) 2020.

This is also confirmed by Table 10.1 below, where we notice the low participation of females in the labor market compared to males in general, as follows:

- A fourfold decrease in the labor force participation rate[5] among females versus males (CAPMAS 2020a).
- Females account for only about one-fifth of the workforce (18 percent in 2019 compared to 20.9 percent in 2018) (CAPMAS 2020b), compared to males (82 percent in 2019 compared to 79.1 percent in 2018).
- Lower share of females to less than one-fifth of the total employed (15.3 percent in 2019 and 18.2 percent in 2018).
- Higher unemployment rate among females, reaching three to four times greater than that of males.

Comparing the years 2018 and 2019, it is evident that there is a relapse in the status of females in the labor market, compared to the same indicators mentioned above:

- Decrease in female contribution to the labor force between the two years by about 3 percent.
- Decrease in the share of females in the labor force by about 2.9 percent.
- Decrease in the share of females out of the total employed by about 2.9 percent.
- Increase in the female share of the total unemployed by 4.3 percent.
- Increase in the unemployment rate among females by about 0.3 percent.

Table 10.1. Estimation of the Labor Force, Employed and Unemployed Persons, and the Unemployment Rate (15 Years and Above) According to Gender in 2018 and 2019

Period	2018			2019		
Gender / Index	Male	Female	Female share of the total (%)	Male	Female	Female share of the total (%)
Participation in the labor force (%)	67.6	18.3	18.3	67.3	15.6	15.6
Labor force (thousands)	22842	6022	20.9	23255	5093	18
Employed (thousands)	21290	4731	18.2	22133	3990	15.3
Unemployed (thousands)	1553	1291	45.3	1122	1103	49.6
Unemployment rate (%)	6.8	21.4	21.4	4.8	21.7	21.7

Sources: CAPMAS, Annual Compiled Labor Force Survey, 2020, and the Annual Compiled Bulletin of Labor Force Survey Results 2019; Egypt in figures 2020.

[5] Participation rate = labor force / population * 100.

At the urban and rural level, by comparing the status of females to each other geographically, we find that females participate more in the labor market in the rural areas compared to urban areas in 2018 and 2019, given their share in the labor force of females and in both the number of employed and unemployed females (Table 10.2). The unemployment rate among urban females was 24.9 percent compared to 18.7 percent among rural females, as a result of female participation in agricultural activities in the countryside (CAPMAS 2020b). However, an improvement in urban indicators compared to rural areas was observed in 2019 compared to 2018.

Table 10.2. Relative Distribution of the Labor Force, Employed and Unemployed Females Between Urban and Rural Areas in 2018 and 2019

Female share (%) in	2018		2019	
	Urban	Rural	Urban	Rural
Labor force	45	55	47.7	52.2
Female employed	42.6	57.4	45.8	54.2
Female unemployed	53.8	46.2	54.8	45.2

Source: Own calculations based on CAPMAS data, Annual Compiled Bulletins of the Labor Force Survey results for 2019 and 2020.

2. Females prefer government work as opposed to the private sector, as they can reconcile work and family care. Females represent 14.9 percent of the total employed (males and females) in the government sector compared to 15.9 percent (CAPMAS 2020c) in the private sector.[6]

- The period until the late eighties was characterized by the government's automatically appointing those with higher qualifications through the Manpower Authority. Even with the delay in appointment, most women (especially in the governorates) have resorted to waiting with no other alternatives available.
- With the economic reform measures and the cessation of government appointments, females have turned to the private sector, where 57.7 percent of total female employment work, compared to 42.3 percent in the government sector (CAPMAS 2020d).
- In terms of average wages and hours of work, Table 10.3 indicates the following:
  - The average total weekly wage, in general, for males and females in the public and public business sector is about one and a half times higher than in the private sector, despite the increase in the number of working hours in the private sector compared to the public sector for both genders.
  - Females enjoy advantages in the public sector more than in the private sector, as the public sector is obligated to give wages that are almost equal for performing the same work, and the average wages of females may be even slightly higher than that of males, in addition to other advantages in terms of departure times and childcare leave.
  - This does not apply to the private sector, where the average wage for females is 16 percent lower than that of males in 2019, which means an improvement compared to 2018, when the difference reached 21 percent.

[6] According to CAPMAS, the private sector includes both the formal and informal sectors (within enterprises).

Table 10.3. Average Weekly Wages in EGP and Average Working Hours According to Gender and Type of Establishments (Public Sector / Public Business and the Private Sector) in 2018 and 2019

Type of est.	2018				2019			
	Males		Females		Males		Females	
	Av. Wage	Av. Work hours	Av. Wage	Av. Work hours	Av. Wage	Av. Work hours	Av. Wage	Av. Work hours
Public	1262	50	1392	49	1455	49	1649	50
Private	911	55	754	55	1052	57	906	56

Source: CAPMAS, Employment, Wages and Working Hours statistics, 2019 and 2020.

- Women's labor participation in the private sector peaks two years before marriage, decreases slightly a year before marriage, and then decreases in half from 4 percent to 2 percent in the year of marriage. In contrast, employment in the public sector continues to rise over time and is unaffected by the timing of marriage. Unpaid work for women also increases even more after marriage, as new opportunities may open up, as well as unpaid work, which is often at home, hence facilitates reconciliation with the responsibilities of marriage. These trends strongly emphasize the mismatch between paid work in the private sector and women's marital responsibilities (Krafft, Assaad, and Keo 2019).

3. Education, ready-made garments, health, social work activities, telecommunications, information, agriculture, retail (Pew Research Center 2020), food and accommodation are the most sectors employing and attracting females

- It is clear from Table 10.4 that there are a few sectors that employ the most females, namely education, ready-made garments, health, social work activities, communications and information, agriculture, retail, food and accommodation.
- Comparing 2018 and 2019, it is noticeable that the female share increased in the sectors that most employ women, as shown in Table 10.4, especially the telecommunications and information sector (32.7 percent in 2019 compared to 12.5 percent in 2018), and food and accommodation services (13.5 percent in 2019 compared to 7.8 percent in 2018), where the female share increased almost twofold or more. As for the ready-made garments and agricultural sectors, the female share declined.

Table 10.4. The Most Important Sectors that Account for Female Jobs in the Public/Public Business Sector and the Private Sector in 2018 and 2019

Sector/Activity	The share of females in the total employed in the public / public business sector and the private sector (%)	
	2018	2019
Education	67	68
Ready-made garments	52	49.4
Health and social work activities	49	49.3
Communication and information	12.5	32.7
Agriculture	21	20
Retail trade	17.8	18.5
Food and accommodation services	7.8	13.5

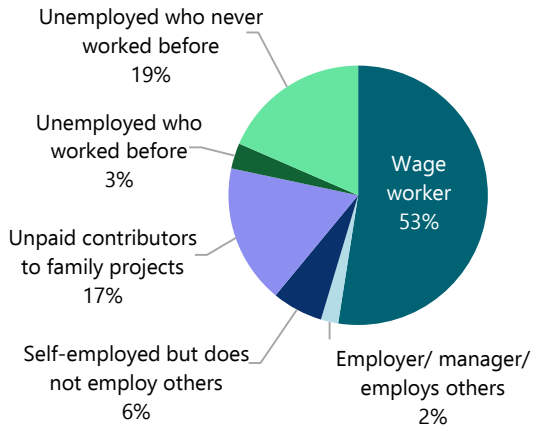
Source: Own calculations based on CAPMAS data, Employment, Wages and Working Hours Statistics, 2019 and 2020.

- As for the sectoral structure for female employment in the government sector, female work is concentrated in the education and health sectors, where the first depends on females, who represent about a quarter of its employees. It also accounts for half of the female workers in the government sector. In case of the latter, about half of its workers are female, and employs 26 percent of female workers in all government sectors.
- Women constitute about 42.4 percent of medical doctors and 91.9 percent of the nursing staff who work in the Ministry of Health, and they constitute 73.1 percent of the nursing staff in hospitals and treatment facilities in the private sector.[7]

4. Half of the female workforce is employed in paid jobs

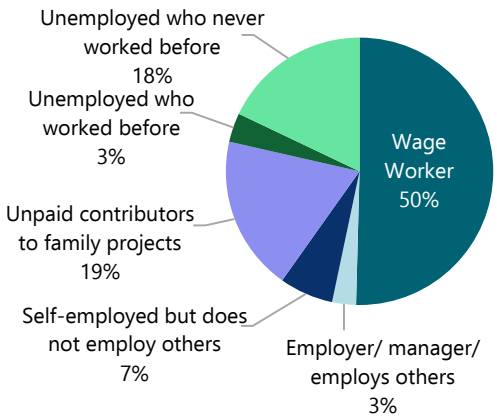
- There is no remarkable difference between the classifications of the female workforce between 2018 and 2019, except for the change between the second and third ranks for the categories of "unemployed women who have never worked" and "unpaid female contributors to projects within the family."
  - In 2019, the percentage of females working for wages continued to rise, reaching about half of their total workforce in 2019, followed immediately, but with a large difference, by unemployed women who have never worked (19 percent), then unpaid female contributors to projects within the family (17 percent). As for the percentage of female entrepreneurs, it is lower, reaching about 8 percent in 2019, as shown in Figures 10.5 and 10.6.
  - It can also be noted from the following figures that despite the increase in the percentage of paid female workers by about 3 percent, the share of unemployed women also rose by 1 percent, and the share of female entrepreneurs decreased by about 2 percent.

Figure 10.5. Classification of the Female Labor Force According to Occupational Status in 2018 (%)



Source: Own calculations based on CAPMAS data, Annual Compiled Bulletin of the Labor Force Survey, 2019.

Figure 10.6. Classification of the Female Labor Force According to Occupational Status in 2019 (%)



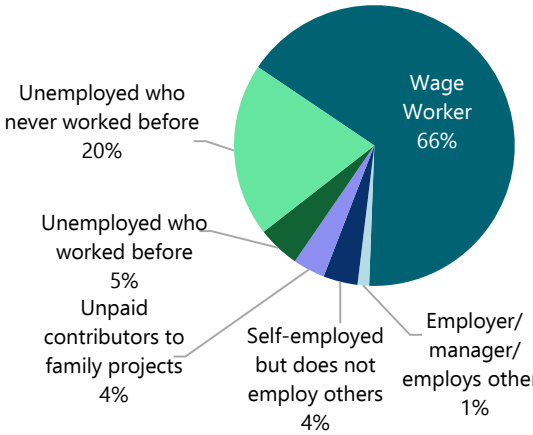
Source: Own calculations based on CAPMAS data, Annual Compiled Bulletin of the Labor Force Survey, 2020.

- There is an unequal distribution of family care work between men and women. In normal times, women and girls are responsible for pursuing productive household projects such as raising livestock and poultry, in addition to caring for the family, due to social norms. About 91 percent of women spend time on unpaid household activities compared to only 26 percent of men (OECD 2020).

[7] Youm7 https://www.youm7.com/story/2020/4/19/%D8%AA%D9%82%D8%B1%D9%8A%D8%B1-%D9%8A%D9%83%D8%B4%D9%81-%D8%A7%D9%84%D9%86%D8%B3%D8%A7%D8%A1-%D8%AA%D8%B4%D9%83%D9%84-42-4-%D9%85%D9%86-%D8%A7%D9%84%D8%A3%D8%B7%D8%A8%D8%A7%D8%A1-%D9%8891-9/4731865

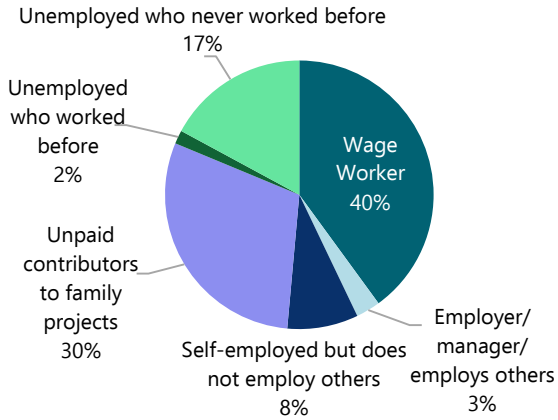
- This is clearly visible in the rural areas than in urban areas, as shown in Figures 10.7 and 10.8, where 4 percent of the female labor force works in family projects without pay in urban areas. This percentage rises in the rural areas to reach 30 percent, because family enterprises such as raising poultry and livestock dominate female activities in the rural areas more than in urban areas. Also, the percentage of women working for wages in urban areas is 66 percent compared to 40 percent in rural areas in 2019.

Figure 10.7. Classification of the Female Labor Force According to Labor Status in 2019, Urban (%)



Source: Own calculations based on CAPMAS data, Annual Compiled Bulletin of the Labor Force Survey, 2020.

Figure 10.8. Classification of the Female Labor Force According to Labor Status in 2019, Rural (%)



Source: Own calculations based on CAPMAS data, Annual Compiled Bulletin of the Labor Force Survey, 2020.

5. A wage gender difference in a number of economic activities and occupations

- Despite the equal average working hours between males and females in many economic activities, such as manufacturing activities, including beverages, food, accommodation and education services, and even higher for females in a number of other sectors, especially ready-made garments and leather, ranging between 2 percent to 31 percent, the average wages of females in these activities are lower than those of males by 1 percent to 48 percent, as shown in Table 10.5.

Table 10.5. Average Weekly Wages* in EGP and Average Working Hours According to Gender and Selected Economic Activities in 2019

Economic activity	Males		Females			Female to male wage ratio (%)
	Average wage	Average working hours	Average wage	Average working hours	Ratio of average working hours for females to males (%)	
Manufacturing industries	902	56	797	56	100	88.3
• Food products	898	55	744	56	101.8	82.8
• Beverage industry	860	59	836	59	100	97.2
• Ready-made garments	850	58	439	64	110.3	51.6
• Leather and leather products	871	51	735	67	131.4	84.4
• Furniture and wood products	851	53	620	56	105.7	72.8

Economic activity	Males		Females			Female to male wage ratio (%)
	Average wage	Average working hours	Average wage	Average working hours	Ratio of average working hours for females to males (%)	
Education	614	55	583	55	100	95
Health and social work activities	1042	57	815	53	93	78.2
Arts, creativity, and entertainment activities	872	52	706	55	105.8	81

Source: CAPMAS, Employment, Wages and Working Hours Statistics, 2020.
* Available data are on the total average wages for all jobs and job grades under the same economic activity without differentiating between different job grades.

- This also applies to a number of professions, where the working hours of females are higher compared to males, and yet the wages of females are lower than that of males from about 17percent to 53 percent, including, for example, workers in ordinary professions, factory operating workers, craftsmen, and workers in services, shops and sales markets, as we can see from Table 10.6.

Table 10.6. Average Weekly Wages in EGP and Average Working Hours According to Gender and Occupation in 2019

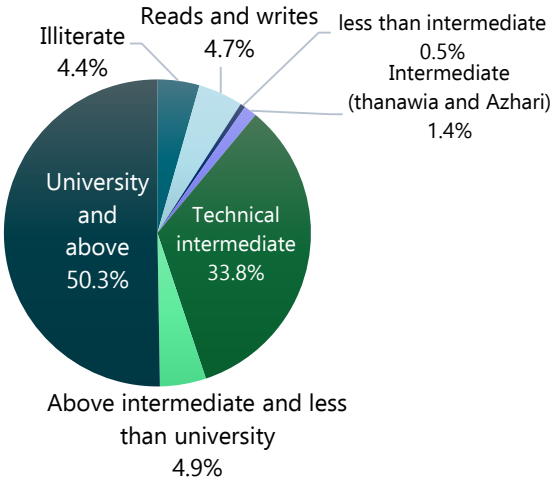
Occupation	Males		Females			
	Average wage	Average working hours	Average wage	Average working hours	Ratio of average female to male working hours (%)	Female to male wage ratio (%)
Specialists - those with a scientific profession	1560	51	1158	52	102	74.2
Technicians and assistant specialists	1251	52	946	53	102	75.6
Clerks	1432	51	1436	53	104	100.3
Workers in services, shops, and sales markets	1217	53	840	55	103.8	69
Skilled workers in agriculture and hunting	1104	50	911	54	108	82.5
Craftsmen and the like	1177	52	712	53	102	60.5
Factory operators, machine operators, and production component assembly workers	1024	55	555	60	109	54.2
Ordinary occupational workers	1068	52	497	56	107.7	46.5

Source: CAPMAS, Employment, Wages and Working Hours Statistics, 2020.

6. The largest share of unemployed are women who have an intermediate technical, university and postgraduate education

- Figure 10.9 shows that women with higher university and postgraduate education represent the largest percentage of unemployed women, which is almost half. The second category who are the most unemployed are those with a technical intermediate education (34 percent), while the percentage is much lower among those with less than university education, with its lowest value being for below intermediate education in 2019.

Figure 10.9. Distribution of Unemployed Women According to Educational Status Out of the Total Number of Unemployed Women in Egypt in 2019 (%)



Source: Own calculations based on CAPMAS data, Annual Compiled Bulletin of Labor Force, 2020.

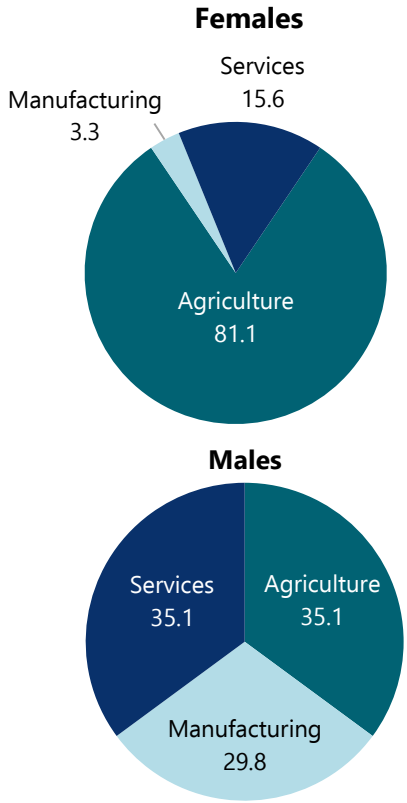
- With the increase in educational attainment, a higher overall participation of females was expected over time in the labor market. But this was not the case, as participation rates among educated women decreased dramatically over time. For example, participation at the intermediate level (the most common educational achievement in Egypt) decreased from 42 percent in 1998 to 20 percent in 2018. Likewise, participation among women with a university degree decreased from 73 percent in 1998 to 51 percent in 2018. While the participation of men has decreased over successive years at all levels of education, it decreased for more educated women even more. The low participation among educated women is attributed to several reasons, including the decrease in job opportunities in the public sector, leaving many females to work in the private sector upon marriage, which contributes to low employment rates among married women (Krafft, Assaad and Keo 2019), in addition to the presence of the so-called glass ceiling. The latter means educated females are denied access to some jobs and several leadership positions, something which will become apparent when addressing the section on the limited role of women in decision-making.

7. More than half of employed females work in the informal sector[8]

- The informal sector account for 63 percent of total employment in all sectors and represents 30-40 percent of GDP. Informal enterprises represent about 90 percent of all small and micro enterprises in Egypt (OECD 2020).
- 53.2 percent of the total number of employed women work in the informal sector (ILO 2018a), where women's jobs are mainly concentrated in informal, insecure, low-wage and low-skilled jobs, or in areas where social protection and career advancement opportunities are not available.
- As shown in Figure 10.10, the largest share of female informal employment is in agriculture, which is estimated at 81 percent, followed with a large difference by services with a share of nearly 16 percent. This contrasts with the distribution of informal employment for males, which is characterized by a highly equal distribution between the three sectors compared to females.

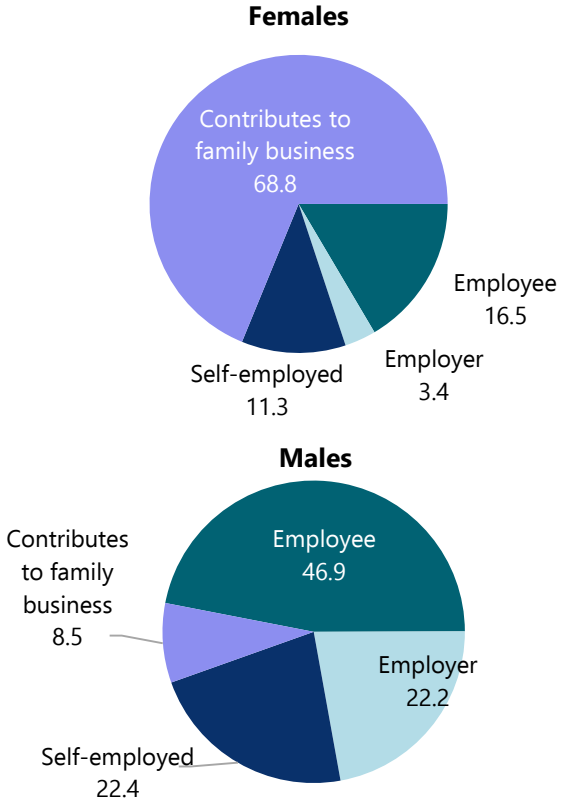
[8] A separate report in the "Views on Crisis" series has been devoted to analysing the informal sector in detail.

Figure 10.10. Distribution of Informal Employment According to Gender and Sector



Source: ILO, 2018a.

Figure 10.11. Distribution of Informal Employment According to Gender and Work Status



Source: ILO, 2018a.

- 99.3 percent of the females who work in agriculture work informally (ILO 2018a), as they are usually seasonal workers who work for an unstable return, and therefore they are not covered by social protection plans such as unemployment insurance.
- As shown in Figure 10.11, 68.8 percent of female informal workers work in family-related work and activities for the benefit of others and often without pay, while this percentage decreases greatly for males and is estimated at only 8.5 percent, and "works for others" account for the largest percentage (47 percent).

8. "Necessity" is the most motivating factor for female self-employment

- Within the framework of the Egyptian Center for Economic Studies (ECES) collaboration with the National Council for Women in preparing a strategy for the economic empowerment of women in 2016, ECES conducted a field research that included fourteen in-depth focus groups that included about 164 girls and women in 13 governorates. The sessions aimed to identify obstacles to the economic empowerment of Egyptian women, the most prominent factors that impede empowerment, and to identify how these obstacles differ for different groups of women and their relevance to place of residence, age and social level, in addition to identifying the drivers of change that can have a radical impact on the reality of women. The research reached the following re-

sults regarding the most important features of females' resorting to self-employment:

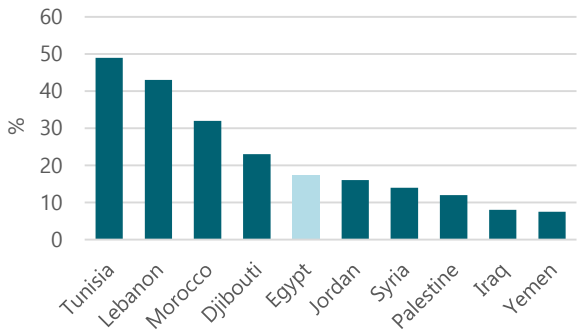
- "Necessity" is the most motivating factor for women to resort to the choice of entrepreneurship, as models of "Necessity Entrepreneurs" prevailed among most women, especially those over the age of forty, and in governorates with limited economic opportunities. Some models may combine the existence of a project or activity with another job to increase income.
- Most of the groups enrolled in the labor market out of need are those with an intermediate education or less, aged 45 years or more, especially if they happen to be in closed societies that do not encourage women's work, such as Upper Egypt or rural areas. Circumstances differed including widowhood, divorce, lack of support from the husband or distress. While the drive for self-affirmation and completion of post-education process is more visible with those with higher qualifications and younger participants, even if they are in the rural areas, Upper Egypt, or Bedouin communities. This, of course, does not negate the existence of models located in the middle areas between the two groups.
- With the increase in the level of education of women and the lack of presence of the private sector in some governorates, and the government ceasing to employ, NGOs represented the field of work experience for women wishing to work in many governorates that suffer from limited opportunities, mainly Upper Egypt and South Sinai.
- Civil work represents a professional turning point for many women to go through the experience of establishing private enterprises, providing knowledge about opportunities and networking in the economically developed governorates (Cairo, Alexandria, and Port Said).
- For women with limited or no income, microfinance is often the only option to obtain funds to start a business that can help support families and avoid certain social difficulties associated with traditional jobs. Most women depend at the start of their projects on savings or money borrowed from individuals.
- Women resorting to self-employment, especially in non-urban governorates, is usually driven by need. However, with the development of the economic structure of governorates, the increase in the educational level of women and their ability to realize economic opportunities, patterns of "opportunity entrepreneurship" appeared. However, there are still a few structural factors that impede women from self-employment (which will be discussed in detail in the next section of the report).
- Modern models of women entrepreneurs have appeared in some governorates of Upper Egypt, especially Luxor, but they were often immigrants from other governorates.

