



**EFFICIENCY OF WHOLESALE AND RETAIL  
DISTRIBUTION SERVICES IN EGYPT**

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## Abstract

Distribution services play a vital role in establishing links between manufacturers and consumers. All goods produced domestically or imported have to go through distribution channels before reaching final consumers. This study attempts to identify the factors affecting the efficiency of distribution services in Egypt in order to offer some concrete proposals that could contribute to improving wholesale and retail trade services. It does so by first giving an overview of the development of wholesale and retail trade services in terms of their shares in GDP, employment, investment, exports and imports. It then discusses the challenges facing wholesale and retail trade services, followed by an estimation of the efficiency of wholesale and retail trade services over the past six years using the Data Envelopment Analysis (DEA). The paper also explains the main factors affecting efficiency in Egypt. Finally, the study offers some policy recommendations both in light of the analysis and country experiences to help raise the efficiency of these services in Egypt.

## ملخص

تلعب خدمات التوزيع دورا حيويا في الربط بين المصنعين والمستهلكين، حيث تمر كافة السلع سواء المنتجة محليا أو المستوردة عبر قنوات التوزيع قبل أن تصل إلى المستهلك النهائي. وفي ضوء أهمية هذه الخدمات، تتناول الدراسة بالتحليل العوامل التي تؤثر على كفاءة خدمات التوزيع في مصر وذلك بهدف طرح مجموعة من المقترحات المحددة التي من شأنها المساهمة في تحسين خدمات تجارة الجملة والتجزئة. وفي هذا الإطار، تقدم الدراسة أولا نظرة عامة على تطور خدمات تجارة الجملة والتجزئة من حيث نصيبها في الناتج المحلي الإجمالي والتشغيل والاستثمار والصادرات والواردات. بعدها تناقش التحديات التي تواجه هذه الخدمات ثم تقوم بتقدير كفاءة خدمات تجارة الجملة والتجزئة على مدى السنوات الستة الماضية باستخدام تحليل البيانات التطويقي. كما تحاول الورقة تفسير العوامل الرئيسية المؤثرة على كفاءة هذا القطاع في مصر. وفي النهاية، تطرح الدراسة مجموعة من التوصيات في ضوء التحليل والخبرة الدولية بهدف تعزيز كفاءة هذه الخدمات في مصر.

## 1. INTRODUCTION

Distribution services include the delivery of goods as well as a number of related services through the supply chain, such as transportation, inventory management, arranging and grading of goods into large loads, splitting masses of goods and redistributing them into smaller lots, chilling and cooling services, sales promotion services, processing, packaging, warehousing, garaging services, quality control, standard setting, advertising, delivery of services, maintenance and after-sale services. These services cover commission agents, wholesalers, retailers and franchisors. Commission agents carry out commercial activities on behalf of others, as they sell products owned and supplied by others to wholesalers or retailers. Wholesale trade services consist of the sale of goods to retailers and other wholesalers, and to industrial, commercial, institutional or individual consumers. Retailers sell products directly to households. Franchising services are related to the sale of specific rights and privileges, such as the right to use a given design in retail sales or a trade mark (USITC 1998; UNCTAD 2005a, b).

Distribution services play a vital role in establishing the link between manufacturers and consumers. All goods produced domestically or imported have to go through the distribution channels before reaching the final consumers. Efficient distribution allows consumers to enjoy freedom of choice from a wide range of products. Recent studies showed that the cost of providing distribution services is quite large. It represents almost 50 percent of the final price that consumers pay for different products. Enhancing the efficiency of distribution services can contribute significantly to reducing prices. In addition, raising the efficiency of distribution services gives consumers access to a wide range of goods at competitive prices. A malfunctioning distribution sector leads to misallocation of resources. Moreover, distribution services have also a social aspect with respect to employment generation, especially for those with lower skills, and to poverty alleviation (Pilat 1997).

Egypt witnessed rapid developments in its productive services sector in general, with some services doing better than others. Among the services that are lagging behind are distribution services. These services face several constraints including an inefficient regulatory system, poor management practices, and misallocation of resources. The main objective of this paper is to analyze the efficiency of distribution services in Egypt, with a

focus on wholesale and retail trade services. These two sectors are the dominant distribution services, not only in Egypt, but in different parts of the world (UNCTAD 2005b). In addition, statistical data and information are available on them in Egypt as well as worldwide. It is also extremely difficult to obtain any reliable information regarding commission agents and franchising services in Egypt, which is also true for other countries (Mukherjee 2002).

This paper will determine the factors that affect this efficiency in order to reach some policy implications that could contribute to raising the efficiency of wholesale and retail trade services. It comprises four sections, in addition to the introduction and the concluding section. Section 2 presents an overview of the development of wholesale and retail trade services in terms of their shares in GDP, employment, investment, exports and imports. Section 3 discusses the challenges facing wholesale and retail trade services. An assessment of the efficiency of wholesale and retail trade services over the last six years<sup>1</sup> is provided in Section 4, which also includes an attempt at explaining the main factors that affect the efficiency of the wholesale and retail trade services in Egypt. Section 5 reviews country experiences in order to draw lessons that can help raise the efficiency of these services in Egypt. Section 6 concludes.

## **2. TRENDS IN WHOLESALE AND RETAIL DISTRIBUTION SERVICES IN EGYPT**

This section discusses the contribution of wholesale and retail distribution services in the Egyptian economy and their competitiveness.

### ***2.1. Contribution of Wholesale and Retail Distribution Services in the Economy***

Wholesale and retail services account for a large share of economic activity in both developed and developing countries. This contribution often ranges between 15–25 percent of GDP and employment (Arnell and Johnson 2005). However, in Egypt, the share of the wholesale and retail distribution sector in GDP declined from 16.9 percent in 2000/01 to 11.2 percent in 2008/09 (www.mop.gov.eg). While its share in investments increased from 2.2 percent in 2000/01 to 2.5 percent in 2008/09, its share in employment declined slightly from 9.4 percent in 2000/01 to 9.2 percent in 2007/08. These trends contradict the international ones, which reveal that the importance of wholesale and retail services is increasing worldwide.

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<sup>1</sup> The assessment of distribution services' efficiency covers only six years due to lack of continuous data for a longer period. Continuous data can be found for a few years in the nineteen seventies, eighties and nineties but cannot be found for 10, 15 or 20 years.

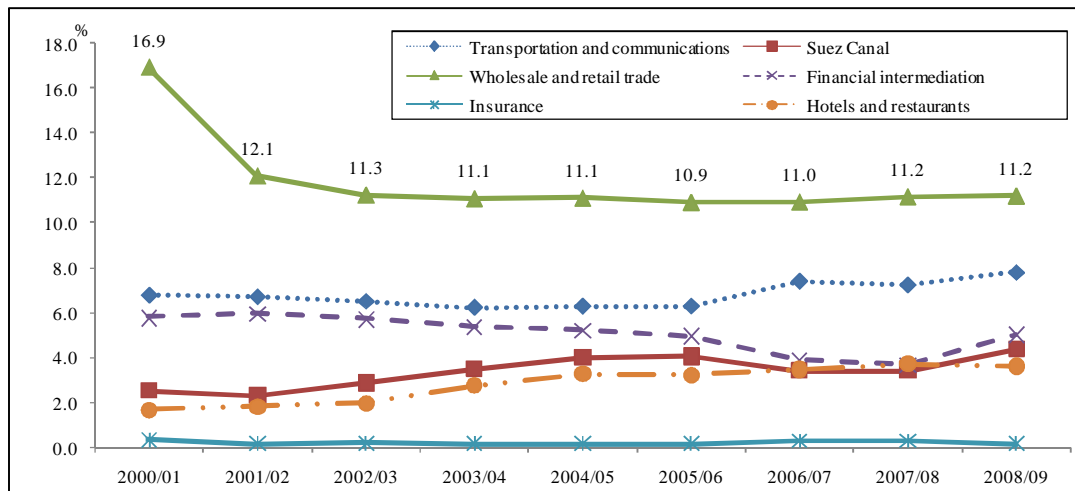
Consequently, it is important to analyze the reasons for the deterioration of the contribution of these services in Egypt during the last few years.

