

## Towards More Efficient Telecommunication Services in Egypt

*Policy Viewpoint is intended to contribute to the discussion of ideas and policy options for enhancing economic development in Egypt. The series is based on research conducted by ECES. The content and recommendations are endorsed by the Center's Board of Directors.*

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There is a general consensus that efficient and universal telecommunications services are critical for growing economies. Yet there is no such consensus among policymakers on how to achieve this objective. Countries such as Chile, Mexico, Argentina, Venezuela, and Malaysia have opted for competition, the regulation of pricing and interconnection, and private ownership. But the majority of developing countries still rely on state ownership, combined with exclusive licensing and bureaucratic arrangements for setting prices and resolving conflicts. This edition of Policy Viewpoint explores the nature and consequences of reform and makes recommendations for Egypt accordingly. It concludes that reform could significantly benefit consumers, workers, government and the private sector. The realization of these benefits however requires a new contract between the actors involved.

**Telecom Egypt has performed well over time.** Until the early 1980s, telecom services in Egypt were scarce, inefficient and costly. But great strides have since been made. The number of installed lines is now over 4 million, and the number of lines in service per 100 inhabitants is five (Table 1). Waiting time has been declining, and telephone services have been extended to rural areas and new industrial developments. The quality of services has also improved through fiber optic technology and automatic and digital exchanges. And 1996 saw the introduction of the Global System for Mobile communications (GSM) and Very Small Aperture Terminal (VSAT) networks.

Telecom Egypt's performance has also improved significantly. Over the period 1986-96, the company's profits increased 17-fold, and profitability relative to net worth averaged 13.7 percent per annum. Favorable price changes contributed to this improvement, but so did productivity. Figure

1 shows that labor productivity improved steadily, as the company expanded without much increase in labor. More importantly, total factor productivity (TFP)--the increase in the quantity of output over the corresponding increase in the quantity of inputs--improved by 2.0 percent per annum.

**But Telecom Egypt could certainly do better.** Despite this progress, Telecom Egypt has yet to catch up with countries that rely on competition, incentive regulation, and private rather than public ownership. Countries such as Chile, Malaysia and Venezuela surpass Egypt in the number of telephone lines per 100 inhabitants, demand satisfaction, and pending applications for phones (Table 2).

Of course these countries have higher per capita income than Egypt, which means that they can afford more telephone services per person. But there is no reason why they should outdo Egypt in labor productivity or revenue per line.

**Why Telecom Egypt did not perform better.** The problem lies in the nature of the implicit contract governing the operation, entry and management of the sector. The most critical deficiency is that Telecom Egypt does not face competition or even the threat of competition. In the monopolistic segment of the market, the regulatory contract is not designed to provide incentives for efficient operation and consumption. Telecom Egypt unduly assumes both the operation and regulatory functions.

• **Lack of competition or threat of competition.** Telecom Egypt monopolizes the market for local, national and international long-distance services. Their monopoly also extends to the market for the complementary services, including those for cellular, facsimile, and data transmission.

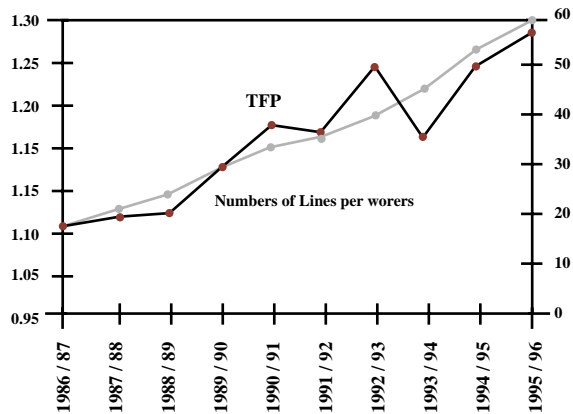
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**Table 1. Telecom Egypt: Selected Growth Indicators (In thousands, unless specified otherwise)**

	1987	1991/92	1992/93	1993/94	1994/95	1995/96
Installed Lines	1562	2530	2738	3151	3526	4104
Lines in Service	1200	2022	2234	2456	2716	3024
Lines in service per 100 inhabitants (TD)	2.27	3.48	3.77	4.06	4.60	5.02
Payphones per 1000 inhabitants	0.030	0.055	0.062	0.068	0.070	0.075
Waiting time (years)	NA	NA	6.1	NA	5.8	5.7

Source: All indicators except waiting time: Telecom Egypt; Waiting time: ITU, world Telecommunication Development Report, various issues.

**Figure 1. Labor and TFP, Telecom Egypt, 1986/87 - 1995/96**



The private sector has recently been allowed to participate in the cellular market and in equipment manufacturing. But Telecom Egypt still wholly owns the Egyptian Telephone Company (ETC), which manufactures telephone sets and small switches, and participates with Siemens in the Egyptian German Telecommunications Industry (EGTI), which provides manufacturing facilities.

