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TELECOMMUNICATION AND DEVELOPMENT: THE CASE OF EGYPT

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ABSTRACT

TELECOMMUNICATION AND DEVELOPMENT: THE CASE OF EGYPT

By

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Verifiable proof of a causational link between telecommunications and overall economic development in the developing world remains elusive. In large part, this is caused by characteristics inherent to the telecommunications field that are fundamentally at odds with the economic and financial environments of most developing countries. Recent large-scale improvements in a developing country's telecommunications infrastructure were usually linked to its privatization. Unfortunately, the above privatization was usually part of an overall shift in economic policy and hence, the effects of this single act were inseparable from those of the larger effort.

In an effort to separate the economic impact of macroeconomic reform from enhancements in the telecommunications field, the telecommunications development efforts of Egypt shall be analyzed with respect to the nation's microeconomic, macroeconomic, and political environments. The above analysis, conducted over a time frame containing independent reform efforts in the micro and macroeconomic environments, shall demonstrate that telecommunications development, alone, is a necessary, but not a necessary and sufficient condition for achieving long-term economic development. It is the appropriate macroeconomic environment, and a nation's political will to create such an environment, that enable telecommunications to fulfill its role as a catalyst for economic development.

To my father, Ali Abdelatif Kamel, for imparting to me a lifelong bond with Egypt.
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INTRODUCTION

The issue of telecommunications' nature as a causational or correlational variable in economic development remains unanswered. This is due, in large part, to the ubiquitous nature of the telecommunications' service. It is an integral component of the financial services, media, transportation, and travel industries, and enhances the communications necessary amongst manufacturers, wholesalers and retailers. As such, an expansion or enhancement of telecommunications results in an improvement of the informational efficiency of an economy. An improved flow of information, in turn, promotes a more efficient mobilization of resources, this being the fundamental concern of economic development. Therefore, telecommunications is an agent of development, but is it a proactive catalyst driving development forward or an infrastucture service that improves the efficiency of economic activity already underway? This question is the Achilles' heel of nearly all empirical studies involving telecommunications – the inability to delineate the direction of causality: the tendency for telephone use to enhance economic performance and the tendency of improved economic performance to result in expansion of the telephone system and greater telephone use.

In an attempt to accommodate and address the dilemmas posed by telecommunications development in relation to economic development in the developing world, this case study shall use a holistic theoretical framework. This framework shall view telecommunications development from three separate, but interlinked perspectives:

microeconomic, macroeconomic and political. With respect to a study of the overall economy, the limitations of a microeconomic cost based analysis are recognized, but such an analysis is presented to demonstrate the impact of the latter two areas upon the telecommunications entity. It is particularly applicable to this study because the telecommunications entity, if the three areas are considered variables, was allowed to vary (a massive telecommunications program was undertaken) while the latter two variables were held constant. Thus, the individual impact of this massive upgrade could be analyzed while the macroeconomic environment, considered non-conducive to economic development and growth, was held constant. The macroeconomic environment then underwent a fundamental restructuring that resulted in a far more aggressive economic development orientation. In this new economic environment, the performance of the upgraded telecommunications entity and the nation's economy were analyzed. Because a fundamental altering of a nation's economic philosophy contains a large political component, the political environment, as well as, the economic necessity of the aforementioned change, were also analyzed. While this case study does not hope to present a definitive answer to the causational or correlational nature of telecommunications with regards to development, it will demonstrate the limitations of telecommunications' developmental role in a non-conducive environment.

I. BACKGROUND

A. Telecommunications as Development Tool

The concept of telecommunications infrastructure development as a catalyst for overall national development in Lesser Developed Countries (LDCs) acquired international prominence with the publishing of "The Missing Link." This 1984 Independent Commission for Worldwide Telecommunications Development report, emphasized the social and economic importance of telecommunications and presented an eloquent case for the allocation of resources to improve the basic telecommunications infrastructure of the developing world. The "Missing Link," also known as the Maitland Report, was successful in raising awareness of the telecommunications gap between developing and developed countries and highlighting the benefits of narrowing this gap. It caught the imagination of both the telecommunications and development communities and gave tremendous impetus to the telecommunications for development movement.

This movement is based on the precept that telecommunications underpins an emerging information economy and serves as a catalyst for enhanced performance across a wide range of economic and industry sectors. Its proponents are spread across a broad spectrum of belief as to the breadth and depth of telecommunications influence on development. Conservative proponents see it as an enhancer and expediter of traditional "evolutionary" development, whereas more "visionary" advocates have argued the case for telecommunications as catalyst for an exponential leap forward into the information age. This latter group believes that straightforward economic growth within the confines of a LDCs' traditional slow-moving economy is not enough. With new communications products and strategies producing a transformation in business and trade practices, the

developed world is moving towards a global networked business infrastructure. Unless developing countries can make the quantum leap into this new communications arena, there is a danger that they will become increasingly and irreversibly marginalised. This position was succinctly presented in 1987 by Ivorian President Boigny, "Africa missed the industrial revolution; we can't afford to stand aside and let the communications revolution go by, too." (Kwabena. 1)

Enthusiasm for telecommunications as an accelerator of economic development has extended to the international regulatory and financial community as well. The International Telecommunications Union has put development on par with its more traditional activities in the areas of standards and radio communications. The World Bank has added telecommunications and information technology experts to a new central vice presidency responsible for financial and private sector development. The International Finance Corporation has established a specialized unit to help mobilize capital for private investment in telecommunications in developing countries. (Wellenius, et. al. 1994. ix)

B. Telecommunications Development Conundrum

This mobilization of the international financial, telecommunications and development communities, however, has yet to conclusively prove telecommunications' role as a developmental catalyst in the LDCs. The reasons very few countries have been able to test the above hypothesis are primarily, but not exclusively, economic, in that an inherent characteristic of telecommunications equipment is its highly capital-intensive nature. In sharp contrast to traditional development projects, the capital/labor ratio in the installation and operation of these networks is particularly high. This fact contravenes the general belief and policy that the limited capital resources of a developing nation should favor job-

creating, indigenous labor intensive projects, i.e. production, over capital-intensive, labor-limited projects. Compounding this drawback is the fact that this capital-intensive activity can only be base on foreign technology. The implications of combining the two are that a country that wants to develop its telecommunications networks, will not only incur a substantial drain on its gross fixed capital formation, but also on its hard currency reserves. Coupled with this high initial capital investment is the rapid rate of technological obsolescence. The finance and resource limitations inherent in the developing world and the inherent characteristics of telecommunications equipment would seem to be mutually exclusive. (Gille. 41-42) The end result is that developing nations face the unenviable choice between immediate and measurable improvements in the welfare of its populace and the longer term economic and social benefits that could hypothetically result from providing access to global information resources.

C. International Telecommunications Environment

1. The Traditional Post, Telegraph and Telephone (PTT) Model

The PTT model represents a monopolistic postal and telecommunications enterprise owned, operated, and regulated by the national government, a model which until recently, enjoyed near unanimous global acceptance. Justification for this near unanimity was based on economic, political and social arguments. From an economic perspective, telecommunications was considered a natural monopoly because the cost for a single producer to supply the entire market would be lower than the cost for multiple producers to supply a divided market. This was based in part on the large sunk capital investments inherent in the creation of a telecommunications infrastructure. The existence of multiple telecommunications companies was thought to entail a waste of societal resources and would make recovery

of the initial investments difficult and thereby, hinder future infrastructure investments. In addition, the difficulties for interconnection created by the diversity of technical standards and protocols adopted by the competing companies and resistance to interconnection also lent support to the natural monopoly argument. As did telecommunications' economies of scope - with an existing infrastructure in place, it would be less costly for the predominant and/or monopoly carrier to move upstream to new and related systems and services than for a third party to develop a new infrastructure to provide those services. From all of the above points, it was easy to surmise that in order to achieve the highest possible network expansion for the least cost, it was necessary to establish a telecommunications' monopoly.

Unfortunately, the existence of a monopoly in the private sector offers incentives for monopoly pricing. Telecommunications, like other utilities that rely upon a ubiquitous and interconnected infrastructure, possesses a natural monopoly's economies of scale, in that the cost of adding additional customers drops as the number of subscribers increase; this is especially true of the basic local network infrastructure. Viewed from a universal service perspective this decreasing cost of expansion is extremely advantageous and argues in favor of monopoly. However, as a utility, the demand for basic telecommunications service is extremely inelastic. Thus, at a given level of service, price increases will not diminish demand; similarly, decreased prices are not necessary in order to attract a large volume of new customers. In this situation, investment by the monopolist would tend to be directed where short-run demand was capable of paying the cost of network expansion and to set prices beyond the means of the urban and rural poor. (Wellenius, et. al. 1994. 507) Overall, prices would tend to be higher and output lower than society as a whole

would prefer - a lower average price would allow additional customers to subscribe and would increase the consumer surplus of all customers. (Ibid. 506) This scenario serves as the basis of the social benefits argument for government monopoly of the telecommunications field. But beyond this altruistic social welfare concern was the belief that a single, state-controlled national network would promote national integration and sovereignty. This national communications network would link people and institutions across diverse regions and thus establish tighter social, political, and commercial ties within the nation. (Petrazinni. 12-13)

In an attempt to maximize the advantageous natural monopoly characteristics vis a vis its possible shortcomings, the aforementioned PTT model was created with the following goals:

- Universal service or at least efforts to provide affordable basic telecommunications services to rural areas and low-income users.
- Rate setting that prevents price gouging, except where socially desired (e.g. overpricing outbound international telephone rates to generate a source of revenues for cross-subsidizing local telephone and telegraph services.)
- Price averaging that blends high- and low-cost routes (urban versus rural and dense versus sparse) and transmission technologies (cable versus satellite) into a single, composite rate;
- Rate setting that serves social goals (e.g., subsidized "lifeline" rates to low-income users);
- Long-range planning that achieves development objectives (e.g. deploying advanced broadband digital facilities and services to the hinterland even in the absence of demand and the likelihood of fully recouping investment). (Frieden. 28)

The end result was that in most developing countries, telecommunication services evolved "under the auspices of government departments, run by civil servants under government rules and procedures." (Frieden. 81) And not coincidentally, virtually all LDC communication services suffer from a large unmet demand for telephone connections, call traffic congestion, poor service quality and reliability, limited rural coverage and an absence of modern business services. These common characteristics are the outcome of common government policies that are often diametrically opposed to the advancement of the telecommunications sector: a lack of

financial and administrative autonomy; no motivation to enlarge or modernize the infrastructure or improve customer service; tariffs geared to political objectives rather than financial requirements and political interference in the daily operation of the telecommunications entity. (Wellenius, 1992. 3) Ultimately, the PTT authorities have failed in fulfilling either their social mandate or their economic potential as an underpinning of business sector development.

2. Catalyst for PTT Restructuring

The poor performance of the telecommunications sector under the PTT model, juxtaposed to the numerous economic and social benefits postulated through telecommunications reform and expansion should have spurred change, even if limited by country-specific constraints. However, poor performance was not the reason for change. As a study carried out by the ITU shows, telecom restructuring in most LDCs began as part of a larger economic adjustment program driven by fiscal crisis and economic decline. (Becher. 11) During the 1980s most LDCs - particularly Latin American countries - suffered serious economic setbacks: domestic savings and investments (mainly from public institutions) shrank or disappeared, inflation spiraled to unprecedented heights, wages dropped along with domestic consumption, and the unemployment rate grew. (Petrazzini. 14) Along with domestic economic collapse, most countries suffered from serious external debts. A large percentage of these accumulated debts had been used to further economic development, that, when compared to the debt incurred, did not seem wholly justifiable. This combination forced a reevaluation of the government-led development model at both the domestic and international levels. Adding further insult to injury, governments began to cannibalize the few profitable state owned enterprises (SOEs) created by the model by channeling these SOE's resources to more needy sectors of the economy. As a result, most SOEs suffered from very low investment rates that accelerated

infrastructure deterioration and allowed quality and quantity of services to further lag behind the growing demand created by modernization and development. (Petrazzini. 14)

Having neither the finances to service the external debt or the ability to attract additional investment capital for the discredited public sector, an economic restructuring seemed unavoidable. With few alternatives, governments adopted policy recommendations from international lending institutions. The economic restructuring promoted by the international community was liberalization of the economy, and, crucial to overcoming fiscal deficit, an extensive privatization program. (Petrazzini. 14) World Bank debt adjustment programs from 1981 - 1991 recommended privatization in seventy percent of all structural adjustment loans (SALS) and forty percent of all sectoral adjustment loans (SECALS) supported privatization by developing the necessary strategies, timetables and regulatory institutions. (Kikeri. 32) Concurrently, the LDC's second most important sources of foreign credit, export credits and commercial bank loans, were becoming scarce: in 1981 the LDCs as a whole were able to secure commercial loans of $52 billion and export credits of $18 billion as compared to 1986 when commercial loans totaled $5 billion and export credits of $2 billion. (Knapp. 35) As argued by Ellison and Gereffi, world system factors, in this case, the debt crisis and the conditionality attached to debt adjustment, were critical in forcing policymakers to consider major strategic shifts such as economic liberalization and SOE privatization. (Ellison. 376) With debt restructuring tied to market reform and privatization, commercial credit seriously limited and unable to raise internal financing, economic restructuring became a "situational imperative" for many LDCs.

3. Privatization Theory in Telecommunications

With the LDC PTTs unable to meet even basic service requirements, the Europeans restructuring the original PTT model and the omnipresent external debt crisis, privatization was proclaimed as the answer to all the drawbacks of government control over telecommunications in the LDCs. Political influence over the business entity would be limited and managerial and employee staffs would become more efficient because of the elimination of government subsidies and their new dependence upon market forces. Since there is a decoupling of the telecommunications workforce from the civil service and its pay scale, a more skilled and professional talent could be attracted and kept. The privatized company would gain access to private capital markets, both domestic and foreign, and thereby have access to a broader financial base. Because the privatized company is now "profit motivated" these resources will be channeled to goods and services that consumers prefer, most notably business consumers. Privatization of the telecommunications infrastructure would be the catalyst by which the promise of developmental telecommunications would be achieved. So with the motivation of a tremendous external debt and the above rationale, most of Latin America, Mexico and Argentina being the preeminent examples, sold their national carriers to private, usually foreign, investors.

Since liberalization of the market is always recommended in tandem with privatization, the creation of a governmental regulatory body was a necessity. Its purpose was to oversee the new "for-profit" enterprises and protect and foster the newly liberalized market's new entrants. In many cases the amount of regulatory authority given to this new agency had a direct negative correlation with the bidding price for the PTT. The same can also be said for the social mandate responsibilities included in the sales contract. Depending on the existing

political and macroeconomic environment, each nation struck its own balance between regulation/social responsibility and bidding price. In no case was there a decoupling of the governmental ownership/interference issue from the inherent LDC lack of financial resources to aggressively pursue telecommunications development.