In Egypt, wholesale and retail services are led by the informal sector, like in other countries, where 75 percent of the sector is informal, while only 25 percent is formal. Wholesale services are traditionally controlled by larger firms, while small and medium-sized enterprises (SMEs) are particularly active in the retail sector. Wholesale and retail services are dominated—in terms of turnover—by food products, followed by textiles and clothing, home appliances and motor vehicles.

### 2.1.1. Contribution of wholesale and retail services to GDP

The average share of wholesale and retail services in real GDP at factor cost during the period 2000/01 and 2008/09 amounted to 11.9 percent. As shown in Figure 1, the average share of wholesale and retail services in GDP exceeded the shares of all other productive services during the same period, indicating its importance despite a declining share in GDP.

**Figure 1. Contribution of Wholesale and Retail Distribution Services in GDP**



Source: Author's calculations using data obtained from the Ministry of State for Economic Development ([www.mop.gov.eg](http://www.mop.gov.eg)).

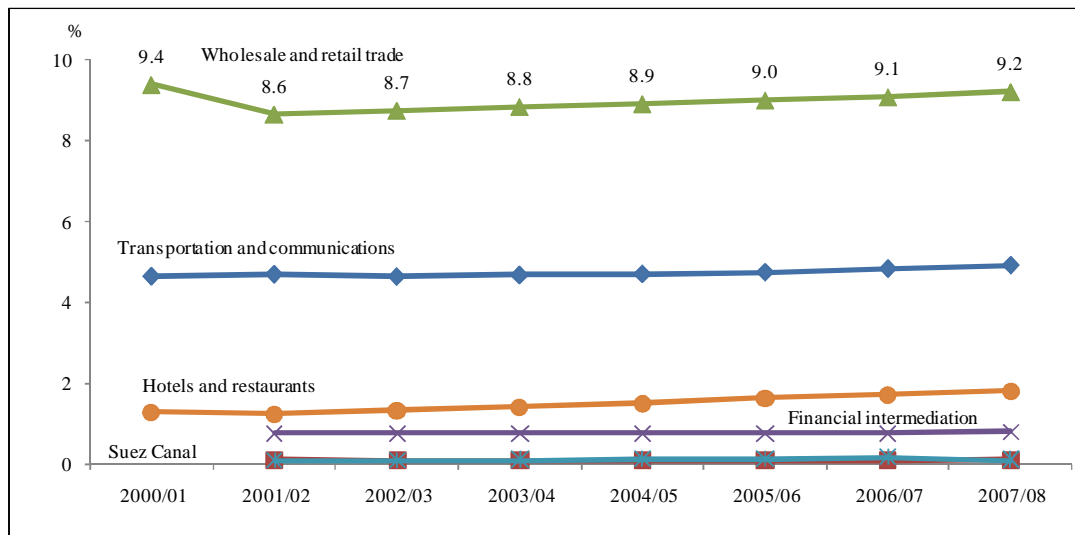
### 2.1.2. Contribution of distribution services to employment

Figure 2 indicates that the average share of wholesale and retail services in total employment amounted to 9 percent during the period 2000/01–2007/08. This share is very low compared to other countries (Arkell and Johnson 2005). In general, wholesale and retail services are labor intensive industries that contribute substantially to employment generation worldwide.

Their contribution to employment is usually larger than that to GDP (WTO 2001). In addition, retailing accounts for a much greater share of employment than wholesale trade (Mukherjee 2002). In Poland, retailing services contributed to 12 percent of total employment, while their share reached 15 percent in Brazil, 17 percent in the US and 18 percent in Korea.

In Egypt, like in other developing and emerging countries, the retail workforce is characterized by low-wage and low-skilled workers, especially that the informal sector is dominating wholesale and retail services. However, the more recent technological developments and enhanced service orientation created an increasing demand for higher-skilled workers in wholesale and retail services.

**Figure 2. Contribution of Wholesale and Retail Distribution Services in Employment**



Source: Author's calculations using data obtained from the Ministry of State for Economic Development ([www.mop.gov.eg](http://www.mop.gov.eg)).

### 2.1.3. Contribution of distribution services to external trade<sup>2</sup>

According to the Extended Balance of Payments Services Classification (EBOPS), the average share of merchanting services, corresponding to the wholesale and retail trade in services during 2002–2006 represented only 0.4 and 0.3 percent of total service exports and of total exports, respectively. This indicates the negligible contribution of these services in

<sup>2</sup> Purchase of a good by a resident (of the compiling economy) from a non-resident and the subsequent resale of the good to another non-resident (without the good entering or leaving the merchant's economy). The difference between the value of goods when acquired and value when sold is recorded as value of merchanting services provided.

exports of services. The average shares of imports of merchanting services were also insignificant, reaching only 0.8 percent of total services imports and only 0.2 percent of total imports. Although international foreign trade in wholesale and retail services is not restricted in Egypt, their shares in total exports and imports of services is very limited compared with other services (Dihel and El Shinnawy 2006).

#### *2.1.4. The share of distribution services in total investment*

The average share of investments allocated to wholesale and retail services was very low during the period 2000/01–2008/09, amounting to only 1.7 percent. This inadequate level of investment reflects the fact that wholesale and retail services did not attract enough investments during that period, and at the same time it reveals that these services enjoy a lot of untapped opportunities that could attract a high level of foreign and domestic investments.

## ***2.2. The Profile of Wholesale and Retail Services***

This sub-section presents a profile of the wholesale and retail services based on the latest data provided by the Central Agency for Public Mobilization and Statistics (CAPMAS).

### *1.2.1. The wholesale sector*

In 2006, the wholesale sector in Egypt included 4,608 firms,<sup>3</sup> of which 4,481 firms in the informal sector<sup>4</sup>—representing 97 percent of total firms—21 public sector firms and 106 private sector firms, representing 3 percent of total number of firms. Table 1 shows the evolution of the wholesale sector during the period 1967–2006.<sup>5</sup>

The number of workers increased by 26.7 percent during the period 1976 and 2006, with an average annual growth rate of 0.89 percent. In 2006, wholesale firms employed around 62 thousand workers, of which 37 percent are employed in the informal sector, 29 percent in public sector firms and the remaining 34 percent in private sector firms. Revenues generated by wholesale services amounted to LE 48 billion; the share of informal wholesalers reached 20 percent of total revenues; while those created in the public and private sectors were 23 percent and 57 percent, respectively. It should be noted that during the period 1976–2006, the share of private sector in employment and revenues increased significantly. While

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<sup>3</sup> This is not the entire population of firms, but only the sample that responded to the survey and agreed to report data to CAPMAS.

<sup>4</sup> The informal sector data are collected by CAPMAS for unorganized firms that hire less than 5 employees.

<sup>5</sup> Data on private sector firms in the 1990s is not available in CAPMAS.

in 1976, the share of public sector revenues reached 77 percent, it declined to 23 percent in 2006 (CAPMAS Wholesale Trade Statistics, several issues).

**Table 1. Wholesale Firms, Branches, Workers and Revenues in Selected Years**

Indicator	Sector	1976	1986	1996	2006
No. of firms	Public	30	28	28	21
	Private	15	16	NA	106
	Informal	3,420	3,135	4,220	4,481
	<b>Total</b>	<b>3,465</b>	<b>3,179</b>	<b>4,248</b>	<b>4,608</b>
No. of branches	Public	1,535	2,461	2,370	367
	Private	33	28	NA	173
	Informal	NA	NA	NA	NA
	<b>Total</b>	<b>1,568</b>	<b>2,489</b>	<b>2,370</b>	<b>540</b>
No. of workers	Public	40,750	44,736	36,937	17,881
	Private	1,048	1,406	NA	20,849
	Informal	6,943	14,752	22,762	23,043
	<b>Total</b>	<b>48,741</b>	<b>60,894</b>	<b>59,699</b>	<b>61,773</b>
Revenues (in 000 LE)	Public	1,550,035	3,392,577	10,269,460	11,116,513
	Private	56,033	252,801	NA	27,315,842
	Informal	405,167	1,559,232	5,270,096	9,726,820
	<b>Total</b>	<b>2,011,235</b>	<b>5,204,610</b>	<b>15,539,556</b>	<b>48,159,175</b>

Source: CAPMAS (several issues).