- Women-owned businesses tend to be informal, home-based, and concentrated in the microenterprise and traditional sectors, which primarily include retail and services.[9]
- About one in 3.5 entrepreneurs is a woman (7.5percent of women versus 18.8 percent of men).[10]
- Women-led businesses have a lower likelihood to continue as compared to men-led businesses.[11]
- Firms in which females share ownership in Egypt (about 18 percent) accounts for a low percentage in MENA countries (about 23 percent) (World Bank 2016).

[9] Global Entrepreneurship Monitor (GEM) Report, different issues.
[10] Ibid.
[11] Ibid

- In the MENA region, the share of companies in which women participate is low, especially countries such as Yemen, Iraq, and Palestine. However, there are notable exceptions, such as Tunisia and Lebanon, where ownership rates exceed 40 percent, while Egypt does not exceed 17-18 percent (ILO 2018b) (Figure 10.12).

Figure 10.12. Percentage of Female-Owned Companies in Egypt Compared to Some Countries in the MENA



Source: ILO, 2018b.

9. The limited role of women in decision-making

9.1. Weak political empowerment of women despite improvement in recent years:

- The January 2011 Revolution created a large space for women's political mobility, although the percentage of women's representation in the People's Assembly (currently the House of Representatives) immediately after the Revolution did not differ much compared to before the Revolution, as the percentage was close to that of the 2005 Parliament (about 2 percent).
- The Egyptian constitution promulgated in 2014 came to revolutionize the representation of women in parliament, as it states in Article 11 that:
  - The State guarantees equality between women and men in all civil, political, economic, social, and cultural rights in accordance with the provisions of the constitution.
  - The State shall take measures to ensure adequate representation of women in the representative councils, in the manner specified by law.
  - It also guarantees the right of women to assume public and senior management positions in the State and to be appointed to judicial authorities and bodies, without discrimination. The State commits to protecting women against all forms of violence and guarantees empowering women to reconcile family duties with work requirements.
  - It is also committed to providing care and protection for motherhood, childhood, breadwinning women, the elderly, and needy women.
- While the percentage of women in the Egyptian parliament was 2 percent in 2013, it reached 15 percent in 2018, which represents the highest representation of women in the Egyptian parliament since women were given the right to run for the first time in the 1957 elections. Women in the current parliament occupy 90 seats.[12] Egyptian women also obtained 25 percent of parliamentary seats in the new constitutional amendments in 2019.[13]

9.2. Weak representation of women in boards of directors (results of the annual report of the Women on Boards Observatory[14] for the year 2018):

- The presence of women among company owners and senior managers is very limited (2.4 percent

[12] https://www.almasryalyoum.com/news/details/1453818
[13] https://www.sis.gov.eg/Story/116462/
[14] Women on Boards Observatory is a qualitative observatory specialized within the Women's Observatory of the National Council for Women. It includes in its formation the Ministry of Planning and Economic Development, the Ministry of the Public Business Sector, the Central Bank of Egypt, the Egyptian Stock Exchange, the Financial Supervisory Authority, the National Council for Women, the School of Business Administration at the American University in Cairo, United Nations Development Programme, UN Women, International Finance Corporation, European Bank for Reconstruction and Development, American Chamber of Commerce and Women and Memory Forum.

and 4.9 percent of companies, respectively) (WEF 2020). Banks lead the percentage of women's representation on boards of directors, followed by companies listed on the stock exchange, and then public business sector companies, as shown in Table 10.7 below:

Table 10.7. Percentage of Female Representation in the Boards of Directors of Banks, Listed Companies and Public Business Sector Companies (%)

Representation of women on boards of directors	Banks	Listed Companies	Public Business Sector Companies
Women are not represented in boards of directors	41	54	69
Percentage of female representation in boards of directors with female representation	11.4	10.2	8.3
Positive role models for the representation of women	just one It includes more than 30% of women on the board of directors	21 companies have female representation (33% - 67%)	13 public business sector companies have more than 30 percent female representation, ranging between 33 percent and 100 percent
			Highest representation of women in pharmaceutical companies, at 22 percent
			The lowest percentage of women represented in construction and development companies, an estimated 2.5 percent

Source: Prepared by ECES based on State Information Service (SIS) data, "The Ministry of Planning announces the results of the annual report of the Women's on Board Observatory for the year 2018," August 2019 (this is the available source and the full report is not available on the Ministry's website).

10. A large gender gap, confirmed by international reports

- For example, Egypt ranks 134 out of 153 countries according to the Global Gender Gap Index report issued by the World Economic Forum 2020, with an improvement of one place compared to the 2018 report. It is also ranked sixth in the Arab world after the UAE, Kuwait, Tunisia, Algeria, and Bahrain. Egypt's lagging behind in the global ranking, according to the report, is attributed to many factors, most important of which are:
  - The high rate of illiteracy among females compared to males, where the illiteracy rate for males is 21.1 percent compared to 30.8 percent for females in 2017 (CAPMAS 2019).
  - Low female participation in economic life, and the obstacles women face in obtaining assets and financing. As a result, the differences in income (which include wage and non-wage earnings) between men and women are large. It is estimated that a man's income is about 3.8 times that of a woman's on average (WEF 2020).
  - Weak political empowerment of women.
- According to the Women, Business and the Law 2020 report issued by the World Bank, the average value of the index for Egypt was 45 according to the average values of eight indicators on which the calculation is based, as shown in Table 10.8, which is much lower than the global average for the same index (75.2), while a number of countries succeeded in reaching full index scores, namely: Belgium, Canada, Denmark, France, Iceland, Latvia, Luxembourg, and Sweden.

Table 10.8. Egypt's Position According to the Indicators of the Women, Business, and the Law Report 2020*

Indicator	Freedom of movement	Rights in the workplace	Pay	Freedom to choose the timing of marriage	Procreation	Freedom to choose timing of	(Freedom to run a private business) Entrepreneurship	Disposal of property	Pension	WBL 2020 score
Value	50	75	0**	0**	20		75	40	100	45

Source: The World Bank, Women, Business, and the Law 2020 Report.
* The "Women, Business and the Law" report examines how laws affect women at different stages in their working lives and focuses on those laws in force in major commercial cities in 190 countries. The report computes an unweighted average score for eight indicators on a scale of 0-100, with 100 being the best overall score.
** Despite the importance of the indicator and its results, it is necessary to look at the results of the report with caution, as the estimates of "zero" for the indicators of pay and freedom to choose the timing of marriage greatly contradict Egypt's economic and social reality.

- According to the International Labor Organization model estimates, the participation rate of women in Egypt is much lower than that of men. Female participation rates for the 15-64 age group in Egypt reached 25 percent (compared to 76 percent for men) in 2018. Egypt occupies the 11th place among the lowest countries in terms of participation out of 189 countries for which the International Labor Organization publishes estimates (Krafft, Assaad and Keo 2019).

Fourth: Reasons behind the lack of optimal exploitation of women in the labor market

- The field research conducted by the Egyptian Center for Economic Studies (referred to previously) and its results indicated that there are four main factors that affect the economic empowerment of women, namely:
  - Openness to other experiences and cultures
  - Availability of information and the ability to deal with it
  - Availability of communication technology
  - The supportive environment of culture, services, and infrastructure

In light of these four factors, we present below the most important obstacles that affect the extent of female participation in the labor market in general, and then highlight the circumstances surrounding them when entering the field of self-employment.

- **General obstacles:**

- **The social and cultural legacies that women are less capable and productive than men** and that their participation in the labor market is crowding out men and limiting their economic opportunities, the prevalence of their full responsibility for household and caring for children and the elderly, and family problems that they may face as a result of their failure to undertake such responsibilities.
- **The lack of qualified nurseries within the work environment** to take care of the children of female employees, as many married women leave work because they need to take care of their children.
- **Decline in the financial conditions of families,** and thus preference is given to male education over female education.
- **High fertility rates,** especially in rural areas, and the unequal gender division of unpaid domestic work.

- **The weak public transport network** and the poor service provided, which consumes long hours from employees in going and returning from work, in addition to the fact that spending on means of transportation affects their total income.
- **The harassment and discomfort** that the woman may experience.
- **Labor laws** do not directly oblige the employer not to discriminate between the sexes, avail equal opportunities for advancement and progression in positions for both sexes, in addition to insufficient maternity leave for women after childbirth.
- **Decline in working conditions for women in the labor market, especially in the informal private sector,** in which women are denied contractual protection, work rights and special benefits (AUC 2009a).
- **The lack of proper qualification** and empowerment of women in order to provide decent participation in the labor market as a result of the lack of training programs and the lack of information about them.

- **Obstacles faced by women in self-employment during the stages of establishing the project:**

  They are not much different from the additional obstacles women face in the labor market compared to men, although they are worth noting considering the different circumstances, as follows:

  - The additional obstacles that women face during the first stage of the of the project (ideation) come as a result of the lack of experience and increased burden of family care in the age group 18-45 years.
  - Far from the governorates of Cairo, Alexandria and Port Said, women face special challenges in choosing the work sector, which is often designed to serve limited local demand and in women's activities.
  - As for the gender challenges due to the social segment, they are related to the surrounding culture, and women's acceptance of dealing with men whether merchants or consumers. Of course, there is a cultural nature to the gender obstacles based on geographical location and whether the place of residence is rural or urban. These obstacles continue through the following stages until the stability stage is passed.
  - Barriers to obtaining the necessary financing and market knowledge. In Egypt, 73 percent of adult females (nearly 24 million individuals) do not benefit from formal banking services; with a gap of about 12 percent versus men. This is likely due to high levels of informality in the private sector, which increased from 30 percent in 1998 to more than 40 percent in 2012, including many unregistered small enterprises established by females (35 Mckinsey & Company 2020). As for the marketing circles of necessity women entrepreneurs, they are concentrated in the acquaintances and the surrounding context, as they lack knowledge of the dynamics of demand and areas of marketing.
  - With the project reaching the stage of expansion and growth, the obstacles between women and men are equal in all groups. If women are able to pass the previous stages, this means that they have overcome gender barriers and reached macro or sectoral economic obstacles.

The urban governorates are the most fortunate with respect to the availability of the four factors, followed by the governorates of Lower Egypt, while the governorates of Upper Egypt and border governments are the least fortunate.

Border and Upper Egypt governorates suffer from long distances and the difficulty of moving internally and between governorates, which affects women's exposure, in addition to lack of electronic devices and thus communication technology.

Despite the many difficulties that women face in the labor market, social and cultural factors are still largely responsible for the weak participation of women in the workforce and the high rate of female unemployment. The means of women's participation in economic life are still subject to strict social restrictions, which resulted in an imbalance in the status of females in the labor market in Egypt.

Fifth: Demand and supply shocks in the context of the crisis cycle

At the outset, it should be noted that some previous issues of the "Views on Crisis" series have dealt with the impact of the spread of the Corona pandemic on females by addressing the negative effects it has had on economic activities in the context of studying other topics. Therefore, this section will not discuss the sectoral impact analysis on women in the labor market in detail but will shed light on global developments and Egypt's position in this regard.

5.1. The following facts have been proven universally, as they apply to the Egyptian case:

- **In recent economic crises, like the one in 2008,** job losses among men were much higher than women. One reason is that relatively more men are employed in industries that were severely affected by a standard downturn (such as manufacturing and construction), while women's employment is concentrated in sectors less affected by economic cycles such as healthcare and education.
- **In contrast to most previous economic crises, COVID-19 is a health crisis with many social dimensions. This crisis has caused and continues to cause disproportionate harm to female jobs and their incomes compared to males globally, as follows:**

- **The current crisis has a major impact on service professions that are characterized by a high percentage of female employment,** such as the tourism and hospitality sector including the restaurants and travel services, in addition to the retail trade sector and the garment industry. Women are one-third more likely than men to work in a sector that has been severely affected or closed down entirely by the pandemic, such as the retail and hospitality industries.
- **The International Labour Organization has identified accommodations (hotels, resorts) and food services as sectors that are expected** (which is already witnessed) to witness a sharp decline in their output due to the current crisis, as they are labor-intensive sectors and employ millions of workers with low wages and modest skills. In many countries, the first round of layoffs has been particularly acute in the service sector, including retail and hospitality, where women are overrepresented. Consequently, most of those laid off or faced substantial pay cuts and an existing or possible loss in their work are women (ILO 2020a).
- Due to the nature of this crisis, there is a great demand for the physical presence of female workers in the health sector, and less demand for the physical presence of female workers in the education sector because of distance education.
- Women are more at risk of infection, as they make up nearly 70 percent of the global healthcare workforce.
- More men than women work in jobs that can be conducted remotely, 28 percent for men versus 22 percent for women globally.[15]
- The situation is worse in developing economies than in advanced economies, where the vast majority of working women

[15] Source: https://www.bbc.com/future/article/20200409-why-covid-19-is-different-for-men-and-women

live in the informal economy with little protection against dismissal or paid sick leave and limited access to social protection.

- **Even if females work in jobs and activities that are still stable, many women still struggle to balance work and additional care responsibilities resulting from school closures and childcare nurseries,** as more than 1.5 billion school and university students around the world are absent from schools and universities according to UNESCO estimates[16] (as of March 25, 2020).

5.2. In light of what was presented above, in the next section an analysis is conducted of the impact of the Covid-19 crisis on the female labor market in Egypt according to demand and supply shocks during the stages of the crisis cycle.

5.3. The analysis of the impact of Covid-19 on female work is based on a set of concepts and assumptions:

5.3.1. Concepts

Demand shock: Sudden change in demand for females in existing and potential jobs.

Supply shock: Change in the ability of females to respond to the change in demand for the professional and domestic services they provide.

5.3.2. Assumptions:

- Female employees in the government sector and the public business sector enjoy more stability in their jobs, at least in the short and medium terms, due to the nature of government work.

- The status of females in the private sector is not the best in general and may become more threatened given the current crisis, especially in light of the fact that many women work in informal jobs, especially in the rural areas.

- The 2008/09 global crisis revealed that the groups most vulnerable to encounter financial trouble during crises are the self-employed and unpaid workers (ILO 2020b), which applies to the Egyptian case.

- Egyptian women bear the additional burden of home schooling, which may further deepen the gender gap in unpaid domestic work.

- A woman's entry into the labor market or exiting therefrom depends on the distance from her home and the availability of facilities to take care of her children.

- "Women are expensive workers for employers" (AUC 2009b), which is due to the legislative framework that provides for maternity leave, childcare and the presence of nurseries for children in the government and the public sector.

- The persistence of general obstacles facing women's work in Egypt over different time periods.

- Persistent gender gap in unpaid work.

- The demand shock varies according to the sector in which females work and the extent to which it is affected by the current crisis. For example, while demand for female employment in the health sector as physical presence in the workplace increased sharply, it decreased in the service sectors as mentioned above.

- Future scenarios are related to two main factors: 1. the evolution of the virus, and the implications thereof for the resumption of schools and nurseries as a determining factor for the return of females to the labor market 2. the nature of women's participation in economic activity.

[16] https://plan-international.org/emergencies/covid-19-faqs-girls-women

Table 10.9 below presents an analysis of the impact of the crisis on females in the labor market in Egypt throughout the stages of the crisis cycle since its inception in December 2019, during the current situation, and up to expectations for the coming period until June 2021.

Table 10.9. Potential Scenarios for the Impact of the Crisis on Females in the Labor Market based on the Aforementioned Crisis Cycle and Assumptions

Stage	Demand and/or supply shock	Analysis	Impact on females in the labor market
1. The emergence of the virus (December 2019-January 2020)	There are no shocks on the supply side Minor demand side shock	• The crisis is confined to China. The virus has not yet spread to many countries around the world. • Factories and businesses dependent on imports from China were slightly affected. • Consequently, jobs or businesses for women in Egypt were not clearly affected, as the crisis was still in its infancy.	• Individual cases of layoffs by factories dependent on China[17]
2. The beginning of the virus spreading (February – mid-March 2020)	There are no shocks on the supply side Minor demand side shock	• The crisis has reached European and Arab countries, causing the loss of more than 700,000 jobs around the world during February and March. Women account for 60 percent of this job loss. • The virus began to appear in Egypt • In the second week of March, it was announced that 70-80 percent of future reservations would be canceled and many tourist villages closed due to lack of occupancy.[18] • Non-entry of tourism workers into the labor market again, waiting for the recovery of the tourism sector • Egypt is still not clearly affected by the crisis.	• A limited increase in demand for female employment in the health sector in Egypt, while other sectors were not significantly affected. • A negative impact on the demand for female employment in the food and accommodation service sector,[19] as tourism revenue for March decreased by about 75 percent compared to the expected figure. Consequently, the incomes in the tourism sector, including for females, were negatively affected.[20] • There is no significant impact on existing and available jobs for females in other sectors.
3. Exacerbation of the problem (mid-March-mid-May 2020)	Violent shocks on both sides of demand and supply	• Several precautionary measures have been issued, most importantly the decision to suspend schooling and close nurseries. • The tendency of many governmental and private institutions to allow their employees, especially women, to obtain exceptional leave or perform their duties from home via the Internet to be able to take care of their children. • Absence of any new tourist reservations.	• Women have come to assume increased care responsibilities resulting from school closures, isolating the elderly, and caring for the increasing numbers of sick family members. Consequently, the ability of some females to provide their professional services decreased. • Higher demand for female health workers, including doctors and nurses, to face the increase in infections, as they are exposed to the dangers of infection and death.

[17] ECES, Labor Market, Views on Crisis, issue no. 13, or Chapter 2 of his volume (page 53).
[18] ECES, the Tourism Sector, Views on Crisis, issue no. 3.
[19] ECES, Restaurants and Cafes, Views on Crisis, issue no. 16, or Chapter 7 of this volume.
[20] Op. cit.

Stage	Demand and/or supply shock	Analysis	Impact on females in the labor market
3. Exacerbation of the problem (mid-March-mid-May 2020) cont.		• A noticeable gradual increase in the number of infections and an attempt to control the outbreak. • The inability of the health system to absorb more cases, and many were forced to stay home in self-quarantine. • The halt of some manufacturing industries. For example, 50 percent of ready-made garment factories stopped working completely.[21]	• Females in the government sector are not affected (in terms of keeping their jobs and the volume of demand for them), except for workers in the health sector; and their wages stayed at normal levels. • There was a partial decline in some jobs in the private sector in several sectors, such as food and accommodation services, and retail trade, especially in the informal sector, and ready-made garments. • For example, in the furnishing and ready-made garments sector:[22] No less than 376,000 female workers have stopped working (given that the employment of women represents nearly 47 percent of total workers in the garment industry). This is not related to the stopping of factories, but also to women stopping to work with schools suspended. • Continuing some jobs from home, such as educational services. • Many small and micro enterprises, of which women hold the largest share, have been suspended.
4. The crisis recedes (Mid-May to Aug 2020)	Continuation of shocks on the demand and supply sides, albeit their severity decreases over time.[23]	• Gradual easing of the curfew measures as time progresses and the number of infections decrease. • The continuation of some precautionary measures such as closing schools until the end of the school year with the continued reception of children in nurseries, but with a decrease in their number. • Gradual improvement in the ability of health institutions to deal with infections. • As the period progressed, industrial and commercial activities moved towards their normal rates of operation.	• The severity of the crisis continues with expected slowdown in various sectors. • A strong demand for female workers in the health sector at the beginning of the period, tending to decrease by the end of the period. • With the end of Eid Al Fitr in the last days of May, many women returned to work, especially in the private sector, while the government sector continued to reduce working hours and grant paid leave. • The return of many workers from the Gulf after their layoff, thus increasing labor supply and negatively affecting women's jobs. • The repercussions of the previous period continued, with the emergence of signs of recovery of various sectors from the supply and demand shocks.
5. Recovery (starting from September 2020-June 2021)	Five possible scenarios according to two factors: 1. The evolution of the virus and its implications for the extent to which schools and nurseries would return to their activities 2. The nature of women's participation in economic activity		

[21] ECES, Industries Struggling to Survive: Ready-made Garments and Home Furnishings , Views on Crisis, issue no. 11, or Chapter 4 of this volume (page 106).
[22] Ibid.
[23] This situation exists until the date of the report's issuance on 8/12/2020, although there are indications of a resurgence in the number of infections during the period after this date, albeit the severity of the increase in infections is still unknown.

Stage	Demand and/or supply shock	Analysis	Impact on females in the labor market
5. Recovery (starting from September 2020-June 2021) cont.	**1. Optimistic-optimistic scenario**	**Optimistic**: the disappearance of the virus or the emergence of a vaccine, and the resumption of schools and nurseries at full capacity. **Optimistic**: Females will return to the job market with greater participation rates	• Despite the threat that the current crisis poses to employment in general, especially female employment, it could bring about some welcome transformations that could reduce gender inequality in the labor market in the long run regarding two main aspects: o The first is the equal division of labor in the home, where a large part of gender inequality in the labor market is linked to an unequal division of housework (cooking, cleaning, etc.). Long-term progress towards greater gender equality is likely to follow. o The second is the availing of remote work for employees and flexibility of working hours, as many companies are now more aware of the childcare needs of their employees, which will benefit females as it will allow them to achieve their future career without prejudice to their family responsibilities.
	2. Optimistic-moderate scenario	**Optimistic**: the disappearance of the virus or the emergence of a vaccine, and the resumption of schools and nurseries at full capacity. **Moderate**: Females return to work like prior to the crisis.	• The return of female employment to pre-crisis rates through the State taking some simple and urgent measures (which will be mentioned in the next section of the report) to maintain the status of females in the labor market and ensure they retain their jobs
	3. Optimistic-pessimistic scenario	**Optimistic**: the disappearance of the virus or the emergence of a vaccine, and the resumption of schools and nurseries at full capacity. **Pessimistic**: Females do not return to work in its pre-crisis form.	• Females do not return at rates like previous ones, due to a number of developments in the labor market revealed by the crisis: o Awareness of labor excess in some sectors, and consequently the layoff of excess workers, often women. o Increased supply of labor, especially after the return of several workers from the Gulf following their layoff.
	4. Pessimistic-Intermediate scenario	**Pessimistic**: the emergence of a second wave of the virus, without finding a vaccine, and schools and nurseries are suspended. **Intermediate:** Female participation continues at its crisis rate.	• The situation remains as is in terms of the stay of a large proportion of women at home to take care of their families while continuing to work via the Internet or go to the workplace on certain days only.
	5. Pessimistic-pessimistic scenario	**Pessimistic:** the emergence of a second wave of the virus, without finding a vaccine, and schools and nurseries are suspended **Pessimistic:** an unprecedented drastic drop in female participation in the labor market.	• Significant risks such as conditions pushing many women to leave their jobs, especially those that cannot be performed remotely, with potential long-term negative effects on the size of female participation in the workforce, and thus a large segment of females resorting to jobs that are more exploitative and less stable to earn a living.