II. THESIS RATIONALE

If given a nearly mutually exclusive environment, which of the two would result in the largest amount of sustainable development benefits - a well-financed government PTT with its social mandate and political encumbrances or a profit-motivated, politically unencumbered, inherently pro-business corporation? The ability to answer this question necessitates subdivision into three separate but interlinked areas and their correlated questions:

Q1: Is the microeconomic performance of a state-owned telephone company the primary determinant of its impact on economic development?

Q2: How does the macroeconomic condition of the country affect telecommunications impact on economic development?

Q3: How does the political environment affect and influence both of the above?

A. Microeconomics Factors

The first question has been referenced earlier in the paper in both the state owned and privatization arguments. Although there were important political reasons behind the state's nationalization of many telephone companies, the efficiencies and threats theorized by natural monopoly were the principal arguments. Another reason for looking at the microeconomic argument is the technological changes that have occurred in the industry. Radical changes in telecommunications technology during the 1970s and 1980s revolutionized the industry and reduced many of the economies of scale that were present in the sector during its early years.

Furthermore, the use of computer technology allowed the explosion of high-margin information services that could be provided by telephone carriers. Developing countries, however, lacked the capital resources and management expertise to implement these crucial changes that could revitalize the economy and eventually led to the call for privatization of the telecommunications entity.

B. Macroeconomic Factors

The second question explores the links between country-level factors, most importantly, choice of economic development model and the resulting economic growth, fiscal performance, and the level of foreign debt, and the ability of the telecommunications organization to affect economic development.

C. Political Factors

The third asks whether the political environment has an influential impact upon both of the above.

III. EGYPT AS TELECOMMUNICATIONS CASE STUDY

Egypt, with its extraordinary geopolitical significance and nearly unique relationship with the United States (U.S.), is the singular case where an intensely indebted nation acquired the funds for telecommunications infrastructure development, yet simultaneously, resisted the international community's pressure for economic reform and large scale privatization. This was primarily due to the political fact that restored U.S. economic aid in 1974 was a peace dividend for the end of Egyptian-Israeli hostilities. The U.S. wanted to continue the peace process and thus had a vested interest in maintaining Egypt's economic and political stability. Beginning in 1979, the same year as the signing of the Camp David Peace

Accords, the United States Agency for International Development (USAID) has become the largest donor in Egypt, having provided more than half of all official development assistance. USAID's Egyptian projects are amongst the largest AID funded in the world - in its entirety, the Egyptian program is second in size only to that of Israel. (Lieberson, Stallard, et. al.15)

A unique fact of US financial assistance to Egypt is that aid levels are determined by Congress and have to be completely obligated by the end of each fiscal year. (Ibid. 40) This need to annually spend large amounts of AID money in Egypt and the perception that Egypt's badly deteriorated infrastructure was a major constraint to economic productivity and new private investment were exceptionally well matched. Since 1975, approximately forty five percent of AID's total Egypt budget, nearly $4 billion, has been dedicated to urban infrastructure projects. In comparison, AID's worldwide capital projects program represents only 5 to 6 percent of its entire portfolio. Given this and the aforementioned scale of Egypt's capital projects, the program in Egypt accounts for a significant percentage of AID's worldwide capital project portfolio. (Ibid. 15) As of 1994, AID's total assistance to the telecommunications sector was $344.5 million, making the sector its second largest investment in Egypt. In addition, the World Bank and other bilateral donors provided over $1 billion in telecommunications assistance. (Ibid. A-4)

Egypt, therefore, offers a unique example where the capital-intensive nature of telecommunications investment has been turned into a benefit. The impact of the high capital/labor ratio on limited domestic capital resources is negated by the use of externally supplied AID finances. The purchase of advanced telecommunications equipment from foreign sources is perfectly compatible with the requirement that AID funds must be spent

on American products and services. Since there is no direct competition for limited domestic capital resources between immediate social welfare needs and AID-financed telecommunications development, Egypt was able to escape between the horns of the telecommunications dilemma. Because AID financing had to be spent during each fiscal year, Egypt was in the enviable position of being able to accept the aid, but politely refuse, or lethargically implement, the policy suggestions that accompanied the aid. Thus, Egypt was selected for this case study.

A. Overview of Egypt

Egypt's domestic environment, both political and economic, is fundamental to the discourse of this study, but for an overall perspective of the nation, a precursory overview shall be attempted. For an excellent analysis of the shortcomings of such an attempt, please refer to Tim Mitchell's "America's Egypt." Beginning with European expansionism into the region in the early 1800s, Egypt has succeeded in using its historical and geopolitical importance to enhance its bargaining position with the "Western" powers. However, Egypt's maneuverability was always limited by its subordinate position in the international hierarchy - not a fully dependent colony, but a quasi-dependent "protectorate." The arrival of a nationalist regime in 1951, and in particular, the 1956 nationalization of the Suez Canal, marked the end of former colonial political and economic ties and the beginning of an ultra-nationalistic, centrally planned economic development philosophy.

For almost a decade following the Suez Canal nationalization, the economy performed relatively well and Egypt experienced steady, if unspectacular, growth. From the mid-1960s through the early 1970s, owing to the 1967 Arab-Israeli War and the subsequent

War of Attrition, as well as, the inherent limitations of a centrally planned economic system, economic conditions began to decline. Beginning with the 1973 Arab-Israeli War, Egypt, once again, attempted to proactively leverage its regional power status in the competition between the two superpowers. As part of Sadat's "Turn to the West," and partial "opening" of the economy to international trade, came an influx of new Arab and Western funds. The underpinnings of the Egyptian economy were all ascending: oil revenues, tourism, Suez Canal revenues, workers' remittances and foreign aid.

This new flow of funds financed the Egyptian government's ability to continue dispensing the largesse of a patron state without improving the efficiency of the public sector or aggressively encouraging the private sector. The end result was an unwieldy mixture of public and private economic structures unable to support the massive social programs burden once the influx of foreign funds ended. With an increasing foreign debt, one of the largest in the developing world, and the collapse of Egypt's external revenue generators, the status quo became increasingly untenable and substantial economic reforms were rapidly becoming Egypt's only economic option. Finally convinced of the necessity of economic structural change, the Egyptian government embarked on a fundamental program of change that is still currently in progress.

B. Telecommunications – A Regional Comparison

To establish a comparative base for telecommunications services, Egypt is compared to the other Arab nations of the region. Even though there are great disparities in national wealth, population and geographical size, these nations share economic, social, cultural, and political backgrounds. There is enough commonality to allow a meaningful comparison to establish a realistic perspective of what has been accomplished by Egypt,

with respect to its peers, during the time period of this study. Beginning in 1977, the year of Sadat's peace initiative, there is a clearly discernable trend in Table 1. The smaller nations of the Persian Gulf, flush with oil revenues, achieved impressive telephone penetration numbers because of their smaller geographic size and population densities. Arab nations, either with less oil wealth or greater populations and territory, achieved far less favorable penetration numbers. (Wright. 26) Putting aside limitations specific to Egypt that will be dealt with in detail later, Egypt's low level of penetration indicates the significant influence a large population, geographic area and lack of (compared to Gulf nations) substantial revenues can have on such an aggregate measure. The true significance of the table is the average growth rate between 1983 and 1992. While impressive gains in penetration are obvious amongst the same group of Gulf nations, it is the comparatively small increase in Egyptian penetration that is particularly significant. Significant because the 2.65 increase in telephone penetration is applicable to the most populous and less prosperous nations in the grouping – a fact borne out by the thirteen percent average growth rate, the second highest amongst rate amongst its peers. It is the repercussions of this impressive growth on the economic development of Egypt that are the fundamental issue of this study. (ITU, 1994. 3)

Table 1. Arab Nations' Telephone Penetration Rates

Country	Teledensity per 100 persons			Avg.Gr. Rate	GDP ' 92	Per Capita
Country	1977	1983	1992	(83-92)	$US M	US $
Algeria	1.46	2.18	3.65	5.90%	45196	1710
Bahrain	9.86	14.61	21.23	4.20%	3943	7580
Egypt	1.37	1.32	3.97	13.00%	41768	760
Iraq	1.69	2.23	3.5	5.10%	48651	2570
Jordan	2.56	3.13	6.49	8.50%	4126	1000
Kuwait	12.8	12.99	17.54	3.40%	21701	11020
Lebanon	8.39	10.09	9.26	-0.90%	5546	1470
Libya	1.99	3.2	4.84	4.70%	21864	4970
Morocco	1.15	0.96	2.49	11.10%	28802	1100
Oman	0.25	1.87	7.93	17.40%	11489	7010
Qatar	1.39	22.37	23.24	0.40%	6673	15170
S. Arabia	1	7.11	9.86	3.70%	108640	7060
Sudan	0.29	0.25	0.24	-0.40%	7310	280
Syria	1.95	3.81	3.96	0.4	11489	880
Tunisia	2.26	2.2	4.46	8.20%	15749	1870
UAE	7.29	14.99	32.36	8.90%	35222	21090
Arab States		**2.2**	**4**	**6.5**	**428844**	**1870**

IV. Microeconomic Analysis

The Arab Republic of Egypt Telecommunications Authority, ARETO, shared many of the characteristics that are endemic to a state owned and operated telecommunications enterprise. All of the weaknesses that restructuring would alleviate, according to privatization proponents, were all well represented in ARETO. The following section will discuss in detail the areas of PTT structure, workforce and tariffing, both before and after AID financial and consulting assistance. Finally, the issue of economic impact of the USAID effort will be discussed.

A. Telecommunications Structure

One of the fundamental tenets of telecommunications structural change is that the operating entities, irrespective of who owns them, perform best when run as profit driven businesses. The importance of firm restructuring can be observed when the privatization process is broken down into its composite parts:

- Separating operation from government and nontelecommunications activities
- Restructuring telecom operations as an independent state enterprise charged with being financially self-sufficient and placing its financial relationship with the government at arm's length
- Internally reorganizing the enterprise in ways that are suited for running it as a business
- Reorganizing the telecommunications enterprise under private company law
- Devising a privatization strategy including decisions controlling interest, employee stock ownership, tranching of stock sales, and residual state ownership, as well as changing the company's capital structure to enable implementation of this strategy.
- Carrying out the sale. (Wellenius, et.al. 1994. 45)

Noting that only the latter two items specifically refer to the actual privatization of the telecommunications entity, the initial four items, all relating to firm restructuring, dominate the privatization effort. Because this more limited process is an adjustment, rather than the fundamental philosophical shift involved in full privatization, it can be implemented without the goal of ultimately privatizing the entity. It has therefore become a separate process of its own for many LDCs - this more limited process is referred to as "corporatization." The goal of a telecommunications "corporatization" is to distance the service provider from the civil service, subject it to the discipline of commercial law, empower its management with the authority common to its private sector peers and subject it to a competitive commercial environment. This is to be accomplished by reorganizing governmental departments into state enterprises, state-owned joint-stock companies, mixed state/private companies, or private companies. (Wellenius, et.al. 1994.

75) The overall intent is to fundamentally alter the public sector mindset and operational environment associated with a government-owned and operated PTT.

As a traditional PTT, the Arab Republic of Egypt Telecommunications Organization, ARETO, along with a telephone equipment manufacturing facility, the ARE postal service and the Telecommunications Research Center, reported to the Ministry of Communications. (USAID.1978.16) The 1978 U.S.A.I.D. Sector Study Report detailed the usual governmental entanglements and encumbrances associated with this structure and recommended that ARETO should be reconstituted under its own special charter as an autonomous entity not subject to normal governmental or public sector regulations. In addition, the entire telecommunications sector be structured as a holding company composed of subsidiary companies individually responsible for various telecom functions, and able to participate in joint venture activities with foreign and Arab capital under the provisions of Investment Law No. 43. (Ibid. 21) The combination of these two recommendations would theoretically have alleviated the more damaging results of governmental ownership. Autonomy and the ability to joint venture under Law 43 would permit: 1) the right of ARETO to establish a reasonable rate/tariff structure; 2) the establishment of a reasonable wage structure; 3) the ability to enjoy an 8-10 year income tax holiday; 4) the right not to accept Government of Egypt (GOE) employment quotas; 5) the ability to fire unproductive workers; 6) the elimination of ARETO obligations to turn all its profits over to the Ministry of Finance and to depend upon the GOE budgetary process to gain necessary operating and investment funds; 7) the right to appoint top managers without prior GOE approval; 8) the right to establish accounting, financial reporting, inventory disposal, etc., systems which are not dictated by the GOE but are

designed to serve and are in many ways unique to the industry. (Ibid. 21) The above recommendations, while predating the sweeping privatization and restructuring of the 1990s, are, in fact, the exact regime proffered by the World Bank for restructuring the PTT model.

It was not until 1980 that the Arab Republic of Egypt National Telecommunications Organization (ARENTO) was established by National Assembly Law No. 153 as an autonomous public utility organization under the direct supervision of the Ministry of Transport, Communications and Civil Aviation. Although not fully implemented, the law allowed for ARENTO to set its own employment quotas, establish accounting and inventory systems, appoint top managers and fire employees. (USAID, 1982. 3) The legislation defined ARENTO's regulatory authority and allowed it to enter into joint ventures with other parties for the promotion of telecommunications. With the approval of the Minister of Communications and Transportation, ARENTO can establish joint stock corporations either alone or with other partners. As soon as such corporations are established, shares can be bought and sold with employees of ARENTO receiving first priority in the purchase of shares. (Rachty. 4)

B. PTT Workforce

Critical to any effort to restructure a state owned enterprise is to end the traditional governmental practice of dictating hiring quotas. In the above corporatization effort, four of the eight outcomes were in reference to employment practices. As will be discussed later in the paper, use of employment quotas has been a hallmark of the Egyptian political system for nearly forty years and has created one of the fundamental impediments to overall economic restructuring in Egypt. The problem is particularly acute with regard to

Egypt because of its young population and high birth rate – a problem only partially relieved by exporting labor to the Gulf States.