### 1.2.2. The retail sector

The retail sector in Egypt consists mainly of traditional outdoor markets, outlets and small stores. The organized retail sector represents less than 1 percent of the market. Revenues increased almost sevenfold during the period 1986–2006. It should be noted that according to CAPMAS data, the number of wholesale firms is almost triple that of retailers, which is inconsistent with the usual trends that entail the opposite. This inconsistency might be due to the high informality of retail services and the difficulty in gathering accurate data about the relative size of the informal sector (Table 2). A recent report issued by the General Authority for Investment (GAFI) estimated that the size of the retail sector in Egypt reached 1 million private sector retailers (GAFI 2008).

Employment in public sector retailers is mainly concentrated in fuel (45.2 percent) and non-specialized retail outlets (37.8 percent), while private sector retail workers are mainly engaged in food, beverages and tobacco (36.6) and non-specialized stores (20.3 percent). Textiles, clothing and footwear (24.7 percent), fuel (21.7 percent) and other non-specialized stores (19.1 percent) are attracting the majority of informal retail employment. These are the main activities, while the remaining employment is in other activities (CAPMAS, Retail Trade Statistics, several issues).



**Table 2. Retail Firms, Branches, Workers and Revenues in Selected Years**

Indicator	Sector	1976	1986	1996	2006
No. of firms	Public	14	14	14	12
	Private	13	22	NA	75
	Informal	NA	1,689	2,198	1,416
	<b>Total</b>	<b>27</b>	<b>1,725</b>	<b>2,212</b>	<b>1,503<sup>6</sup></b>
No. of branches	Public	1,082	2,732	1,608	1,015
	Private	29	44	NA	69
	Informal	0	0	0	0
	<b>Total</b>	<b>1,111</b>	<b>2,776</b>	<b>1,608</b>	<b>1,084</b>
No. of workers	Public	36,388	53,955	56,092	25,616
	Private	681	1,369	NA	8,161
	Informal	NA	16,087	23,392	15,484
	<b>Total</b>	<b>37,069</b>	<b>71,411</b>	<b>79,484</b>	<b>49,261</b>
Revenues (in 000 LE)	Public	588,742	2,857,996	8,941,917	18,282,478
	Private	16,970	137,571	NA	5,870,125
	Informal	NA	1,034,661	3,617,971	4,004,753
	<b>Total</b>	<b>605,712</b>	<b>4,030,228</b>	<b>12,559,888</b>	<b>28,157,356</b>

Source: CAPMAS (several issues).

### *Market structure*

The retail sector in Egypt is highly fragmented, and is largely dominated by domestic firms. In 2008, the combined share held by the top 10 retailers reached 11 percent of total retail sales, yielding an average of slightly more than 1 percent for each. However, retailing is undergoing consolidation, and many leading retailers are rapidly expanding through increasing their outlets and selling areas, leading to an acceleration of the concentration process. However, there is an interesting trend reflected in the increase in the share of the top 10 retailers between 2005 and 2008. These firms are gradually taking the shares of other minor retailers rather than from each other (EUROMONITOR International 2009).

Although market concentration could not be identified in the retail and wholesale markets, it could be recognized among producers. For instance, available data show that the number of large Egyptian producers of food processing that export sizeable quantities does not exceed 100. In 2004, the total exports of 75 of these firms amounted to \$185.4 million. Eleven firms exported almost 62 percent of this value (ECORYS-NEI 2005). A similar indicator could not be computed for wholesalers and retailers. It should also be noted that Egypt issued its first Consumer Protection Law (Law 67/2006) in August 2006, to protect consumers' rights to good quality products at the most competitive market prices.

<sup>6</sup> This is not the entire population of firms, but only the sample that responded to the survey and agreed to report its data to CAPMAS.

### *Kearney's Global Retail Development Index (GRDI)*

The large size of the Egyptian market, the lack of consolidation and the limited presence of organized retail create a window of opportunity for new local and foreign retailers. More opportunities are available in sectors such as food, beverages and tobacco, which represent around 45 percent of household spending, textiles, clothing and footwear, home appliances and fuel. This was reflected in the Global Retail Development index.

In recent years, modern retailers have been expanding to new markets. However, they are having trouble identifying which markets are the most promising. In order to help retailers increase their global competitiveness, A. T. Kearney developed the Global Retail Development Index (GRDI). The GRDI ranks the top 30 emerging countries in retail development based on an annual survey and using 25 macroeconomic and retail specific variables, including economic and political risk, retail market attractiveness, retail saturation levels, and the difference between gross domestic product growth and retail growth. Table A.1 gives more details about the different components of GRDI. The GRDI focuses on opportunities for mass merchants and food retailers, which are typically dominating the modern retailing services in a country.

In 2004, Egypt ranked 20<sup>th</sup>, while its rank was the eighth in 2003. This sharp deterioration was due to a higher country-risk score and the level of retail sales per capita. However, Egypt enjoyed high potential for retail services. Egypt continued to drop to the 25<sup>th</sup> rank in 2005, despite favorable market conditions. In 2006, Egypt climbed 5 ranks as a result of the 20 percent growth in retail sales and good growth performance (Kearney 2004, 2005, 2006).

In 2007, Egypt's rank went up from the 20<sup>th</sup> position to the 14<sup>th</sup>, mainly as a result of 9 percent growth in retail sales. The retail sector in Egypt benefited a lot from the high growth rate achieved (Kearney 2007). In 2008, the retail market continued to benefit from high growth and it ranked 5<sup>th</sup> according to the GRDI. The expansion of retailer services depends on each country's window of opportunity, and understanding consumer tastes and willingness to pay for better and higher quality services (Kearney 2008).

**Table 3. Kearney's Global Retail Development Index (GRDI)**

Country*	GRDI Score					GRDI Rank				
	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
India	88	100	100	92	80	2	1	1	1	2
China	86	83	82	86	67	3	4	5	3	4
Egypt	<b>65</b>	<b>60</b>	<b>60</b>	<b>61</b>	<b>66</b>	<b>20</b>	<b>25</b>	<b>20</b>	<b>14</b>	<b>5</b>
Morocco	67	62	48	60	66	18	23	28	15	6
Saudi Arabia	65	64	59	64	62	21	21	17	10	7
Chile	72	76	71	69	60	12	11	6	6	8
Brazil	-	49	49	56	60	-	29	27	20	9
Turkey	76	78	66	62	58	8	9	10	13	10
Mexico	61	61	57	-	57	26	24	19	-	11
Malaysia	66	67	62	68	55	19	18	14	8	13
Indonesia	54	53	-	52	53	28	28	-	24	15
Tunisia	70	71	65	64	51	15	15	11	11	18
Slovenia	84	82	68	58	43	4	5	8	17	23
Thailand	73	75	64	59	42	10	12	12	16	24
Philippines	63	57	-	54	41	23	27	-	23	26
Taiwan	64	59	52	-	-	22	26	24	-	-

Source: Obtained from <http://www.atkearney.com>.

Note: The higher the ranking, the more urgency there is to enter a country.

\* Countries are listed according to their GRDI Rank in 2008.

The evolution of distribution firms in Egypt is closely related to the growing business opportunities provided by the large market, rapid urbanization, high population growth rates, rising incomes and the liberalization of foreign direct investment (FDI). In Egypt, like in most developing countries, there are large untapped opportunities due to the modest level of development of modern distribution services.

### **3. CHALLENGES FACING THE DISTRIBUTION SECTOR IN EGYPT**

The main challenges facing wholesale and retail distribution services in Egypt include an inefficient regulatory system, lack of skilled labor, poor supply chain management and inadequate logistics, and large informal market. These difficulties are discussed in more detail below.