Source: Prepared by ECES.

* These estimates should be read with caution, as expectations may require further reviews due to the developments that occur, whether related to the day-to-day spread of the virus, whose duration and scope are still unknown, or those related to any global or local developments that may affect the estimates directly or indirectly.

We draw from the previous table a few conclusions for the next phase, which begins next September:

1. **The recovery phase is characterized by a large degree of uncertainty about the evolution of the virus, which makes it dependent on three criteria:**

- Developments of the virus.
- The urgent economic policies and measures that are being taken that affect the ability of the economy to recover and increase female employment
- The institutional reforms that the State undertakes that affect women's employment

2. **According to the previous criteria, the future of female employment in Egypt will be determined in terms of three possible outcomes:**

- Return to normal levels of female employment before the outbreak of the crisis (already below the desired rates) if appropriate urgent interventions are taken (will be indicated in the next section).
- The deterioration of the conditions of women, so that their participation in the labor market is lower than pre-crisis rates, occurred because of the changes that transpired in the labor market as a result of the negative repercussions of the current crisis. For example, the preference of many females not to join the medical field with multiple infections and deaths among the medical staff, the layoff of workers in a number of sectors that are mostly women, and the increase in the supply of labor, especially after the return of a number of workers from the Gulf following their layoff, which may threaten job opportunities for females, in addition to not taking the appropriate policies and measures.
- **An improvement in the economic and social conditions of women in the medium and long terms if the necessary institutional reform is undertaken,** which the State has already initiated many years ago, although more efforts are needed to have a greater and faster impact on the position of women in the labor market (its key elements will be noted in the next section).

Sixth: The required interventions to mitigate the effects of the crisis

As a result of the fact that women are the most affected by this pandemic, they will also be the backbone of recovery. Every action taken that recognizes this fact will be more effective. Therefore, measures must be put in place immediately to help the rapid overcoming of the negative economic repercussions of this pandemic.

The government announced a number of appropriate decisions and measures,[24] which are in the interest of Egyptian women and could provide them with the necessary support. However, the details and mechanisms for implementing some of these decisions are not clear enough, and we suggest taking the following measures urgently:

- **Evaluating all relevant measures taken by the State** to determine the extent of its effectiveness in achieving objectives, fixing their deficiencies and maximizing the benefits of their results, to help later inform crisis response plans in the event of a recurrence of the crisis or the occurrence of other similar crises.
- **Compiling all gender-related statistics and data and analyzing them** to study how women in all activities are affected by the Covid-19 crisis, and the announcement thereof on a weekly basis with transparency. The objective is to develop and implement other effective policy measures as proper policies are based on information.
- **Monitor and follow up on all relevant economic and social policies, measures and plans** issued and the impact on Egyptian women considering the efforts made to limit the spread of the corona virus.

[24] A list of these actions is attached at the end of this report.

- **Supporting women across the value chain** by ensuring that suppliers who are highly dependent on female labor receive payments for current requests, and provide them with additional support to obtain credit, loans, and grants so that they can maintain their activities and thus keep workers in their jobs.
- **Providing flexible working conditions,** especially in the private sector, which take into account the family responsibilities of female workers through, for example, part-time work or work from home with flexible hours to give women the option to combine and balance their work and their family roles.
- **Providing subsidies to institutions with a large representation of females or to female-owned businesses** that give female workers paid leave (in Japan, the Ministry of Health, Labor and Social Welfare announced support for companies that put in place paid leave systems for workers affected by school closures in exchange for continued payment of salaries to workers on leave).
- **Review and follow-up of the extent to which females benefit from the recent decisions of the Central Bank** within the framework of the exceptional measures taken to limit the negative repercussions of the corona virus, and the extent of gender differences in benefiting from such decisions.
- **Using the branches of the National Council for Women, the Ministry of Social Solidarity, the National Bank of Egypt and post offices** to identify the difficulties that females face when setting up and operating their projects, especially during the pandemic, and to take the appropriate and necessary policies to address the deficiencies.

Seventh: Institutional weaknesses revealed by the crisis and proposals to overcome them

The crisis revealed several institutional imbalances that existed for many decades regarding the economic and social status of females in Egypt, which require remedial action. This will have a great impact on the promotion of the role of women in Egypt in general, not only during the current crisis, and will help make women a major engine of recovery and growth for the economy. In Table 10.10 below, we present a few proposals to eliminate the existing institutional weaknesses.

Table 10.10. Institutional Weaknesses Revealed by the Crisis and Proposals to Overcome Them

Weaknesses	Recommendations
Lack of a database and information on the size and type of demand for female labor	• Setting detailed investment maps from which investment opportunities will emerge, including available job opportunities, their requirements, and the appropriate ones for females.
The multiplicity of social and cultural obstacles, lack of awareness of legal rights, and the bias of some of them not in favor of female's labor market.	• Launching awareness campaigns, targeting rural and border areas in particular (Abdel Mawla 2009). • Addressing the social and cultural barriers and attitudes that restrict the potential of women in entrepreneurship, and the need to address stereotypes on many levels: within families, local communities, the education system, and the business environment. • Increasing public and private sector awareness of their social responsibility, and the provision of social services in support of women's work at an acceptable cost and high quality, such as nurseries for children, considering geographical distribution and material capacity. • To correct concepts of women's legal rights, spread awareness of the methods of claiming rights, and provide legal advisory services on a balanced geographical scope and for an appropriate fee.

Weaknesses	Recommendations
The gap between educational outcomes and labor market needs	• Adjusting the education system in general so that its output meets the needs of the labor market, which will enable the desirable benefit from both genders, contribute in a more positive way to female employment, and achieve the optimal utilization of many idle female capacities. • The development of various technical secondary education specializations, especially the most enrolled in by females - for example - secondary nursing and commercial secondary. • Providing appropriate training programs for females in all regions of the country as a quick fix until the education system is reformed.
Incomplete implementation of programs and initiatives provided by donors to empower women.	• Coordination and review of these programs to ensure follow-up with women beneficiaries, taking into account both geographical distribution and the content of other initiatives.
Weakness of several basic dimensions of empowerment, on top of which are geographical justice, age groups, and different family circumstances.	• Restructuring the labor market in order to be able to consider the different conditions of females, including variation in the nature of responsibilities and needs, to avoid bias in favor of one group against another. • Increase empowerment of all institutions related to women, especially the Ministry of Social Solidarity and the National Council for Women.
Lack of differentiation between the problems facing small, medium, and micro enterprises that are not related to gender, and the problems faced by females specifically, the most important of which is the lack of information.	• Paying attention to the economic empowerment of women through the small and medium enterprises sector, which is one of the main sectors that provide decent and productive work opportunities for women in various Egyptian regions and governorates. • Conducting field research with the aim of identifying all problems that hinder women's economic empowerment. • Focusing on qualifying females for the labor market through programs prepared by the Ministry of Social Solidarity and implemented by the National Council for Women and the private sector. • Circulating the "Egyptian Women Entrepreneurship Guide"[25] prepared by the Egyptian Center for Economic Studies in cooperation with the National Council for Women in 2018, and is considered a complete reference for any woman wishing to start a private project or expand an existing one.
Weak incentives for female self-employment	• Establishing gender focal points in business associations and similar organizations with the aim of developing an open platform for microfinance to foster financial inclusion and credit programs designed alongside business development services for women entrepreneurs. • Ensure that enterprise support targets small, medium, and micro enterprises owned by women. • Systematically address credit restrictions that hinder women in their attempts to start and grow businesses. These restrictions range from limited financial literacy and gender norms that give husbands control over financial resources and assets to a lack of financial resources that meet women's needs. • Providing training programs and courses for females in various professional fields and throughout the country, so that women entrepreneurs gain the ability to plan well financially and then be able to establish and expand the project.
Distortions in the labor market, including gender wage differences	• Enforcing the articles of the constitution and the legal articles that stipulate equality between males and females. • Amending laws to allow family care privileges for both the mother and the father, not just the mother.

[25] The Guide can be viewed on the ECES website at the following link: http://www.eces.org.eg/PublicationsDetails?Lang=AR&C=13&T=1&ID=787

Appendix

Table A10.1. The Most Important Official Decisions Issued to Reduce the Negative Impacts of the Outbreak, which are Directly and Indirectly Related to the Socio-Economic Situation of Women in Egypt

Resolution	Content
Suspending schools and universities	The President of the Republic issued a decision to suspend studies in universities and schools for a period of two weeks on March 14 of this year, and the suspension was extended after that for other periods.
Suspending nurseries	The Ministry of Social Solidarity issued a decision to suspend nurseries during the peak of the outbreak, in order to protect children, making mothers reassured of the safety of their children
Reducing the presence of workers in government agencies	Reducing the number of male and female workers in government departments and agencies as part of the precautionary measures taken by the State to prevent the spread of the virus.
	Granting an employee who is pregnant or caring for a child or more under the age of twelve years an exceptional leave for the duration of this resolution.
	Granting leave for a female worker who takes care of a child with special needs, according to a circular letter.
Dispensing medicines for chronic diseases, infant formulae, and family planning methods	The Ministry of Health and Population announced that it has taken measures regarding the dispensing of medicines for chronic diseases, infant formulae and family planning methods for a period of 3 months "to facilitate access to reproductive health services needed for women."
Protection of elderly women and women with disabilities who live in care homes	On March 19, the Ministry of Social Solidarity announced the intensification of precautionary measures for children of care homes and the provision of all health precautions and awareness leaflets, including in education places, penal institutions, orphanages, elderly homes, social defense institutions, homes for people with disabilities, and women's hosting centers. This is in order to protect elderly women and women with disabilities who live in care homes and to prepare for any possible case of violence against women in hosting centers.
Social protection, especially for breadwinning women	The Ministry of Social Solidarity announced an increase in the numbers benefiting from conditional cash transfers within the Takaful and Karama program to 100,000 families.
Increase the monthly income of rural women leaders	The Ministry of Social Solidarity announced an increase in the monthly income of rural women leaders from EGP 350 to EGP 900 per month.
Protect the elderly woman	The Ministry of Social Solidarity announced the inclusion of women aged 65 and above who are without care in homes for the elderly under the umbrella of social protection.
Economic opportunities for women's loans	The Ministry of Social Solidarity announced an increase in the number of beneficiaries from soft and low interest loans to start micro-enterprises to improve the standard of living of the family, thus providing economic opportunities to women who need micro-loans
Economic support for women in informal employment	The Ministry of Manpower announced steps to register irregular workers on the ministry's website to obtain an exceptional grant of EGP 500, within the framework of the State's plan to protect this group affected by the corona virus, which enables providing economic support to women in irregular employment.
Emergency Benefits Fund for Affected Workers	On March 26, the Prime Minister issued Decree No. 776 of 2020 to establish the Emergency Relief Fund for Workers and to form a committee for workers affected by the economic repercussions of the Corona virus, which includes the National Council for Women

Resolution	Content
Economic opportunities for women in micro-borrowing	The Financial Supervisory Authority issued a bundle of decisions regarding the microfinance activity related to the interests of 3.1 million male and female citizens, the most important of which are: - Reducing or deferring installments owed by customers, equivalent to 50 percent of the value of each installment for microfinance clients - Exempting regular microfinance clients from the accelerated payment commission of clients' outstanding debts or reducing administrative costs to roll over existing funds.
EGP 500 per month for irregular workers	On April 6, the President directed the allocation of a grant for irregular workers affected by the repercussions of the Corona crisis, amounting to EGP 500 per month for a period of 3 months
The decision of the Minister of Justice excluding some cases related to the family from the suspension decision.	The Minister of Justice issued a decision to continue to postpone hearing of all cases pending before the courts of first instance, with the exception of hearing cases related to temporary alimony for the wife and the child and its implementation, and hearing lawsuits related to guardianship over money. Also, the implementation of decisions of the Public Prosecution and the judgments issued to surrender the young, and the decisions of the Public Prosecution and the rulings issued regarding enabling the guardian to keep the residence, as of May 3.

Source: Prepared by ECES based on various media sources.

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11. Sports Sector

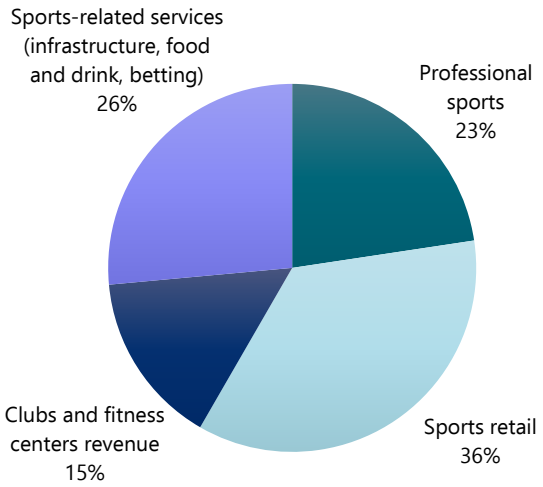
Lead Researcher: **Mohanad Mahdy**

First: Brief description on the issue of the report

Recent decades have witnessed radical changes in the global vision for the sports sector. It is no longer just an entertainment activity but has rather become a vital sector with economic importance, whether in terms of the volume of financial transactions associated with it, or its products provided to consumers, whether commodities, services, or a sporting event. This prompted many countries to deal with sports[1] as both a product and an industry. It has economic weight and added value, which contribute to both countries' income as well as the income of individuals.

- The global sports market is estimated at $756 billion annually, according to the report issued by the United Nations Department of Economic and Social Affairs (UN DESA) in May 2020, which studies the economic and social impact of the COVID 19 pandemic on sports activity around the world (UN DESA 2020). It is noted that this value is related to the sports industry directly, which if coupled with indirect industries,[2] the value would rise to about $840 billion annually, according to the global company SPORT VALUE. [3]
- The economic impact of the sector does not stop at these revenues, but extends further as a result of the multiplier effect, which is estimated at an average of 2.5 times the direct revenues[4] according to global sources, or about $1.8 trillion annually. The sports sector's ability to bring masses together makes the economic impact go beyond just buying tickets, extending to the production chains of other sectors such as transport, food, drink and others. [5]
- The sports market revenues comprise globally of professional sports, sports retail, revenues of clubs and fitness centers, as well as sports-related services such as infrastructure, food, drink, etc. The sports retail trade accounts for the largest proportion of the volume of revenue, with a value of about $270 billion annually. Figure 11.1 shows the percentages of revenues for the four sectors at the global level.

Figure 11.1. Global Sports Industry Revenue Percentages

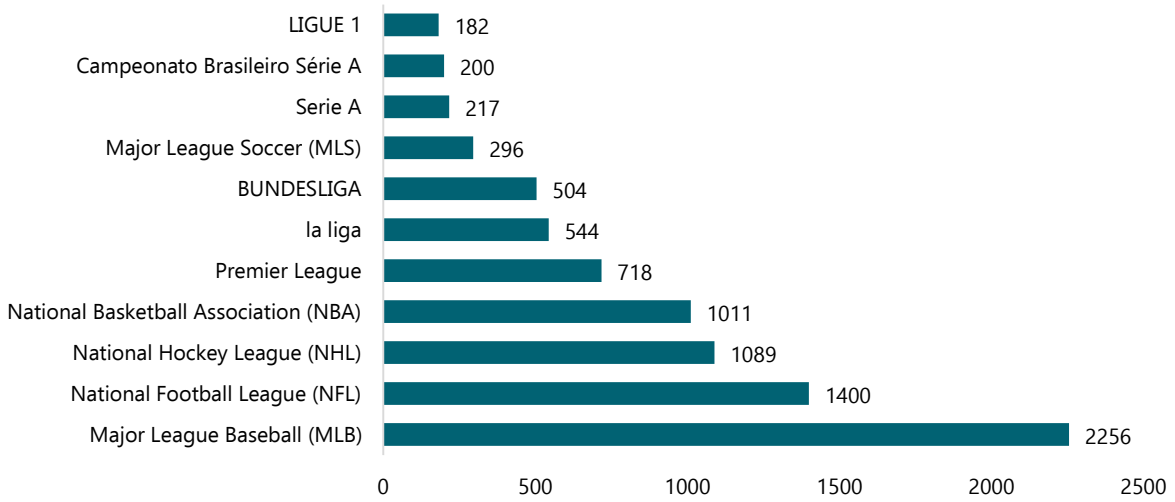


Source: Sports Value.

- The United States accounts for the largest proportion of the sports market, with revenues of about $420 billion annually,[6] followed by Europe with $250 billion. Figure 11.2 shows the most important tournaments, leagues, global activities and their annual revenues.

[1] Sports are generally divided into two main types: Professional sports and non-professional sports (amateur sports). Professional sports are those sports activities and services with financial returns and production chains, both in terms of players and their returns, as well as sporting events and ticket sales, and the associated media industry, broadcast rights, advertisements, etc. As for the non-professional sports, they are the sports activities and services that are practiced without a material return and whose goal is a health, social or other return, such as children's sports and others.
[2] Indirect sports industries refer to sports-related services and products that fall under the revenues of other sectors such as sports tourism.
[3] https://sportsvenuebusiness.com/index.php/2020/03/19/coronavirus-economic-impact-on-the-sports-industry
[4] This effect varies according to the nature of sporting activity in the countries and the nature of the popular base for the sector.
[5] Op. cit..
[6] It is worth noting that taxes paid on sports investments in the United States during 2016 amounted to about $217 billion.

Figure 11.2. Revenue from the Most Important Leagues and Tournaments Worldwide



Source: Sports Value.

The global sports market continues to shift from traditional consumption to digital consumption, as sports technology companies[7] have achieved growth rates of 7.6 percent during the past five years.[8]

At the regional level, there is notable expansion in the sports industry in the Middle East and Africa. Growth is expected to achieve rates close to 10 percent in the next five years[9]. In recent decades, there has been a great boom in the sports market, especially in the Arab Gulf states. Annual spending on sports in Dubai alone, for example, amounted to about $1.7 billion in 2016, and the contribution of the sports sector to the Emirate's GDP amounted to about $670 million, based on the analysis conducted by Deloitte International in its 2016 report on the economic impact of sports in Dubai.[10]

Egyptian sports occupy a distinguished position at the global and regional levels, as they constitute 25 percent of the volume of sports investment in the Arab world, and contribute 2.7 percent of total investments in various sectors in Egypt. An estimated 8 percent of investment in the tourism sector is related to sports.[11]

The contribution of the sports sector to GDP is estimated at 1.8 percent in 2016. [12] Despite lack of data about the sector in the years following that year, it is expected that this percentage will increase according to many experts due to the strong boom the sector witnessed in infrastructure during that period, as well as Egypt's hosting of many tournaments such as the African Nations Cup and others.

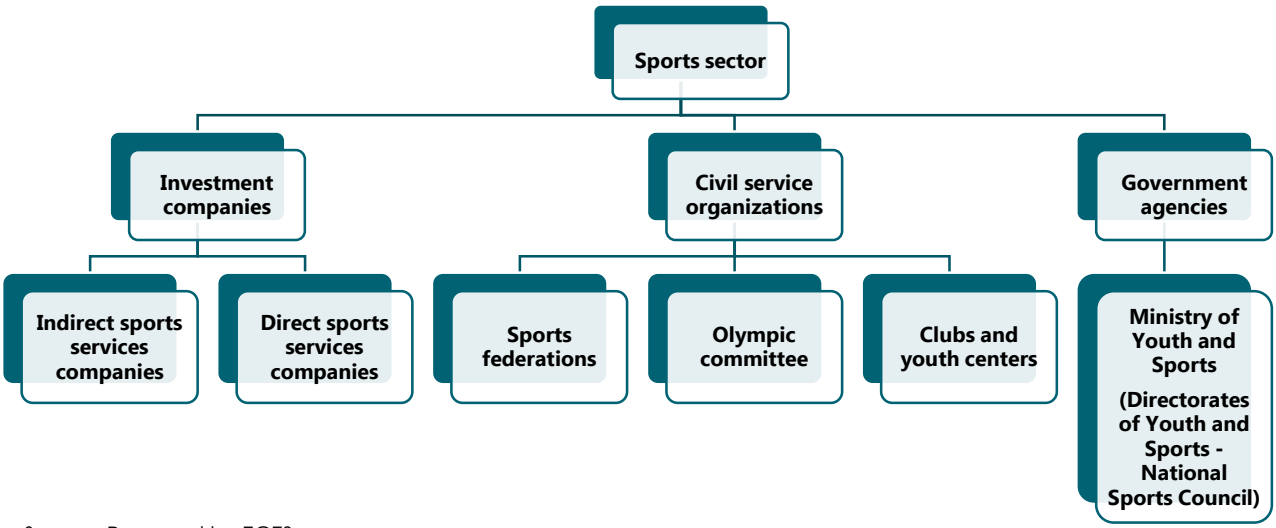
The sports sector in Egypt is represented in three main bodies:

Government agencies, **non-governmental organizations**, **and investment companies**.

Figure 11.3 illustrates the institutional and legal structure of the sports sector in Egypt.[13]

[7] There are many sports technology companies, such as different games companies, as well as sports data and statistics companies, practitioners, performance measurement and others.
[8] Source: Dr. Saad Shalabi, Professor of Physical Education at Mansoura University.
[9] Ibid
[10] Deloitte Global Foundation, Economic Impact of Sport in Dubai, 2016.
[11] Special statements by Dr. Saad Shalabi, Professor of Physical Education at Mansoura University, to Al-Mal and Al-Borsa newspapers, which can be accessed via the following links: https://cutt.us/PgwIB, https://alborsaanews.com/2017/11/16/1065390
[12] Ibid.
[13] The National Sports Council was established in 2005, and reported directly to the Prime Minister until 2012, and then to the Ministry of Sports.

Figure 11.3. Institutional Structure of the Sports Sector in Egypt



Source: Prepared by ECES.

Table 11.1 shows the differences between the three bodies in terms of the legal definition, objectives of the institution and the nature of the sporting activities provided by each entity.

Table 11.1. Differences between Government, Private and Investment Entities

Characteristics	Government agency	Civil society	Investment agency
Definition	Bodies that the State establishes within the structure of the government apparatus at its various levels within the ministries or institutions concerned with sporting activity as part of their responsibilities specified in their establishment resolutions.	These institutions undertake non-governmental efforts, and they are represented in every group that is a going organization consisting of several natural or legal persons, and the goal is to nurture youth and develop their faculties.[14]	They are joint stock companies whose issued capital is not less than EGP 250 thousand and are specialized in all sports services provided. They are divided into direct sports services companies (sports activities), and indirect sports services companies.
Objectives	Planning and organizing everything related to youth and sports in Egypt, setting plans and programs in light of the State's public policy, and promoting all components of sports activity.	Caring for youth and creating appropriate conditions for the development of their talents, by providing sports, social, cultural, religious, health and recreational services, all within the framework of the State's public policy, and providing recreational places for families to spend their leisure time.	Services and objectives are varied, as follows: 1. Establishing private clubs 2. Establishing and managing sports stadiums, indoor halls, or swimming complexes 3. Establishing health clubs or fitness centers 4. Establishing sports academies and military rehabilitation 5. Sports Marketing 6. Management and operation of sports clubs 7. Management and operation of sports activities and other areas related to the sports field.