As a pre-revolution state owned enterprise, the Egyptian PTT, was an early and frequent recipient of new employees. Beginning with Nasser's 1961 socialist drive, the size of the ARETO workforce nearly trebled from a budgeted 18,386 employees to 53,688 employees budgeted for 1977. (TABLE 2) This represents an average annual growth rate of 7.1% over the entire period. (USAID. 1978. 18) The government quotas were particularly onerous during the 1972-1977 period, when nearly half of these employees were hired. Their ranks were swelled by more than 4000 university graduates and nearly 6000 demobilized draftees from the armed forces. This was the equivalent of twenty five percent of its entire workforce. (Waterbury. 126) (Table 3) The end result was that by year-end 1976, ARETO's staff exceeded the employee/telephone ratio attained in 1973 by some 9,426 employees, or by about two percent. (USAID. 1978. 18)

Table 2. Composition of ARETO Work Force (USAID. 1978. 17)

	1961		1969		1977	
Occupational Category	Number	%age	Number	%age	Number	%age
Top Management	6	0.03	13	0.04	82	0.15
Administrators	79	0.4	607	1.7	950	1.8
Engineers	292	1.6	734	2	1,224	1.8
Technicians	1,721	9.4	3,639	10.2	7,235	13.5
Operators	5,006	27.2	9,390	26.18	11,484	21.4
Clerks	1,258	6.8	2,961	8.3	5,406	10.1
Skilled Laborers	6,004	32.64	10,169	28.38	16,624	31
Unskilled Laborers	4,020	21.93	8,305	23.2	10,683	19.9
TOTOAL	18,386		35,818		53,688	

Table 3. GOE Hiring Quotas Imposed on ARETO 1972-76 (USAID. 1978. 18)

Occupational Categories	From Manpower	From Military	Total
Administrators	147		147
Engineers	488		488
Technicians	1,264	3	1,267
Operators	1,645	175	1,880
Clerks	682	471	1,153
Skilled Laborers		914	914
Unskilled Laborers		4,370	4,370
TOTAL	4,226	5,933	10,159

With tariff rates set at subsidy levels and increases in the number of employees far outpacing the increase in revenue generating mainstations, ARETO's rate of return was negatively impacted. ARETO's revenue per main station averaged only US$137 per annum in the 1973-76 period, while corresponding revenues for countries at a similar stage of development were as follows: Ghana $211; Pakistan $224; Ethiopia $236 and India $253. (USAID. 1978. 34) It is estimated that the cost of the excess staff over the 1973-76 period amounted to fourteen percent of the operating expenses and eight percent of the operating revenues. Without this expense, International Bank for Reconstruction and Development (IBRD) has estimated that ARETO's financial rate of return would have ranged from ten to nineteen percent on the historically value assets, averaging more than twelve percent. (Ibid. 34) The latter rate of return was still below the average rate of eighteen percent generated by World Bank projects completed during the same time frame. (Saunders, et.al. 13-14)

The mandated increases in workforce corresponded with a steady decline in the workload and productivity per employee. The unit used to quantify these variables, staff per 1000 mainstations, is particularly applicable in ARETO's case, since the operations

and maintenance sector employs eighty-two percent of the workforce and is by far the largest single functional group within the organization. (Ibid.16) Since 1971, the number of employees per 1000 mainstations increased each successive year, with a correlated decrease in the average workload and productivity per employee. (TABLE 4) (USAID.1978. 19)

Table 4. ARETO EMPLOYEES per 1000 Telephone Main Stations 1968-1977

Year	Employees		Main Stations		Employees per 1000 Main Stations
1968	30,045		259,145		115.9
1969	30,803		269,612		114.2
1970	31,657		284,352		111.3
1971	31,764		296,686		107.1
1972	33,018		304,725		108.4
197	35,285		317,085		111.3
1974	38,504		333,388		115.5
1975	41,716		341,482		122.2
1976	44,711		352,162		126.9
1977	46,030		361,648		127.3

Compared to the subscriber/employee ratio of 1000:8 to 1000:30 that most developed nations maintain, ARETO's 1000:100+ ratio shows a substantially overstaffed and underutilized workforce. (Ibid. 20)

C. Tariffing

Public utility regulation in developed countries focuses on tariff regulation with the primary goal of balancing consumer protection from monopoly rates and an equitable return on investment for the monopoly provider. This focus is based on the unstated presumption that profits will result from the provision of a service. In most LDCs, however, where the telecommunications entity's receipts are almost universally funneled into the state's coffers and rates are set at subsidy supporting levels, this is not the case.

In this environment, the focus of regulation shifts to loss minimization. At the barest minimum, a public utility should establish tariffs at rates intended to recover operating and maintenance (O&M) costs -- short-run marginal cost recovery. To further minimize its losses, the utility may set tariffs at rates intended to cover both the O&M and capital replacement costs; this is long-run average cost recovery. Without long-run average cost recovery through tariffs, the utility must compensate for the deficit from nontariff sources. Until recently, ARENTO's tariffs covered neither short nor long-run cost recovery - to compensate for these annual O&M operating deficits, the GOE provided treasury transfers, while donor aid covered much of the capital costs. The primary cause of this shortfall was the GOE's policy of providing substantial subsidies to utility consumers through price controls and overvalued exchange rates that have kept utility rates artificially low. Because of slow, but steady, tariff increases, to be detailed below, ARENTO currently recovers full telecommunications O&M costs but not capital costs. (Hanrahan. 4)

In January 1982, ARENTO succeeded in obtaining GOE permission to increase service charges. The increase was an unenthusiastic good-faith attempt to fulfill the terms and conditions agreed to under the terms of previous USAID telecommunications projects and thereby relieve increasing USAID pressure over many of the other unimplemented conditions. The 1982 rate schedule contained no increases for residential subscriptions or excess calls, a small increase for within-Egypt calls and a sharp increase in installation charges. Business and government charges for a wide range of services were increased substantially under the new tariff schedule. During this time frame Egypt had slightly over 500,000 telephones of which seventy percent were classified as residential and under old

rates, revenues from this majority customer base for subscriptions, installations, excess calls and within-Egypt calls amounted to only fifteen percent of total ARENTO revenues in fiscal year 1982. (USAID. 1984. 45) The only area impacting a majority of network users was the increase in intra-Egypt calls, proving that the preeminent concern of this tariff increase was the fulfillment of contractual agreements with a minimum of user discomfort, rather than the original USAID intent of establishing a firm financial position for ARENTO.

As shown in table 6 overall ARENTO revenues were expected to increase by about 40.5% after the 1982 rate increase. With the overall intent of this rate increase being to minimize its impact on the citizenry, the highest revenue increases were limited to non-recurring, one-time charges such as installation, reconnects and transfer charges. This was also reflected in the difference between subscription fee rates for business and government that increased by 66.7% from LE 18 to LE 80 per year, and residential fees which remained unchanged at LE 18 per year. The less populist domestic telex rates were projected to rise by 70.1%, while domestic telegraph fees went unchanged. (USAID. 1982. 43) Two very relevant conclusions can be drawn: 1) The great bulk of phone customers in Egypt experienced no increases in phone charges and 2) revenues from international calls, telexes and telegraphs contributed heavily to the significant increase in ARENTO revenues in the 1983 fiscal year. (USAID. 1984. 45)

With the 1982 rates resulting in an average tariff rate increase of 40.5%, it is expected that the rate of return from its total assets will increase to about four percent. This compares favorably to the old tariff rates, under which ARENTO barely managed to break even with a rate of return of about 0.4% a year. However, the new rates were still

considered insufficient to generate reasonable rates of return on the investment in telecommunications facilities. Table 5 indicates that additional rate increases required are on the average of 37%, 68% and 98% if ARENTO were to earn 10%, 15%, and 20% return on its assets. (USAID. 1982. 43)

Table 5. Service Tariff Rates and Returns to Assets (L.E. Millions)

	Old Rates		New Rate	Additional	Rate	Increases
	FY 1981	FY 1982	FY 1983	Required	for other	Rates of R
Total Assets (Mil)	526.3	605.2	696	696	696	696
Total Revenues (Mil)	73.5	81.2	114	114	114	114
Total Expenditures	71.5	78.6	86.5	86.5	86.5	86.5
Profits (Mil)	2	2.6	27.5	27.5	27.5	27.5
Return to Assets (%)	0.4	0.4	4	10	15	20
Rate Increase (%)	0	0	40.5	36.9	67.5	98

Table 6. Impact of ARENTO Rate Reform on Receipts (LE Millions)

	FY 1982 (Old Rates)	FY 1983 (New Rates)	Percent Change
Domestic Revenue	44,353	67,359	53%
Domestic Telephone &	39,557	60,020	51.70%
Trunk Lines			
Subscriptions	13,314	15,530	16.70%
Automatic Telephone	7,527	9,280	23.30%
(Residential)	4,892	4,892	0%
(Business)	1,957	3,262	66.70%
(Government)	667	1,126	66.70%
Manual Telephone	926	926	0%
Miscellaneous Telephone	3,008	3,008	0%
Trunk Line	1,853	2,316	25%
Excess Calls	11,853	11,857	0%
Intra-Egypt Toll	5,333	6,999	25%
Non-recurring Charges		6	200.50%
Installation	7,803	24,456	213.40%
Residential	2,984	12,476	318.10%
Business	3,580	10,741	200%
Government	1,239	1,239	0%
Re-connect Charges	250	750	200%
Transfer Charges	250	1000	300%
Miscellaneous Charges	750	1000	300%
Domestic Telex	2,568	4,369	70.10%
Subscription	1,886	3,144	66.70%
Inter-Egypt Telex Usage	64	64	0%
Non-recurring Charges	618	1,161	300%
Domestic Telegraph	2,228	4,369	70.10%
International Revenue	36,826	46,184	25.40%
International Telephone	11,933	16,706	40%
International Telex	16,726	20,071	20%
International Telegram	6,202	7,442	20%
International Miscellaneous	1,965	1,965	0%
Total Domestic/Int. Revenue	81,179	113,543	

International calls were and still are the most profitable source of income to ARENTO, revenues from international and domestic long-distance calls represented approximately eighty percent of total revenues in 1994. (Hanrahan. 39) A later study of the 1982 rate increase found that international revenues were double expectations; 103 million LE in FY 83 versus the 46 million LE projected. The result was sixty three percent of total revenue generated rather than the expected forty percent (USAID. 1984. 45) - a reflection of the unpredictability of international calling patterns, the resulting revenue stream and the dangers of overeliance on this external hard currency generator. Regardless of the ultimate percentage, international call revenues dominate the revenue stream because ARENTO sets international call tariffs set internationally agreed upon rates and, until recently, received hard currency valued at overvalued exchange rates while simultaneously having to maintain local-call and installation charges well below international levels and even those prevailing in other Middle Eastern and North African countries. (Hanrahan. 39) The end result is an extraordinarily, but not uncommon to LDCs, skewered rate structure. With the majority of revenue coming from the international network and business installations, the rate structure was to be driven by the need to ration the available supply of telephone lines, rather than expanding the installed tariff-subsidized consumer base. (USAID. 1988. viii)

Rates, however, slowly began to increase as the quantity and quality of services improved. Beginning July 1,1985 ARENTO increased telephone subscription rates between fifty and sixty-six percent, while in January 1988, ARENTO limited local telephone call duration to 6 minutes and, as a result, expected to generate a twenty five percent increase in intracity revenues. (Lieberson, Stallard. F-4) In addition, beginning in

the mid-1980s, tariffs charged for the installation of new lines were significantly increased. (Hanrahan. 40) The following table (Table 8) details ARENTO's rate increases from 1982 through 1992. The latter was chosen as a breakpoint because of Egypt's reorientation towards a market driven economy in late 1991. The basis for these tariff increases were believed to be a combination of USAID's belief that users would be willing to pay increased rates for improved service and the GOE's attempts to satisfy USAID's desire to implement this belief and thereby ensure the continuing flow of aid.

Table 7. Telephone Tariff Structure, 1983/84 -1991/92 (Ibid. 37)

YEAR	Subscription/line	Local/call	Installation/line	Int. Tariff /call	Int. Charge/line
	LE (Local Curr.)	LE	LE	LE	LE
1983/84	47	0.03	111	5.21	105.02
1984/85	47	0.03	101	4.41	82.14
1985/86	60	0.03	106	4.31	94.68
1986/87	59	0.05	137	5.13	116.64
1987/88	59	0.05	135	5.84	123.84
1988/89	56	0.05	133	8.17	240.45
1989/90	56	0.05	157	8.52	261.28
1990/91	57	0.05	313	8.63	271.52
1991/92	57	0.05	347	9.22	320.08

However, in keeping with Egypt's new market orientation and more pliable attitude toward cost based pricing, 1992 installation charges were adjusted as follows: (Ibid. 37)

Beneficiary	Standard LE/line	Immediate LE/line
Household	750	2,400
Commercial	1,400	4,000
Governmental	600	----

D. Development through Foreign Financing

The inability of domestic tariff levels to generate acceptable returns on investment, combined with the GOE's appropriation of hard currency generated through international tolls, minimizes funding for network expansion and modernization efforts. Given that domestic investment funding is nonexistent and the equipment will be of foreign origin and funded with foreign hard currency, one of the few alternatives available to navigate through the horns of this dilemma is tied-aid. Essentially a subsidy for the donor nation's telecommunications industry, tied-aid requires the recipient to purchase a majority, if not all, goods and services associated with the aid project from the donor country. Even though concessionary terms are always offered as enticements, there is a negative impact upon the recipient country. Economist have long been critical of tied-aid practices on grounds that they significantly reduce the real value of assistance by preventing recipients from seeking out the most cost-effective source. A number of studies concerned with estimating the cost of tied-aid to the recipient nation indicate that the excess cost margin associated with tying typically ranges between 15 and 30 percent. (USAID. 1992.10)

The above funding limitations and the resulting need for tied-aid programs are a fundamental feature in the growth of ARENTO 's telecommunications network. The majority of network expansion is funded by foreign donors, who supply at least seventy-five percent of the funds needed for network expansion. (Keely. 2) In the past, telecommunications infrastructure development has been financed through concessional loans or grants from various foreign governments, particularly the US, French and Japanese. Not coincidentally, equipment suppliers from these countries, notably AT&T, Alcatel and NEC, have benefited through large equipment contracts. (Kapoor. 4)

Considering the magnitude of these foreign concessions to the GOE, the associated excess costs to the GOE must also be of comparable magnitude.