#### **3.1. Inefficient Regulatory System**

There are a number of regulatory issues that are closely related to distribution services. These regulations could negatively affect the efficiency of distribution services, if they increase the cost of services and the prices that consumers have to pay. Domestic market regulations that affect wholesale and retail services are mainly related to investment and labor laws. These regulations include three main laws: the companies law no. 159/1981, the investment

guarantees and incentives law no. 8/1997, amended by law no. 13/2004, and the special economic zones law no. 83/2002. However, wholesale and retail distribution services are not included in the activities covered by the investment law no. 8/1997 and its amendment law no. 13/2004; hence, distribution firms work under the two other laws.

Under law 159/1981, there are no limitations on the percentage of foreign ownership, for the limited liability companies, with a capital not less than LE 50 thousand. As for joint stock companies, there are also no limitations on foreign ownership, provided that the majority of the members of the board of directors are Egyptian and that the firm's capital is not less than LE 250 thousand. However, general partnership companies, or limited partnership companies might have a foreign partner, provided that Egyptian partners own at least 51 percent of the firm's capital and that the general manager is Egyptian. In all cases, a distribution firm under law 159/1981 cannot be an importer nor act as commercial agent, unless it is totally owned and managed by Egyptians.

In general, investment laws impose difficult restrictions on market entry and exit. Issuing permits and licenses for establishing wholesale and retail outlets are prohibitive; as the number of procedures and the cost of issuing these permits are very high and time consuming. It is estimated that such permits require the approval of 15 institutions, including the local government, the Industrial Safety, the Ministry of Health, the Ministry of Trade and Industry, the Ministry of Environment, and other institutions. Labor regulations impose a minimum percentage of domestic employment and enforce residence requirements for foreign staff. These regulations also impose restrictions on the size and number of stores. These restrictions hinder the establishment of hyper markets, which require at least an area of 2500 m<sup>2</sup>. It should be noted that hyper markets are the modern type of retail stores that countries are promoting (IDSC 2004).

Regulations related to health, safety, urban planning and the environment impose restrictions on the supply of a distribution service and on the ability of foreign suppliers to compete in domestic markets. Although such rules are legitimate, they can at times be more restrictive than is truly necessary. In general, distribution services need transparent and clear regulations to perform efficiently, especially that they deal with products very much related to consumer health (Dihel and El Shinnawy 2006).

The government adopted several policies to promote manufacturing industries including establishment of the Industrial Development Agency (IDA), the widespread and varied services offered by the Industrial Modernization Centre, the provision of training through the Industrial Training Council (ITC) and increased subsidies offered to exports. Moreover, other services such as information and communications technology (ICT) received government support in many ways. However, wholesale and retail services did not get the same attention from the government, despite its contribution to GDP, economic growth and employment. It is not until recently that the government adopted a reform package aiming at promoting distribution services as will be discussed later.

### ***3.2. Lack of Skilled Labor***

Wholesale and retail services are usually characterized by relatively low wages, and employ mainly low-skilled workers. However, recent developments in consumer preferences, technology, and products sophistication are increasing demand for higher service quality and hence require hiring more skilled workers. Unfortunately, highly qualified labor that meet firms' requirements are not available. In general, they lack adequate training and do not have the required skills. Table A.2 shows that 32.9 percent of workers employed in distribution services are technical school graduates (middle education), 9.4 percent just read and write, 29.2 percent are illiterate, 11.8 percent enjoy basic education (adult education certificate, primary and preparatory education), and only 13 percent have high education certificates. This does not apply only to the distribution services; the lack of skilled labor that satisfy market demand is a common problem that face different sectors such as manufacturing and tourism, etc. However, while several institutes provide training to manufacturing workers, including the Ministry of Manpower and Migration, Ministry of Trade and Industry and other private sector institutes, public or private institutions that are specialized in offering adequate training for raising the skills of workers in wholesale and retail services do not exist.

### ***3.3. Poor Supply Chain Management and Inadequate Logistics***

Wholesale and retail services in Egypt are suffering from relatively poor logistics and inadequate supply chain services. It was estimated that poor logistics are responsible for wastage of around 30 percent of agricultural products. Considering that such products amount to LE 120 billion, this wastage could reach LE 36 billion annually. Moreover, poor supply

chain management and inadequate logistics are responsible for a 30 percent waste of Egypt's \$1.5 billion worth of wheat (Booz Allen Hamilton 2007).

According to the law, it is forbidden to build on agricultural land. This law had a negative impact on the efficiency of wholesale and retail services, as storage, warehouses, chilling and collection centers were established in areas that are not near the fields. In addition, workers are transported from their residence areas to the distribution outlets. This resulted in high costs, lower quality of products, more wastage, high pollution and waste of subsidized energy. The old and inefficient cooperative system contributed to the increase in this cost and waste. These cooperatives are not capable of providing adequate support to farmers in terms of providing low cost inputs and in marketing their products at high prices. They are not proficient enough to provide technical support to farmers during the production phase.

The cost of real estate in Egypt is very high and has been increasing in recent years. This has been affecting the establishment of wholesale and retail outlets. The main logistical problems relate to the lack of transportation network between the Delta and Upper Egypt and of horizontal roads. These roads are very much needed to build wholesale and retail outlets that could also have a positive impact on real estate development. Egypt also lacks specialized commercial zones like the industrial and free zones that were established to promote industry. The poor supply management and inadequate logistics contributed to increasing the inefficiency of the wholesale and retail distribution services; hence increase the price of the final product.

In Egypt, like in many other developing countries, markets are becoming more developed and sophisticated and consumers' awareness of their rights is also increasing. Hence, distribution services have become more integrated, with the relationships between producers, wholesalers and retailers becoming more inter-linked. Large retailers are increasingly sidestepping wholesalers and dealing directly with manufacturers. They are becoming more flexible in altering their inventory needs to meet market requirements and satisfy consumer needs and changes in their tastes. In this case, the need for large warehousing is declining. This new trend is attributed to the development of outsourcing of logistic services and to the increasing use of information technology in controlling inventories and warehousing.

In 2007, Egypt ranked 97<sup>th</sup> out of 150 countries on the Logistics Performance Index (LPI) developed by the World Bank. This index is based on a survey of global freight forwarders and express carriers, who provide feedback on the logistics of the countries in which they operate and those with which they trade. Survey data are supplemented with real data on the performance of key components of the logistics chain in the home country. The index measures the performance of logistics using seven indicators: customs, infrastructure, international shipments, logistics competence, tracking and tracing for agriculture commodity, domestic logistics costs, and timeliness. The LPI is measured on a scale from 1 (being the least friendly logistics) and 5 (being most friendly logistics). It implies that countries at the bottom of the ranking are trapped in a circle of overregulation, poor quality of services and underinvestment. Table 4 shows Egypt’s low rank according to LPI among 150 countries as well as Arab countries (World Bank 2007).

**Table 4. Egypt’s Rank on the 2007 Logistics Performance Index**

Index	Egypt’s rank among 150 countries	Egypt’s rank among 14 Arab countries
Tracking and tracing	72	9
Domestic logistics costs	94	8
Timeliness	96	9
Logistic competence	96	10
International shipments	111	11
Customs	119	13
Infrastructure	119	12

Source: World Bank (2007).

### **3.4. Large Informal Sector**

As was previously mentioned, wholesale and retail services are mainly characterized by a large informal sector. Informal wholesalers and retailers are not subject to regulations; they do not pay any taxes and do not comply with any health, safety or quality control regulations. However, they exist and are mushrooming because there is an increasing demand for their services since the organized wholesale and retail services do not cover the demand of different geographic zones and all consumers. The large size of informal wholesale and distribution services is creating several difficulties, among which are the spread and inability to control avian flu, which has turned into an endemic disease. It should be noted that 80 percent of domestic trade of poultry and dairy products are carried out through informal retailers. This is also related to what was previously discussed in terms of poor logistics, as

domestic trade of these products is lacking collection and chilling centers through a cold supply chain.

