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Welfare gains from utility reforms in Egyptian telecommunications

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ABSTRACT

Utility sector reform spread across the developing world in the 1980s and 1990s. In Egypt, as in many cases, the pace and nature of reform has been challenged by a state-owned national incumbent. However, in the Egyptian telecommunications sector, rapid growth in the cellular market has overtaken the archaic fixed-line system. Hence, the national monopoly provider, Telecom Egypt (TE), has been stripped of its market power as the market diversified. The implemented public sector reform and privatization placed efficiency pressures on TE resulting in improved outcomes for a range of stakeholders, consumers, workers, and the government, including reduced prices, increased access, and improved service quality. This experience offers lessons for policy makers and researchers about liberalization in the face of entrenched state interests. However, there are nuances in the findings relating to market type, that is, fixed-line versus cellular, residential versus non-residential, and national versus international. Despite attempted improvements, direct competition in its retail market has led to deterioration in TE's financial performance, although this has been partially offset by its monopoly supply of an essential input and a degree of protection provided by the regulator sympathetic to TE. The evidence from this case study supports the concept of a staggered introduction of competition. However, protecting inefficient market insiders, be it firms or workers, is always at the expense of potentially more efficient outsiders.

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1. Introduction

Institutional reforms have spread across the developing world since the 1980s because of diminished faith in government as a rational and benevolent social planner, and the debt burden imposed by failing public enterprises. Many countries, including Egypt, have undergone significant utility sector reforms since the 1990s.

The literature in this area includes both cross-country studies (e.g. Goldstein, 2003; Boylaud and Nicoletti, 2000; D'Souza and Megginson, 1999; Bortolotti et al., 2000; Fink et al., 2002; Gutiérrez, 2003; Petrazzini and Clark, 1996; Ros, 1999; Wallsten, 2000; Gasmí and Virto, 2010; Rossoto et al., 2005; Kenny et al., 2007; Andrés et al., 2013; Rodine-Hardy, 2013; Mohamad, 2014) and single-country case studies on the evidence on the impact of telecoms reform (Galal et al., 1994; Laffont and N'Guessan, 2002;

Plane, 1999; Boles de Boer and Evans, 1996; Azam et al., 2002; Shirley et al., 2002; Tóroero et al., 2003; Clarke et al., 2003; Akdemir et al., 2007; Xia, 2012; Abbott and Ma, 2013; Hawthorne et al., 2014). A recent systematic review summarizes the evidence on the effect of Private Sector Participation (PSP) in the public utility sectors of developing countries (Devkar et al., 2013). For Egypt, one country study was written just one year into the reform (Galal, 1999) and a few have looked at network effects in the sector, but not on sector performance (Badran, 2012a, 2012b). This study fills the gap by analyzing more than 15 years of telecoms reform in Egypt.

The Egyptian telecommunications sector has undergone major reform and experienced rapid growth since the 1990s. This experience offers several interesting lessons for policy makers and researchers wishing to understand the dynamics of reform in a protected market with a state-owned incumbent. What is the appropriate pace of market liberalization? Can and should the national incumbent be protected; if so, how and at what cost to consumers? Can the economic benefits of liberalization be disentangled from those of technological developments?

This paper addresses these questions by assessing the institutional market-based reforms initiated in 1997 in Egyptian

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telecommunications, which ended forty years of state dominance over the sector. Reforms included (1) regulatory reform to strengthen the framework of accountability for the utility operator, (2) liberalization, (3) privatization (private-sector participation) to insulate the utility from political interference in daily management, and (4) public-sector reform to enhance the utility's managerial and financial autonomy. Autonomy is intended to harden the budget constraint to discipline public firms. If such discipline is not achieved, failing firms are forced to exit the market. Collectively, these reforms should create contestable markets characterized by free entry and exit, exerting competitive pressure to achieve efficiency and thus welfare gains. This is the causal chain expected from reform.

Section 2 describes the institutional setting and the introduced reforms. The resulting market structure and power follows in Section 3. Welfare gains and impact indicators by stakeholder, including the crucial role of the regulator, are presented in Sections 4 and 5. Section 6 concludes.

2. Institutional setting over fifty years

The history of Egyptian telecommunication falls into three periods: private-sector development of the nascent sector until 1957, state monopoly from 1957 to 1997, and gradual reform and liberalization thereafter. I consider here the latter two periods.

The Egyptian telecommunication sector became a state monopoly in 1957 with the establishment of the Telecommunication Organization, which was responsible for providing fixed-line services and setting prices. No provisions stipulating the basis for price setting were made, granting the organization a great deal of unaccountable power. In 1980, the “Arab Republic of Egypt National Telecommunications Organization” (ARENTO) replaced the Telecommunication Organization. Whilst private companies were previously prevented from operating in the market, ARENTO, the new telecommunication authority was entitled to establish private law companies to provide service. Nevertheless, this entitlement (Article 4 of Presidential Decree 153) was never put into practice. Market competition was thus completely absent. And whilst the new law stipulated prices should be set on the basis of accounting costs,¹ ARENTO determined these costs, again giving the agency (and so government) full discretion over prices.