[14] The legal definition of civil organizations according to Law No. 77 of 1975 concerning civil organizations for the care of youth and sports

Characteristics	Government agency	Civil society	Investment agency
Employees	Work in these government agencies is undertaken by public employees who are subject to the labor laws of the State's government apparatus, whether in terms of qualification, experience, salary systems or promotion.	These institutions are managed by boards of directors whose members are elected from the group of working and paying members who represent them. The nature of employees in civil organizations varies, including employees, administrators, and workers, as well as players, coaches, sports teams, and others.	Employees and workers who are subject to the labor law and the law of joint stock companies, as well as athletes, coaches, medical personnel and other specialists in sports activities services.
Control	Like other governmental institutions (such as the Central Auditing Organization), it is subject to the control and follow-up of the government control and follow-up agencies.	It is subject to supervision from the Ministry of Youth and Sports, and the Directorates of Youth and Sports.	Ministry of Youth and Sports and its directorate.
Profit	Not for profit	Not for profit	For profit
Examples of the nature of activities and revenues (Youssef and Abdel-Fattah 2020).	- Implementing some sports programs and activities (like the Zayed Marathon, the Cycling Festival, the Youth Centers League for Football ... and others - Conducting various programs and activities to stimulate sports tourism - Attracting additional resources to finance sports through government programs and support, hosting international tournaments, sport's share of the public budget, and others ...	**For clubs:** - Selling memberships, availing sports services to members, and participating in various leagues and tournaments, whether local, regional or global for all sports - Holding exhibitions, parties and establishing sports schools - Promoting the club and obtaining rights for broadcasts and advertisements - Receiving government subsidies **As for the Olympic Committee:** - Preparing Egyptian missions to participate in Olympic Games - Obtaining the support of the International Olympic Committee as well as government subsidies. **As for the federations:** - Obtaining educational scholarships from European universities - Receiving various royalties from advertising, sponsorship and broadcasting rights. - Obtaining various support and subsidies from the Olympic Committee as well as the Egyptian government.	**Companies that provide direct sports services:** - Participation in local and international tournaments - Sale of memberships -Holding concerts and exhibitions - Obtaining revenues from broadcasting rights and renting restaurants and shops inside the club or around the club's perimeter **Companies that provide indirect sports services:** - Production and import of sports products, whether devices, tools or others -Marketing different tournaments for sports marketing companies.

Source: Prepared by ECES.

The legal and institutional framework for the sports sector has witnessed huge changes since 2017, especially after the issuance of Sports Law No. 71 of 2017, which tried to avoid many of the problems and weaknesses in the old Youth and Sports Bodies Law No. 77 of 1975.[15] It is in line with global changes in the field of sports and is not confined to activities and practices, but considers the sector as

[15] The IOC's letter to its Egyptian counterpart in February 2014 constituted a strong impetus for the issuance of the new sports law, especially after the committee threatened not to recognize any club or federations elections held under the old sports law

an industry and investment. It opened the field of investment, and achieved many aspects of decentralization that contributed to the ease and support of decision-making, though it lacks some controls that regulate those aspects of decentralization.[16] Table 11.2 illustrates the key aspects of change in the legal and institutional framework regulating the sports sector.

Table 11.2. Similarities and Differences between the Old Sports Law and the New Sports Law (Al-Wardani 2017)

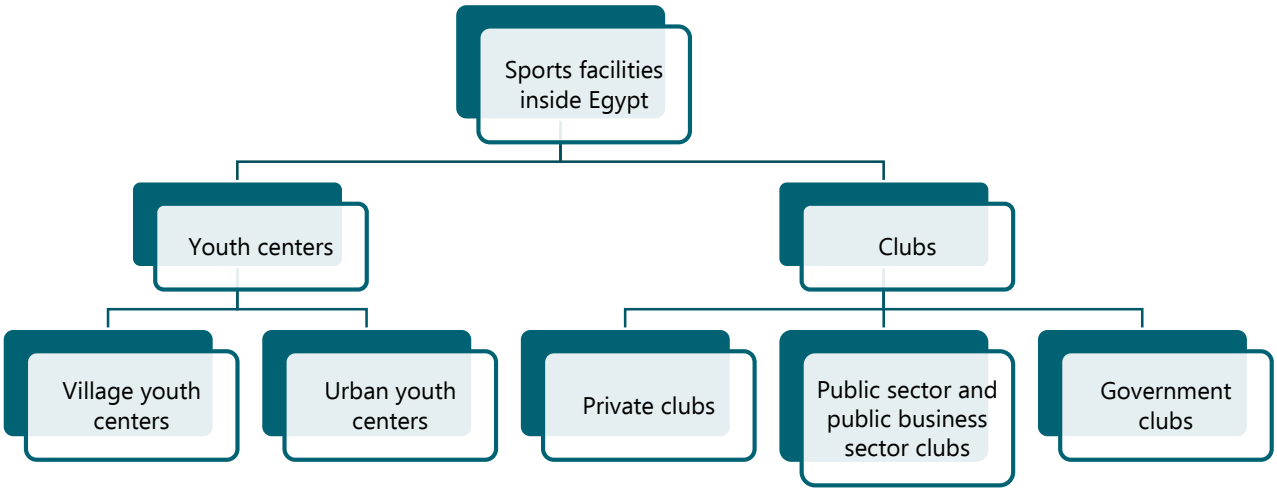
Features	Law No. 77 of 1975 (Old Sports Law)	Law No. 71 of 2017 (New Sports Law)
Competent authority	This law subjected all youth and sports bodies financially, organizationally, administratively, technically and health-wise to the supervision of the competent administrative authority (the competent ministry)	The jurisdiction has returned to the sports institutions themselves, including clubs, youth centers, federations, and an Olympic committee, as it grants the general assemblies of the sports bodies the right to set and amend their bylaws.
Settlement and disputes	Granted the head of the competent administrative authority the right to declare the nullity of any decision issued by the general assembly in violation of the provisions of this law. The authority has the right to appeal to the competent minister within 15 days, and to appeal against it before the Administrative Court within sixty days from the date the grievance was rejected.	Establishes sports settlement and arbitration centers that the competent administrative authority can resort to if they wish to nullify any decision issued by the General Assembly of the Sports Authority.
Donations, grants and utilization of surplus revenue	Requires the approval of the competent administrative authority.	Only requires notification to receive subsidies and donations, and creates a new resource, which is the return on investment of the sports body's funds, as no restriction was placed on disbursement except for the supervision of the General Assembly.
Investing in the sports field	The field of sports investment has not been addressed, nor are investment companies allowed to be established within the sports sector.	Dedicates an independent chapter to investing in sports, giving the right to sports entities to establish joint stock companies that will be offered to the public (with the approval of the central administrative authority), as well as the right to establish branches for clubs in the form of joint stock companies.
Creating new bodies		The Egyptian School Sports Federation, the Egyptian Sports Federation of Universities and Higher Institutes, the Egyptian Anti-Doping Organization, and the Sports Settlement and Arbitration Center were created, and the law upgraded the level of the Paralympic Committee to a body with legal personality.
Sports Authority Board of Directors	The competent minister may include in the membership of the board of directors of the authority three members at most, and he is also entitled to issue a reasoned decision to dissolve the board of directors and appoint a temporary council for a period not exceeding one year.	The Sports Authority elects from among them the first board of directors for a period of 4 years.
The General Assembly	It meets normally once a year, and the meeting is not valid except with the attendance of the absolute majority.	The general assembly of the sports body holds an ordinary meeting once a year according to the procedures and the system specified by the bylaws of the sports body.

Source: Prepared by ECES.

[16] These controls are intended to define the scope of decentralization and the roles of club presidents so that they are not allowed to exercise broad powers without effective guidance or control.

The previous two tables indicate that the sports sector is diversified between sports facilities that are mainly interested in sports activity and its practice, and non-sports and organizational establishments that focus mainly on organizing the sports sector or providing services and products related to the sports field. Figure 11.4 shows the structure of (official) sports facilities in Egypt and their definitions:

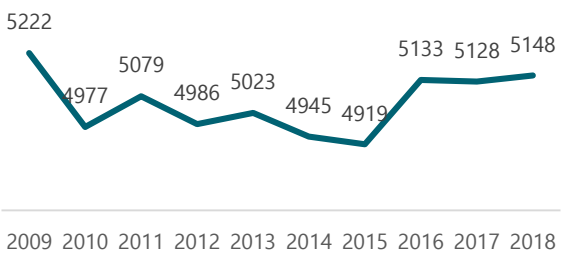
Figure 11.4. Structure of (Official) Sports Facilities in Egypt[17]



Source: Prepared by ECES.

A continuous increase is noted in the number of sports facilities since 2010, as their number in 2018 reached about 5148 official sports facilities distributed all over the country. Figure 11.5 shows the development of sports facilities from 2009 to 2018.

Figure 11.5. Evolution of the Number of Sports Facilities in Egypt, 2009-2018



Source: CAPMAS, Annual Bulletin of Sports Activity Statistics in Sports Facilities, 2018.

The above figure indicates some important observations that should be noted in order to understand the nature of the sector and its fundamental problems, as follows:

1. There is a notable decline in the number of sports facilities during the period between 2011 and 2015, which is mainly due to the stoppage and closure of some facilities as a result of political and security problems, or the exclusion of some of them from sports activity. We note that this decline did not stop at the number of facilities, but rather extended to the sector as a whole in terms of practitioners, teams and others, which explains the structural problem associated with sports since 2011 until now.
2. There has been a surge in the number of facilities since 2016, which is mainly due to

[17] The report is based on the definitions of the Sports Bulletin issued by the Central Agency for Public Mobilization and Statistics, which are:
- Sports club: is every establishment that aims at a sporting and social idea with the aim of spreading physical and social education and spreading the national spirit among the members, by preparing the means and facilitating the means to occupy their spare time in a way that benefits them with physical, social, sports and health benefits.
- Government sector clubs: are the clubs whose membership is limited to government sector workers, such as the Customs Club, the Tax Club.
- Public sector and business sector clubs: are the clubs whose membership is limited to workers in the business sector and the public sector, such as Enppi Club, Esco Club.
- Private sector clubs are clubs whose membership is not limited to a specific category of individuals, but membership is for every citizen who wishes to join the club according to the club's regulations such as Al-Ahly Club and Zamalek Club.

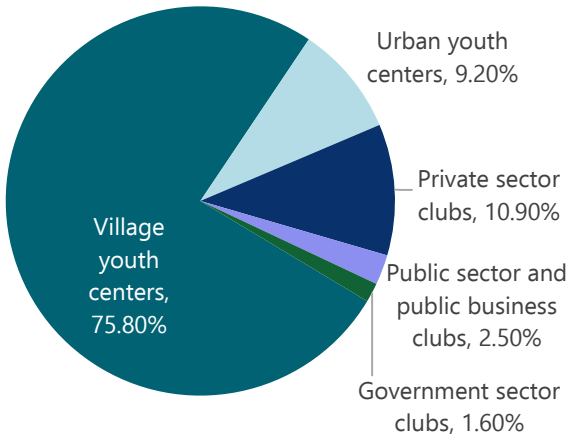
Youth centers: centers equipped with buildings and facilities set up by the state or local councils in cities or villages with the aim of providing citizens with an opportunity to use their spare time to practice various aspects of sporting activities under the supervision of a specialized leadership.

the State's efforts to pay attention to the sports sector and its infrastructure.

3. Despite this clear surge in the number of facilities, which reached its peak in 2018, it was less than it was before 2010.

Youth centers constitute the largest percentage of facilities, as they account for about 85 percent of sports facilities in Egypt, while the percentage of club facilities is only about 15 percent of these facilities. Despite the fact that youth centers account for the largest percentage of establishments, approximately 90 percent of these centers are located in villages and are characterized by weak infrastructure and services. These centers are largely the preserve of males as most of them do not suit girls or the nature of games they play. Figure 11.6 and Table 11.3 show the percentages of the numbers of each facility, as well as the difference between the growth rates of facilities and the numbers of their members, as well as the number of their stadiums.

Figure 11.6. Percentages of Each Facility out of the Total of Sports Facilities in Egypt



Source: CAPMAS, Annual Bulletin of Sports Activity Statistics in Sports Facilities, 2018.

Table 11.3. The Facilities' Growth Rates and the Number of their Members as well as the Number of their Stadiums

Characteristics	Government clubs	Public sector and public business sector clubs	Private clubs	Urban youth centers	Village youth centers
Average annual growth rate of facilities during the period (2008-2018)	-2.67% ↓	-2.04% ↓	-0.68% ↓	1.71% ↑	0.58% ↑
The percentages of the facility's members out of the total members of the sports facilities in 2018	3% (246032) members	5% (420700) members	40% (3284398) members	17% (1383814) members	35% (2834023) members
The percentage of the facility's stadiums out of the total stadiums of the sports facilities in 2018	3% (238) stadiums	8% (663) stadiums	32% (2739) stadiums	13% (1146) stadiums	44% (3834) stadiums

Source: Prepared by ECES based on CAPMAS data, Annual Bulletin of Sports Activity Statistics in Sports Facilities, 2018.

There has been a decline in most sports facilities during the last ten years. Despite the achievement of positive rates for youth centers, they remain very weak, as the average growth of centers did not reach more than 1.7 percent in cities, and 0.6 percent in villages. These percentages must be read very carefully, as they have nothing to do with the quality of these facilities, the quality of the services provided, or the achievement of geographical justice.

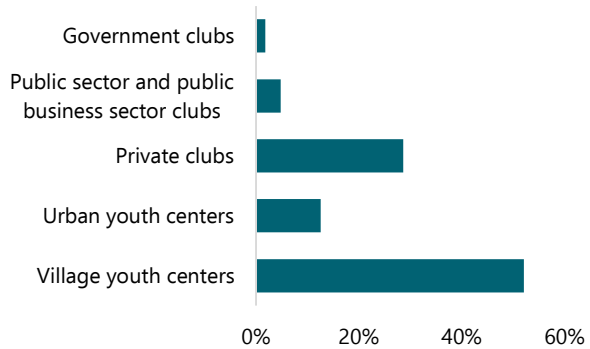
Although village youth centers accounted for the largest percentages of members, these percentages constitute only 25 percent of the total number of youths in villages, which amounts to 11.3 million young people, according to data of the Central Agency for Public Mobilization and Statistics.

Also, percentages of stadiums do not accurately show the diversity of stadiums nor their quality. Despite the high percentages of youth centers' stadiums, which are close to 60 percent of the stadiums in Egypt - cities represent about 13 percent while the villages are about 44 percent - they are mostly weak in terms of infrastructure or capacity of the stadium itself, as well as the capacity of the stands. Therefore, the numerical comparison here does not properly reflect the reality.

The previous table reflects figures of the formal sector in sports facilities, while the informal sector constitutes a large proportion of the size of the sports facilities in Egypt. Law No. 71 of 2017 attempted to formalize the status of these facilities, which are the five-a-side stadiums spread all over the country as well as physical fitness centers (gyms), sports academies and others. Although there are no statistics for these facilities, they are estimated at tens of thousands in villages, cities and governorates.

The same is true for the number of employees. According to official figures, their numbers are estimated at about 140 thousand in all facilities. The percentage of men is about 81 percent, while the percentage of females is 19 percent. The village youth centers account for the largest percentage of employees (more than 50 percent). Figure 11.7 shows the percentages of employees in each type of facility. According to unofficial figures, the numbers are estimated at about 4 million employees within the sports sector, which explains the huge expansion of the informal sports sector.

Figure 11.7. Percentage of the Number of Employees out of the Total Number of Employees in Sports Facilities



Source: Prepared by ECES based on Annual Bulletin of Sports Activity Statistics in Sports Facilities, 2018.

We note the diversity of the roles of sports facilities, as their activities are not limited to sports activities, but recreational, commercial and social activities constitute a large proportion of the volume of their revenues, whether through cinemas, theaters or concert halls. However, we note that the largest proportion of these facilities belong to private clubs, which account for 90 percent of total cinemas, theaters and concert halls.

As for the different sports,[18] the nature of games in the country is broad and varied, whether group or individual games. Table 11.4 shows a breakdown of sports in Egypt and the percentage of the number of players for each game from the total number of players.

Table 11.4. Sports Games in Egypt and the Number of Players for Various Games in 2018

Type of game	Number of Players	Percentage of total sports players in Egypt, %
Football	224157	38
Handball	32495	5
Basketball	24352	4
Volleyball	27531	5
Tennis	4007	1
Table Tennis	33487	6
Boxing	5465	1
Wrestling	7088	1
Weight lifting	6965	1
Bodybuilding	6175	1
Athletics	28571	5
Gymnastics	11709	2
Kung fu	32494	5
Karate	90660	15
Judo	9631	2
Taekwondo	11435	2
Swimming	25859	4
Other games	15462	3
Total	**597543**	**100**

Source: Prepared by ECES based on CAPMAS, Annual Bulletin of Sports Activity Statistics in Sports Facilities, 2018.

[18] It refers to all sports and sports activities in Egypt (adults and cubs).

Despite the fact that group games have the largest percentage of sports players in Egypt, estimated at 52 percent, there are many games that constitute a large proportion of the number of athletes, especially karate, kung fu, athletics and swimming.

The largest proportion of investments and revenues is that of football due to its popularity, whether inside or outside Egypt, accounting for the largest and most important share of the sports industry.

The number of football teams reached about 18 thousand teams, accounting for 29 percent of total sports teams in Egypt, which amounted to about 61 thousand teams during 2018. The number of football players were estimated at approximately 225 thousand players, representing 38 percent of total sports players in the country.

In 2018, football matches accounted for the largest percentage of the number of sports activity matches, with 44 percent of total matches in various games, which amounted to about 189,000 matches over the same year.

1.1 The impact of previous crises on the sports sector in Egypt

This section reviews the implications of some previous crises on the sports sector in Egypt. The analysis deals with the period of the January Revolution and subsequent turmoil in the sports sector, which culminated in the events of Port Said and the subsequent interruption of sporting activity. It also deals with the liberalization of the exchange rate at end of 2016 and subsequent decline in the income of citizens. The impact of crises varies in nature according to the nature of activity, as well as according to the year in terms of the nature of the different tournaments and leagues therein. The impact also varies in terms of being a direct impact on the sector, i.e., related to the sports facilities themselves and the closure of some of them, as well as the numbers of teams, players, matches, etc., or an indirect effect related to broadcasting rights, advertisements and other major sources of revenue within the sector.

It must also be noted that there is a fundamental difference in the nature of the current crisis compared to any previous crisis, as the sector did not witness a complete cessation of all activities and a complete closure of all clubs and youth centers before. The previous crises were limited to either the suspension of activity for a limited period or partial closure of some clubs and youth centers.

Figures 11.8 and 11.9 below show the decrease in the volume of organized sports activity during these two periods.

Figure 11.8. Number of Teams and Players of all Sports in Egypt, 2010 and 2011

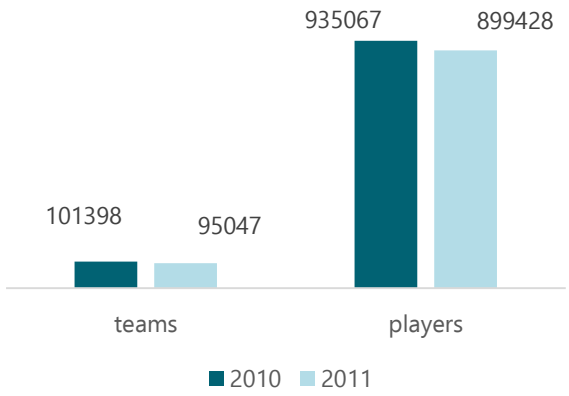
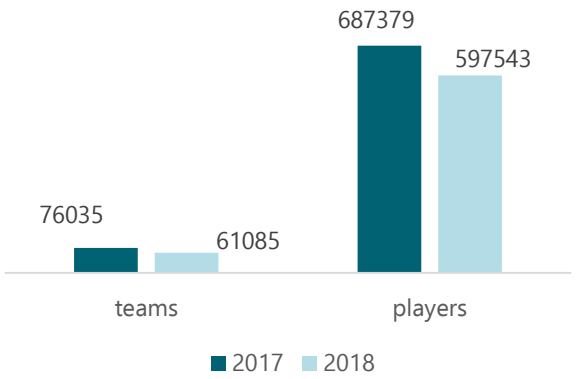


Figure 11.9. Number of Teams and Players of all Sports in Egypt, 2017 and 2018



Source: Prepared by ECES based on CAPMAS data Annual Bulletin of Sports Activity Statistics in Sports Facilities for the years 2010, 2017 and 2018.

The two crises witnessed a remarkable decline in the numbers of both teams and players. Figure 11.8 shows the decline in numbers during the January 2011 Revolution; the rates of decline of teams and players reached 6 percent and 4 percent, respectively.

The crisis also witnessed a significant decline in the number of foreign coaches, as their number decreased from 44 to 8 foreign coaches, with rates of decrease exceeding 80 percent, as most clubs resorted to reducing their expenses, of which the salaries of these coaches constitute a large proportion, in addition to security chaos witnessed during that period, which prompted these coaches to terminate their contracts with their clubs.

The sector also witnessed a remarkable decline in the numbers of both teams and players during 2018. Despite the multiple reasons for this decline, it is likely due to the nature of the structural developments that the Egyptian society witnessed as a result of the exchange rate liberalization in late 2016, and its impact on the incomes of individuals and revenue of clubs and youth centers. This was reflected in 2018, as the number of teams and players decreased by 20 percent and 13 percent, respectively, compared to 2017.

We also notice a decrease in the number of foreign coaches during that period by up to 24 percent, as the number of coaches decreased from 62 to 47 in Egypt.

As for the indirect impact, despite lack of information and data on the decline in the sector's revenue during the two crises, unofficial estimates indicate losses of more than one billion Egyptian pounds due to suspension of the Egyptian football league after the Port Said massacre in early 2012.[19]

Second: Demand and supply shocks in light of the crisis cycle

The expected impact on demand and supply is related to the stage we are facing in the crisis cycle. As for the supply and demand shocks, they are defined as follows:

- **Demand shock:** means a change in demand for services and products in the sports sector as a result of the complete cessation of sporting activity.
- **Supply shock:** means the inability of various sports institutions to offer products and provide services as a result of the crisis and precautionary measures.

The analysis is based on the following set of basic assumptions:

1. The degree of impact varies according to the nature of the activity in terms of being a sports activity, sports retail, or other activities related to sports.
2. The Egyptian sports sector is affected by global and regional changes related to sports activity, as a result of the association of different clubs and federations with international and regional tournaments and leagues such as the Olympics, the African Champions League and others.
3. The degree of vulnerability varies according to the nature of the entity (governmental, private, and investment), as well as the nature of the activity or the specific role of each.
4. Basic revenues differ for each of the three entities, as shown in Table 11.1.
5. In estimating the rates of impact of the sports sector in Egypt, the analysis relies on relative estimates linked to the global sporting activity, as well as the estimates of some experts and academics,[20] as a result of lack of clear data reflecting the extent of the sector's impact during the past five months.[21]

The following table shows the extent to which the sports sector has been affected during the crisis cycle, by analyzing what has already been achieved on the ground, attempting a descriptive analysis of the current situation, and presenting possible future scenarios in light of the aforementioned assumptions.

[19] https://www.emaratalyoum.com/sports/arab-and-international/2012-03-11-1.467831

[20] Estimates of the degree and nature of each party's vulnerability are based on the study published on the Internet on the economics of Egyptian sports.

[21] Some of the clubs' analyses are also attributed to opinion polls conducted by the Egyptian Center for Economic Studies with heads of some major clubs inside Egypt.