#### **4. THE EFFICIENCY OF THE DISTRIBUTION SECTOR IN EGYPT**

The efficiency of a particular industry refers to whether it could produce more or better quality output with the same inputs. It also refers to the quantity of output produced with the least set of inputs. The concept of efficiency is not easily applied to the distribution sector, since it is difficult to define and measure the output of these services. A number of studies used several efficiency indicators, including retail output per employee, retail sales per employee, and retail sales per retail outlet. These indicators are mainly based on average size of distribution unit. In general, efficiency in distribution services is closely related to the firm's size. Large distribution establishments tend to be more productive, as they benefit from economies of scale and adopt better management techniques. Large stores are more efficient in responding to consumer needs in terms of offering wider range of goods at lower prices and better after-sale services. Other efficiency indicators include distribution margins, measured as the difference between the purchase price of a good and the producer price. A low margin indicates a more efficient distribution system. Empirical evidence also indicated that large distribution outlets tend to have below-average margins. In addition, vertical integration between manufacturers and retailers lowers price margins (Pilat 1997; EC 1993, 1996; Mckinsey 1995; Baily 1993).

The distribution sector enjoys important linkages with other sectors including manufacturing, agriculture and other services. Increasing the efficiency of distribution services leads to better allocation of resources and to better alignment between supply and demand. In addition, consumers benefit from efficient distribution services through reduced risks, lower costs and prices, better quality and wider choices. The following section aims at measuring the efficiency of distribution services and determining the factors that affect it. It is divided into two sub-sections: the first explains the methodology used to estimate the efficiency of distribution sector in Egypt and the second summarizes the estimation results.

##### ***4.1. Estimating the Efficiency of Distribution Services***

Over the last two decades, production frontier analysis has become a popular methodology for evaluating productivity and efficiency of different sectors. The production frontier function illustrates the maximum amount of output produced using a certain quantity of inputs.



According to this definition, the production function is a frontier, and the level at which output levels fall below the frontier determines the relative efficiency of firms. Unlike the growth accounting approach, usually used to estimate productivity of an average sector, the production frontier approach is influenced by the best performing sector (Mahadevan 2002).

There are several approaches to estimate frontier production. These approaches include parametric methods such as stochastic frontier approach (SFA), proposed by Aigner, Lovell and Schmidt (1977) and Meeusen and Van den Broeck (1977) and non-parametric methods, such as the Data Envelopment Analysis (DEA) introduced in 1978 by Charnes, Cooper and Rhodes (1978). While the SFA uses multivariate statistical methods to explore variations in output between firms and sectors, the DEA measures efficiency by estimating the optimal level of output produced using a specific mix of inputs (Barros 2005).

Since the objective of this paper is to estimate the efficiency of the distribution sector, the DEA model is used. In addition, DEA has the advantage of minimal specification error. Efficiency in DEA is not restricted to a traditional sense of operating efficiency; it can be generalized to correspond to relative evaluation of performance in any performance dimension, provided that the inputs and outputs are accurately specified according to the performance dimension considered (Manandhar and Tang 2002).

In order to estimate technical efficiency change (TEC), for different wholesale and retail activities, the DEA Malmquist Total Factor Productivity (TFP) index was estimated. The Malmquist TFP index is decomposed into two components; one part indicates the distance between a firm and the frontier (TEC), and another part due to technical change (TC) shows shifts in the frontier itself (Barros and Alves 2003).

The Malmquist TFP index was estimated using the Data Envelopment Analysis Computer Program (DEAP). DEAP is based on solving a linear programming problem to fit a non-parametric production frontier based on the actual input-output observations (Coelli 1996). The statistical annex includes the results obtained for both the TFP and TEC for different wholesale and retail activities in the public, private and informal sectors.<sup>7</sup>

In order to measure TFP and TEC, wholesale and retail services were defined as those activities that are using workers, fixed assets and intermediate inputs to generate a maximum

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<sup>7</sup> TC was not reported, as the main objective of the paper is to estimate the changes in technical efficiency (TEC) and in productivity (TFP) as an indicator for efficiency.

level of revenues. The model uses data for public, private and informal wholesalers and retailers published by CAPMAS for the period 2001–2006. Data include revenues, fixed assets, employment and intermediate inputs. Moreover, the data were smoothed using the Hodrick-Prescott (HP) Filter to get rid of all outliers that might disturb the estimation of TFP and TEC. The main estimation results are discussed below.

#### **4.2. Estimation Results**

This subsection discusses the estimation results of TFP and TEC in wholesale and retail activities, for public, private and informal sectors.

##### *4.2.1. Wholesale activities*

Table A.3 summarizes the technical efficiency estimates of wholesale activities. Table A.3 indicates that TFP and TEC differ among public, private and informal wholesalers. In general, private sector wholesalers are more efficient than public and informal ones. It should be noted that these results might be affected by the size of firms, which could not be accounted for due to lack of data. A larger panel data could have provided more accurate results.<sup>8</sup> Food, beverages and tobacco wholesalers are efficient in all activities. Private wholesalers are more efficient in most of the activities. Unfortunately, comparing activities<sup>9</sup> across sectors cannot be undertaken since activities, except few, are not the same in different sectors.

##### *4.2.2. Retail activities*

Table A.4 summarizes the TFP and TEC estimates of retail activities. Public sector retailers are more efficient than private and informal ones. Transport equipment and fuel retailers are the most efficient activities in the public sector. Public sector retailers benefit from their very special locations and wide coverage resulting from high number of branches spread in all governorates. The majority of private sector retail activities are efficient with the exception of spare parts and food, beverages and tobacco retailers. Private fuel, metal and glass retailers enjoy the highest efficiency among private sector retailers. In the case of metals, one possible explanation relates to the monopoly power that these products enjoy, especially iron and steel. Only informal automotives, spare parts of automotives, and motorcycles retail stores are

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<sup>8</sup> The current panel includes 792 observations (33 sectors, for six years and 4 observations).

<sup>9</sup> Sectors refer to public, private and informal sectors; while activities include food, beverages, tobacco, textiles, machinery, transportation equipment, etc.

efficient. Moreover, food and beverages retailers in all sectors suffer from several inefficiencies related to zoning, marketing and logistics.

## **5. REFORMING THE DISTRIBUTION SECTOR: COUNTRY EXPERIENCES**

This section analyzes the measures undertaken by different countries to reform the distribution sector, while taking into consideration the differences in the development stage of the distribution sector in Egypt and other countries.

### ***5.1. Reform Experiences in Different Countries***

#### *5.1.1. Characteristics of distribution services*

In developed countries, the contribution of distribution services to GDP and employment was almost stable during the last three decades. This could be explained by the fact that the contribution of distribution services in the economy increases as long as economies of scale exist, and once they are exhausted, it starts to decline slowly. The existence of large economies of scale is mainly due to the development of large domestic and foreign distribution outlets that increase with the evolution of markets (Arkell and Johnson 2005).

Distribution services in developed countries are characterized by high competition and low profitability. In order to expand their activities, retailers explored the potential of establishing branches and outlets in other countries, especially developing ones, through acquisition of domestic chains in these countries, greenfield investment, and joint ventures with local firms. Franchising was the main method of establishing foreign investment, especially for specialized retailers, in countries where restrictions on commercial establishment were imposed (UNCTAD 2005a).

Multinational retailers are mainly European,<sup>10</sup> and their overseas activities represent a significant portion of their sales. In addition, the number of top retailers is increasing constantly, and is currently about 30. American distributors work mainly in their domestic market. Six of the world's top 10 grocery retailers are from the US, and four of these operate domestically only. Moreover, an increasing number of distribution firms from developing countries have expanded their activities to neighboring countries, with some entering developed markets as well. South African companies expanded their activities in other

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<sup>10</sup> Example of these retailers include: Tesco and Sainsbury (British); Metro and Kaufland (German); Carrefour (French); and Mercato (Italian).

African countries, India, Australia and the United Kingdom. Chilean companies have been very active in Argentina, Colombia, Peru, Mexico and Brazil, while Mexican trade companies operate in the US. In developed countries, FDI contributes to distribution services through mergers and acquisitions. In these countries, retailers also control the traditional wholesale sector, whose role in distribution services is shrinking, and in some cases they also control the production of the goods that they are selling (UNCTAD 2005a).

In developing countries, the contribution of distribution services in economic activities was increasing. They are characterized by low competition, which is distorting domestic markets, lowering supply of goods and raising their prices.