2.1. Telecommunication reform (1998–2010)

After forty years of monopoly and state dominance, 1998 marked the onset of telecommunications sector reform. Two major factors triggered the reform: (1) reversal of the state-led development strategy of the 1950s and 1960s through the adoption of the Economic Reform and Structural Adjustment Program (ERSAP) in 1991; and (2) the agreements Egypt has entered into following its accession to the World Trade Organization in 1995. The Basic Telecommunications Agreement (BTA), ratified in 2002, provides a framework for the integration of the country's ICT industry into the global economy, committing government to the dismantling of state monopoly in telecommunication (Hassanin, 2007; Badawy, 2007). As in many other developing countries (Azam et al., 2002; Gillwald, 2005; Lee, 2001), four main types² of reform measures were introduced: (1) regulatory reform, (2)

public-sector reform, (3) market liberalization, and (4) private-sector participation.

2.1.1. Regulatory reform (1998 and 2003)

Prior to reforms public utilities were self-regulating. The lack of accountability resulted in poor performance. Regulatory reform set a legal framework of accountability for the utility operator. First, in 1998 an independent regulatory body, the Telecommunications Regulatory Authority (TRA) was founded to separate regulatory activities from economic ones so as to allow a link between cost and prices.³ By creating an independent overseer, the reform entailed institutional separation of the regulatory function from both the utility and the state. Second, in 2003, the new [Telecommunication Regulation Law \(Law No. 10, 2003\)](#) renamed TRA the National Telecommunications Regulatory Authority (NTRA), and expanded the regulatory body's scope, independence, and power.⁴ Although carrying out essentially the same tasks as TRA, NTRA differs in one significant way. NTRA doesn't have the same power over price-setting, thus allowing market players to compete in prices as well as quality. Applicants for licenses are obliged to determine how their prices will be set.⁵ Thus, by granting the license NTRA implicitly approves prices. For “basic” services NTRA is entitled to set prices although considering the recommendations submitted by the applicant.^{6,7}

2.1.2. Public-sector reform (1998)

State provision for utility services politicized this process resulting in artificially depressed prices, over-employment, manipulation of investment priorities (Galal, 1999; Yehia, 2015), in addition to a lack of managerial autonomy or technical competence (Nagarajan, 2013). Public-sector reform aims to enhance utilities' managerial and financial autonomy relative to the state. A number of measures could be applied to achieve this goal, including the incorporation of the utility or changes in the legal status of the enterprise. Thus, in 1998, ARENTO was transformed into a private law company, Telecom Egypt (Law no. 19), which until 2005 remained fully owned by the state. As a result, Telecom Egypt, now a private sector entity subject to the companies' law, no longer enjoys the privileges and status of a public authority in terms of

³ TRA's responsibilities include: administrating the telecom sector by developing and expanding different types of telecommunications, protecting state sovereignty, ensuring distribution and provision of services in all parts of the country (i.e., rural and urban), granting licenses, setting prices according to cost (Article 1, [Presidential decree 101, 1998](#)).

⁴ With the complexity of telecommunication services NTRA is now entitled by law (no. 10 of 2003), to issue licenses to companies to provide various telecommunication services ([NTRA, 2009](#)).

- Fixed services (fixed telephony, pay phones, prepaid cards).
- International services (international gateway, international submarine cable).
- Data services (class A, B, C, global peering). Peering is a voluntary interconnection of administratively separate internet networks for the purpose of exchanging traffic between the customers of each network. Further explanations are available at: [Wikipedia Encyclopedia, 2010a](#).
- Mobile (2G & 2.5G, 3G & 3.5G, Wireless trunk).
- Satellite services (Nilesat, VSAT, GMPCS (Global Mobile Personal Communications by Satellite)).
- Telecommunications infrastructure leasing. Leasing is a process by which a firm can obtain the use of a certain fixed asset for which it must pay a series of contractual, periodic, tax deductible payments. Further explanations are available at: [Wikipedia Encyclopedia, 2010b](#).
- Telecommunications services on navigation lines.

⁵ Article 25, law 10, 2003.

⁶ Article 26, law 10, 2003.

⁷ Generally, the new Telecommunication Regulation law rests on four main pillars: information disclosure, free competition, the provision of universal services and user protection.

¹ Article 12, [Presidential decree 153, 1980](#).

² Different literature adopts differing types of reform, for example [Samarajiva \(2000\)](#) and [Çetin \(2014\)](#) adopt a three component reform process. The generic discussion of reform categories in this section draws heavily on [Foster et al., 2005](#).

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