Another drawback to tied-aid is that the variety of equipment suppliers limits long term strategic planning and creates an inherent risk of incompatibility with existing systems. So much so, foreign government donors have informally divided Egypt into different sections so that supplied switching equipment will be compatible with the installed equipment base at a location. In the early eighties, Japan had its switching equipment in the Canal Zone and Ismalia; France had its equipment in the Delta; Germany and the U.S. provided the majority of switching equipment for Cairo, the U.S. provided for Alexandria; and Sweden provided most of the equipment for Upper Egypt. In the late eighties and early nineties, the above held true, but with the U.S. and France sharing Alexandria and Germany replacing Sweden in Upper Egypt. (Keely. 2) This de facto segregation of the Egyptian telecommunications infrastructure into regions of vendor influence is evident in the current five-year plan (1997-2002). Dubbed the "Mega-Project Approach" by ARENTO, the plan envisages the installation of an additional five million lines by the year 2002 and result in the doubling of the current teledensity rate of seven per cent. There was no formal bidding procedures for the project. Siemens, Alcatel Telecom and AT&T have submitted proposals to ARENTO defining the scope of work in each of their specific geographic regions in the Delta and Upper Egypt. (Al Ahram Weekly Jan. 16, 1997)

E. USAID in Egypt

1. Policy Externalities

1.1. Domestic Influence over Foreign Aid Largesse

The majority of U.S. aid has been, and continues to be, provided by the United States Agency for International Development (USAID), generally in the form of tied-aid. The "Buy America" focus of the Egypt AID program represents a major and immediate benefit for US commercial interests. "When AID finances a $50 million capital project, US equipment suppliers and engineering firms receive contracts for $50 million. " (Lieberson, Stallard. 17) USAID's Telecommunications IV Project provides a near text book example of the importance of donor domestic political and commercial interests in the funding of tied-aid programs:

"Both the House and Senate have also taken an interest in the project. The Senate Foreign Operations Committee has recently indicated as follows:
"The Committee notes that the GOE (Government of Egypt) has requested assistance from USAID/Cairo with the extension of the communications system in the greater Cairo area. The latest digital technology is being sought from a US manufacturer having an excellent record with past upgrading of Egypt's telecommunications. The Committee endorses the inclusion of telecommunications in the AID program for Egypt."(USAID. 1988. 3)

The commercial aspect of tied-aid may even become blatantly obvious; again an example from Telecommunications IV: "The first three TC projects in Egypt were done by AT&T. AT&T has been very active in promoting itself with the GOE, the Mission and the Congress, and has pressed for a noncompetitive procurement." (Ibid. 3)

In addition to USAID funds, a $1.8 billion program in subsidized credits was formalized with a European consortium in 1979 but didn't specify particular sector

activities. The U.S. response to competition in the tied-aid arena was to argue for more concessionary loans:

" It is understood that the European Consortium is making available upwards of $1.8 billion of European equipment at relatively low interest rates. U.S. suppliers will find it hard to compete in this atmosphere without U.S. government assistance in the form of grants or low-interest loans..... Once a foreign administration has had experience with this (American) equipment and the continuing supplier support, a favorable reaction could establish a favorable trend toward U.S. suppliers. The consultants feel that this will not happen without U.S. government financial assistance and therefore favor AID financed follow-on assistance in support of ARENTO's anticipated telecommunications expansion program." (USAID. 1984. 4)

A 1994 study, however did not support this hypothesis. Non-AID financed, follow-on sales have been very limited, over the 1976-1991 period, total U.S. exports to Egypt have barely equaled total U.S. Government assistance to Egypt. A poor economic policy environment, a continual scarcity of foreign exchange, and an economy dominated by government firms has made it difficult for US and other foreign firms to increase their exports to Egypt. (Lieberson, Stallard. vi)

1.2. Political Influence on Foreign Aid Largesse

As discussed earlier under case study selection, the USAID program in Egypt has a large political component. According to a report of the U.S. General Accounting Office submitted to the Congress in 1989, "If aid to Egypt were considered purely on economic or developmental grounds, Egypt would have received annual obligations of not more than $100-200 million. (Tscirgi, et. al. 165) The fact that USAID can support a political emphasis, rather than a singular concern for development is underscored by USAID's budget system, which has an Economic Support Fund for countries where political concerns are paramount and Development Assistance funding for countries where development is the primary concern. The most glaring example of this distinction is that in

recent years AID development policy has specifically limited funding for capital projects, except in several large Economic Support Fund (ESF) countries such as Egypt. (Lieberson. 4) In theory, such a tremendous capital outlay for large capital projects could impose an equally large burden on the recipient country because of the Foreign Assistance Act of 1961 which requires the receiving country to share at least twenty-five percent of the cost of a project. This, however, doesn't apply to Egypt because Economic Support Fund recipients are exempt. (USAID. 1978. 1)

1.3. Development of USAID Development Policy

This exceptional USAID capital projects program in Egypt demonstrates the political nature of aid to Egypt, in that it was in extreme divergence with USAID's development philosophy of the time. The enunciated USAID policy toward capital projects in Egypt was, in actuality, a regression to the classical development theories of the 1950s and early 1960s. This earlier justification for heavy emphasis on infrastructure project assistance was threefold: (USAID. 1992. 6-7)

1) A certain minimum of infrastructure is a precondition to the transformation of subsistence economies to market economies:

"Although private industry is small in Egypt, it can not function effectively or even expand without adequate water, sewers, electrical power, and telecommunications. AID's contribution to building the infrastructure necessary to support a competitive private sector should be considered key to supporting the Agency's private-sector-led-growth strategy in Egypt." (Lieberson, Stallard. 25)

Specific to telecommunications infrastructure:

"A.I.D.'s country development strategy of improving Egypt's economic productivity and encouraging the country's private sector is directly dependent on an expanded and modernized telecommunications system. A modern, efficient telecommunications network, which fully meets demand, is a crucial component of the economic infrastructure needed to foster rapid growth and Egyptian living standards. (Lieberson, Stallard. A-3)

2) Infrastructure (telecommunications) generates external economies, providing a stimulus to production in other sectors. Specific to Egyptian telecommunications:

"...AID recognizes the importance of the orderly expansion and modernization of TC systems in the development of efficiency and enhancement of the profitability of all sectors in the Egyptian economy, particularly to support a growing private industrial sector." (USAID. 1988. iv)

Echoing the sentiments of USAID:

"The Government of Egypt (GOE) considers rehabilitating and developing Egypt's TC system as playing a key role in the development of all sectors in the Egyptian economy and in particular in tourism and private sector investment. Accordingly, the TC sector is given substantial attention in the GOE second five-year plan (87/88 -91/92). (Ibid. iv)

3) The presence of scale economies associated with many infrastructure activities implies that they require large-scale investments to be economically viable, and in many developing countries, such investments are likely to require official donor assistance rather than be mobilized entirely locally or attract sufficient private foreign investment. Specific to Egyptian telecommunications:

> "There is general consensus that the present telecommunications system is seriously deficient and could not effectively absorb this magnitude of capital investments. It is for this reason that the GOE has requested AID to assist ARETO in strengthening its management, planning, and operating capacity. It is further understood ... that professional assistance will be required if ARETO is to begin to undertake an expansion program of the size and scope envisioned by the Master Plan. (USAID. 1978. 36)

This "classical" approach toward the use of foreign aid in encouraging development resulted from the successful restoration of Europe under the Marshall Plan. However, its generic applicability to the developing world became increasingly untenable. In contrast to a war-ravaged but previously industrialized Europe, the developing world's inherently weaker industrial underpinnings - strong economic and political institutions, an

appropriate policy framework and an effective utilization of human resources - limited the overall effectiveness of foreign aid in the developing world. What limited benefits were generated by the aid were perceived as disprorpionately serving the interests of the U.S. private sector and foreign elitist governments rather than those of the underprivileged. As a consequence, AID shifted its emphasis to fulfilling basic human needs by redirecting its resources toward smaller scale activities, rural-based projects, and projects designed to increase agricultural productivity, nutrition, health and education. (USAID. 1992. 4)

The third major USAID policy shift occurred in 1981 and clearly reflects the more capitalist, free market influence of the Republican dominated White House. USAID efforts were to focus on the "four pillars" of economic development: private sector development, policy dialogue, institution building, and technology transfer. The underlying rationale was that U.S. aid would be more effective through the encouragement of improved internal utilization of available resources than through the introduction of external resources into an inefficient system. In order to affect such internal reforms in other sovereign nations, greater reliance was placed on the leveraging of aid resources, in particular cash grants were increasingly relied upon to encourage market-based reform. (Ibid. 4)

Concomitant with the aforementioned policy changes was a shift in the emphasis of USAID projects; large and medium-scale capital projects gave way to relatively modest-sized undertakings designed to foster a developing country's industrial underpinnings. Program objectives evolved into a focus on the ability to enhance the role of the private sector, encourage institution-building and human resource development, and promote the maintenance of an appropriate policy framework. As a consequence, the allocation of

AID resources for capital project assistance gradually diminished. By 1982, capital project assistance in such areas as industry, energy, and transportation had fallen to 6.5 percent of total US bilateral official development assistance, compared with 11 percent for 1972 and about 25 percent in the early 1960s. (Ibid. 4) The only aberrations to this long-term de-emphasis of capital projects are those involving Economic Support Fund countries, Egypt being the preeminent example.

2. USAID's Initial Telecommunications Involvement

2.1. Continental Telephone Study

A contract between the Continental Telephone Holding Corp. (CTC) and the Telecommunications Research Center (TRC) of the Ministry of Communications was funded by AID in 1979. The scope of the year-long study included 1) an investigation, review, and evaluation of the performance of the existing telecom system in Egypt, particularly Cairo; 2) the development of a Master Plan for meeting the telecom needs of the GOE for the near-term, five year (1980-1984), and the longer twenty year period (through 1999); 3) the perpetration of a detailed planned program of remedial actions ("quick fix") to improve the existing telecom network; and 4) to prepare final reports on the above. (USAID. 1978. 1-2)

Under the first point, CTC reviewed the existing telecommunications equipment and facilities under the following headings: (USAID. 1979. 6-7)

i) Station Equipment and Wiring
ii) Exchange Cable Facilities
iii) National and International Toll Networks
iv) Sub-sector Equipment and Facilities
v) Manholes and Conduits
vi) Buildings
vii) Vehicles and Equipment

viii) Traffic in Long Distance Network
ix) Telex Traffic
x) Network Control

USAID summed up the results, "Generally, a negative theme is threaded throughout all of the above categories. The listing of problems is too numerous to list here." (Ibid. 7)

Beside the above neglect and deterioration, there were other indicators of the sorry state of Egyptian telecommunications. The average rate of growth in telephone connections was only 3.7% per year between 1967 and 1977 as compared with a normal ten to fourteen percent per year in most developing countries. Taken as a whole, the above resulted in ever increasing telephone waiting lists, waiting periods of up to 14 years and call failure rates in some areas of over seventy-five percent. (USAID. 1978. 39) Thus, the need for the third point, the "quick fix" Service Improvement Plan.

2.2. Initial USAID Project (SIP)

Justification for the "quick-fix" or Service Improvement Plan (SIP) was based on three considerations. First, as stated above, ARETO's network and quality of service were deficient and in urgent need of improvement. Secondly, unless fundamental deficiencies were dealt with, implementation of the Master Plan would have been endangered or could have resulted in more serious network congestion. Finally, with proper allocation and management of available resources, a clearly recognizable overall improvement in the quality of ARETO service in the Cairo area was possible in a short time frame. Because SIP was to be undertaken and implemented by ARETO personnel, it was generally limited to predominately labor intensive items and could be performed by ARETO staff. This included maintenance, repair, logistics, traffic and commercial operations. (Ibid. 12-13)

2.3. ARENTO Development Results

Beyond the immediacy of the SIP program, AID's long-term objectives were institutional - "to improve Egypt's telecommunications system by strengthening the planning, management, operations, and training functions of ARENTO" and infrastructure improvements - "to rehabilitate and replace components of the system in the large population centers of Cairo and Alexandria." (Lieberman, Stollard. A4) The institutional component of these projects demonstrates a firm commitment to the "corporatization" of the telecommunications entity:

"ARENTO benefited from major institutional strengthening in planning, management, accounting and financial controls, operations and training. Program curricula were developed and implemented. Instructors, engineers, technicians, operators, clerks, and laborers were trained. Annual procurement plans were developed and implemented. A service improvement plan that covered maintenance, repair, logistics, traffic, and commercial operations was developed and implemented." (Hanrahan. 32)

The above improvements are a virtual textbook implementation of telecommunications recommendations offered by the World Bank:

"Organization and Management: The operating entities are often organized and managed in ways that may be appropriate for government administration but not for running a high-technology commercial service in a rapidly changing business environment. Common problems include inadequate organization structure, financial management, accounting and information systems, procurement, and personnel development. These weaknesses result in high cost of operation and expansion, poor maintenance, slow response to changing demands and business opportunities, and limited capacity to prepare and implement development programs and projects. Project preparation and implementation capacity are often the ultimate constraints on telecommunications expansion and improvement in the LDCs." (Wellenius, et.al. 1994. 16)

Infrastructure improvements during the four projects consisted primarily of the straightforward replacement of outdated exchanges and facilities. Telecommunications I resulted in the replacement of a 20,000 line rotary exchange in Zamalek and the installation of additional private automatic branch exchanges and microwave links. Three

rotary exchanges in Cairo, associated cabling and other facilities were replaced with electronic switching systems during Telecommunications II. The number of potential service lines was increased from 38,000 to 70,000. (USAID. 1979. 23) Telecommunications III replaced more rotary exchanges and continued upgrading facilities, with between 40,000 to 50,000 lines being installed. In total, the three projects eventually added 263,000 new lines to the system. The rate of call completion increased from an estimated 30 percent of calls in 1977 to more than 90 percent by 1992. From a 1981/82 level of 12 million pounds, revenues attributable to Telecommunications I, II, and III reached 130 million pounds by 1991/92. (Hanrahan. 33) Begun in 1981/82 and completed in 1991/92, AID Telecommunications Projects' I, II, and III capital disbursements eventually reached $240.902 million. (Ibid. 32) Telecommunications IV, begun in 1990 and completed in 1998, added 178,000 new lines. (Ibid. 41) During this same time frame ARENTO also received $62.5 million in assistance from AID commodity import program for a microwave system to connect all Alexandria and Cairo exchanges. In addition, approximately 360,000 more lines and associated training and equipment for Cairo, Alexandria, and the Delta areas were financed through $750 million in subsidized credits from a European consortium. (Ibid. 33) The total telephone density improvement of the ARETO network is detailed in the following table (Table 9). It delineates between lines resulting from AID financed projects and those financed by other foreign aid programs.