One of the major challenges facing reforms of distribution services in different countries relates to the dominance of informal activities. In some countries, informal traders represented in 2005, 73–99 percent of employment in the retail sector and contributed 50–90 percent of value added in wholesale services. At the same time, recent developments in electronic commerce have created new trading opportunities for small and medium enterprises (SMEs) to engage in cross border delivery of distribution services. While this type of trade is still in its early stages of development, it has a lot of potential that could be explored in the near future (UNCTAD 2005a, b).

#### *5.1.2. Regulating distribution services*

Distribution services are subject to different types of regulations related to large-scale outlets, shop opening hours, zoning, vertical relations, pricing and promotion regulations, as well as restrictions imposed on the sale of certain products such as liquor, tobacco and pharmaceutical products.

*Size of distribution outlets.* In countries such as Japan, France, Belgium and Spain, before deregulating their distribution services, large-scale outlets were regulated to avoid urban problems and environmental deterioration. Moreover, large stores are usually located outside city centers and offer a large variety of products and services at lower prices, hence they are threatening shopping centers, malls and small shops inside the cities. These shops might lose their customers and reduce their employment. In addition, large stores located outside cities usually require private cars and large surface areas. For these reasons, countries usually put restrictions on the size of the stores. However, the average size of stores is closely related to the efficiency of the distribution system. Country experiences show that the

liberalization of the regulations governing the establishment of large scale distribution outlets contributed significantly to the structure of these services, increased their efficiency, reduced costs and prices and offered a wide range of products. In addition, small shops disappeared and were often integrated in large convenience chains. But when these countries engaged in reform programs to liberalize the regulations related to large scale outlets, distribution services were modernized, consumer welfare increased, and small shops continue to have an important role to play, but in providing specific goods that are not offered by large ones. Employment in distribution services increased, especially that large stores are labor-intensive (Pilat 1997).

*Shop opening hours.* In a large number of countries, opening hours are free. However, in some cases, local authorities introduce some restrictions. Country experiences show that consumer welfare is enhanced when opening hours are liberalized. In addition, longer shopping hours increase consumer choices. It also increases employment, prices and sales.

*Zoning.* Most developed and developing countries adopt local and urban zoning laws to limit the negative impact of distribution outlets on land use and on the environment. In these countries, a debate usually arises as to whether to establish these outlets inside or outside towns. This debate is never solved. In countries such as France, Italy, Belgium, Spain, and Portugal, legislations related to establishing large stores out of town are very restrictive, while in the UK laws and regulations are emphasizing the need to develop in-town as well as out-of-town stores. In Sweden, only established retailers and chains are eligible to establish branches in new housing areas out of town. In Germany, new stores are allowed out-of-town only if they prove that there will be no negative impact on distribution outlets inside the cities. Also, in Italy, zoning laws were very restrictive and are in favor of small stores inside towns (Meyer-Ohle 1996). The US and the Netherlands adopt more flexible zoning laws (Betancourt 1993).

*Vertical relations.* Some countries restricted vertical relations between distributors and producers. Although these restrictions have a negative impact on competition, they promote efficiency of distributors (EC 1997). Moreover, several European countries restrict pricing and promotion policies of stores. Belgium has detailed regulations related to sales promotions, gifts and discounts. In Denmark, Germany and the Netherlands some promotional techniques are prohibited. In France, stores are obliged to indicate the original and the after-sale prices.

In addition, several countries strictly regulate sales below costs to protect smaller manufacturers and retailers (EC 1996).

*Specific products.* A number of countries limit sales of certain products, such as liquor, tobacco and pharmaceuticals, to specific types of stores, often state-owned. These types of restrictions restrict consumer choices and increase prices.

*Restrictions.* Other restrictions include permitting and licensing requirements. In the Netherlands, retailers must have a general business education certificate and more detailed professional skills. Most European countries require minimum management or professional skills. Countries, like Denmark, adopt less restrictive rules (Pilat 1997).

### *5.1.3. Reforming distribution services: different strategies*

Different strategies for reforming distribution services are adopted, ranging from drastic liberalization to gradual and cautious approach. In many developing countries, reform strategies started by expanding market access on an ad hoc basis, while avoiding bold measures that would expose domestic firms to large degrees of competition. Usually, such gradual reforms start, as a first step, by allowing major distributors to accommodate customers at the higher end of the market. The second step entails allowing foreign firms to enter the wholesale market. In other countries, domestic retailers dominate the market while foreign suppliers cater to the needs of the high-income percentiles of the population (UNCTAD 2005b).

*Promoting competition and attracting foreign direct investment:* Countries also attempt at relaxing restrictions and regulations governing distribution services and attracting FDI in order to benefit from technological diffusion to raise the efficiency of these services. Both developing and developed country experiences demonstrate that reforming distribution services concentrates mainly on increasing competition in local markets through elimination of anti-competitive barriers that affect the performance of distributors in local markets and hinder their expansion in these markets, including monopolistic behaviors, favoritism and the like. FDI is a major tool that can promote competition of distribution firms both in domestic and international markets. Hence, reform measures should mainly concentrate on reducing constraints on the establishment of domestic and international firms and on their activity (Baily 1993).

*Distribution services trade liberalization.* Reform measures focus on promoting trade liberalization in services in line with GATS rules and making commitments for more aggressive liberalization reforms. Several developing countries promote liberalization of trade in distribution services as part of their GATS commitments. Moreover, they constrain themselves to fulfill their commitments gradually over a specified period of time.

While, under GATS, WTO members identified their policies that have a negative impact on distribution services and made specific commitments to eliminate or at least relax some of them, as part of their efforts to promote trade liberalization, several other restrictions imposed on these services, for specific social objectives, remain outside the scope of the GATS. These restrictions include zoning restrictions, licensing requirements, limits on store size and opening hours, and investment hurdles and other requirements on foreigners wanting to trade in the domestic distribution sector.

*Improving business environment and upgrading logistics.* Countries improve the business climate, in general, and support small and medium enterprises (SMEs) by providing them with more facilities at reasonable costs. Reform measures also concentrate on improving supply chains and logistics that are closely related to the distribution of services. Moreover, improving logistics, especially those related to agriculture and food products is one of the priorities of the reform agenda of distribution services in many countries. These reform measures allow consumers to have a wider range of choices of better quality products at much more affordable prices.

### **5.2. Recent Domestic Trade Reform in Egypt**

In September 2008, the Ministry of Trade and Industry adopted an ambitious development plan to reform domestic trade and distribution services. A new agency was established—the Commercial Development Authority—to be responsible for the implementation of this plan. The plan aims mainly at securing land for wholesale and retail markets, for storage and distribution areas, reforming the system governing the handling and trade of food products, and setting health and safety requirements for commercial entities dealing with food products and ensuring consumer protection. In addition, two ministerial decrees were issued establishing two committees to secure the necessary land for wholesale and retail trade projects, and to formulate the conditions that shops need to meet (Beltone 2008).

The Commercial Development Authority aims mainly at establishing commercial zones and centers, based on thorough market research to determine the different locations that are adequate for zoning in different governorates taking into consideration factors such as population density, availability of means of transportation and touristic places, etc. The new agency will establish a number of one-stop-shops to serve investors and facilitate issuance of permits and dealing with different government bodies. It will also promote commercial projects according to market needs and encourage the establishment of specialized and general markets to promote domestic trade and fight inefficient informal trade practices. The Commercial Development Authority will start carrying out a diagnostic and gap analysis to determine the status quo of domestic trade and distribution services to identify the main constraints that are hindering the competitiveness of this sector. The Ministry of Trade and Industry will also implement a pilot project aiming at developing outlets in train stations to transform them into commercial and business centers and promote new specialized commercial markets and wholesale outlets according to a zoning plan that the Commercial Development Authority will prepare.

## **6. CONCLUSION AND POLICY IMPLICATIONS**

The distribution services sector provides a central link between producers and consumers and contributes to enhancing the competitiveness of other sectors, through the efficient management of sales channels, logistics and information. A well-functioning distribution service sector also promotes consumer welfare by maintaining reasonable price levels and providing consumers with various goods and services in a timely and efficient manner. The structure of the distribution sector depends on the level of development of the country. It is usually affected by the structural characteristics of a country, such as population density, the level of urbanization, and the tastes of its population. The nature of public policy and regulatory framework play a major role in the evolution of the sector.