Table 11.5. Potential Scenarios of the Impact of the Crisis on the Sports Sector based on the Aforementioned Crisis Cycle and Assumptions

Stage	Demand and/or supply shock	Analysis	Impact
1. Emergence of the virus (December 2019-January 2020)	Very limited supply shock	This is a result of the emergence of the virus during this period in China only, and Egypt has not been affected yet except regarding some sports products and tools imported from China. However, the teams or the sporting activities themselves were not affected.	There is no impact given that supply and demand are largely unchanged.
2. Beginning of the virus spreading (February – mid-March 2020)	Very limited shock in demand and supply.	Limited shock to demand and supply emerged as a result of: 1- Many countries and federations tending to postpone some world championships and tournaments, which reflected on the athletes' preparation for these tournaments. 2- This period was associated with the beginning of some citizens concern about the virus in Egypt, and this translated into some families' stopping going to clubs and some athletes suspending training and preparing for tournaments. 3- A state of "wait and see" among many employees as well as investors who had investment plans in the field due to lack of clarity of vision.	A slight decline in club revenue, as well as sports retail sales.
The third stage: Exacerbation of the problem (mid-March - early July 2020)	This period witnessed a major shock in demand and a severe shock in supply with the development of events.	• This period represented the beginning of the crisis for the entire Egyptian sports sector as a result of precautionary measures and subsequent suspension of sports activity and cancellation or postponement of most international and regional tournaments. • It also witnessed a decline in advertisements and rents, as well as in incomes of workers in sports facilities, especially since most of these workers depend on (tips) as their main source of income.	This vulnerability appeared in each of the following: **First, government agencies** Various activities and programs have been suspended, such as the Zayed Marathon, the festival of bicycles, camel racing, Together against Smoking, the Youth Football Centers League and others. **Second, civil bodies, Sports clubs and youth centers** 1. Revenues decreased by 100 percent during that period compared to the months before it, as a result of the complete lockdown of all clubs and centers. 2. Many clubs resorted to reducing the sports budget in clubs by up to 30 percent to reduce expenses. 3. Additional financial burdens as a result of the Corona virus prevention measures inside clubs, as the Ministry of Youth and Sports allocated EGP 25 million to confront the effects and repercussions of Corona.

Stage	Demand and/or supply shock	Analysis	Impact
The third stage: Exacerbation of the problem (mid-March - early July 2020) cont.			4. Decline in the revenue from exhibitions, concerts, and rents inside clubs or outside the perimeter of clubs, as well as entry tickets and others. 5. Decline in the revenue of the various games' schools. 6. Decline in the return on participation in regional tournaments, especially for major clubs (Al-Ahly, Zamalek and Pyramids) 7. Decline in revenue of the clubs' sports channels 8. Decline in revenue from advertisements and sponsors, as the rights of Al-Ahly and Zamalek amounted to about EGP 520 and EGP 400 million, respectively, for four years from 2018 to 2022 9. Decline in the return on marketing of club websites due to the lack of sporting events in sports sites **Third, sports services companies:** **Direct sports services companies** 1. Decline in the revenue of private clubs from participation in tournaments (such as Pyramids Football Club) 2. The income for workers in sports services companies decreases as a result of the suspension of activity, and operation by half the force etc. 3. Decline in the revenue of private clubs such as revenue from establishments (stadiums - restaurants - shops and others) 4. Decline in the marketing value of players as a result of the clubs' inability to pay large sums of money to the players, as well as decline in movement of players between clubs **Indirect services companies** 1. Financial losses for companies operating in the production and import of sports products and tools 2. Financial burdens as a result of suspension of activity, such as workers' salaries, contracts and others 3. Decline in revenue of marketing companies that own the rights to market championships as a result of cancellation or postponement.

Stage	Demand and/or supply shock	Analysis	Impact
4. the crisis recedes (1st July - end of September 2020)	Demand and supply crises diminish gradually	**Regarding supply:** This period witnessed end of precautionary measures and lockdown of clubs, centers and all sports facilities, allowing clubs to receive limited percentages of members and annual subscriptions. However, these facilities were not able to return to pre-Corona rates **Regarding demand:** It witnessed a limited decline due to fear of many about the continuation of the disease, and many families withheld going to clubs	The halt of direct losses for those working in the sector, whether athletes or workers. A gradual return of direct and indirect activities related to sports, whether advertisements, broadcast rights, sports media or others.
5. Recovery (early October to June 2021)	Supply and demand shocks are related to the pace of recovery	This period relates to three scenarios regarding evolution of the virus, as follows: **1. Optimistic scenario** Continuation of recovery until the crisis ends completely in mid-October or early November, and thus return of normal activity. **2. Medium scenario** Continuation of the virus until the end of the year and the continuation of some precautionary measures. Thus, the situation stays as in the previous stage characterized by availability of supply and decline in demand with the rates not returning to their normal state. **3. Pessimistic scenario** Emergence of a second wave of the virus, the return of complete lockdown, and cessation of sports activity such as in the third stage.	**1. Optimistic scenario** Significant improvement in demand rates, the return of activity to pre-crisis levels, and availing an opportunity to the state to properly prepare for the World Handball Championship to be held beginning of next year. However, the sector's growth rates are still declining due to fundamental problems with the sector in the past 10 years, as mentioned. **2. Medium scenario** Situation remains as it was during the months of August and September, that is, return of activity and tournaments, but with continuing decline in demand in terms of the attendance of fans in matches or decline in the rates of going to clubs and centers and subscriptions in different academies and sports schools, followed by a decline in the number of players and teams by rates exceeding 15 percent as witnessed in previous crises **3. Pessimistic scenario** Levels of supply and demand decline to what they were during the third phase, and return of lockdowns, which is followed by a decline in athletes and teams by rates of up to 25 percent. The revenue of clubs and centers also decrease by 30 percent. The country's inability to prepare for the World Handball Championship, which threatens its holding, and thus the state's loss of much expected revenues and investments.

Source: Prepared by ECES.

* These estimates should be read with caution, as expectations may require further reviews due to the developments that occur, whether related to the day-to-day spread of the virus, whose duration and scope are still unknown, or those related to any global or local developments that may affect the estimates directly or indirectly.

We conclude from the previous analysis that the sports sector has witnessed an unparalleled crisis in terms of declining revenue and income, whether at the level of establishments or individuals. Nearly 140,000 employees working directly in the sector have been negatively affected by the Corona crisis. That number reaches approximately 4 million workers, if we take into account the indirect sectors and the multiplier effects. This crisis also showed the fundamental problems with the sector since 2011, which had a severe impact in exacerbating the current crisis and led to the inability of institutions to return to the normal rates.

Third: Required interventions to mitigate the effects of the crisis

1. Reconsidering the clubs' regulations and reviewing their bylaws, especially those that prevent them from borrowing
2. Providing facilities and soft loans to sports facilities during that period in an attempt to raise their capacity and efficiency in facing the crisis and return to pre-Corona rates
3. Providing the necessary support to the village youth centers and their workers, making rapid assessment of their current situation, and allocation of funds to raise their efficiency and improve their status.
4. Paying attention to any international tournaments during the coming period and preparing for the World Handball Cup held in Egypt in the beginning of 2021, while taking precautions and strong measures to ensure the success of the tournament and developing different scenarios for its holding based on the evolution of the virus and the crisis.
5. Use of modern technological means for platforms, means of measuring performance and others in creating serious competitions between youth and the different age groups in all governorates
6. Reconsidering the rules governing professional federations such as basketball and handball, not setting a minimum limit for professional players in clubs, and reviewing the contracts of these players
7. Reconsidering the contracts of highly paid soccer players and trying to adjust those contracts in line with the current situation of the crisis.

Fourth: Institutional weaknesses revealed by the crisis

Despite the legislative and executive efforts and contributions, the entertainment side of the sector remains higher than the economic side, which causes a misplacement of many opportunities and investments that could have otherwise contributed to raising the rates of Egyptian economic growth through:

1. Reconsidering sport in general, its definition and fields, as well as paying attention to all games and those who practice them, not just football.
2. The need for a detailed database of players, and the provision of information and data necessary to invest in the sector,
3. Encouraging financial institutions and individuals to finance future talents
4. Establishing a mechanism for spreading healthy competitions in sports, especially for informal teams, and providing them with appropriate financial returns.
5. Increasing youth centers to achieve more geographical justice, achieve proportionality between them and the population, and adopt non-traditional ideas regarding youth centers designated for women.[22]
6. Continuous and effective coordination of the Ministry of Youth and Sports with the Ministries of Education, Higher Education, Culture and Tourism and the ministries concerned with the sports sector.
7. Properly enforcing the laws regulating the sports sector to achieve maximum benefit from its investments, as well as prevent monopolistic practices.
8. Benefiting from sporting events in promoting Egyptian tourism and painting a positive image of the Egyptian state
9. Integrating the informal sector into the formal system of sports at nominal costs, with the aim of encouraging them on the one hand, and achieving adequate health conditions for sports practitioners on the other.

[22] One of those ideas is the integrated project for youth centers for girls in the Imbaba region, which Ahmed Eid, a member of the Fifty Committee for Drafting the constitution, is working on.

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12. Oil Sector

Lead Researcher: **Mohamed Hosny***

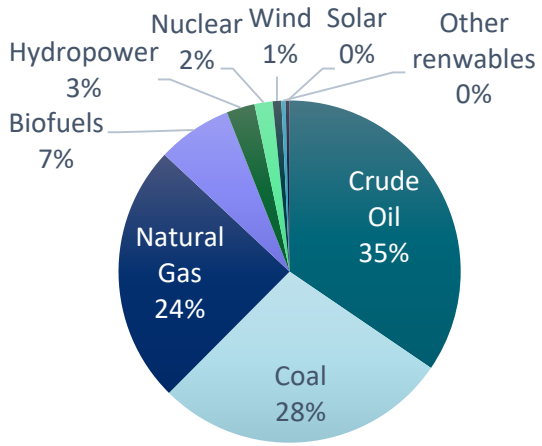
First: Brief description on the issue of the report

The oil industry has always been critical to the world economy, mainly because it is the global largest single energy source despite the rise of alternative renewable and non-renewable sources.

Although Egypt is not a major oil producer, the oil sector is a major contributor to the local economy; hence the importance of analyzing the impact in light of the significant impact of the COVID-19 pandemic on the global oil industry. The importance of the oil sector is apparent in light of the following:

- Oil is the main reason behind most of the world disturbances for decades. Oil production has been trending upwards since 1900 to the present day in response to increased demand of a growing world economy and population.
- Oil industry is a paradox industry. It is highly influenced by global political stability yet manages to survive in most unstable circumstances.
- The price of crude oil is determined internationally rather than locally, even though, actual production/extraction is a local decision.
- Countries relying on oil exports have their development plans conditional on an exogenously determined factor.
- Crude oil is a major input in most industries; thus prices and production have a significant impact on domestic economy.
- Oil represents the biggest share as an energy source compared to other sources. Currently, oil accounts for 35 percent of global energy use, followed by coal and natural gas accounting for 28 percent and 24 percent, respectively (Figure 13-1).

Figure 12.1 Global Energy Sources by Type, 2017



Source: International Energy Agency.

Given the complexity of the oil sector, this report starts with a presentation of key technical concepts of relevance to the sector. It is followed by a brief global overview of the sector, then a descriptive analysis of the Egyptian oil sector starting with Egypt's positioning on the world map of the oil industry. The report then focuses on the impact of previous crises. This is followed by the impact of the COVID-19 crisis on the global oil sector, with a focus on the specific case of Egypt. The analysis then proceeds to outline institutional weaknesses and needed institutional reforms that improve Egypt's chance for benefiting from the global changes in the oil sector. Although oil and natural gas are typically interlinked, the analysis in this report will briefly explain the gas sector, but will focus primarily on oil.

1.1 Key technical concepts

There is a large diversity in the types of oil extracted depending on geographic location. In the following, we present different categories of oil followed by oil pricing mechanisms, a brief

* The author is thankful for Salma Bahaa, Economist at ECES, for her contribution to the development of this chapter.

description showing oil vertical supply chain stages, and the major global oil trade blocs.

- *Oil Categories*

Generally, oil is classified by its **density** and sulphur **content**. In terms of density, it is defined on a scale ranging from light, medium to heavy, where each one is efficient in producing certain types of product. While the **sulphur content** is defined on a spectrum as sweet, medium-sweet, or sour. Appendix 1 contains more details on each classification.

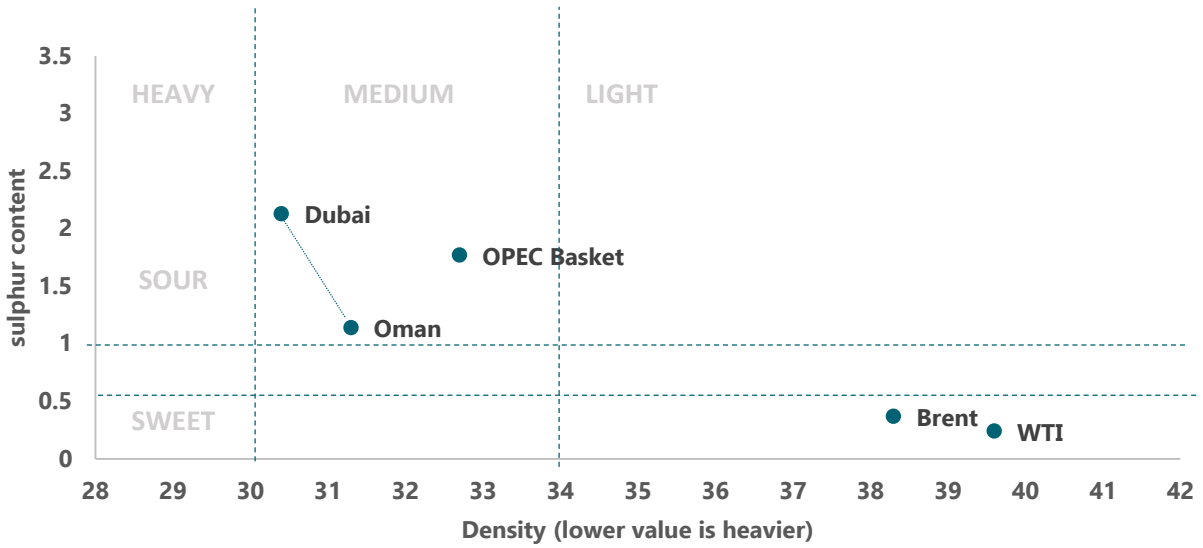
- *Oil pricing mechanism*

While crude oil has several combinations of the previous categories, there are four main pricing benchmarks that are used to track the pricing of oil. The oil benchmark is an oil price based on the properties and geographic location of the oil deposits. There are three main common categories in which pricing benchmarks could be classified; as follows:

- European oil mainly **Brent**, which is the most common benchmark
- American oil mainly **West Texas Intermediate (WTI),** which has different unique properties.
- Gulf oil benchmarks, including **Dubai / Oman** and **OPEC Reference basket**, which are the most traded.

Details on each benchmark are listed in Table 12-A2-1, Appendix 2. Figure 2 represents the properties of these benchmarks. It is observed that WTI and Brent have the lowest sulphur content, while Dubai / Oman mix have the most sulphur content, with heavy grade crude oil.

Figure 12.2 Density and Sulphur Content of Selected Crude Oil Benchmarks

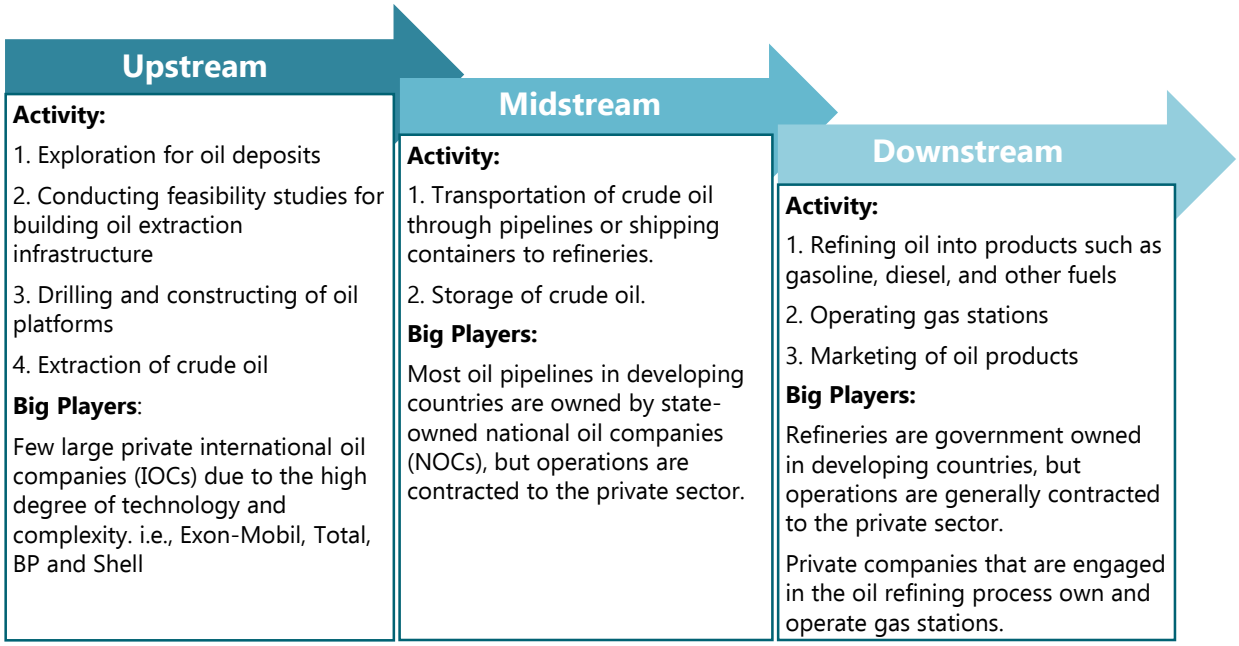


Source: BP Statistical Review, 2018.

- *Oil industry supply chain*

Crude oil goes through a vertical supply chain until it reaches the consumer. This supply chain consists of a production process as shown in Figure 12.3 that begins with oil exploration to the selling of oil products and fuels to consumers.

Figure 12.3 Different Stages in Oil Industry Supply Chain



Source: American Petroleum Institute.

- *Oil Trading blocs*

Given the low number of oil-producing countries, the oil market is oligopolistic by nature[1], so countries formed trading blocs to organize it.

Since there is a **built-in incentive for each member to cheat** by increasing production above its quota, coordination between oligopoly members usually fails. If a single producer cheats, it increases its share of profits at the expense of other producers.

Oil-producing blocs such as OPEC are ones of the few oligopolies that survived since its inception despite this monetary incentive that tempts cheating, which reflects the **importance of global oil markets and their big impact on the global political economy.**

Table 1 presents the three main cartel blocs in the global oil market and their historical background.

Table 12.1 List of Oil Trading Blocs

Trading bloc	Production (2019)	Founding members	Mission of trading block
Organization of the Petroleum Exporting Countries (OPEC)	44 percent of global oil production.	Saudi Arabia, Venezuela, Iran Kuwait	• Founded in 1960 to counter economic power of the United States and the Soviet Union, which used their position as the largest producers and consumers to determine prices. • OPEC members ensure their oil revenues are stable by coordinating their oil production, ensuring that there is no oversupply or a drop in prices.

[1] Oligopolistic markets are dominated by a few producers and are common in many sectors not just the oil sector.

Trading bloc	Production (2019)	Founding members	Mission of trading block
Organization of Arab Petroleum Exporting Countries (OAPEC)	28 percent of global oil production	Kuwait, Libya, Saudi Arabia, In 1972 less significant oil producers such as Egypt, Algeria and Syria joined OAPEC.	• Founded in 1968 after the failed 1967 Arab oil embargo due to lack of coordination. • Founding goal of the bloc was to use oil production to achieve political goals of Arab states. Over time, this role diminished and now focuses on regional integration and development of oil infrastructure in Arab countries.
OPEC+	66 percent of global oil production	Includes all OPEC members and newer high-capital investment oil producers such as Russia	• The OPEC+[2] alliance met for the first time in 2016 to control global oil supply. • The newer high-cost producers increase production as a response to rising market prices that make oil profitable. • OPEC+ members negotiate to ensure production does not exceed global demand. They also try to agree on an oil price that is sufficient to meet the needs of low-cost oil producers, and the high-cost producers of OPEC+. • Although the United States is not an official OPEC+ member, it is heavily involved in negotiating production quotas

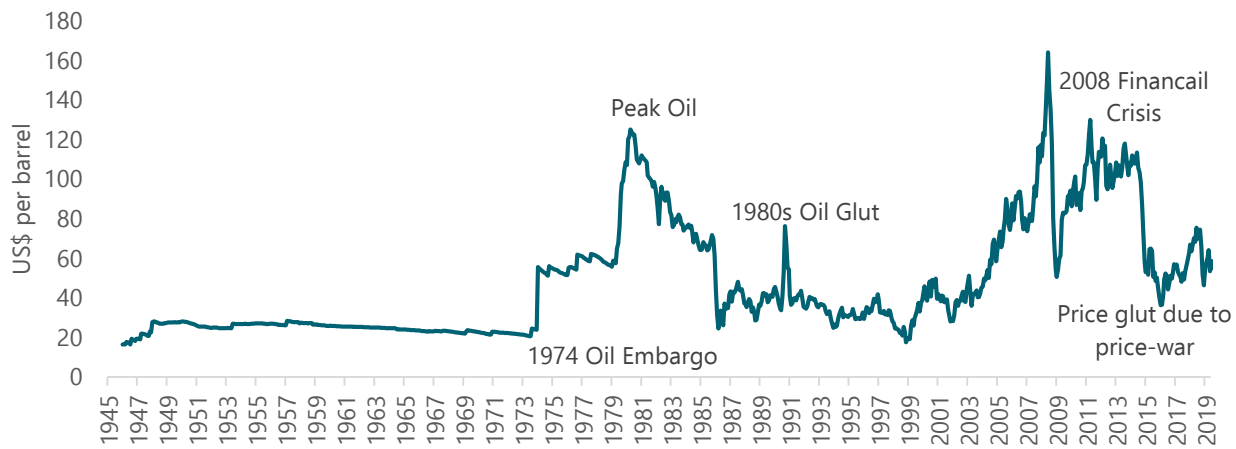
Source: OPEC, OAPEC, International Energy Forum.

1.2. Global overview of the sector

Over the past 70 years, the international oil industry evolved significantly and witnessed changes in prices, production, and institutional agreements. Several developments in the global political economy affected oil markets such as the 1970 war that resulted in the **oil embargo**. Other major economic crises such as 1997 Asian financial crisis and the 2008 global financial crisis have also had a significant effect on prices in oil markets. A detailed delineation of these developments is presented in the following, related to price, production, key players, and institutional changes over time.

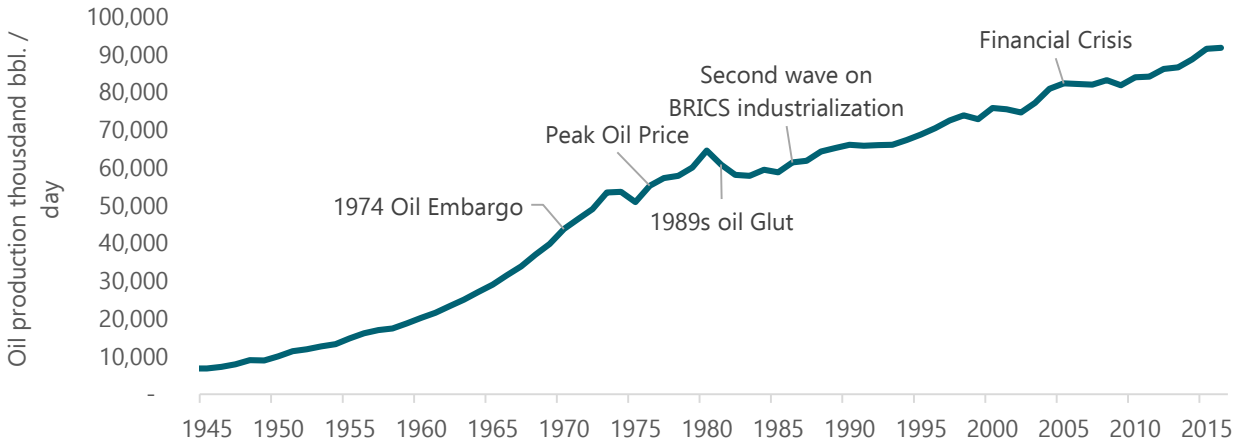
Figure 12.4 below traces this historical trend, from 1945 to 2019 for real prices (adjusted for 2020) and 2014 for production.