Table 8. Egyptian Line Density Improvement (Hanrahan. 36,42) (Rachty. 4-5)

Year	Number of Lines	AID/Non-AID Lines	Density per 100 persons
1981-82	650,000		1.4
1982-83	700,000		1.5
1983-84	875,000	40000/135,000	1.8
1984-85	1,150,000	153,000/122,000	2.4
1985-86	1,350,000	35000/165,000	2.7
1986-87	1,600,000	20000/230,000	3.1
1987-88	1,700,000		3.2
1988-89	1,800,000	15000/85,000	3.5
1989-90	2,000,000		3.9
1990-91	2,350,000		4.3
1991-92	2,500,000	43000/107,000	4.4
1992-93	3,000,000	30000/470,000	5
1993-94	3,550,000	25000/525,000	6

2.3.1. Economic Analysis

The following analysis was conducted by USAID in 1994 in order to determine the economic feasibility of expanding its capital projects budget. Because of Egypt's ESF status and the resulting large number, type and scope of capital projects carried out during a specific time frame, Egypt was once again the best case study. To determine the overall financial and economic impact of these projects, the study measured the internal rate of return generated by each project. Because both the inputs to and outputs from these projects have traded at prices distorted by price controls, overvalued exchange rates, and other market control rates, two separate analyses were conducted. The adjustment of financial prices necessary to correct for policy-induced distortions is the essence of the computational differences between the analyses. The analysis based on the financial internal rate of return (FIRR) measured the private rate of return of an investment, based on domestic market prices, irrespective of the distortion of those market prices. In contrast, the second analysis measured the economic internal rate of return (EIRR); the

investment's rate of return to the whole economy, calculated using shadow prices - prices that would prevail in the presence of competition and free markets - and valuing benefits not captured by the market, such as consumer surplus and external benefits. In essence, FIRR estimates the private profitability of the project to the business, whereas the more important EIRR estimates the return to the whole society. (Hanrahan. 6-16)

Central to the overall economic analyses of Egypt's capital projects are three specific benefit types: (Ibid. 35-39)

1) Revenue or tariff benefits that are generated from three sources: telephone subscriptions, call charges, and installation charges. Tariff benefits are the only measure of benefit used in the financial analysis and provide the starting point for measuring economic benefits.

2) Consumer surplus benefit is the differential between the actual price and the market-clearing price.

3) External benefits are those that accrue to others outside the immediate subscriber base. Examples of this are spillovers into the tourist and foreign investment sectors.

In contrast to the above benefits were the two major expenditures associated with these analyses: (Ibid. 10)

1) O&M costs are recurrent expenditures associated with providing services. Such costs include salaries and wages, fuel, electricity, supplies, communications, chemicals, routine maintenance and other expenses incurred to ensure normal operations.

2) Capital costs which are associated with the actual physical plant of the project. This can be further subdivided into direct capital costs, which are the actual building, land

and equipment, and indirect costs associated with the implementation of the physical plant.

A number of sensitivity analyses were carried out to determine the impact of various scenarios on the FIRR and EIRR of the telecommunications projects and tabulated in Table 9. (Ibid. 40) The first analysis was concerned with the resulting rates of return in the then current benefit and cost environment, while the second scenario analyzed presumed a continuation of these conditions into the near future. The third and fourth scenarios presumed no increase in any of the three benefit categories and a twenty percent variation, both up and down, in the indirect capital costs involved with physical plant implementation. A twenty percent variation, both up and down, in the benefits associated with the projects was the scenario for the fifth and sixth analysis, while the final two scenarios presumed the same variations in the operations and maintenance costs associated with the projects. (Ibid. 40)

Table 9. Internal Rates of Return for AID-financed Telecommunications Projects

Base Case	FIRR	1	1
	EIRR	11	18
No More Price Reform	F	1	1
	E	11	18
Indirect Cap Cost Up 20%	F	0	0
	E	9	14
Indirect Cap Cost Dn 20%	F	1	3
	E	15.3	24
Benefits 20% Higher	F	5	5
	E	15.8	25
Benefits 20% Lower	F	-4	-6
	E	6.8	11
O&M Costs 20% Higher	F	-2	-3
	E	10	16

i. Base Scenario

Because tariff benefits were the single revenue generator for the financial analysis, the 1 percent FIRR of the base case was completely attributable to ARENTO's subsidization of service provision via low tariffs on local calls and subscriptions. This particular aspect of ARENTO policy was detailed earlier, but its negative financial impact on ARENTO is clearly discernible in this analysis. ARENTO's lackluster financial performance, however, resulted in very satisfactory economic returns. In general terms, a minimally acceptable economic rate of return from a given project in a developing country is at least ten to fifteen percent. This is based on the assumption that if this given project's funds were invested elsewhere, could at a minimum have earned a net return of ten to fifteen percent. With a base case EIRR for Telecom I, II, III of 11 percent and 18 percent for Telecom IV, the former met and the latter exceeded expectations. Economic cash flows overshadow financial cash flows because of consumer surplus benefits that account for about 45 percent of total real economic benefits. The primary cause of this consumer surplus is

ARENTO's policy of cross subsidizing telecommunications services. International calls and installation charges are priced near prevailing international averages, and thereby subsidize subscription and local-call charges priced well below international averages. To a lesser extent, tariff increases implemented since 1982 do not fully reflect the vast improvement in telephone service that has occurred in the ARENTO system over the last decade. (Hanrahan. 38)

ii. Scenario Variations

The tabled results indicate two overarching trends. First, that under the most plausible assumptions the two telecommunications projects are not financially viable. Although ARENTO is no longer a draw on the state treasury, no scenario shows FIRR close to the minimum 10 percent expected of any nonspecific project. The various scenarios indicate that financial performance is most sensitive to changes in tariff revenues - improvements in the financial performance of ARENTO are directly correlated with tariff reform. Second, the economic viability of the projects exceeded the 10 percent threshold under all scenarios examined. As is the case with financial performance, economic performance is more sensitive to variations in benefits rather than variations in cost. With both economic and financial results correlated to the tariffing issue, the PTT social mandate of subsidized service has an observable detrimental affect at both the firm and societal levels.

iii. Microeconomic Results

While the four telecommunications projects clearly provided both economic and social benefits to Egypt as a whole, the above economic analysis demonstrated an unacceptable rate of return at the firm level. This lack of performance can be directly correlated to the ARENTO features inherent in the traditional PTT model. The financial performance of

ARENTO as a business entity is strongly impacted by its inability to implement an equitable, from ARENTO's perspective in this case, tariff structure. The dominant cause of this shortcoming is the GOE's system of price controls which subsidizes domestic service from ARENTO's coffers. Its employment practices, part of the Operations and Maintenance category, can also be seen to have a significant impact upon its financial status, which once again has a direct link to government policy. While this analysis is limited to USAID projects, the overarching nature of these issues can be presumed to negatively impact all projects undertaken during the telecommunications modernization program.

The fact that capital expenditures on infrastructure, in this case, telecommunications, is not a "necessary and sufficient" condition for economic development in and of itself, especially in light of the above discussion of handicapped financial performance, is not a revolutionary finding. The World Bank's 1991 World Development Report suggested that projects in an adverse policy setting were not likely to make significant contributions to development. The report argues that inadequate infrastructure is more related to the inefficient use of existing assets rather than the need of new assets. (Lieberson, Stollard. 45) The solution in such cases is better management and economic policy reform rather than more capital projects. The analysis of these USAID projects would seem to concur with the report's claim.

3. Attempted USAID Policy Reform Efforts

The importance of policy reform, at least in regard to policies directly impacting ARENTO, was established in the CTC Master Plan in 1979 and was carried forward and emphasized in the USAID projects that were based on its recommendations. With respect

to all of its public utility projects in Egypt, AID had tried to promote cost recovery and other policy reforms by attaching policy conditions in three general areas: tariff reform; O&M expenditures at levels adequate to protect project investments; and increased autonomy for the utilities, with the goal of becoming self-sustaining. (Hanrahan. 4-5) Specific ARETO policy reforms required by AID in Telecommunications I and to be implemented one year from the signing date included: (Lieberson, Stollard. F3-4)

1) ARETO prepare a tariff rate structure to cover short-range costs and some level of long range costs for the 1980-1985 period. (The anemic 1982 tariff increase was an attempt to fulfill this condition and placate USAID.)
2) The GOE reorganize ARETO under its own special charter as an autonomous entity. Details of this effort are included under the ARENTO structure section.
3) ARETO revalue its asset accounts at present market value. Accomplished as of 1994.
4) ARETO freeze its staff size and adopt a policy that the number of new hires can not exceed the annual turnover rate. (Details of this effort are included under the workforce section.)
5) ARETO maintain a debt-to-equity ratio of 70:30. This covenant was later deleted by AID.
6) ARETO take all reasonable steps to implement the Service Improvement Plan. Details of this effort are included in the USAID project section.

All of the above policy reforms reflected USAID's emphasis in transforming the telecommunications provider into a commercial entity, rather than limiting itself to upgrading the technology used by a traditional PTT. Unfortunately, implementation left something to be desired: The above policy conditionality of Telecom I (FY 1978) was not achieved, so it appeared in Telecom II (FY 1979). The conditions were still not met, so they appeared again in Telecom III (FY 1979). It was not until 4 years after Telecom I that any progress was made on reforms. (Ibid. 42) Essentially, AID put $200 million into the telecommunications sector before achieving any significant progress on policy reform conditionality. (Ibid. 43)

It is in the enforcement, or lack thereof, of policy reform that the predominance of political over developmental concerns in Egypt has been most evident. The USAID policy reform agenda in Egypt was undercut in the early and mid 1980s as the political objectives of the country program overrode the development goals of the capital projects. (Ibid.15) Because of the political necessity of disbursing large amounts of funds every year, both the GOE and the State Department had viewed the Egypt aid program as an entitlement. Under normal conditions, disbursement of funds can normally be withheld for noncompliance in carrying out policy reforms, but in the case of Egypt, funds continued even when reform objectives were delayed or not met. Giving way to US geopolitical considerations and the inability to block these annual aid disbursements, USAID's leverage and thus, overall effectiveness at policy reform efforts was significantly curtailed. (Ibid. 41)

A policy condition of particular interest but not included in the above list of covenants with ARETO was USAID's insistence on the disbursement of telecommunications funds in order to simulate ARETO capital market obligations:

"...USAID contributions of funds for ARENTO capital expansion should be reloaned or regranted by the GOE to ARENTO as near market terms and conditions as can be negotiated. Funds that are regranted by USAID for use by ARENTO as equity should be "costed" at an implicit return equal to the reloan rate in order to prepare the way for eventual evaluation of ARENTO's return on equity on a market basis." (USAID. 1984. 4)

This requirement, in combination with the above covenants with ARENTO, delineate USAID's tied-aid equipment provision and policy reform agenda from the purely concessionary terms of other tied-aid equipment donor nations.

V. MACROECONOMIC ANALYSIS

To understand the financial and organizational shortfalls of USAID's telecommunications projects and of ARENTO as a whole, it is necessary to detail the macroeconomic environment in which both had to function. Discussion of Egypt's economy must by necessity, begin with the overthrow of the monarchy in 1952 and the resulting restructuring of Egypt's political and economic environment. The integrative economic development model as applied by Harik shall be used to analyze Egypt's economic structure while the framework of the populist authoritarian state as developed by Brumberg will be used to elaborate on Egypt's political structure. While the delineation between the macroeconomic and the political analysis may blur as the same events are seen from different perspectives, it is hoped that the following analysis will explain the telecommunications environment at the time of the microeconomic analysis and the reasons for change in the macroeconomic environment to the one in which the telecommunications entity now operates.

A. Framework for Egyptian Economic Policy

1. Integrative Economic Development Model

As detailed by Harik, the integrative economic development approach represents an overarching centrally administered design that encompasses the entire national economy. Based on an equilibrium model, the extensive managerial efforts of a central omniscient agency are required to achieve and maintain the necessary economic "balance." Lacking the "invisible hand" of the free market to perpetuate this balance, an artificial equilibrium must be maintained between costs and prices, wages and cost of living, and societal needs

and government services. Microeconomic imperatives such as increased productivity, profit maximization and continued firm growth are a decidedly secondary concern to the macroeconomic considerations of system equilibrium. Specific economic decisions, therefore, while rational when taken in context of the effort to maintain the grand economic plan may be blatantly detrimental to a singular firm's ability to promote economic growth or maximize profits. (Harik. 10)

In this self-contained system, an enterprise's function is to meet the needs of other enterprises in the system. Therefore, an individual enterprise may be losing money, but the loss remains immaterial in view of the nonfinancial contribution the firm is supposed to make to other enterprises or to society. These nonfinancial contributions include enhanced national economic self-sufficiency; and the generation of value added benefits, part of which means employment and social services. By extension of the definition of social services, the products that public sector firms produce also have a role - to provide affordable commodities for the public. In theory affordable because central planning was the officially sanctioned strategy for most effectively reducing waste, avoiding exploitation, increasing productivity, and introducing an equitable distribution of wealth; but in practice because of the government's policy of artificial (administered) pricing.(Ibid. 10) Above and beyond fulfilling said responsibilities, a profitable public sector enterprise is expected to contribute even more to the maintenance of the economic balance through the transfer of part or all of its financial surplus. While these contributions finance the continued operation of the entire national development project, they simultaneously contribute to low growth levels, because of the siphoning off of surplus capital needed for renovation, research, and expansion. Ultimately, the intent of

the model is to maintain a balance among the parts of the national project and amongst the partners of the social pact, rather, than to achieve greater efficiency or productivity. (Ibid. 9)

1.1. Telecommunications in the Integrative Model

The negative characteristics of the PTT model as detailed in numerous studies and cited earlier in this paper, are in fact, the remnants of what was once believed to be the positive salient features of the integrative model. According to the latter model, the telecommunications entity was functioning appropriately when contributing to the benefit of the whole system, even if this were detrimental to the individual entity. Because telecommunications is unique amongst SOEs as a guaranteed generator of hard currency, one of its major duties was the transfer of financial resources to less prosperous members of the self-sufficiency development effort. This, by definition, is a diversion of reinvestment capital and a negative incentive for improving performance. The social service mandate applicable to all business entities, resulted in an underutilized, overstaffed workforce providing inferior service at below cost pricing. To ensure compliance with these policies a central administrative organization became a necessity. All of the above are anathema to the current telecommunications development perspective and were documented as such earlier, but to the founders of Egypt's integrative development approach, telecommunications was functioning exactly as required by the model.

The exclusivity of the two perspectives is mutual, however. From the perspective of telecommunications proponents, the fundamental tenets of the integrative model result in an economic and administrative environment totally hostile to their vision of telecommunications as an aggressive engine of development. At the same time,

implementation of the more enterprise-centric reforms proposed by reformers are as equally distasteful to the proponents of the integrative model. Increased autonomy as a privatized or even "corporatized" business, would undermine the balance essential to the model. Hard currency and subsidized services to essential, but losing sectors would evaporate. Social goals of full employment and equal access to services could be ignored by the new entity. But more importantly, once the balance has been upset and an example set, how could the legitimacy of the holistic model be maintained and by extension, the legitimacy of its proponents, in this case the Egyptian regime itself?

2. Economic Restructuring and Development Policy Reorientation

By definition, the new regime's restructuring of the Egyptian economy along the lines envisioned by the integrative model and its simultaneous implementation of a large-scale development effort, would be a formidable undertaking. The need for capital, raw materials, technology, and organizational capabilities would be unprecedented, and, considering the level of development efforts at the time, in scarce supply domestically. The availability of investment capital and technology was further limited by the self-sufficient nature of Egypt's developmental effort and its inherent hostility towards transnational corporations. Forced by default to rely upon what was domestically available and given the discredited private sector's lack of such resources to implement such a large-scale program, governmental assumption of almost total responsibility for the economy was inevitable. Thus, the adoption of the integrative economic development model had a financial, as well as, as philosophical underpinning.