In contrast, successful reformers, such as Argentina, Chile and

Mexico, allowed competition into value-added services, and in some cases into the market for long-distance services.

This competition is forcing firms to operate efficiently. They also created competition for the markets themselves. For example, Argentina has recently bid out another cellular service outside of Buenos Aires. Finally, in privatizing their basic networks, regulation came first on the agenda. In Chile, for example, this preceded privatization by five years.

• **Lack of incentives for efficient operation and consumption.** The prevailing tariff structure in Egypt involves cross-subsidization in favor of local users at the expense of national and international users. Telecom Egypt also charges new subscribers a significant allocation fee. The company does not pay taxes, although it provides funds for the expansion of the Cairo Metro and makes some transfers to the Ministry of Finance. While these funds almost match the taxes Telecom Egypt has to pay, this practice reduces transparency. In addition, tariffs are largely cost-plus based, and revised on an ad hoc basis.

**Table 2. Telecom Egypt Compared with a Sample of Reforming Economies, 1994**

	Egypt	Argentina	Chile	Jamaica	Malaysia	Mexico	Philippines	Venezuela
<b>Service Availability</b>								
Overall country TD	3.92	14.14	11.01	8.63	14.69	7.95	1.68	10.92
TD outside largest cities	2.95	10.31	8.01	5.75	14.73	6.74	0.75	8.29
Payphones/1000 inhabitants	0.06	1.66	1.32	0.69	3.28	2.36	0.09	2.57
Waiting time (years)	5.8	0.9	1.2	4.3	0.3	0.2	5.5	3.7
Satisfied demand (%)	65	90.7	88.6	59.6	95.9	97.7	56.7	71.8
<b>Efficiency Indicators</b>								
Lines per worker	45	155	153	59	97	174	55	119
Revenue per line (US\$)	322	1023	775	1067	598	1019	759	445

Source: ITU, World Telecommunication Development Report, 1995

This incentive regime encourages users of telecom services to consume more local and less national and international services. At the same time, it does not motivate Telecom Egypt to improve efficiency since higher costs can simply be passed on to consumers.

Contrast this system with the *price cap* regulation (or RPI-X) adopted by Argentina, Mexico, Venezuela and Malaysia, or *benchmark* regulation adopted by Chile. Price cap regulation imposes a ceiling on the average tariff increase for a pre-specified basket of services in which the firm has a monopoly. The average price increases do not exceed the Retail Price Index minus X, which is predetermined for a given period of time. A positive X simply means a transfer to consumers of some of the benefits of technological progress and improved productivity.

Because prices are supposed to be set independently of costs, the firm is not motivated to distort its cost data. Instead, it seeks to minimize costs knowing it can retain any savings until tariffs are revised again. These cost-saving properties are also present in benchmark regulation, for which tariffs are calculated to allow the firm a fair rate of return based on the cost of an ideally “efficient” firm.

• **Overlapping functions.** Telecom Egypt plays a dual role: it operates and regulates the sector. The company has the exclusive right to provide telecom services, subcontract services, grant concessions, manage the spectrum, and establish joint ventures. It proposes tariff revisions, which are approved initially by the Minister of Transport and Communications and finally by an inter-ministerial committee. Under the current regulatory regime, disputes are resolved administratively.

In 1995, the government began to separate the regulatory and operating functions by creating a five-member independent regulatory commission. But this reform was partial. It was not accompanied by regulatory reforms, and therefore left the commission with no clear mandate. Nor did the reform allow entry into different telecom markets. As a result, the implicit contract governing the sector has in fact remained unchanged.

The contrast between Egypt and successful reformers is apparent. Countries such as Argentina created an independent regulatory body, introduced competition and privatized its telecom sector. The neutrality of the regulatory agency was enhanced by separating it from the bureaucracy, and by giving it a quasi-judicial power. To *insulate the regulation* from arbitrary changes provoked by political turnovers, Chile enacted regulation in a detailed law which is difficult to modify, in light of the country’s long history of split legislation. Jamaica incorporated its regulatory regime in

an explicit license stipulating a specific rate of return and other terms of operations, including conditions under which parties could change the license.

***What if Egypt were to follow the path of reformers?***

What would happen if Egypt were to follow the model adopted by successful reformers? What would be the impact of reform on consumers, workers, the private sector and government? Experience suggests that, since the initial tariff structure favors local services, a key change will involve price rebalancing, including a rise in the price of local services and a decline in that of national and international services. The second change will be an increase in private investment, overcoming the limits on public sector borrowing, fiscal restraint and government commitment to expenditure on social services. Finally, reform is often associated with an improvement in productivity, partly because of the faster pace of investment following reform and partly because the private sector tends to be relatively more efficient. These changes have been observed in the United Kingdom, Mexico, Chile, Argentina, Jamaica and Malaysia, among others. There is no reason why they should not occur in Egypt.