Figure 12.4A Global Oil Prices per Barrel, 1945-2019



[2] OPEC+ is not a new official organization but rather a new alliance initiated in 2016.

Figure 12.4B Global Oil Production,1945-2014



Source: Bloomberg and JODI Oil.

1.2.1 Major Oil price waves since 1945 until pre Covid-19

- **Economic growth waves between 1945 and 1970 during the post-war recovery period**

Big Players: Economic recovery was driven after the Second World War by industrialization in Europe, North America, Japan, and the USSR. Increased economic activity and automobile sales drove up demand for oil. OPEC and OAEPC were established with the aim of using collective negotiation to secure better prices and control over oil production from IOCs.

Production: Increased industrialization led to oil production rising by 547 percent to 43.7 million bbl./day by 1970 to meet the needs of increasing oil consumption. Elevated production, however, was insufficient to meet higher demand.

Prices: As a result of increased demand, oil prices increased by 38 percent, from $16.48/barrel in 1945 to $27.72/barrel in 1970. Most of this increase took place in the early years between 1945 and 1949.

Institutional changes: Between 1945 and 1960, both upstream and downstream oil production was controlled by seven European and American IOCs.

Oil-fields in developing countries were owned or leased by these IOCs, granting them effective control over prices and production.

By the 1960s the nationalization of oil supplies gradually started to take place by some countries such as Iraq and Ecuador.

- **The oil embargo between 1974 and 1980 led to a decrease in oil production**

Big Players: The embargo led by OPEC and OAPEC, resulted in decreased oil production for the first time since 1945, disrupting years of concurrent growth in production. The embargo also led to a change in the global economy, with investments shifting to less energy-intensive industries.

Production: OPEC and OAPEC members cut annual oil production by 5 percent in 1975 to 50.1 million bbl./day, leading to a supply shock. However, overall oil production rose by 20 percent to 65.6 million bbl/day by the end of 1980; it was not enough to meet the increase in demand, which is clearly reflected in the price trend.

Prices: The price inelasticity of oil led to prices jumping 116 percent, from $24/barrel in December 1973 to $52/barrel in just one year because of the production cut.

During the first phase, real oil prices doubled from $51/barrel in 1974 to $107/barrel in 1980.

Oil prices peaked in 1980 when the single highest recorded oil price to date was recorded during May 1980 at $123.79/barrel.

Institutional changes: Higher oil prices meant that oil-producing countries could justify the initial investment in building a downstream oil infrastructure by setting up NOCs. NOCs leased this infrastructure instead of oil fields. Nationalization of oil supplies from IOCs continued with support from the public as they were depriving the state of revenue. In 1973, 85 percent of upstream infrastructure for exploration and extraction was controlled by IOCs; by 2012, that fell to 7 percent.

- **The post oil embargo between 1980 and 1989 leading to the oil glut**

Big Players: Oil demand fell globally because of an economic slowdown in the industrialized world and the development of energy-efficient technologies, shifting energy consumption towards natural gas and ethanol.

High oil prices during the embargo caused many non-OPEC countries such as the USSR, Brazil, India, and the United States, to invest in their oil production despite the initial high cost.

A massive 260-thousand-barrel oil spill in the United States in 1980 pushed many governments to re-examine environmental regulations on the oil industry. The 1979 Iranian Revolution caused a drop in global oil supply, oil demand dropped at a faster rate.

Production: Between 1980 and 1985, oil production fell 9 percent, from 64.6 million bbl/day to 58.7 million bbl/day. Between 1985 and 1989, production increased 11 percent, to 65.2 million bbl/day as new players started to produce oil.

Prices: Oil prices fell from their peak of $123.79/barrel in 1980 by 46 percent to $66.51/barrel in 1985. By 1989, prices had fallen a further 38 percent to $41.21/barrel

Institutional changes: Upstream and downstream oil production by new producers was carried out by NOCs, such as Petrobras and Gazprom in Brazil and Russia, respectively. The growing technical capability of some NOCs reduced the importance of IOCs. At that point, consolidation of IOCs through mergers and takeovers reduced their number to three companies: Chevron, ExxonMobil and BP.

- **Industrialization of BRICS between 1991 and 1998**

Big Players: Rapid industrialization in China, India, South Korea and Indonesia drove up energy use, which was halted by the Asian financial crisis of 1997, sharply reducing oil demand.

Production: Production rose 10 percent, from 65.9 million bbl/day to 72.4 million bbl/day because of new producers entering the market.

Prices: Prices peaked for a short period during the First Gulf War to $76/barrel, before falling back to $37/barrel. Oil prices were stable at $33/barrel at the time, until the Asian financial crisis caused oil prices to fall. Oil prices fell 45 percent to $18/barrel.

Institutional changes: Little change in the situation of oil companies despite changes in production and prices.

- **OPEC production cuts between 1998 and 2003**

Big Players: Oil demand was driven by Asian economies as they were recovering from the financial crisis. OPEC agreed to production cuts, while many non-OPEC members increased their production. Political events in the Middle East following the September 11 attacks also kept oil prices high.

Production: Although production increased 4.4 percent during the period, from 73.8 million bbl/day to 77.1 million bbl/day, OPEC production increased at a lower rate, at 0.5 percent to 31.2 million bbl/day as a result of production cut agreements.

Prices: Oil prices increased 73 percent to $47/barrel in 2003 during the period.

Institutional changes: Little change in the situation of oil companies despite changes in production and prices**.**

- **Oil prices surge in 2003 to 2008 because of global political violence.**

Big Players: The US invasion of Iraq, political violence in Nigeria and political instability in Venezuela resulted in a negative supply shock and a speculative demand shock in oil.

Several non-OPEC members, such as the US and Mexico, reduced their rate of oil production because of delays in projects, which led to a supply shock.

Production: Oil production gradually increased 7.9 percent, reaching 83.2 million bbl/day.

Prices: Oil prices surged 247 percent at the time, reaching $164/barrel, the highest in history.

- **Oil glut between from 2008 to 2014**

Big Players: The financial crisis caused a significant negative demand shock, as banks refused to give oil consumers credit, and energy-intensive industries diminished.

Oil prices recovered by 2010 after several stimulus packages were issued, restoring aggregate demand for oil. OPEC and OPEC+ reduced market prices to be more competitive against US shale oil production. The Arab Spring in Libya, Egypt, Yemen, and Syria led to an increase speculative demand.

Production: Oil production gradually increased 7 percent to 88.7 million bbl/day.

Prices: Oil prices dropped 67 percent between June and December 2018 because of the financial crisis. From 2009 to 2014, oil prices rebounded to $106/barrel. During the Libyan Civil War, oil prices peaked to $130/barrel.

Institutional changes: In 2011, a technological breakthrough in shale oil extraction led to the establishment of small private oil companies specialized in fracking.

- **The post financial crisis period from 2014-January 2020**

Big Players: OPEC removed its production ceiling to become more competitive against high-cost US shale oil. Slowdown in Chinese production led to a negative demand shift in oil.

Production: Production increased 13 percent to 100.6 million bbl/day, exceeding global consumption.

Prices: Prices fell 66 percent to $35/barrel because of overproduction.

Institutional changes: By 2016, many US shale oil companies were shut down. Lower production in Nigeria and Canada. OPEC market share increased during that period. OPEC+ meeting formed because of overproduction.

1.2.2 Global oil production and big players

This section highlights the largest producers and exporters of oil in the global market.

- The **United States** is the only country with significant shale oil production,[3] which accounts for half its daily output, also making it the costliest producer of oil. Oil production in the United States is dependent on high prices and government subsidies since the US oil sector is vulnerable to negative price fluctuations.
- Although crude oil extracted in the United States is light-grade oil, most US oil refineries are optimized to process medium-grade oil. This means downstream US oil producers must import heavy-grade crude oil to complement domestic light-grade oil, which is mixed to produce medium-grade oil—which is why the United States increases its import of heavy-grade oil while it increases its light-oil production.

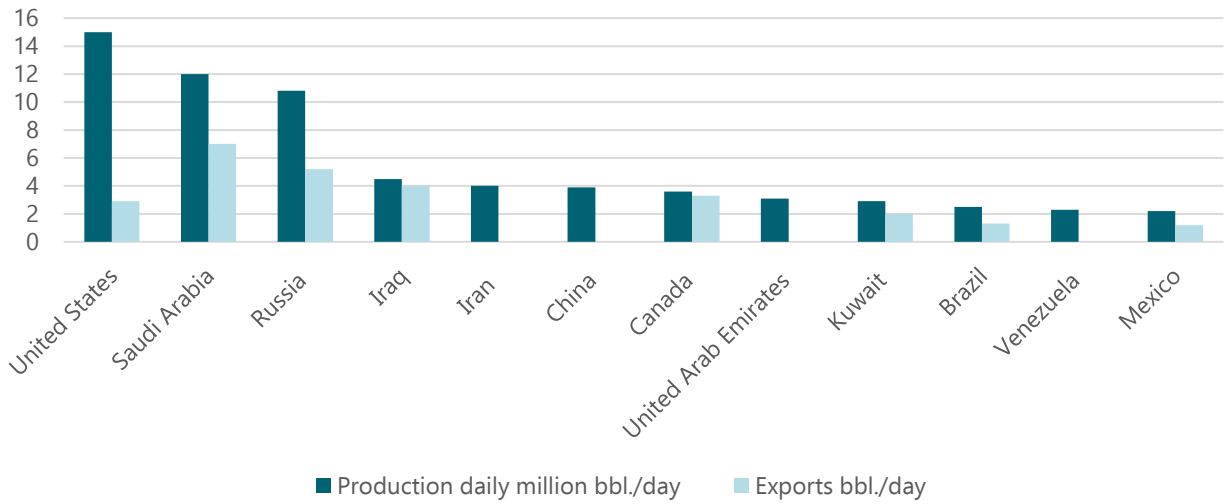
[3] Shale oil is unconventional oil that is in small rock fragments, making it expensive to extract. Most shale oil is of light-grade.

- Although crude oil extracted in the United States is light-grade oil, most US oil refineries are optimized to process medium-grade oil. This means downstream US oil producers must import heavy-grade crude oil to complement domestic light-grade oil, which is mixed to produce medium-grade oil—which is why the United States increases its import of heavy-grade oil while it increases its light-oil production.
- **Saudi Arabia** and **Russia**, the largest oil producers, and exporters of conventional oil, are the principal negotiators for OPEC+ production quotas and prices. Recently, both countries have been in conflict regarding the global price of oil and how to deal with the United States' emergence as an oil producer.
- Although **China** is a large oil producer, it has been a net importer of oil since 1993 due to its increasing industrial demand. In 2013, China further

increased its oil imports after its oilfields were damaged due to floods. In 2014, it overtook the United States as the world's largest importer of oil. China is unique as it is the only significant oil-producing country that does not export oil.

Figure 12.5 below identifies today's top global oil producers and their exports, according to 2019 data of JODI Oil.

Figure 12.5 Top Oil Producers and Exporters, 2019



Source: JODI Oil.
Note: 50 percent of US oil production is shale oil.

Important observations:

- Although the US is the largest oil producer (sweet light oil), it cannot easily export its oil due to high costs and remains a net importer of oil.
- Saudi Arabia is the largest oil exporter and produces Arab light oil, the most common oil product.
- Russia is the second largest oil exporter, and despite having shale oil reserves it does not currently produce any.
- **Iran, China and Venezuela** have no exports. Iran does not export due to sanctions. Previously, it used to export 2.7 million barrels. China, however, is a net importer of oil despite having significant production. Venezuela did not export in 2019 because of sanctions, as usually it exports 1.3 million bbl./day.
- **Canada** exports oil mainly to the United States as it is an ideal market due to its proximity. Canadian oil "Western Select" complements US "WTI" oil.

1.3 Egyptian oil sector

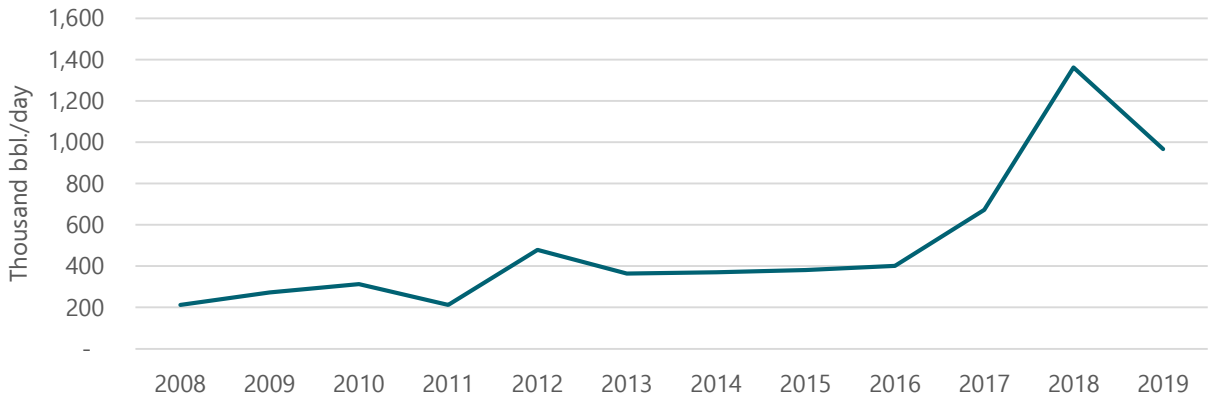
In this section we present the main characteristics of the Egyptian oil sector, starting from Egypt's positioning in the international oil market, the structure of the domestic oil production and consumption, milestones that shaped the Egyptian oil market, oil contribution to the Egyptian Economy, the Egyptian fuel subsidy, and finally the Egyptian oil sector institutional structure and reforms.

1.3.1 Egypt positioning in the international oil market

- Even though Egypt is neither a major oil producer nor a member of OPEC, the oil sector is still significant to its economy. **It is the 4th largest oil producer in Africa and the largest non-OPEC producer in the Middle East.**
- Egypt also plays an important role in the global oil map because of the **Gulf of Suez and Suez Canal**, where a significant portion of global crude oil trade is transported through the **SUMED oil pipeline,** which transports oil inland between the Red Sea and the Mediterranean Sea.
- **The Suez Canal is vital to the global oil industry** as mentioned in earlier reports, as 13 percent of annual global trade passes through it[4]. During the latest reported fiscal year FY2018/19, 20 percent of trade volumes through the Suez Canal consisted of crude oil production.

Figure 12.6 below shows the average daily shipments of crude oil passing through the Suez Canal, for the period 2008-2019.

Figure 12.6 Crude Oil Shipments through Suez Canal, 2008-2019



Source: Suez Canal Authority.

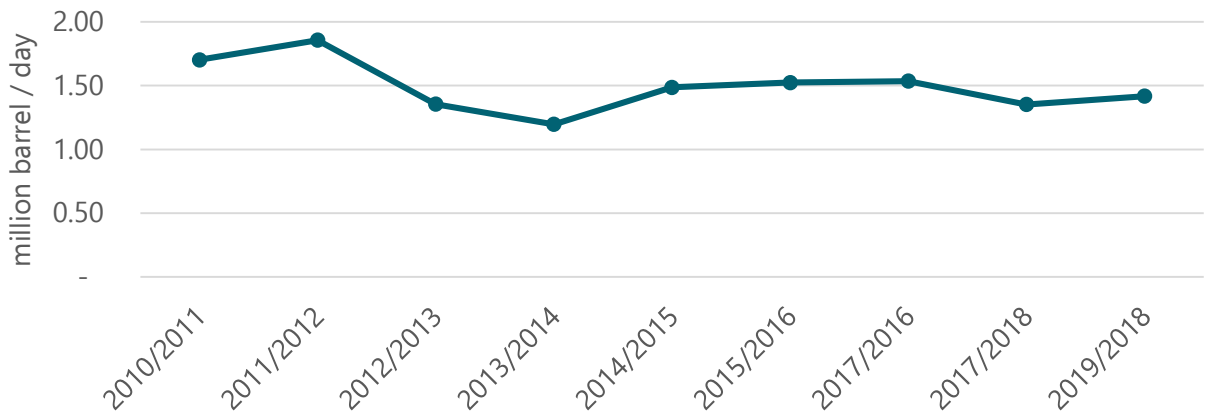
- We can see from the figure that the volume of oil shipments through the Suez Canal sharply increased to 1.362 million bbl./day in 2018 mostly due to:
  - Oil shipping companies receiving a more flexible payment plan from the Suez Canal Authority.
  - Increased global oil production and trade during the period.
  - The volume of oil shipments fell to 1 million bbl./day in 2019.

[4] ECES, the Impact of the Crisis on Suez Canal Revenue, Views on Crisis, issue no. 4.

- **The SUMED pipeline** is also key for global oil shipments through Egypt. This pipeline transports oil from the Suez region in the Red Sea to Alexandria in the Mediterranean Sea, making it a crucial transit line for global oil shipments.
- The SUMED pipeline is owned and operated by the Arab Petroleum Pipeline Company, which, in turn, is owned by state company Egyptian General Petroleum Corporation (EGPC). EGPC has a 50 percent stake in the pipeline, and the other 50 percent is owned by NOCs of Qatar, Saudi Arabia, and Kuwait.

Figure 12-7 shows SUMED pipeline traffic over time (2010/2011-2018/2019), where flows through the SUMED pipeline in FY2010/11 increased to 1.86 million bbl/day after the pipeline was upgraded for oil to flow in both directions.

Figure 12.7 SUMED Pipeline Traffic SUMED Pipeline Traffic, 2010/2011–2018/2019



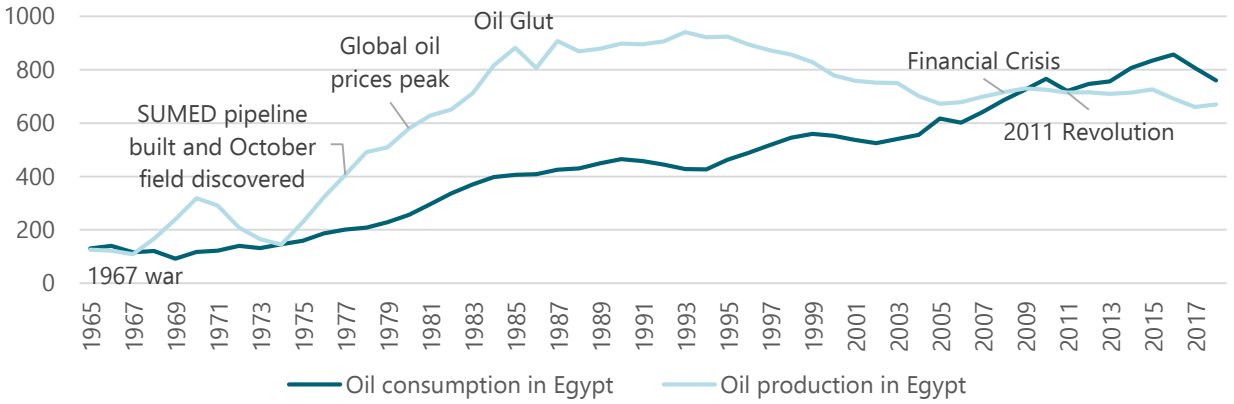
Source: CAPMAS – Energy Transportation.

- Between FY2011/12 and FY2017/18, traffic through the SUMED pipeline fell 28 percent to 1.35 million bbl./day as:
    - European consumers substituting oil imports from North and South America instead of from the Persian Gulf.
    - Gulf countries sold their oil to East Asian countries instead of to Europe and the United States.
    - Oil cargo passing in oil tankers through the Suez Canal, as an alternative route to the SUMED pipeline increased.
- There was a slight rebound in oil traffic through the pipeline in FY2014/15 by 24 percent to 1.49 million bbl./day as sanctions on Iran were slightly eased allowing them to export oil to Europe. However, sanctions were re-imposed in 2017 oil traffic continued to fall.

1.3.2 Milestones in the Egyptian oil sector

- The oil industry played an important role in Egypt's economic progression over the past century. Figure 8 and Table 2 below show that major political events and oil production have an effect on each other. We also notice that consumption has been gradually growing, while production has experienced cycles of growth that depended on the political and economic situation at the time.

Figure 12.8 Production and Consumption of Crude Oil in Egypt, 1965-2017



Source: BP Statistical Review of Energy.

Table 12.2 Milestones in the Egyptian Oil Sector

	Production	Institutional changes
First oil discovery in **1885** between Egypt and Belgium in the Eastern Desert. In 1946, a significant oil discovery in Sinai was made.	First oil production activity was only 9.5 bbl/day. By 1948, nationwide oil production increased to 38 thousand bbl/day despite WWII.	In 1907, the government established the Egyptian Oil Trust to receive oil concessions from foreign oil companies.
In **1912**, the first oil refinery started operations, and oil exports started.	By 1916, oil production reached 1,160 bbl./day. By 1921, this had shot up to 3,665 bbl./day.	
In **1937**, the government issued new formal regulations for license bidding. This new influx of international oil companies led to the establishment of the first commercial oil field later that year.	The first commercial oil field started operations in 1938 producing just over 1 thousand bbl./day. Nationwide oil production reached 13.4 thousand bbl./day by 1939.	
Oil exports were banned in **1948** but resumed in 1953. During the 1950s the government implemented a fuel subsidy plan to help reduce income disparity and make transportation more accessible.	Slight dip in production due to the short-lived export ban.	The General Petroleum Authority (later renamed to EGPC) was established in 1956 as a national oil company, with the role of handling joint ventures with IOCs. Most of Egypt's downstream oil infrastructure was nationalized in the 1950s.
In **1964**, a joint venture between EGPC and two IOCs led to the discovery of the largest Egyptian oil field in the Gulf of Suez.	Oil production increased to 10 thousand bbl./day by 1965 due to this discovery.	The joint venture between two US oil companies and EGPC led to the establishment of Gulf of Suez Petroleum Company (GUPCO).
In 1972 Egypt joined **OAEPC**. In **1974**, in coordination with OAEPC and OPEC Egypt reduced its oil exports, although this contribution was insignificant due to low export volumes relative to other members. In **1977** the October field was discovered in the Gulf of Suez. The SUMED pipeline started operations in **1977**.	Local oil production dropped 12 percent in 1974 to 145 thousand bbl./day, making it break even at the merchandise balance. The October oil field produced and average of 76 thousand bbl./day over 15 years.	The Arab Petroleum Pipeline Company was established as a joint venture between EGPC and NOCs of Arab countries.