The "Socialist Laws," enacted in the middle of the first Five Year Plan (1959/60-1964/65) provided for the nationalization of all large- and medium-sized companies, the

limiting of private shareholding and the sequestration of assets of 150 "reactionary capitalists." Most private enterprises in industry, manufacturing, trade, insurance, finance and other services were taken over by the government. Just prior to implementation, the private sector accounted for 76.16% of output; by the following year, its share of output did not go beyond an eighth to a quarter of the total, and the private sector share of investment was only slightly more than 5 percent. (Tschirgi, et. al. 76) Economic transformation, however, was not limited to nationalizing the means of production, it also included government regulation of the remaining private enterprises. (Harik.19) Thus, through nationalization, sequestration, and ambitious investment policies the state had created the public sector needed to implement the integrative development model.

In keeping with the inwardly-focused nature of Egypt's development effort, the first Five Year Plan was supposed to rely on domestic sources of finance, but after the exhaustion of the country's pre-revolution foreign-exchange reserves, the government resorted to heavy external borrowing at unfavorable rates. As early as 1962, Egypt was forced to negotiate the first of many standby agreements with the IMF in return for a pledge to reduce internal demand, lower government spending, and devalue the pound. Unwilling to risk popular discontent, Nasser, as would his successors, refused to enact the stabilization program and instead turned to foreign loans, in this case, from the Eastern Bloc. By 1965, the financial resources of the government were almost depleted and the government was unable to undertake a second national five-year plan. Egypt's dim fiscal situation was further aggravated by the 1967 war and the subsequent interim period leading up to the 1973 War. From 1965 to the time of Nasser's death in 1970, Egypt's

external debt grew by a factor of five - Egypt's continuing economic dependency was now an entrenched certainty. (Barkey. 80)

3. Critique of the Integrative Economic Development Model

According to Harik's analysis, the integrative development model ultimately failed in two fundamental areas: it did not foster increased productivity nor did it reduce the need for extensive resource transfer between economic enterprises. (Harik. A) A primary cause of the model's first failing is its reliance on social returns doctrine. In its broadest sense, social returns are the benefits accruing to individuals from the purchase of products or consumption of services at sub-market based prices. Also taken into consideration are the benefits of employment, whether that employment is redundant or not. (Ibid. 206) Because social returns consume investment capital, the policy undercuts the major source of funding, not only for economic growth but also for welfare itself - as a means of distribution it has proven to be the least productive for welfare and growth. (Ibid. 58) The role of the public sector as an agent of growth was, as a result, stifled. Without growth, there will be no revenue with which to support distribution. Since the public sector was made the spearhead of the industrialization drive, the stifling of its freedom to pursue productive policies for growth can be considered the major cause behind Egypt's failure to become one of the newly industrialized nations. (Ibid. 207)

With respect to the second shortcoming of the model, as overall economic performance steadily deteriorated, the more reliance was placed upon "corrective" administrative measures and coercion. Thus, the initially rational and proactive economic model was transformed into a powerful, but increasingly reactive and arbitrary, tool for artificial economic manipulation. (Ibid. A) This increased economic manipulation led to an

increasing divergence between the administratively rational and economically rational decision-making processes. The resulting unruly economic environment made ad hoc measures such as subsidies the norm. Thus, the continued and increased use of subsidies indicated an economic deficiency in the model and was a symptom of the complicated economic arrangements needed to perpetuate the flawed the integrative model. (Ibid. A) The cumulative effect of this nearly thirty-year experiment on the national economy accounts for much of Egypt's economic stagnation.

With the fervor of the revolution and the idealism of radical policy initiatives giving way to the complexities of the integrative economic model, the regime started to idle in place and muddle through. The realization of how difficult it was to move forward and how costly and painful it was to stay in place, immobilized regime leadership. The patron state found itself increasingly caught up in a game of self-entrapment: Government subsidies created an accelerated demand for resources it did not have, while public resistance to a lessening of the patron's largesse increased as did the number of dependents. Low levels of wealth generation and the inability to adequately meet the basic needs of the people brought into question the rationality of the central planning model and government hegemony over the economy. (Ibid. 80) This, in turn, must lead to an examination of Egypt's political environment.

VI. POLITICAL ANALYSIS

A. Creation of Egypt's Political Environment

Because of the close and mutually reinforcing relationship between economic benefit and political support and this relationship's antipathy to large-scale change, the prerequisite of a new political coalition before initiating such a radical restructuring of the

Egyptian economic system was obvious. The new regime's coalition was essentially a composition of the former's economically disenfranchised - the rural middle class (the peasantry), labor, "productive" urban capitalist, intelligentsia, and the military. These mostly populist groups were organized into a loose alliance that provided support for the state to pursue both economic growth and social equity. (Barkey, et.al. 79) To achieve these two competing goals, the regime embarked on a national development strategy that largely conforms to the tenets of the aforementioned integrative economic development approach and a method of governance that most closely resembles the political authoritarian state.

Generically, the three most prominent attributes of the populist authoritarian state are: 1) they are based on a broad, popular coalition that embraces, to various degrees, workers, peasants, professionals, and "national" capitalists; 2) they promote eclectic economic policies designed to satisfy as many members of the coalition as possible; and 3) they subordinate these social groups through corporatist and patron-client mechanisms that give the latter privileged access to policy-makers in return for their political quiescence. (Ibid. 76) The Egyptian version of this political system was to be a self-contained hierarchy, any attempt to circumvent accepted channels was illegal - class struggle or links of solidarity among members of this coalition were officially prohibited. (Harik. 14)

A fourth, and arguably the most important characteristic of the populist authoritarian state with regard to this study, is its determined resistance to economic structural reform. This resistance is the result of the ruling elites' continued dependence on the support of the coopted coalition, which, by definition, has a vested interest in maintaining and

defending statis economic programs - it is a logical consequence of the aforementioned attributes. (Barkey, et. al. 74) Unwilling to antagonize and possibly alienate members of the coalition, the ability of reformers to extract the state from its intricate web of commitments and alliances is severely compromised. Lacking the necessary state autonomy to embark on necessary, but uncomfortable, and therefore dangerous, economic and political reforms, pro-reform elites often proceed down the path of least resistance and exploit the existing institutions, coalitions, and ideologies already available to them. The resulting "survival strategy" allows for limited economic changes without any substantial retooling of the fundamental system. (Ibid. 74)

B. Sadat

To the extent that both the populist authoritarian state and the integrative economic development approach were interdependent and mutually reinforcing, Sadat realized from the beginning that genuine and effective economic reform called for the wholesale restructuring, if not abandonment of the integrative development model. To implement and sustain such an undertaking, would, in all probability, harm members of his political coalition and thereby, undermine his legitimacy and ability to rule. Faced with an array of organized 'losers' and lacking a coherent "winners coalition" of new economic and political beneficiaries, the Sadat regime pursued a "survival strategy" of supplementing, rather than restructuring, existing institutions. This strategy was the underlying principle of Sadat's policy of "Intfitah" or "Opening" - the crisis was to be moderated by retooling the fringes of the all-encompassing development model.

1. Retooling the Status Quo

The legislative cornerstone of Sadat's survival strategy was Law 43, passed in June 1974. As such, the law's intent was not to alter the fundamental tenets of Nasser's integrative development strategy, but, to graft a slightly more outward-oriented perspective onto the existing structure. The objective of this newly adopted perspective was to generate external financing for the patron state's ever-increasing financial burden by encouraging increased Egyptian exports and foreign investment in the domestic economy. To take advantage of international investment capital, technology and markets, foreign firms were actively encouraged to invest in the private sector, in which case they could have a majority interest, or to invest in public sector firms, providing that the latter maintained majority share of equity. Law 43 also provided for the creation of free zones, and in-country projects, both of which were not subject to Egyptian taxation. The other key innovation of the "Infitah" was the "own-exchange" system. Its purpose was to encourage the importation of production inputs for the private sector by permitting importers to obtain foreign exchange without converting it in Egyptian banks at overinflated exchange rates. (Barkey, et. al. 82)

The significance of the above measures comes as much from what was omitted as from what was delineated in the legislation. No provision was made for the devaluation of the pound, the deregulation of interest rates and exchange rates, or a reduction in government spending - all four being necessary components in the maintenance of the integrative economic system and all four being hindrances to achieving the externally oriented economy professed by the new Open Door Policy. (Ibid. 83) For example, in the absence of any deregulation of exchange and interest rates, or the diminution of public-sector

control over joint ventures, neither domestic nor foreign investors had much incentive to risk their capital in domestic enterprises. The end result was that, statistically, the Egyptian economy differed little in 1990 from that of 1963. The public sector remained responsible for 70 percent of investment, 80 percent of foreign trade, 90 percent of banking, 95 percent of insurance, and about 65 percent of value added in 1990 as compared to 1963 with the public sector comprising 80 percent of the means of production, 80 percent of the export trade, 100 percent of insurance companies and banks, 100 percent of transport and communications, 50 percent of contracting companies and a little over 25 percent of domestic trade. (Harik. 19-20)

If considered from the perspective of an economic shift toward greater reliance on foreign capital to finance development, the Open Door Policy's impact is questionable. As a survival strategy it accomplished its objectives - impact on overall economic policy was minimal: subsidies to individuals and public sector companies expanded, privatization was avoided, price and crop controls persisted, government predominance in foreign trade continued, foreign exchange controls remained and despite the formalities, administration of the economy remained highly centralized . (Ibid. 20) However, in direct contradiction to all of the aforementioned deterrents to economic growth, in terms of growth of income and foreign exchange revenues, the last four years of Sadat's presidency (1977-1981) were almost unprecedented in Egypt's modern history.

2. External Financial Windfalls

Before 1975, cotton, a very traditional colonial export, was Egypt's largest source of foreign exchange. Revenues from oil, tourism, and the Suez Canal had been severely affected by the 1967 war, while workers' remittances from aboard had not yet started to

become a significant source of foreign exchange, bringing in even less than tourism. (Amin. 40) One year later, Egypt was getting from oil exports more than double the value of cotton exports and more than the whole of its agricultural exports put together. (Ibid. 53) Seemingly overnight, higher oil prices resulting from the 1973 Oil Embargo had created a flourishing "rentier economy" in Egypt; an economy dependent on the "economic rents" from oil exports, labor remittances, the Suez Canal and tourism. All four together reached a peak of seventy-five percent of Egypt's total current receipts of foreign exchange in 1981/82, and although this proportion has declined, as of 1996, it was still no less than sixty percent. (Ibid. 40)

As a medium-sized oil exporter, Egypt benefited directly from higher oil prices. Oil became a principle export for Egypt, netting $2,640 million in the peak year 1983-1984 as compared to only $135 million in 1974. (Lavy. 19) Oil, along with the increased tolls and usage of the Suez Canal, accounted for twenty percent of Egypt's gross domestic product in the early 80's, but less than half a percent of total employment. (Ibid. 4) As a counterbalance to this latter fact, Egypt was able to export approximately fifteen percent of its continually growing labor force. With Egyptians comprising one third of the total foreign work force in the major oil producing countries, expatriate workers were providing the majority of the influx of foreign capital. In the early 1980's, remittances transferred by the roughly 2 million Egyptian workers abroad totaled about $3.5 billion a year. In Egypt, workers' remittances in 1982-1984 reached about ten percent of GNP- three times its merchandise exports, excluding oil. (Ibid. 17) By the early eighties, revenues from oil, expatriate workers, and the Suez Canal accounted for forty percent of GDP, as compared to fifteen percent in 1975. Added to this economic boon was the fact

that this large influx of oil and oil-related revenues into the region positively impacted Egyptian tourism, which is half composed of Arab tourist. (Tschirgi, et. al. 166) In addition, Egypt continued to receive its annual $1 billion in economic aid. (Barkey. 90)

The large introduction of foreign currency during the boom resulted in record economic growth levels - annual GDP growth accelerated to almost nine percent, but because of high population growth, per capita GDP grew only five to six percent a year. (Lavy. 19) According to telecommunications development theory, the aforementioned massive influx of investment into the telecommunications infrastructure, along with other equally large AID-financed capital projects, combined with this sudden economic upsurge should have been mutually reinforcing and created both a more robust economic boom and an expanding telecommunications infrastructure - it is both the fundamental belief of the theory and the crux of the telecommunications and development causal versus correlational argument. The simultaneous nature of these two events and their impact, for better or worse, on each other can be seen as a fundamental test of the causational argument and the telecommunications investment over policy argument.

2.1. Analysis of Foreign Financing

Unfortunately, the above hypothesis has proven to be overly simplistic, the heavy influx of foreign currency brings its own temptations and, ultimately, drawbacks. Research into this "Dutch Disease" phenomenom has suggested a possible causal link between the heavy influx of foreign currency and an unbalanced pattern of growth. (Lavy. 39) As applied to the Egyptian boom, the abundance of foreign currency made it possible for the economy to expand in nontradable sectors, such as services and construction, while neglecting and even damaging traditional export market activities. The external

"economic rents" financed a higher standard of living and the resulting domestic absorption rate outstripped Egypt's GDP growth. In response to this unmet and increasing public demand, imports, of necessity, increased rapidly. (Ibid. 19) Traditionally, these increased imports would have been financed through conventional efforts to generate hard currency - expanded tourism and the export of agricultural and industrial products. (Ibid. 20-21) However, the sudden boom was inherently hostile to the latter: increased domestic demand for these same agricultural and industrial products deprived the export sector of material while the government's overvalued foreign exchange rate, propped up by the inflow of foreign funds, made what exports were available internationally uncompetitive.

By the early 1980s exports from the traditional sectors had become a minor source of foreign exchange as the influx of huge amounts of external funds diminished the perceived need and concomitant capability to develop export production. Egypt concentrated on expanding services and producing goods for the domestic market, while imports bridged the gap to meet increasing domestic demand. As predicted by "Dutch Disease" research, the little investment that did transpire was concentrated in the financial and service sectors; of the 2.1 billion Egyptian pounds capitalized in joint ventures by the end of 1983, fifty-four percent went into banking and financial services, while only twenty-three percent went to industry. While only fifteen percent of Egypt's new workers went into the traditional tradable sectors of agriculture and industry, nearly sixty-eight percent chose the service sector - half in government. (Ibid. 41) The end result of this investment and employment pattern was that by 1987 services accounted for fifty-four percent of Egyptian GDP. (Ibid. 41)

Performance amongst the SOEs during the economic boom, as can be inferred from above, was less than satisfactory. Over the period 1973-1987, the net rate of return on capital invested in Egypt's public sector fell from 5.2% in the first year, to 1.9% in 1982, and then to 1.7% in the last year. (Waterbury. 115) Total public enterprise exports of goods and services grew only sixteen percent between 1974 and 1985. If oil exports and rent-generating assets like the Suez Canal are excluded, public sector exports grew less than three percent a year. Beginning in 1979, oil and canal revenues accounted for more than fifty-five percent of total exported goods and services - and more than seventy percent of public enterprise exports. (Lavy. 47) To generate this minority share of exports, the remaining Egyptian SOEs in the late 1980s required foreign exchange inputs (capital and imports) of more than $4 billion to produce $300 million in exports. (Waterbury. 114) This anemic export output from such large foreign exchange outlays resulted in this group of SOEs being responsible for more than ninety percent of public enterprise debt. (Lavy. 47) That the public sector was a huge economic burden is obvious and indicative of the failure of the Open Door Policy as an economic reform initiative.