The Egyptian distribution sector is highly unregulated, and concentrates in a few large modern retailers, while the majority of firms are small and unorganized. It is mainly dominated by a large number of small outlets, employing low-skilled and low-paid workers. Distribution services suffer from poor infrastructure and logistics in the form of lack of access to quality transport, roads, storage and warehousing facilities, cold storage and large size outlets. Supply chain management is very poor and the existence of a large number of



intermediaries prevents distributors from reaping the benefits of economies of scale. The recent increase in real estate cost, the restrictive zoning legislations, the fragmented land ownership and the restrictions imposed on building on agricultural land limit the availability of land for wholesale and retail purposes and constitute one of the main reasons for the slow growth in distribution services. Hence, inefficient distribution services and increased wastage of goods.

Raising the efficiency of distribution services depends mainly on raising investment, applying competition and consumer protection laws. Other factors that might affect the efficiency of distribution services include the level of skills of workers in these activities and the degree of restrictiveness of laws and regulations. In addition, improving the level of supply chain management and logistics would contribute significantly to the efficiency of distribution services. Enhancing the efficiency of distribution services would reduce prices, provide consumers with a wide range of choices and more efficient after-sale services, improve working conditions and raise skills and wage levels of the workforce, contribute to the growth of these services and to their share in GDP and enhance real estate development.

Gradually liberalizing the distribution service sector, expanding domestic and export markets of these services, and raising productivity, while minimizing trade-distorting barriers would contribute significantly to raising the efficiency of distribution services within a framework of national interest policies.

In order to increase the efficiency of distribution services, it is recommended that government and private sector investors join forces to continue implementation of the recent ambitious development plan that was adopted by the Ministry of Trade and Industry to reform these services. In this regard, the government and private sector firms could play the following roles:

### ***6.1. The Role of the Government***

- Eliminate or at least reduce entry barriers for distributors, especially those related to land availability, zoning, and outlet size as well as other establishment barriers that affect investment in general;
- Improve domestic regulation, and reduce bureaucratic obstacles to promote competition in the domestic market;

- Revise different laws governing distribution services<sup>11</sup> in order to reduce them and minimize the burden they impose on distributors;
- Develop, in close collaboration with the private sector, more efficient infrastructure, logistics and supply chain management, especially in sectors such as agriculture, animals, food and beverage products;
- Establish new transportation lines and upgrade existing ones between factories and distribution outlets;
- Provide incentives for local and foreign investment in infrastructure facilities in order to smooth the operation of distribution services;
- Promote a greater role for the newly established Commercial Development Authority, after an inception period, to liberalize the distribution of services;
- Encourage a more important role of the Consumer Protection Agency and the Egyptian Competition Authority in establishing better regulations for distribution services and striking a balance between regulating these services and offering wider choices of services to consumers while promoting competition and eliminating anti-competitive practices that are reducing the efficiency of these services;
- Controlling the increase in the cost of real estate, increase the availability of land that could be used to develop commercial zones in urban and rural areas and provide the necessary infrastructure;
- Encourage the establishment of modern large supermarkets and hypermarkets, capable of providing high quality goods at competitive prices that cater to different types of consumers;
- Continue providing flexible opening and closing hours, which allow wholesalers and retailers to meet the needs of different categories of consumers; and
- Encourage the establishment of wholesale and retail associations that help in raising the capacity and efficiency of different wholesalers and retailers.

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<sup>11</sup> Some of these laws are very old and date back to the 1940s and are often mutually conflicting and confusing.

## 6.2. *The Role of the Private Sector*

- Expand the usage of information technology (IT) to improve distribution services;<sup>12</sup>
- Invest in research and development (R&D) related to distribution services including logistics, supply chain management and infrastructure in order to respond rapidly to consumer demands, eliminate delays and reduce wastage;
- Increase investment in training in order to raise the skills of the workforce to be able to meet the high expectations of consumers;
- Establish links with civil society organizations working in the field of human resources development, to expand training services to informal workers in distribution services;
- Raise private investments in infrastructure, warehouses, storage facilities, including cold storage areas; and
- Attention should be paid to the development of e-commerce and its impact on distribution services, in terms of the cost of entry and delivery.<sup>13</sup>

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<sup>12</sup> This is a major challenge that Egyptian distribution firms are facing. Raising the efficiency of retail and wholesale firms depends, among other things, on lowering inventories, and understanding customer needs and expectations. IT has also improved the linkages between producers, wholesalers and retailers, particularly in inventory management. Walmart's investment in IT reduced distribution costs to 3.5 percent of sales compared to the sector average of 4.5-5 percent. IT has also improved firm productivity in wholesale and retail activities. The main challenge that Egyptian firms face in relation to applying IT to retail and wholesale firms is the high cost of developing this technology, which requires large investments. However, the transfer of IT can be done through FDI, franchising and management contracts. Training programs in this area are lagging behind.

<sup>13</sup> E-commerce is still in an early stage of development and is mainly concentrated on selected products, such as books and computers. For instance, online retailing in Europe accounted for 2 percent of total grocery sales in 2000; however it is increasing by 50 percent annually. During the same year, 70 percent of international top retailers established websites through which they can receive electronic orders. The advantages of e-commerce include easier and lower-cost search among a wider range of products, better access to market information, cheaper suppliers, and limited transactions and storage costs.

**Table A.1. Kearney's Global Retail Development Index (GRDI)**

Country	Country risk (economic and political) (25 percent) <i>0 = high risk, 100 = low risk</i>					Market attractiveness (25 percent) <i>0 = highly attractive, 100 = not attractive</i>					Market saturation (30 percent) <i>0 = saturated, 100 = not saturated</i>					Time pressure (20 percent) <i>0 = no time pressure, 100 = urgency to enter</i>					GDR I Score <i>The higher the score, the more urgency there is to enter a country</i>				
	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
<b>Egypt</b>	<b>51</b>	<b>51</b>	<b>45</b>	<b>43</b>	<b>22</b>	<b>36</b>	<b>35</b>	<b>35</b>	<b>37</b>	<b>34</b>	<b>84</b>	<b>85</b>	<b>81</b>	<b>85</b>	<b>90</b>	<b>46</b>	<b>30</b>	<b>35</b>	<b>35</b>	<b>64</b>	<b>65</b>	<b>60</b>	<b>60</b>	<b>61</b>	<b>66</b>
India	62	62	55	67	29	34	34	34	42	39	92	91	89	80	78	72	80	76	74	93	88	100	100	92	80
China	71	68	58	75	36	42	40	40	46	50	62	53	57	46	45	90	90	86	84	82	86	83	82	86	67
Slovenia	83	83	78	100	65	60	52	52	33	28	43	43	25	13	12	76	68	70	47	58	84	82	68	58	43
Turkey	52	51	46	52	20	29	56	59	50	53	90	66	64	57	59	66	65	40	43	64	76	78	66	62	58
Thailand	68	64	57	71	30	38	41	39	39	39	60	59	49	30	33	76	71	72	55	61	73	75	64	59	42
Chile	73	73	67	80	44	56	56	57	51	52	62	60	47	42	45	41	44	48	43	58	72	76	71	69	60
Tunisia	63	66	58	60	29	44	38	40	33	34	80	84	79	77	76	39	28	25	37	41	70	71	65	64	51
Morocco	58	56	45	59	26	36	34	31	33	36	80	82	76	70	80	46	30	30	37	68	67	62	48	60	66
Malaysia	70	70	66	70	40	46	49	49	44	44	59	58	54	46	43	47	40	38	54	61	66	67	62	68	55
Saudi Arabia	66	59	53	65	49	48	48	46	40	40	72	72	67	66	63	30	26	30	35	50	65	64	59	64	62
Taiwan	88	84	83	-	-	79	71	69	-	-	42	41	32	-	-	8	10	6	-	-	64	59	52	-	-
Philippines	51	43	-	41	14	38	37	-	46	46	71	71	-	63	76	58	50	-	37	24	63	57	-	54	41
Mexico	69	61	54	-	38	73	65	67	-	59	41	49	47	-	40	32	35	28	-	56	61	61	57	-	57
Indonesia	45	43	-	36	13	45	44	-	40	41	84	82	-	70	71	18	17	-	37	61	54	53	-	52	53
Brazil	-	52	46	53	23	-	56	56	61	60	-	57	64	59	60	-	20	16	18	54	-	49	49	56	60

Source: Obtained from <http://www.atkearney.com>.