[5] https://egyptoil-gas.com/reports/pursuing-egypts-petroleum-production-over-fy-201011-201819/
[6] http://egyptoil-gas.com/wp-content/uploads/2019/10/%D8%A7%D8%AC%D8%AA%D9%85%D8%A7%D8%B9.pdf

	Production	Institutional changes
The **1980** peak in oil prices incentivized the government to develop and explore new oil reserves.	Oil production increased 52 percent to 882 thousand bbl./ day between 1980 and 1985 widening the export balance significantly.	
From **2015** to date, oil production stagnated due to a lack of oil FDI and institutional friction leading to a lack of exploration agreements for new oilfields.[5]	In FY2018/19, oil production in reached 574 thousand bbl/day, a 0.4 percent increase from the previous year of FY2017/18 of 552 thousand bbl/day. The Ministry of Petroleum aims to increase oil production to 700 thousand bbl/day by the end of FY2019/20 by developing and upgrading new wells. However, it is unlikely to implement that target due to a demand shock in the oil market caused by price wars and the COVID-19 crisis.[6]	

Source: Prepared by ECES based on BP statistics.

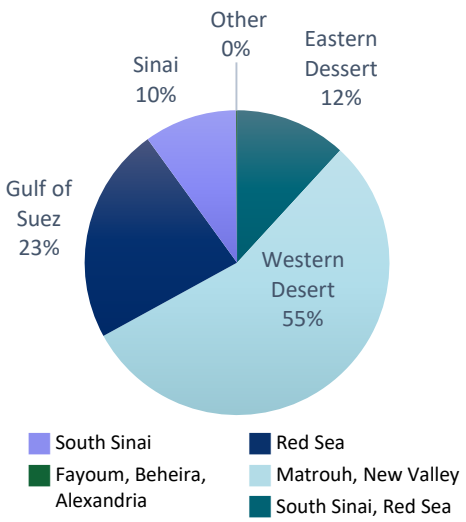
- Egypt has been a net exporter of oil between 1974—after the oil embargo—and 2009. Several new oil discoveries were made during the 1970s and 1990s because of high oil prices, which encouraged investment into the sector. Many of the major increases in production have been driven by international prices.
- Egyptian oil consumption has gradually increased over time, except for a few periods when crises caused negative demand shocks. The 2011 revolution, for instance, reduced demand as a result of a decline in industrial output.
- Since 2016, oil consumption has been declining because of:
    - Subsidy cuts, which have reduced consumer demand.
    - A shift to natural gas as an energy source after several discoveries were made.

It is also clear that higher oil prices resulted in local oil production increasing as a result of more investments from IOCs. This is evident with oil production increasing as a result of peak oil prices of the embargo, and a second phase of increased production during the 1990s**.**

1.3.3 Oil Production and extraction in Egypt

- Besides being a transit location, Egypt is also a producer of crude oil in the upstream sector, which is exported or consumed domestically.
- Oil production in Egypt has been flat for the past decade, at 700 thousand bbl/day, due to political instability, making it difficult for the Ministry of Petroleum to sign exploration agreements. **A limited number of signed exploration agreements resulted in no significant finds of oil deposits; however, they did yield findings in natural gas instead.**
- The most common types of oil in Egypt are the Suez Blend, a medium-grade oil, and Belayim Blend, a heavy-grade oil. Both are sour, and both are internationally traded at a discount under the Brent benchmark.
- The **Western Desert accounts for over half of Egypt's** oil upstream production, while the Gulf of Suez, Eastern Desert, and Sinai are also regions with significant production as shown in Figure 12.9.

Figure 12.9 Oil Production in Egypt by Geographic Location



Source: CAPMAS, Egypt Energy Production.

- Most current oil production takes place in the Western Desert. Even though, historically, most of Egypt's oilfields have been in the Gulf of Suez, the more recent discoveries were made in the Western Desert.
- Most upstream oil production is managed by IOCs, in partnership with EGPC. In the Gulf of Suez and the Western Desert, British Petroleum, Eni, and Shell are invested in offshore drilling. Onshore drilling in the Western Desert is operated by Apache.
- While most upstream oil infrastructure production is in the Western Desert and the Gulf of Suez, downstream facilities are located around the Nile Valley. The concentration of the downstream facilities in metropolitan areas, such as Cairo and Alexandria, reveal how the larger population and economic activity drive energy consumption.

These downstream facilities consist of refineries owned by EGPC and operated by small local private companies. As of 2016, the total number of refineries in Egypt had a total capacity to process 732.5 thousand bbl/day.[7] Table 3 below presents the major refining facilities as of 2020 and their capacity and ownership structure, while Figure 12.18 (A2-2) in the annex illustrates their distribution.

Table 12.3 Oil Refining Facilities in Egypt

Refinery operator	Location	Ownership	Topping capacity (b/d)	Proportion of capacity
El-Nasr Petroleum Co.	Naser City, Cairo	EGPC (100%)	143,000	20%
Cairo Oil Refining Co.	Mostorod, Cairo	EGPC (100%)	142,000	20%
Alexandria Petroleum Co.	El Mex, Alexandria	EGPC (100%)	100,000 (to be expanded to 160,000 in 2020)	14%
Middle East Oil Refinery (MIDOR)	Alexandria	EGPC (78%), Suez Canal Bank (2%), ENPPI (10%), Petrojet (10%)	100,000	14%
Ameriya Petroleum Refining Co.	Alexandria	EGPC (100%)	75,000	10%
Suez Petroleum Processing Co.	Suez	EGPC (100%)	68,000	9%
Assiut Petroleum Refining Co.	Assiut	EGPC (100%)	50,000	7%
Egyptian Refining Co	Cairo	EGPC (24%) Qalaa Holdings (13%) Arab Refining Company (63%)	87,900	Not fully operational

Source: EGPC, Arab Oil Directory; Qalaa Holdings.

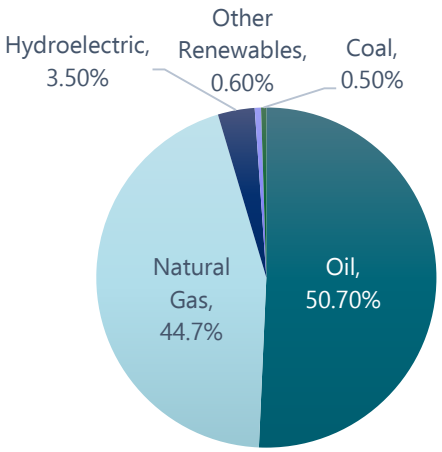
The Egyptian Refining Co. was established and is expected to reach 87.9 thousand bbl/day.[8] The refinery is set to export refined petroleum products to help plug the deficit that the Egyptian oil sector faces. In addition, the ownership structure of the refinery is unique as it is the first to be majority owned by the private sector.

[7] https://egyptoil-gas.com/features/egypts-refineries-a-complete-picture/

1.3.4 Oil consumption in Egypt

- Egypt is the largest energy consumer in Africa, with **annual consumption in 2017 reaching 4 trillion BTU**, due to its relatively high industrial output and large population. As shown in Figure 11 below, this consumption has been flat with the observed increase in the last couple of years was driven by natural gas followed by renewables.

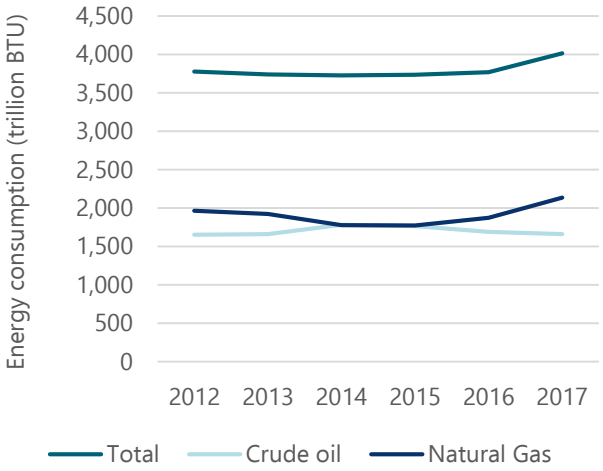
Figure 12.10 Egypt Energy Consumption by Source



Source: BP Statistical Review of World Energy.

Accordingly, in 2019, the Ministry of Petroleum has pledged to reduce oil consumption, given the stagnating production[9] through upgrading the country's natural gas plants to generate electricity, thereby substituting for oil consumption. Moreover, Gas- and diesel-powered vehicles will be subsidized and exempted from tariffs to reduce their oil consumption.

Figure 12.11 Egypt Consumption of Crude Oil and Natural Gas, 2012-2017



Source: International Energy Agency.

1.3.5 Oil contribution in Egyptian economy

The positioning of the oil sector in the local economy in FY2018/19 is shown in Table 12-4, with respect to how the sector provides employment, fiscal revenue, and foreign currency.

Table 12.4 Comparison of Oil Sector to Different Sectors of Economy, FY 2018/19

Sector	Exports (mn US$)	Imports (mn US$)	Trade Balance	Percent of GDP	Employment[10]	Average Wage/Salary per week (EGP)	Percent of total FDI
Oil (Total)	10,436	11,009	-573	8.40%	166,530	2,250	74.30%
Extraction	4,851	2,568	2,284	4.60%	146,400		-
Refinement[11]	5,584	8,441	-2,857	3.90%	18,300		-
Natural gas	1,121	540	581	5.20%	18,300	2,250	-
Suez Canal	5,730	0	5,730	2.20%	14,000[12]	-	0.10%
Tourism	12,571	2,903	9,66	15%	1,539,800	1,555	0.60%
Agriculture (fruits and vegetables only)	1,837	784	1,049	11%	5,629,200	766	0.40%
Manufacturing	9,261	30,628	-21,337	13%	3,253,400	574	5.10%

Sources: CBE, External Position of the Egyptian Economy, various issues; CAPMAS, Annual Bulletin of the Employees in the Public Sector and Public Business Sector, 2019; Egypt Oil & Gas Magazine.

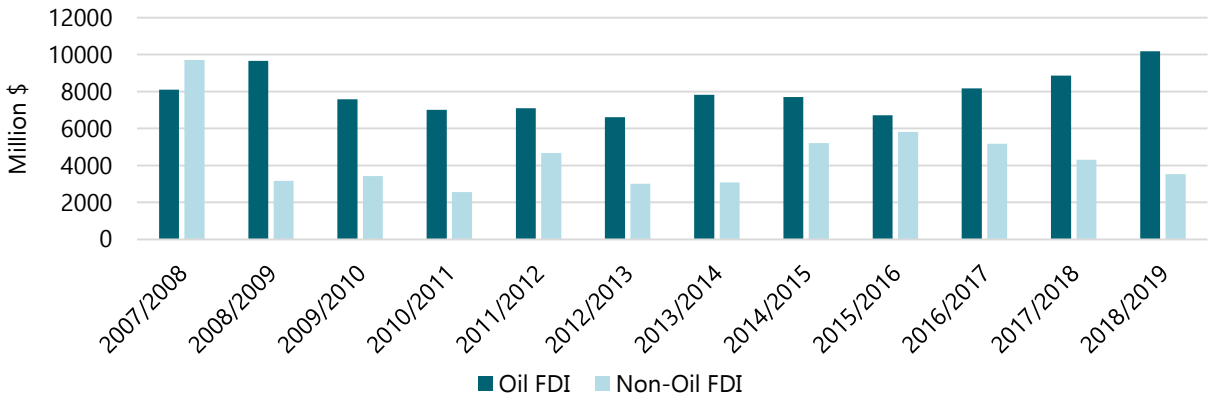
[8] http://www.qalaaholdings.com/subsidiaries/egyptian-refining-company
[9] https://www.youtube.com/watch?v=RzWiKevPRqw&feature=emb_title
[10] Data is from CAPMAS, Bulletin of Labor Force Survey 2018 and Oil and Gas Magazine, 2017.
[11] Includes bunker and jet fuel.

- The oil sector generates an **annual trade deficit of $573 million; other sectors**, such as the Suez Canal, tourism, and agriculture, **generate a trade surplus**. Upstream extraction activities, however, generate a trade surplus, while downstream activities generate a deficit. As oil prices continue to fall this deficit is expected to be a surplus by the end of 2020.
- **The oil sector contributes significantly to GDP by 8.4 percent,** despite the net trade deficit it generates. This means it generates more economic activity compared to other rent sectors, such as the Suez Canal, which contributes only 2.2 percent of GDP, despite generating a net trade surplus.
- Since natural gas deposits were discovered in 2016, Egypt has become a net exporter worth $581 million annually. **Nevertheless, the natural gas sector contributes less to GDP, at 5.2 percent, than the oil sector does**. This is due to the more complex process of refining oil through the supply chain, which generates more economic activity**. The operations of the SUMED pipeline also contributes to GDP, even though this oil is not produced in Egypt.**

1.3.6 Oil contribution in GDP

- **The oil sector typically attracts the majority of FDI in Egypt. In FY2018/19 it accounted for 74.3 percent** of total foreign investments, distantly followed by the manufacturing sector at 5.1 percent while the remaining sectors attract a negotiable account. During this fiscal year, oil-FDI was over $10 billion**, the largest ever in over ten years.** Over the past decade oil FDI has been consistent and ranged between $6 and $10 billion annually (Figure 12.12).
- FDI in the oil sector does not only provide foreign currency inflow but also has historically provided technology transfer, which allowed the establishment of NOCs in the 1970s.

Figure 12.12 Oil FDI in Egypt, 2007-2019



Source: CBE Annual Report, various issues.

- Oil FDI has always been strong even in hard times in contrast to other sectors, which were sensitive to major political and economic shocks. During the 2008 financial crisis, non-oil FDI fell by 67 percent, while oil FDI increased by 19 percent.
- During FY2009/2010, the year following the financial crisis, oil FDI fell by 21 percent from US$ 9.7 to US$ 7.6 billion. This was due to the drop in oil prices, which dis-incentivized IOCs from investing in exploration and production agreements in Egypt.
- Following the 2011 Revolution non-oil, FDI contracted by 25 percent, but oil FDI contracted by only by 7 percent.

Figure 13 shows that during both events (Global Financial Crisis (2008) and The 2011 Revolution) non-oil FDI contracts during times of crisis, while oil FDI remains strong.

[12] Excludes employment during construction of the second Suez Canal branch.

- Between FY2015/16 and FY2018/19, oil FDIs steadily increased from $7.6 billion to $10.2 billion. In FY2018/19, the number of oil exploration blocks increased from 15 to 40, attributable to increased investments in natural gas after significant discoveries. Moreover, the fact that many oil and gas companies have already sunk their fixed operations costs in Egypt, could justify the additional lower cost of investing in oil.

1.3.7 Oil sector Employment

- **Over 166 thousand people work in the oil sector**.[13] This is a significant figure compared to other rent sectors, such as the Suez Canal, which only employs 14 thousand people. However, the **oil industry only employs 1 percent of the total labor force,** much lower than other labor-intensive sectors, such as agriculture, tourism, and manufacturing.
- **Although job creation by the oil sector is lower than that of other sectors, these jobs provide higher wage/salaries, averaging EGP2,250 weekly, 45 percent higher than those of tourism and almost four times higher than those of the agriculture and manufacturing sectors**. Those wages/salaries introduce higher purchasing power and savings into the national economy. These jobs also require technical and educational skills that are augmented and reintroduced in the economy.

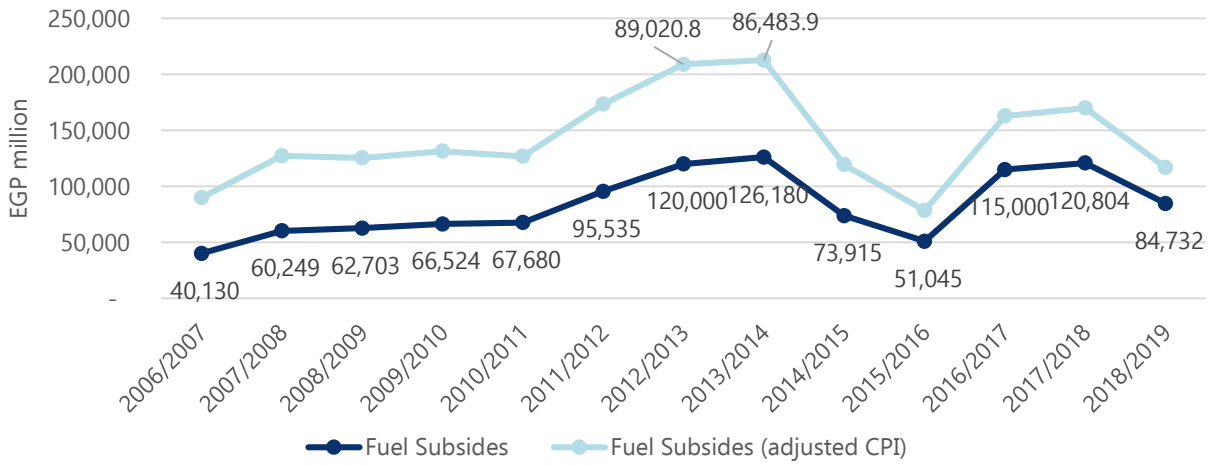
1.3.8 Fuel subsidy

Because of its importance and strong impact, this section is dedicated to the analysis of the fuel subsidy program operated by the Ministry of Finance. Although useful for citizens, it has put a huge burden on the budget and is increasingly seen as a fiscal burden and distortion to the energy market.

The Ministry of Finance operates this fuel subsidy program to reduce the cost of transportation and goods to the Egyptian citizen. However, it is increasingly viewed as a fiscal burden that ultimately drags the economy. **The FY2019/20 budget bill had subsidies worth EGP52.9 billion, compared to EGP84.7 billion in FY2018/19.** The subsidy bill fell 37 percent, mostly because of subsidy cuts, the appreciation of the Egyptian pound, and the fall in oil prices.

The government has been subsidizing fuels from EGPC-owned refineries since the 1950s. The fuels that are subsidized include gasoline, diesel, natural gas, gas cylinders, and mazut. Figure 13 shows the trend of fuel subsidy costs the government has incurred over the past few years, from which we can conclude two peaks and one trough for the subsidy costs as follows:

Figure 12.13 Fuel Subsidy Bill



Source: Ministry of Finance, Monthly Financial Bulletin, various issues.

[13] https://egyptoil-gas.com/reports/economic-snapshot-egypts-oil-gas-sector/

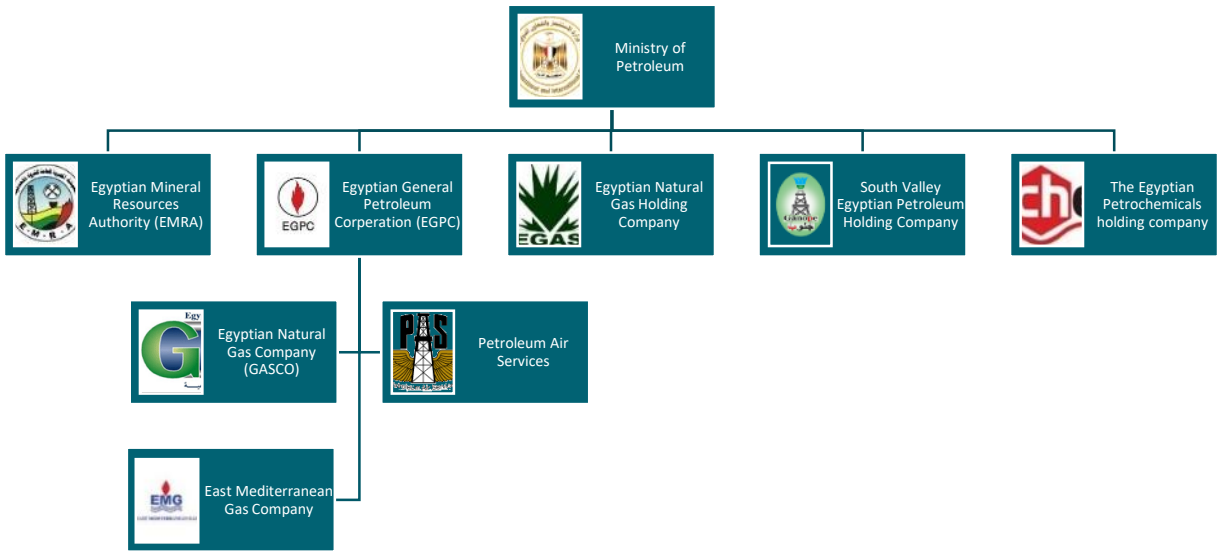
- The outbreak of the revolution had pushed the subsidy costs to jump **78 percent to reach the first peak at EGP 89 billion due to public discontent, and the depreciation of the EGP, after** remaining unchanged at an average of EGP 59 billion annually in the period between 2007 and 2010.
- **The second peak** was in 2013/2014 where subsidy costs reached **EGP 126 billion, after which it has fallen to** EGP **50 billion** during FY2015/16. This steep decline was due to **conditional fiscal cuts by the IMF loan agreements and the slump in international oil prices.**
- Subsidy costs **rebounded to over EGP100 billion** due to the flotation of the Egyptian pound in FY2016/17, which resulted in a currency depreciation. As the Egyptian pound recovered slightly this reduced the subsidy bill by 30 percent for FY2018/19 compared to the previous year.

1.3.9 Institutional structure and reform of the Egyptian oil sector

The Ministry of Petroleum and Mineral Resources is responsible for managing the country's economic strategy regarding petroleum production. The role of the Ministry was expanded recently to include other mineral resources. Figure 12 depicts the organizational chart of the major entities that report to the ministry.

The oil sector in Egypt is operated and owned by a mix of PPP agreements between the public and private sector, with ownership and responsibility divided in the upstream and downstream activities. The private sector in Egypt consists of IOCs, such as BP, Apache, and Eni, which have active oil extraction in the upstream sector. Meanwhile, smaller private Egyptian companies, which operate oil refineries, dominate downstream activities. The public sector is responsible for issuing PPP agreements with private companies in the upstream and downstream activities.

Figure 12.14 Institutional Structure of Ministry of Petroleum[14]



Source: Ministry of Petroleum website.

- EGPC, whose key role is petroleum production, is the largest state company under the umbrella of the Ministry of Petroleum. Some of its responsibilities are:
    - Owning oil refineries in the downstream sector, while outsourcing the operation of these refineries to local Egyptian companies. EGPC receives royalties from the contractors of those agreements and pays taxes to the state on their behalf.
    - Owning oil wells engaging in upstream activity through a joint venture with IOCs

or through royalty payments.

- Issuing concession agreements for exploration and extraction in the upstream sector.
- EGPC is the only entity in Egypt that can legally import, export, and purchase crude oil. The company refines the oil it purchases, before selling it to distributors in the market at a subsidized cost. The company then collects the subsidy payments from the Ministry of Finance.

- The East Mediterranean Gas Company, subsidiary of EGPC owns a significant stake, and operates a gas pipeline in North Sinai for export to other countries.
- Egyptian Natural Gas Company (GASCO), a 70 percent-owned subsidiary of EGPC, owns and operates gas pipelines locally to sell to consumer households. GASCO also issues transportation and distribution agreements in natural gas projects.
- Petroleum Air Services, a 75 percent-owned subsidiary of EGPC, operates charter flights and helicopter logistical services for oil companies.
- Separate state-owned South Valley Egyptian Petroleum Holding Company's role is to issue exploration and production agreements, such as with EGPC, but operates only in Upper Egypt.
- Egyptian Petrochemicals Holding is a state-owned company aimed at improving the manufacturing of petrochemicals in the public and private sectors.

All the aforementioned state bodies fall under the Ministry of Petroleum, which oversees their activities and nominates their leadership.