But who will be the winners and losers from adopting reform in Egypt? The results of a detailed study of the potential gains from reform and their distribution is shown in Figure 2. While these results represent orders of magnitude, they indicate that the annual net welfare gain can be as high as 96 percent of the company’s 1995/96 sales, or LE 2.5 billion. This net gain is estimated as the difference between the social value of Telecom Egypt with reform and its social value without reform. The biggest winners are expected to be the *consumers* (62 percent). What they will gain from overall reduced prices and greater supply of services will outweigh their losses from the higher prices of domestic calls. *Workers* as a group will benefit provided that any redundant workers are adequately compensated and remaining workers purchase 10 percent of the shares.

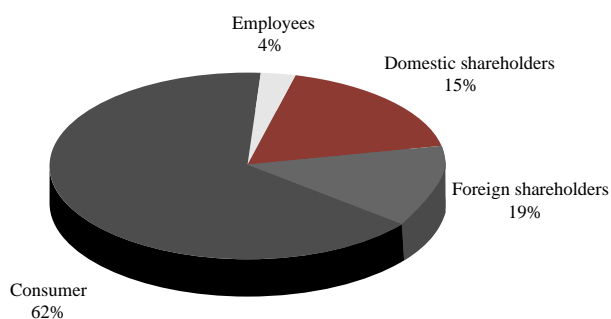
Besides consumers and workers, reform is expected to benefit the *buyers* of Telecom Egypt (32 percent of the total) for purchasing 90 percent of the company.

These gains will be split between foreign and domestic buyers in proportion to their share in equity, which is assumed to be 51 percent foreign and 39 percent domestic. As for *government*, it is assumed that it would simply break even by accepting a price (estimated at LE 18.6 billion) that matches what it would have received (in dividends, retained earnings and taxes) if it were to retain Telecom Egypt. But this result need not hold. The private

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sector's maximum willingness to pay for the company is estimated at LE 28.1 billion, and the bidding process could generate a price between LE 18.6 and LE 28.1.

**Figure 2. Distribution of Gains from Reform**



Source: Author's estimates

### ***The Reform Agenda***

What then needs to be done to achieve these substantial gains? The key to maximizing the benefits of reform in Egypt is to forge a new contract whose main features are: competition, incentive regulation, and privatization. The reform process takes 2-3 years to implement, which places a premium on starting *now*.

While some actions may be taken simultaneously, the most appropriate sequence of reform seems to be first to introduce competition and a new regulatory regime, followed by the creation of an independent regulatory body and the commercialization of the operation of Telecom Egypt, and finally, privatization. The key features of this reform are elaborated here.

**1. Regulation and competition.** The experiences of successful reformers suggest that the new regulation should allow free entry into all markets, competition among existing and future entrants, and the transparent bidding of new concessions. Thanks to technological progress, competition is now possible in the markets for long-distance phone calls, cellular phones and a variety of other value-added services. Competition is also now possible to some degree in the market for local services, which was once a natural monopoly.

However, given that segments of the market will remain monopolistic, the protection of consumers and investors requires that the regulation includes explicit provisions regarding price setting, interconnection and conflict resolution mechanisms. The price rules could be based on price cap or benchmark regulation.

**2. Commercialization of the operation of Telecom Egypt and creation of a regulatory agency.** Following the adoption of a new regulatory regime and the introduction of competition, Telecom Egypt will face a new and more competitive market structure. It may therefore be necessary to restructure the company legally, organizationally and financially. At the same time, the conflict of interest inherent in assigning Telecom Egypt the operation and regulatory functions demands the creation of a neutral regulatory agency to implement the new regulatory regime fairly and efficiently among the multiple players. To ensure its neutrality, it may be necessary to separate the agency from the bureaucracy and give it a quasi-judicial status.

**3. Privatization.** Once experience with implementing the new regulation is accumulated, the rules of the game well-understood, and the policy and institutional framework of investment and operation in the sector clarified, privatization becomes a viable option with potential significant gains for society.

An important dimension of privatization is to commit the new players to meet pending and growing demand, subject to a given set of prespecified quality standards.

With this package of reform, policymakers have an opportunity to create a positive sum game in which all economic actors can benefit from reforming Egypt's telecom sector. They relax the resource constraint facing Telecom Egypt and mobilize foreign capital. They can restore balance to the pricing regime, with built-in incentives for firms to operate efficiently. And they can provide consumers—residential and business—with the variety of services that will enable Egypt to be more competitive in an increasingly globalized world.

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