The outbreak of "Dutch Disease" in Egypt became an epidemic because of a catalytic interaction between the "own-exchange" system and an overvalued pound. The former, by offering a means to circumvent the depressed exchange rates resulting from the latter, fed an expanding black market and new commercial banks. This ability to circumvent official currency controls discouraged long term investment via official channels while encouraging Egyptians to seek quick return investments in the import of consumer goods, in banking and currency, or in real estate speculation. Investment in these latter areas benefited from pent-up middle-class consumer demand which exploded in the 1970s: the

share of the total import bill comprised by own-exchange imports rose from 3.55% in 1975 to twenty-one percent in 1979, while the share of total imports represented by consumer goods rose from ten percent in 1969, to twenty-eight percent in 1973 and thirty-four percent by 1977. However, not all possible investment capital was expended in the above pursuits, the commercial-banking sector became a huge foreign-currency siphon: by 1978 an estimated fifty-eight percent of all deposits in joint venture banks had been shifted to parent banks, while only twenty-three percent of the former's loans went to Egyptian industry. (Barkey, et. al. 83-84) Within three years this trend exacerbated Egypt's economic crisis. The inflow of boom-generated dollars and speculative activities heated up the economy, producing a thirty percent inflation rate. To compensate state employees and other vulnerable groups, the regime raised subsidies, which cost $1.28 billion a year by the close of 1976, thirty percent of central government expenditures. (Ibid. 84)

2.2. End of Foreign Windfalls

Each of the four external income sources responsible for Egypt's boom contain a large element of "economic rent", in that earnings are largely unrelated to effort, and variations reflect changes in demand conditions rather than in cost. (Amin. 40) Therefore, the supplier's ability to proactively respond to variations in demand is limited. In the case of Egypt, the instability of its foreign currency flow is further highlighted by the fact that fluctuations in demand for at least three of the four sources - tourism, remittances, and oil - is more subject to the influence of political factors than other exports. (Ibid. 40-41) Evidence of this political influence upon Egypt's economic fortunes is observable from events of the last thirty-five years. The 1967 War, far beyond its decimation of the Egyptian military, had widespread negative repercussions throughout the Egyptian

economy largely because of its impact on revenues from oil, the Suez Canal and tourism. The economic boom after 1975 was largely due to the same factors working in the opposite direction. Egypt's economic pendulum was about to reverse itself yet again.

As the economic situation of the oil-rich Gulf states began to deteriorate in 1982, its repercussions were immediately felt in the second tier of service-providing nations such as Egypt. The initial leveling and later collapse of oil prices directly and dramatically impacted Egypt's four sources of "economic rent": remittances fell from $4.4 billion in 1985 to $2.2 billion in 1986; oil revenues from $2.6 billion to $1.2 billion; Suez Canal receipts from $1 billion to $900 million; and tourism from $600 million to $300 million. (Barkey, et al. 90) After 1982, with foreign currency receipts in decline, Egypt's pattern of unbalanced growth and the bias toward nontradables was maintained by heavy government reliance on foreign aid and external loans to finance the deficits. It not only helped finance the budget gap, but, more importantly, paid for the heavy imports that bridged the gap between heavy domestic demand and light domestic output. The budget deficit was thus translated into an ever-worsening balance of payments deficit with little effect on prices. (Lavy. 44) The integrative model and the social pact upon which the regime rested was thus preserved, but at a continually escalating price.

2.3. Results of External Financing

Egypt had failed to take advantage of the boom to reduce its inherent vulnerability to external shocks - it can be argued that this vulnerability was made all the more acute through government mismanagement or more specifically, through the government's chosen survival strategy. Essential reforms aimed at removing distortions and implementing structural change - conditions essential for sustained economic growth -

would have been easy when foreign currency was abundant. With an increase in total exports of goods and services between 1977 and 1981 of nearly $7 billion, equivalent to eighty-six percent of the total external civilian long and medium-term debt in 1977, conditions were obviously favorable for an attempt not only to stop the trend of increasing indebtedness but to bring about a significant reduction in it. What happened, however, was that these debts, which amounted to $4.8 billion in 1975 and $8.1 billion in 1977, increased during the next four years by no less than seventy-six percent to reach $14.3 billion in 1981. (Amin. 11)

Between Nasser's death in 1970 and the assassination of Sadat in 1981, a time frame which effectively covers one full economic decline-to-boom-to-decline cycle, total external civilian public debt, both long and medium-term but not including short-term debt, increased from $1.7 billion to $14.3 billion, more than an eight fold increase. Other kinds of external debt (short-term and military debts) increased from about $3 billion to $15 billion, so that total Egyptian external indebtedness of all kinds, civilian and military, public and private, long, medium and short-term, multiplied six times in a decade, from about $5 billion in 1970 to about $30 billion in 1981. These last two amounts of debt represented respectively 43% of GDP in 1970 and 141% of GDP in 1981. To service civilian debt alone, Egypt had to pay in 1981 no less than $2.9 billion ($1.3 in repayment of principal and $1.6 in interest payments). The ratio of debt service to all proceeds of foreign exchange was twenty-eight percent in 1981, about the same as it was in 1970, but with the important difference that the total value of exports of goods and services in 1981 was more than ten times its level in 1970. (Amin. 12)

Egypt neither developed nor expanded its technology base or in any way promoted conditions essential for developing new exports - the stated goal of the Open Door Policy, or economic independence, the preeminent goal of the integrative model. Instead, pervasive systems of price control, distorted allocations of resources, unrealistic exchange rates, and the lack of proper incentives prevented the development of a large, diversified export sector. While "Dutch Disease" does provide insight into the possible negative economic aspects of large currency influxes, it is the actual governmental policies of the country involved that either counteract or enhance these aspects. Unfortunately, in the case of Egypt, the impact of "Dutch Disease" was magnified by government policies and allowed to ravage the economy and scuttle an exceptional opportunity for long-lasting economic reform and enhanced development.

C. Mubarak

In 1981 Mubarak not only inherited the crucial Nasserite public sector and mass public constituencies which considered themselves entitled, as part of a social contract, to populist benefits, but Sadat's legacy of infitah and its new rich unwilling to accept the tax burden for the former. Throughout the 1980s reform initiatives remained in limbo as Mubarak sought to balance the legacies of Nasser and Sadat with the flow of aid and oil-related earnings into the state's coffers - continued external financing of the regime's untenable position as patron of these conflicting constituencies. (Hinnebusch. 160) The result was a continuing large balance of payments deficit, which by the end of 1987 stood at more than $40 billion in foreign debt - exceeding Egypt's GNP, which was an estimated $36bil in 1987. (Lavy. 23) - making Egypt, with the exception of Iraq and its war effort, the most indebted nation in Africa and the Middle. (EIU. Country Profile. 1993)

Cairo, almost a year behind in payments and with mounting interest and penalty charges, was forced to negotiate a rescheduling of its debt. Despite the magnitude and deepening severity of its financial crisis, Egypt was able to minimize concessions by exploiting its geopolitical leverage. In response, America interceded on Egypt's behalf - the terms of the 18-month stand-by agreement concluded with the IMF in March of 1987 were more generous than those granted to the vast majority of debtor nations. However generous the agreement, it still mandated an economic reform program. (Ibid.) It included a staged, 18-month unification of the multiple exchange rate system; a floating of the pound with respect to international currencies; a two percent rise in interest rates, and a decrease in energy price subsidization. However, it left direct food subsidies untouched, interest rates far below annual inflation, and energy costs at twenty percent of world prices. (Barkey. 92-93) Two months later, the Paris Club agreed to reschedule $6.5bn owed to 17 Organization for Economic Cooperation and Development (OECD) creditors, while a separate arrangement was also made with Arab lenders. The agreement reduced arrears until the end of 1986 and all interest and principal payments falling due between January 1987 and June 1988 on government and officially guaranteed military and civilian debts. (EIU. Country Profile. 1993) Egypt, as can by argued from the tone of the above agreements, received favorable terms and maximum discretion from the international community to bring order to its own economic house.

The favorable terms and the unarguably necessity of reform should have had a positive mutually reinforcing affect upon the undertaking. Initial implementation of the reform package went well - partial unification of exchange rates, raising producer prices and some pressure on the public sector to become more accountable. However, further

implementation of the program would have reduced regime largesse and risked alienating members of its coalition; the program was abandoned as regime resolve faltered in the face of possible political unrest. With the end of the Paris Club agreement in June of 1988, Egypt was once again forced to negotiate a rescheduling of its debt payments. The IMF, not exceedingly impressed with the results of its generosity toward Egypt in the 1987 accord, was determined to impose more stringent terms. Having expended its geopolitical leverage in the 1987 negotiations, its Western creditors, now led by Egypt's former ally, the USA, now demanded more radical economic reforms. Unable to fund or extricate itself from its intricate political and economic alliances, Egyptian financial and economic policy stalled - negotiations with the Fund dragged on through 1989 and 1990. By the end of 1989, with an external debt of some $51bn (144% of GDP), Egypt was one of the developing world's largest debtors. (EIU. Country Profile. 1993) By the early 1990s Egypt had run out of options for maintaining macroeconomic balances and the viability of existing arrangements. (Waterbury. 266)

1. Deus ex Machina - Gulf War Repercussions

Unlike Latin American debtors, Egypt had not borrowed heavily from commercial banks. Most of its total debt was on concessionary terms, consisting of long-term development loans from governments and international institutions or trade credits, for the most part guaranteed by official export credit agencies. (EIU. Country Profile. 1993) However, an estimated $10bn of the sum--for military loans--was borrowed on commercial terms (12-14% but in some cases 18%). Of the $11.7bn that Egypt owed the U.S. as of mid-1988, $5.7bn was for military purchases largely dating back to the late 1970s and early 1980s when Egypt embarked on the expensive process of re- equipping its

armed forces with U.S. and European equipment. By 1990 $7.1bn had accrued in military debt, of which some $2.55bn represented interest arrears and penalty charges. Added to the increased service burden of the military debt was the ever-present threat of the Brookes Amendment, which would end all aid to any country falling more than a year behind on its military loans - no exceptions. (Butter. 15) Cairo routinely delayed payment until the twelfth month and was forced to redirect Saudi and Kuwaiti grants, as well as, US cash aid transfers to meet minimum payments. (EIU. Country Profile. 1993) Egypt's maneuverability was gone and the imposition of harsh sanctions seemed unavoidable - into this dire circumstance burst the Gulf War. In recognition of Egypt's "unique contribution in galvanizing international support against Iraqi aggression", Washington forgave the entire military debt. (Ibid.) This was soon followed by a reduction by some Arab Gulf states of another $6.6 billion of Egypt's debt. As a result, Egypt's external debt was reduced from $47.6 billion in June 1990 to about $34 billion by Feb. 1991. The two exemptions were expected to reduce Egypt's interest obligations by about one billion dollars annually. (Amin. 19-20)

The above two debt reductions were quickly followed in May 1991 by an agreement with the Paris Club that covered an estimated $27-28bn in official and government-guaranteed civilian and military debt. Although the agreement's leniency was a reward for Egyptian support during the war, debt relief was conditional; it was to be implemented in stages, each triggered by specific economic reform criteria. In this manner, Egypt would be exempted from fifty percent of its external debt amounting to $20.2 billion, in three steps. The first, constituting an exemption of fifteen percent, took place in July 1991, which translated to a reduction of Egypt's external debt to $31 billion. The second

exemption of fifteen percent --or around $3bn-- was conditioned on Egypt's successful implementation of the 1991 IMF agreement (accomplished in March 1993) and the adoption of a successor IMF program (September 1993). The final twenty percent--or about $4bn -- was to be exempted after the completion of the September IMF agreement. (May, 1994). (Lofgren. 27) (Amin. 19) This latter thirty-five percent reduction (15% and 20% respectively) would reduce Egypt's external debt to about $24 billion, a decline of fifty percent from its level in mid 1990. (Amin. 20) During this time there was to be a thirty percent reduction in interest payments on non-concessionary official debt, with the remaining fifty percent of Paris Club debt to be rescheduled over 25 years. (EIU. Country Profile. 1993) A study of the debt relief effort by the World Bank revealed a significant positive affect upon the most debilitating part of Egypt's debt, a substantial reduction in payments arrears on outstanding debt--interest arrears fell from $1.65bn in 1990 to a mere $127m in 1991 while principal arrears on long-term debt declined from $5.36bn to $1.6bn. In terms of Egypt's exports of goods and services dedicated to debt service, there was a decline from 26.3% in 1990 to 16.7% in 1991. (Ibid. 1993) Thus, Egypt's three-year impasse with its creditors, the latest manifestation of systematic faults in its two-decade-old economic order, was bypassed by yet another event wholly external to Egypt's political and economic systems.

2. Policy Catharsis

In December of 1990, President Mubarak announced a thousand day program for the liberalization of Egypt's economy. (Lofgren. 22) In essence, the program was meant as a demonstration to the international community of Egypt's willingness, albeit born of necessity, to begin the implementation of stabilization, structural adjustment and economic

liberalization programs - prerequisites demanded by the IMF and World Bank before reopening their coffers. It was successful - the aforementioned litany of international agreements reached after this initial gesture is its result. This program could, in fact, be construed as the beginning of the end of the integrative model as the preeminent force in Egyptian economics.