**Table A.2. Distribution of Workers in Wholesale, Retail and Automotives Repair Services According to Education Attainment<sup>14</sup>**

Education attainment	Gender	Workers in distribution services	Total workers	Share of distribution services in total workers (%)
Illiterate	M	476,269	5,128,952	9.29
	F	254,200	723,252	35.15
	<b>T</b>	<b>730,469</b>	<b>5,852,204</b>	<b>12.48</b>
Reads and writes only	M	194,767	1,606,368	12.12
	F	39,460	97,407	40.51
	<b>T</b>	<b>234,227</b>	<b>1,703,775</b>	<b>13.75</b>
Adult education certificate	M	19,417	310,016	6.26
	F	6,296	22,676	27.77
	<b>T</b>	<b>25,713</b>	<b>332,692</b>	<b>7.73</b>
Primary education	M	103,567	830,193	12.48
	F	25,853	63,344	40.81
	<b>T</b>	<b>129,420</b>	<b>893,537</b>	<b>14.48</b>
Preparatory education	M	108,603	835,639	13.00
	F	32,378	71,709	45.15
	<b>T</b>	<b>140,981</b>	<b>907,348</b>	<b>15.54</b>
Middle education	M	643,504	5,174,219	12.44
	F	179,592	1,002,296	17.92
	<b>T</b>	<b>823,096</b>	<b>6,176,515</b>	<b>13.33</b>
Post middle education	M	74,221	616,636	12.04
	F	20,688	211,778	9.77
	<b>T</b>	<b>94,909</b>	<b>828,414</b>	<b>11.46</b>
University graduates	M	233,721	2,343,293	9.97
	F	87,795	952,762	9.21
	<b>T</b>	<b>321,516</b>	<b>3,296,055</b>	<b>9.75</b>
Diplomas	M	1,127	17,686	6.37
	F	579	7,948	7.28
	<b>T</b>	<b>1,706</b>	<b>25,634</b>	<b>6.66</b>
Master's degree	M	760	22,983	3.31
	F	431	10,410	4.14
	<b>T</b>	<b>1,191</b>	<b>33,393</b>	<b>3.57</b>
Ph.D.	M	903	35,213	2.56
	F	414	12,776	3.24
	<b>T</b>	<b>1,317</b>	<b>47,989</b>	<b>2.74</b>
Unidentified	M	14	999	1.40
	F	78	137	56.93
	<b>T</b>	<b>92</b>	<b>1,136</b>	<b>8.10</b>
Total	M	1,856,873	16,922,197	10.97
	F	647,764	3,176,495	20.39
	<b>T</b>	<b>2,504,637</b>	<b>20,098,692</b>	<b>12.46</b>

Source: CAPMAS (2008).

M= male; F= female; T= total.

<sup>14</sup> It should be noted that according to census data the total number of workers in distribution services amounted to around 2.5 million, while according to the Ministry of State for Economic Development, this figure was 1.8 million and reached 1.1 million according to the wholesale and retail trade bulletin issued by CAPMAS. While the three figures are for 2006, they differ largely based on the definition used. For instance, the census data account for workers in distribution services as well as the unemployed who used to work in this sector; and for those currently and previously working in automotive repair activities. For the Ministry of State for Economic Development, data cover the fiscal year 2006/07; while the wholesale and retail trade bulletin covers calendar year data, especially for private and informal (unorganized) retail and wholesale workers.

**Table A.3. Total Factor Productivity (TFP) and Technical Efficiency (TEC) in Wholesale Activities in Public, Private and Informal Sectors**

Sector	Activity	TFP	TEC
Public	Agricultural products	<b>1.249</b>	<b>1.161</b>
	Animals, sheep, poultry and fish	0.870	0.938
	Food, beverages and tobacco	<b>1.380</b>	<b>1.359</b>
	Textiles and clothing	0.322	0.392
	Home appliances	0.956	0.896
	Building materials	<b>1.630</b>	<b>2.214</b>
	Pharmaceuticals, chemicals and cosmetics	0.771	<b>1.000</b>
	Metals and products	0.807	<b>1.009</b>
	Machinery and tools	0.453	0.510
	<b>Mean</b>	<b>0.842</b>	<b>0.943</b>
Private	Agricultural raw materials and animals	<b>1.404</b>	<b>1.272</b>
	Textiles, clothing and footwear	<b>1.148</b>	<b>1.146</b>
	Building materials and metals	0.948	<b>1.073</b>
	Home appliances	0.554	0.532
	Food, beverages and tobacco	0.461	<b>1.000</b>
	Petroleum and petroleum products	<b>1.260</b>	<b>1.285</b>
	Machinery	<b>1.502</b>	<b>1.54</b>
	Transportation equipment	<b>1.793</b>	<b>1.739</b>
	Others	0.849	0.822
	Special wholesale services	<b>1.000</b>	0.867
	Wholesale on a contract basis or on commission	<b>1.305</b>	<b>1.332</b>
		<b>Mean</b>	<b>1.095</b>
Informal	Automotives	0.029	0.733
	Spare parts of automotives	0.58	0.259
	Wholesale on a contract basis or on commission	0.238	0.423
	Agricultural raw material and animals	<b>1.026</b>	0.109
	Food, beverages and tobacco	0.816	<b>1.758</b>
	Textiles, clothing and footwear	0.655	<b>1.544</b>
	Home appliances	<b>1.040</b>	<b>1.163</b>
	Fuel	0.468	0.424
	Metals	0.873	0.799
	Building materials	0.902	0.332
	Others	<b>1.055</b>	<b>1.000</b>
	Machinery	2.311	0.042
	Wholesale special services	<b>1.158</b>	0.842
		<b>Mean</b>	<b>0.540</b>

Source: Author's estimation.

**Table A.4. Total Factor Productivity (TFP) and Technical Efficiency (TEC) in Public, Private and Informal Sectors**

Sector	Activity	TFP	TEC
Public	Fuel	<b>1.174</b>	<b>1.285</b>
	Transport equipment	<b>1.545</b>	<b>1.719</b>
	Department stores	0.931	<b>1.000</b>
	Retail stores	<b>1.184</b>	<b>1.229</b>
	Special services for retail	0.774	0.837
	<b>Mean</b>	<b>1.091</b>	<b>1.178</b>
Private	Automotives	<b>1.173</b>	<b>1.056</b>
	Spare parts of automotives	0.374	0.412
	Fuel	<b>1.866</b>	<b>1.732</b>
	Food, beverages and tobacco	0.958	0.936
	Chemicals and cosmetics	0.987	<b>1.089</b>
	Textiles, clothing and footwear	<b>1.235</b>	<b>1.101</b>
	Home appliances	<b>1.335</b>	<b>1.303</b>
	Metal and glass products	<b>1.24</b>	<b>1.544</b>
	Other	<b>1.252</b>	<b>1.096</b>
<b>Mean</b>	<b>1.079</b>	<b>1.072</b>	
Informal	Automotives	<b>1.254</b>	<b>1.000</b>
	Spare parts of automotives	<b>1.680</b>	<b>1.176</b>
	Motorcycles	<b>1.336</b>	<b>1.043</b>
	Fuel	0.811	0.715
	Retail stores	<b>1.075</b>	0.959
	Food, beverages and tobacco	<b>1.277</b>	0.994
	Chemicals and cosmetics	0.269	0.109
	Textiles, clothing and footwear	0.190	0.186
	Home appliances	<b>1.065</b>	0.918
	Metal and glass products	<b>1.003</b>	0.800
	Other	<b>1.111</b>	0.967
	<b>Mean</b>	<b>0.860</b>	<b>0.669</b>

Source: Author's estimation.

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