Over the past five years the Ministry of Petroleum in coordination with its associated bodies outlined a strategy to improve Egypt's energy infrastructure, including:

- Reducing energy consumption by eliminating subsidies which are viewed as inefficient and contribute to energy waste.
- Increasing energy security by attracting FDIs to the energy sector, to increase and diversify energy sources. This is reflected in the number of new oil concession agreements, which increased in 2019 alone from 15 to 45.
- Increasing the country's oil refinery capacity beyond 700 thousand bbl./day by upgrading current refineries and building new ones.
- Improving governance by reforming investment laws, such as law no. 72, passed in 2017. A couple of possible benefits for oil investors would be: i) a 50 percent tax deduction for investments in underdeveloped regions of the country; and ii) a simplified investor service center to facilitate legal procedures. The law will also place a fixed 2 percent customs fee on capital goods for investors[15].

The government has also entered in PPP agreements to build new refineries such as the Egyptian National Refinery, and upgrade existing refineries, to be able to import cheaper crude oil to process, instead of oil products. This will help narrow the BoP, as the high imports of crude oil had generated a net deficit of billion US$0.5 in FY2018/19. As the import price decreases, this deficit will become a surplus. This is already evident as during H12019/20 net oil exports were US$600 million.

- There are still challenges to the institutional management of the Egyptian oil sector, which led to the negative oil trade balance widening over the past 20 years:
  - The overlap of oil and gas operations resulted in the Ministry of Petroleum's inefficiency in issuing concession agreements. This was partially resolved in 2000 with the establishment of GASCO to handle gas exploration and transportation agreements separate from crude oil. However, there are still

[14] https://www.petroleum.gov.eg/ar-eg/about-ministry/Pages/petroleum-organization.aspx

institutional conflict of interests, since GASCO directly reports to EGPC.

This creates institutional conflict, which delays the distribution of concession agreements in upstream oil exploration.

- Between 2000 and 2011, growth in manufacturing activity and real estate investments led to higher oil demand for these sectors. During that period, there was little commitment from the government to tackle fuel subsidies. Both these events resulted in oil demand increasing, hence Egypt becoming an oil importer.

Second: The impact of previous crises

2.1 The 1967 war

- The 1967 War cut Egypt's oil production by a significant amount because of damage caused to many oil fields.
- In 1967, production fell by 11 percent to 108.6 thousand bbl./day.

2.2 The 2008 financial crisis

- The 2008 Financial Crisis only helped weaken an already-muted oil production as oil companies reduced their investment in exploration, leading to no new oil discoveries. By 2009, the country stopped exporting oil because of rising consumption and flat production.
- Oil production started to stagnate between 2005 and 2015 at an average of 670 thousand bbl./day

2.3 The January 25th Revolution, 2011

- The Egyptian revolution and political instability between 2011 and 2015 caused slight drops in production as a result of the security situation and low investor appetite.
- Between 2011 and 2015, oil production fell 3 percent to 690 thousand bbl./day the lowest since the start of the century.

Third: Impact of COVID-19 crisis

The objective of this section is to analyze what happened to the oil sector in Egypt through the COVID-19 crisis as per its different stages as shown in Figure 15.

There are some important trends and events that have been recently witnessed in the international oil market, and should be addressed, for its significant impact through assessing Covid-19 consequences on the Egyptian oil sector.

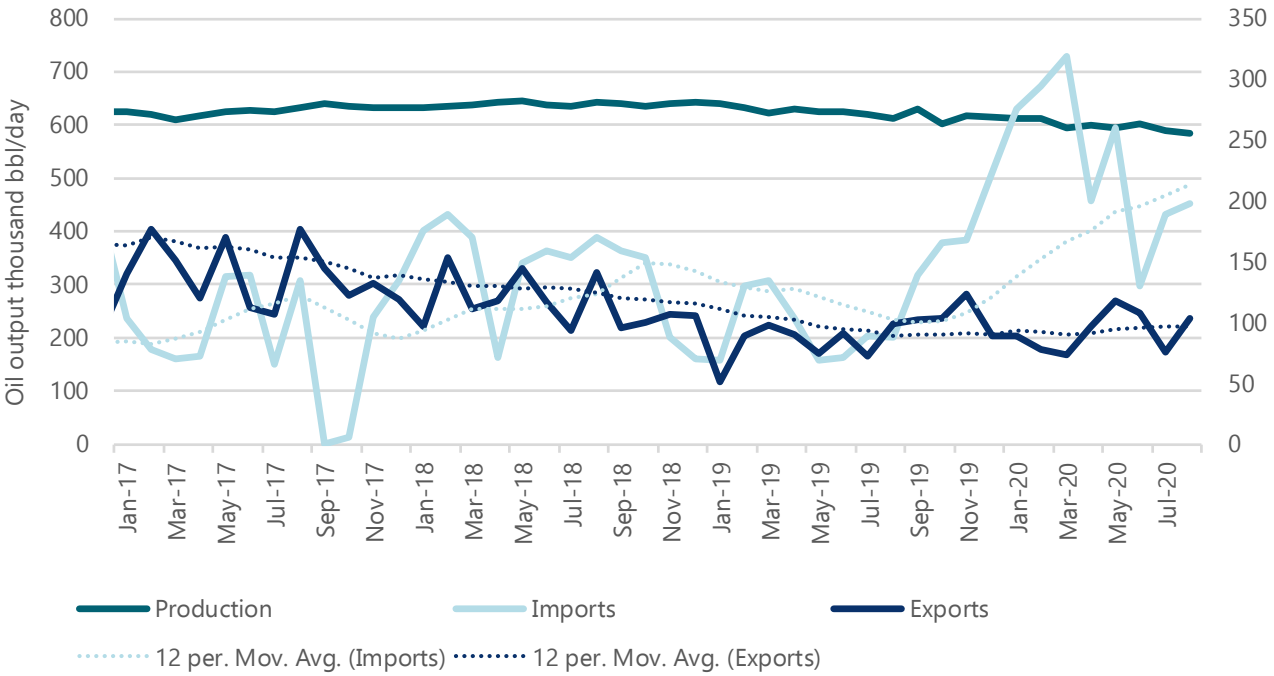
The global oil industry has been facing a crisis before the COVID-19 crisis. A previous crisis is that of a price war between OPEC+ members, with Saudi Arabia increasing production to decrease oil prices and to become more competitive against costly oil producers. This war had several important consequences:

- In response, Russia increased production to help offset lost revenue due to lower profit per barrel.
- Increase in global oil production by an average of 3 percent to 103 million bbl/day during December 2019, compared to 100 million bbl/day during the same period last year, resulting in increased supply.
- Oil prices fell from $81/bbl in October 2018 to $64/bbl during October 2019 due to a supply glut, as the global oil consumption during the 2019 calendar year was only 90 million bbl/day.
- Falling revenue due to low market prices prompted the OPEC+ and the United States to reduce oil production by 10 million bbl/day. The OPEC+ countries, out of self-interest, agreed to this to recover lost oil revenue and a desire by the United States to have profitable shale oil extraction.

- The excess supply in oil markets led to oil prices falling from $72 p/bbl to $64 p/bbl. between May 2019 and December 2019, even before the outbreak of COVID-19.
- The outbreak of COVID-19 further amplified the crisis. During Q1 2020, estimated production increased to 105 million bbl/day because of the global price war continuing. Meanwhile, global demand during the period fell further, from 90 million bbl/day to 70 million bbl/day, leading to oil prices falling from $30/barrel to $25/barrel, and fell further to $21/barrel by April 2020.

Figures 12.15 and 16 show the production trend and trade movement for Egypt from January 2017 to August 2020 respectively, where the following could be extracted:

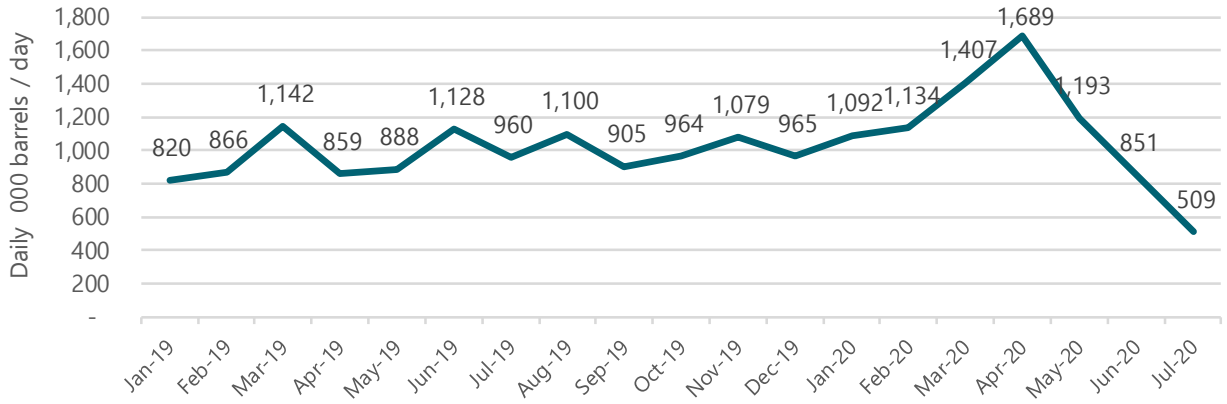
Figure 12.15 Production Imports and Exports of Crude Oil in Egypt, January 2017-January 2020



Source: JODI Oil.

- **Oil production has been stagnating** at 620 bbl/day between January 2017 and January 2020, as a result of no new significant exploration agreements.
- During the same period **exports fell from an average of 180 bbl/day to 100 bbl/day** due to increased domestic consumption of energy.
- Oil imports peaked up during periods of low international prices. In November 2019, imports peaked to 176 bbl/day from 100 bbl/day.
- Oil imports are driven by international prices instead of domestic demand, as low prices present an opportunity to acquire additional oil cheaply.
- There have been significant effects on the transportation of oil through the SUMED pipeline, and flows have been used as a benchmark to measure trade between the Gulf states and Europe.
- The traffic through the SUMED pipeline peaked in April 2020 to 1.7 million bbl/day, before sharply falling to 509 thousand bbl/day in July 2020 (latest available data).

Figure 12.16 SUMED Pipeline Traffic before and during Coronavirus Crisis



Source: Bloomberg oil shipments.

The conceptions and assumptions of the analysis are as follows:

- **Supply shock:** Significant change in global oil production or local production.
- **Demand shock:** Change in local or international consumption of oil.
- What happens in Egypt is very much affected by what happens globally so the analysis frequently refers to the international situation to understand the local market.
- The analysis during COVID-19 at different stages relies primarily on local data in relation to production, imports and exports as well as international prices (Figure 15 and Figure 16).o The analysis covers the impact of COVID until October 2020.

Table 12-5 below presents the major COVID-19 impact on Egyptian oil sector throughout the 4 stages of the crisis, and projects future trends for the domestic oil sector dynamics starting from October 2020.

Table 12-5. Stages of Coronavirus in Egypt

Stage	Description
1. Emergence of the virus (December 2019 – January 2020)	**Positive global supply shock, generated by the price war causing a positive impact represented in:** • Increase in the oil supply of the market led to an increase in oil flows through the SUMED pipeline by 33 percent to 1.1 million bbl/day in January 2020 compared to January 2019, and by 13 percent compared to December 2019. • Decline in oil prices leading to a significant decrease in Egypt's oil imports bill. Imports (bbl/day) increased by nearly 23 percent in January 2020 compared to December 2019. • Egypt's oil production remained stable with a slight decrease over this period. • Exports also steadied around 88.5 bbl/day during December 2019 and January 2020.
2 - The beginning of proliferation Feb. through March 2020	**International and domestic negative demand shock** • Global production continues to increase due to OPEC+ talks breaking down. • Oil demand globally falls 22 percent from 90 million to 70 million bbl/day, compared to last year. • Lower industrial activity in Egypt resulted in lower oil consumption. Although it remained steady in March 2020 at 656 bbl/day similar to February 2020, annual consumption fell by 9 percent in March 2020 from 721 bbl/day, compared to March 2019. • Imports continued to increase but with lower rate between 7-8 percent during this period. Reaching its highest peak since 2017, at 318.5 bbl/day during March 2020 (Figure 12.16). • The combination of supply and demand changes lead to oil prices falling 17 percent from \$30/barrel to \$25/barrel, which had a positive impact on the subsidy bill reducing it by 47 percent in FY2019/20.[16]

[15] https://www.masrawy.com/news/news_economy/details/2020/4/21/1769847

Stage	Description
3. Aggravation of the problem (From mid-March to mid-May 2020)	**Negative supply shock, due to lower domestic and international oil production.** • Global oil production fell by 14 percent to reach 90 million bbl/day in April 2020 compared to April 2019 • Domestic oil production fell by 5 percent in April 2020 compared to April 2019. However, this could not be considered a direct impact of COVID-19, but rather a result of a lack of new investments in exploration. **Negative international and domestic Demand shock, due to OPEC+ agreement, and lack of domestic storage capacity for oil.** • Since Egypt is not an OPEC+ member, it did not have to commit to any of the production cuts. • The drop in global production led to a drop in oil flows through the SUMED pipeline from a peak of 1.7 million bbl/day in April to 1.2 million bbl/day in May (nearly by 42 percent). • Starting from April, Egypt reduced its oil imports by 37.3 percent, compared to March 2020, despite lower oil prices because of its inability to store and refine more oil. • However, by May, storage space was freed up, that Oil imports rebounded to 260 thousand bbl/day only. • The same trend applies to Egypt's oil exports, as it reached its lowest level since the crisis started in March. But it jumped again at nearly 62 percent between March and May.
4. The crisis recedes (Mid-May-sept 2020)	• Global oil production during this period is steady at 90 million bbl/day, as well as Egyptian production. • As a result of lower global supply, oil prices rebounded to $30/barrel during May 2020. • Imports declined sharply in June 2020 by 50 percent compared to May 2020, and rebounded in July and August, again because storage space freed up alongside with the lower prevailing consumption. • Egyptian oil demand reached its lowest point since 2004, at 537 thousand bbl/day. • Domestic demand started to pick up again, thus exports also declined by 35.5 percent between May and July. • By July 2020, oil flows through the SUMED pipeline sharply fell 57 percent to 0.5 million bbl/day compared to May 2020.
5. Recovery (as of October 2020)	• A positive demand shock is expected, as the global economy recovers and demand for oil is expected to rebound from 90 to 99 million barrels over the next year. • This is the only period when a significant negative impact for the Egyptian oil sector occurred due to oil FDIs decreasing. In particular, British and Italian companies operating in the Egyptian oil market are unlikely to sign any FDI concession agreements to consolidate their losses. • Although oil FDIs reached $8.85 billion in FY2018/19, they are expected to fall in FY2019/20. This will not only impact FDI inflows, with oil FDI accounting for over half of total, but will also result in the country having a deficit in oil inflows in the future, because of a lower expansion and production in the sector. • Oil flows through the SUMED pipeline are expected to rebound within the next few months, but are not expected to reach pre-COVID-19 levels before mid-2021. • While fuel and consumer prices for the consumer are not expected to decrease due to lower import costs, the subsidy bill for the government is expected to fall17. The subsidy bill for fuel and electricity was projected to be EGP 53 billion for FY2019/20 instead of 38 billion. • The analysis revealed that the oil industry is one of the few sectors that brings opportunities to affect the economy in a positive way as a result of the COVID-19 crisis. These positive opportunities were felt in the past and will continue to affect the country's economy in the short- and medium-terms. However, it will also have negative effects in the long term.

Source: Prepared by ECES.

* These estimates should be read with caution, as expectations may require further reviews due to the developments that occur, whether related to the day-to-day spread of the virus, whose duration and scope are still unknown, or those related to any global or local developments that may affect the estimates directly or indirectly.

Fourth: Institutional weaknesses revealed by the crisis and corresponding Actions

The Egyptian oil sector has suffered from institutional weaknesses prior to the COVID-19 crisis. These weaknesses were more conspicuous after the crisis, and were responsible for the modest response by Egypt to the positive opportunities that emerged during COVID-19 (significant drop in oil prices due to the lockdown in an attempt to contain the outbreak). The following table presents these weaknesses and the needed actions to mitigate them, with a specific reflection on the case of Egypt.

Table 12.6 Institutional Weaknesses and the Corresponding Actions and Proposals for the Future

	Institutional weaknesses	Actions and proposals for the future
Governance	Weak governance and institutional bureaucracy are obstacles the Egyptian oil sector faces that slow down the development efforts of the country as it is a part of the Egyptian economy and therefore subject to these obstacles, thus improving the oil sector is necessary.	There is an urgent need to untangle the existing structure of the Ministry of Petroleum and Mineral Resources, which places oil and gas exploration under EGPC. As gas production starts to dominate oil production, it is essential to have two separate institutions for both products.
Infrastructure	1. Egypt's limited oil infrastructure was revealed during this crisis by its limited refining capacity of only 735 bbl/day, which has been declining due to aging equipment caused by the lack of investments. 2. Egypt's energy problems are not caused by shortages in fuel but by a capacity to produce energy at a sufficient rate to meet oil demand, as the poor infrastructure has resulted in a missed opportunity to import more to take advantage of the lower prices during the crisis.	Adjust and develop the Oil sector infrastructure in terms of storage capacity, and used equipment to be able to benefit from positive opportunities, for instance utilizing the lower prices in storing oil for future consumption.
Future Risks and opportunities	Losing oil FDIs, as they are expected to decrease, with foreign oil companies consolidating their losses and having less incentives to invest in exploration and production concessions. This will lead to a future deficit in oil inflows, because of lower expansion and production in the sector.	Using our competitive edge in natural gas to help ensure continued investment in the oil sector. Although a global dip in oil FDI is expected in the medium and long-terms, Egypt should leverage its growing market in natural gas production to alleviate this issue. As there are many IOCs already operating in the local gas market, the additional cost in investing in oil infrastructure would be significantly less than investing in a new market.

	Institutional weaknesses	Actions and proposals for the future
Future Risks and opportunities cont.	Becoming more dependent on oil in the future due to its decreasing price, despite the growing energy alternatives, given the substitution effects of energy sources. Oil imports are expected to increase significantly as investments in renewable energy, the fastest growing energy source, are expected to fall in the short-term.	1. Define/develop a clear Medium/Long term plan for renewable energy in Egypt, through a real future vision with specific goals targeting utilizing Egypt's potential in green energy as an alternative source. That builds on previous successes such as the BENBAN project for solar energy near (Aswan governorate), and ensuring that the completion of this project is not neglected due to presence of temporary alternatives. 2. Paying attention to this good opportunity to increase Egyptian exports in all other sectors with oil prices going down, since oil imports will be cheaper, leading to lower industrial production costs (cheaper materials and commodity inputs), making the Egyptian economy more competitive.
	Significant changes are underway in regional relations within the Middle East, which are expected to affect the Egyptian oil sector, such as the international negotiations and agreements between big oil players (for example, the agreement between Israel and Gulf countries) that might have a direct impact on global oil market and Egypt's quota from oil.	Prepare well through negotiating with concerned parties so that Egypt's both current and future production and exportation plans remain unchanged, as well as its privileged position in any future strategy.

Source: Prepared by ECES.

Appendix 1

Sulphur content is defined on a spectrum as sweet, medium-sweet, or sour. Sour oil has the highest sulphur content while sweet has the lowest. Oil producers must remove the sulphur from oil after extraction through a process known as desulphurization, which is why – due to its low sulphur content – sweet oil is preferred. Refining oil with high-sulphur content is harmful to the environment so most environmental regulators make desulphurization compulsory. This means that sweet oil has a higher market value because it carries no desulphurization costs.

Density is defined on a scale ranging from light, medium or heavy. Light crude oil is more efficient at producing gasoline and diesel, while heavy crude oil is more efficient at producing heavier oil products, such as butane and asphalt. The price of each density grade is determined by the demand for these oil products.

Crude oil is refined into several oil products such as **diesel, gasoline, kerosene and butane**, with each type being more efficient to refine to a certain product.

Appendix 2

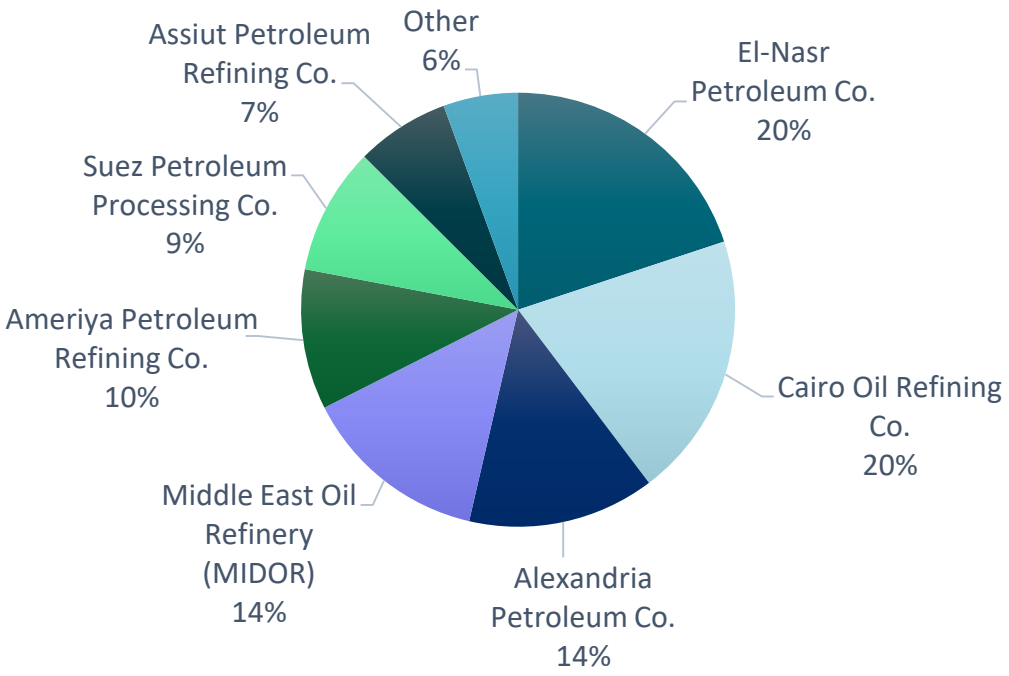
Table A12.1. Most Common Oil Benchmarks

Oil Benchmark	
Brent	• Based on oil production in Northern Europe near the coast of Norway. • The price factors in delivery costs from the North Sea to oil refineries in London. • The low-sulphur content of the oil prices out any additional desulphurization costs. • Can be refined equally efficiently into all oil products, making it a useful energy input in all industries. • Accounts for only 1 percent of global production, even though 2/3 of global oil trade has been using this benchmark to track prices since the 1980s. • Has become a popular benchmark since its price reflects the oil value, and factors out additional costs.
West Texas Intermediate (WTI)	• Based on inland oil production in the US. • Price includes transportation through pipelines to refineries in Oklahoma. • Impractical and expensive to transport outside the US due to the inland geographic nature of oil deposits. Therefore, this oil is refined and consumed in United States and rarely exported. • Classified as light-grade oil, making it more efficient at producing gasoline. • Classified as sweet oil, therefore having low a desulphurization cost. • Prices for this benchmark are less prone to global political instability that affect production and transportation since it is traded locally.
Dubai / Oman	• Based on an average of oil products produced in Persian Gulf and delivered to Asian markets. • Unique as it is priced in the Yen since Japan is a significant economy in Asia. • Classified as medium-grade oil that is equally efficient at producing all oil products. • Classified as sour oil meaning it has high desulphurization costs.
OPEC Reference basket	• Used to assess value of oil production in OPEC countries. • Price is based on the weighted value of the various oil benchmarks in OPEC countries • The weighted average of the density and sulphur content oil output is calculated annually. On average the oil density of this benchmark is between medium and heavy. • Average sulphur content is classified as high.

Source: BP Statistical Review, 2019.

Appendix 3

Figure A12.1 Oil Refining Facilities in Egypt by Capacity



Source: EGPC, Arab Oil Directory .

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