Like most IMF and World Bank debt relief/restructuring agreements, Egypt's new economic regimen focused on immediate macroeconomic stabilization followed by a fundamental restructuring of the economy. Salient features of this new economic order are an increased reliance on market forces and the private sector and stronger integration into the global economy. (Lofgren. 22) All of the above characteristics are hallmarks of an economic philosophy diametrically opposed to that of the integrated economic development model. The mutual exclusive nature of these two economic philosophies can be discerned from the requirements demanded by the IMF and World Bank in 1991, which for all purposes, called for the dismantling of the Egyptian economic system. The successfully implemented May 1991 IMF agreement covered much of what the abrogated 1987 agreement had addressed and the Egyptian government found unpalatable at the time - a "traditional" package of adjustment policies, concentrated in five areas. First, fiscal restraint "aiming at reducing aggregate expenditure and reducing inflation"; second, exchange rate reform, to reduce the balance of payments deficit and effect efficient resource allocation throughout the economy; third, adjustment of the interest rate "to achieve a positive real rate of interest that will encourage savings, rationalize the allocation of investment, and attract a larger inflow of workers' remittances from abroad"; fourth, reform of the pricing structure through elimination of subsidies and price control

in order to reduce waste and misallocation of resources; and finally, liberalization of the operation of public sector companies so that they can liquidate inefficient units, set their own pay rates and, "most important of all, set their own selling prices".(Handoussa. 14)

Taken separately, each of the above reforms targeted a salient feature of the integrative economic development approach. Before examining each individual area, it is useful to distinguish between the earlier stabilization phase and the latter structural adjustment phase. In the stabilization phase, the focus is on remedying the most obvious of the immediate imbalances: balance-of-payments and/or budget deficits and high inflation rates; this would be the province of the first four areas, while the last addressed an issue of structure. (Barkey. 2) Taken as a whole, as they must since the economic system they attempt to modify is a self-contained system, the long-term goal is the minimization and/or elimination of the previous economic system. The goal of fiscal restraint, a foreign term in the integrative model, can be interpreted as a nonspecific and generic targeting of government subsidization of its state owned industries and ubiquitous social programs. Exchange rate reform, in Egypt's case three separate exchange rates, weakens the government's ability to provide maximum financial and foreign intermediate inputs to the industrial sector. The former by establishing an arbitrarily high exchange rate for normal international business transactions, thereby extracting more hard currency out of the transactions and the latter by having a lower (government subsidized) exchange rate for the purchase of raw materials and intermediate inputs for state industries. By unifying the rates and allowing the currency to float, the public sector, engine of the integrative approach is deprived of two important subsidies. The same deprivation occurs by positively adjusting interest rates, in that, low rates paid to account holders subsidized the

low loan rates extended to the ever-needy public sector. Reforms four and five, however, directly target the guiding precepts of the integrative model. The elimination of subsidies (direct, indirect and cross) and price controls for both the public and public sector, as well as, liberalization of the sector is in direct conflict with the centrally managed methodology and balance maintenance philosophy of the integrative model.

The successor IMF agreement with Egypt, known as the Extended Fund Facility (EFF) was not only a trigger for the second stage of the debt reduction agreement but contained further inducements of $569 million. In the words of the IMF, the overall objective of the EFF was " to create a decentralized, outward-oriented market economy with sustained growth." To this end, the EFF was to shift emphasis away from the shorter-term fiscal and monetary policy adjustments which dominated the previous agreement, towards structural reforms such as privatization, trade liberalization, price deregulation, a new favorable legal framework for business and investment, and promotion of the private sector. These new latter reform initiatives were to be monitored by the World Bank in accordance to the Structural Adjustment Monitoring Program (SAMP) signed days before the EFF. In the case of the SAMP, the World Bank was not to provide financial aid, only its implementation expertise. (EIU. Fourth Quarter. 1993)

The above economic reforms are successfully disassembling the integrative model, but only after the Egyptian regime admitted publicly that the system was untenable and initiated economic reform - arguably, the only viable course of action available to it since the collapse of the rentier economy in the early 1980s. The fundamental issue is why choose this moment after nearly a decade of resistance and procrastination. This particular decision was based on the coalescence of a number of events, a majority of

those being out of Egypt's control to influence, which made reform, in the opinion of Egypt's elites, the least painful of alternatives.

2.1. Causes and Inducements for Reform

Even though reform had been a continuous topic of discussion for years in government circles and with the international community, it was never truly considered a viable option given Egypt's interlocking political and economic structure. It was the coalescence of a number of extrageneous international events that reshaped and narrowed Egypt's options. The previous decade had seen much of Latin America accept, with varying degrees of willingness, structural reform as an economic necessity. Egypt, however, was able to persevere as it leveraged its geopolitical importance to resist an ever-increasing momentum for economic liberalization and world economic integration. The economic and political collapse of the Soviet Union, the preeminent example of the integrative economic development approach, dealt Egypt two significant blows. First, a loss of legitimacy as not only the Soviet Union, but also Eastern Europe, abandoned, with very little hesitation, the integrative approach for a market based economic system. Secondly, and more importantly, with the Eastern Bloc fully engaged in internal economic and political restructuring, under the tutelage of the Western powers no less, Egypt had lost much of its geopolitical leverage as a significant pawn in a formerly bipolar world. A unipolar world, unfortunately for Egypt, directly impacted its ability to collect unconditional "strategic rents" that, in turn, had financed its intransigence to economic reform - an intransigence it could no longer afford financially or with respect to a changing world economic philosophy. The economic conversion of the Eastern Bloc marked, at least in perception, if not wholly in fact, the near globalization of the free market ideology

and its resulting world economy. In this increasingly integrated world system, a society's economic well being and survival depend on its ability to compete in an international arena. An arena in which, latecomers like Egypt, could find themselves at a disadvantage with respect to not only their industrialized and developed counterparts but also by their more successful newly industrialized peers.

This narrowing of Egypt's options on the international stage coincided with two disparate, but ultimately complimentary events in encouraging fundamental economic reform. The first was Egypt's desperate need for relief from the large financial debt accumulated by decades of perpetuating the untenable status quo. The second was the Persian Gulf War, at the end of which the Western powers generously rewarded their strategic ally. The former gave the IMF and World Bank, and by extension, the Western governments increased leverage to push Egypt into reform, while the latter provided both a means of making the reform process palatable to Egypt and served as an immediate positive reinforcement for the limited reforms already begun. This combination proved powerful enough to coerce the regime and Egypt's soeial elites to adopt, if not wholeheartedly, at least pragmatically, a new economic policy.

This sudden catharthis in response to a shift in Egypt's position with respect to the international order has been characteristic of Egyptian policy since the Napoleanic expedition of the early 1800s. Its geopolitical significance has always attracted the interest and interference of the major powers, a situation Egypt, as discussed earlier, attempts to work to its advantage. Thus, in the interest of self-preservation and benefit, Egyptian elites have attempted to influence and have been influenced by the fluid balance of international power. Reform, in this case, was pursued on the basis of a perceived

unipolar world in which the American hegemon wanted economic reform. In addition to this external influence, was a final domestic admission that the integrative economic model had failed and an export-oriented strategy was necessary. To this end, Egypt had to fully integrate into the international market and hope that the resulting class of Egyptian industrialists and the enormous expatriate capital ready to return would make economic reform work. Regime stability, however, was not to be jeopardized (Hinnebusch. 164) The Interior Minister's repeated claim that stable order was the first requisite of economic reform seems to reflect regime consensus. (Ibid. 168)

Domestically, the feasibility of real reform was enhanced by an increase in the state's autonomy from its supporting coalition. By 1990, efforts at limited democratization had reached an impasse and the government was convinced that further efforts would be incompatible with the now inevitable full-scale reform effort. (Ibid. 168) As a populist authoritarian state, concurrent democratization and reform efforts might have permitted the mobilization of reform victims, many of which would have been drawn from the ranks of the government's former coalition. It was believed regime stability would be less threatened by continuing the effort to divide and rule an opposition badly split along pro- and anti-reform lines and by the secular opposition's fear of the Islamic movement. (Ibid. 168) The regime seems unwilling, as has been the case in Latin America and Eastern Europe, to trade increased political participation for public acceptance of welfare reductions; thus, sacrificing the legitimacy those reforms could be accorded if they emerged from a democratic process. As such, public acceptance depends wholly on whether the social pain of reform can be buffered by the rent Egypt still commands until - and if - reform delivers the investment and growth it advocates promise. (Ibid. 170)

2.2. Regime's Commitment to and Implementation of the New Economic Order

An indication as to the seriousness of commitment to the new economic order, of both the Egyptian regime and its major patron, the United States, was the inception of the U.S.-Egyptian Partnership for Economic Growth and Development. Launched in September 1994 by President Mubarak and Vice-President Gore, its primary goals are to provide a high level forum to serve as a catalyst for economic growth in Egypt by involving the executive branches of both governments and emphasizing the critical role of the private sector. (USAID. 1997. 1) The first goal indicates a personal commitment by Mubarak to the effort, irrespective of coalition interests, while the second indicates an acceptance of, as compared to the earlier acquiescence to, the pro-private sector, market economy philosophy of the World Bank, IMF, and USAID. This acceptance comes at the expense of the formerly dominant integrative economic development model and its political and economic beneficiaries. The special nature of this program, and in turn, the special relationship between the U.S. and Egypt is evident from the other two nations chosen to participate in similar programs, Russia and South Africa - both regional powers and necessary participants in any U.S.-led efforts in their spheres of influence. (EIU. Second Quarter. 1995)

An indication as to Mubarak's personal resolve with regard to this economic transformation was the January 1996 visit of Vice-President Gore in support of the Partnership. In a speech delivered during the visit, Mubarak announced a new vision of Egypt's economic future, a vision as diametrically opposed to the fundamental economic precepts of the current regime's forebearers as any that could be imagined: "a vibrant private sector-led open market economy fully integrated into the global economy." To

ensure that his immediate subordinates were of a like mind and were free of former coalition group/economic philosophy encumbrances, Mubarak appointed a new economic cabinet and Prime Minister. In keeping with the new economic philosophy, the cabinet's mandate was to liberalize the economy by deregulating the trade sector, increasing competition in the financial sector and accelerating the pace of privatization of the public sector. (USAID. 1997. 1)

2.2.1. Machinery of the New Economic Order

While the formation of the Partnership and what it represents are of interest in understanding a fundamental shift in the political environment of Egypt, the actual machinery charged with carrying out the grand new economic vision provides even more insight. Just as the populist regimes before it had enunciated the integrated economic development model and sought to build the support structure from available and/or created interest groups, the current regime's new economic order's required its own constructs. Because of the private sector focus of the economic restructuring, an integral and prominent role, of necessity, must be assigned to the business community. Therefore, underneath the over-arching strategic vision of the Partnership is the President's Council, which is composed of major business leaders from the United States and Egypt. Its mandate, which can be discerned from the Council's composition, is to guide Egypt's transition to a competitive, outward-looking, market-based economy. In keeping with this mandate, the Council has recommended three areas for immediate examination and improvement: trade promotion, privatization and regulatory reform. (Ibid. 3)

The aforementioned "transition to" must inherently contain a "transition from," in this case, it is Egypt's "inward-looking, protected, centrally-planned, public-sector dominated"

economy. (Ibid. 3) As discussed earlier, each of the above characteristics had been an inherent and positive feature of the integrated economic development approach as pursued by Nasser. With the announcement of the Mubarak's new economic vision, the official death knell of Nasser's government-led import-substitution industrialization had sounded. Instead of a domestically-focused development effort led by the state bureaucracy, the new effort would have an international orientation and emphasis, as seen by the focus on export promotion and the private sector leadership provided from both the American and Egyptian business communities. Taking into consideration the incompatible nature of the current and previous economic efforts and the groups chosen to lead each, the fact that the latter effort will proactively pursue the dismantlement of the former is to be expected. The second area of interest to the President's Council, privatization, is essentially the "surrender" of the discredited state-led engines of growth. The speed at which the SOEs are relinquished to the private sector is now a litmus test for the Mubarak regime: "The President's Council believes that the acceleration of privatization will be the signal to the international business community of Egypt's real commitment to the establishment of a free market economy." (Ibid. 3) The Council's final area of interest would naturally focus on a fundamental restructuring of the regulatory environment that had fostered the now discredited former economic regime. With both the strategic vision and machinery for the new macroeconomic model's implementation officially sanctioned and firmly entrenched in the fabric of Egypt's political and economic environment, their impact upon the once stymied policy reform efforts of USAID, an external actor in Egypt's domestic environment, must be reviewed.

2.3. USAID Policy Reform Under New Macroeconomic Environment

With Egypt's new macroeconomic environment, overall USAID development policy as detailed in the "four pillars" approach has blossomed. Instead of encountering a recalcitrant and obstructionist Egyptian government determined to capitalize on its geopolitical importance to finance the preservation of the status quo, USAID now negotiates with a government committed to development along USAID guidelines. The "four pillars" - private sector development, policy dialogue, institution building and technology transfer can be found, in some form, in virtually all of the above statements on Egypt's new economic path. Operating in such an environment, USAID's gentle persuasion of leveraging aid resources and cash grants to affect reforms will be far more effective and therefore more prevalent in its current assistance programs.

The leveraging of USAID's resources to actively encourage economic reform is best exemplified by the sector policy reform program (SPRP) - a policy reform, results-driven, cash-transfer program with an annual budget of $200 million. Disbursement of these funds is conditioned on substantive progress against a predetermined list of policy reforms. Averaging some 20 required reforms, the ultimate goal of these criteria lists is to set the stage for a more open economy by making headway in individual sectors. This program is supported and complemented by technical assistance (TSSPR) to help the GOE develop, carry out, monitor and evaluate select elements of its reform program. (Ibid. 11) In concurrence with the Council's aforementioned three areas of interest, the SPRP is focused on reform in areas of trade, regulation, and privatization, the fiscal and financial sectors, and the environment. Since 1992 USAID has released $602 million in support of the GOE's successful implementation of major reform measures. The latest release of

funds, $60m in May 1998, was positive reinforcement of GOE efforts to reform the tariff structure on imported goods, break the monopoly of the government-owned maritime companies and liberalize ports, budget deficit reduction, and the rationalization of public sector debts. (EIU. Second Quarter. 1998)

Beyond the SPRP which affects reform across a broad spectrum of sectors, USAID has specific programs targeted at the Council's trade promotion and privatization areas of emphasis. USAID provides support for the Trade Development Center, a non-governmental organization (NGO) established by the U.S./Egypt Joint Business Council to promote exports by networking and technical assistance at the company level. (USAID. 1997. 3) Another USAID program of particular interest is the Growth Through Globalization (GTG) program that provides funding for activities to enhance the competitiveness of Egyptian firms worldwide and increase private sector exports. Particular assistance to the privatization drive is provided through the Privatization Support Program that finances specific activities critical to creating a policy environment supportive of privatization and completing sales of SOEs. These activities support improvements in privatization policies, plans and processes; effective communications with key stakeholder groups to build political and technical support for privatization; and broadening the scope of privatization to include other non-manufacturing businesses and service SOEs. (USAID. 1998. 12)

As detailed above, USAID policy reform efforts in Egypt have had an extraordinary change of fortune since the early 1990s. This turn of events can be primarily traced to the GOE's decision to abandon its former survival strategies and embark upon fundamental economic reform. With the GOE receptive to both the ESF's largesse and the attached

policy recommendations, USAID's role was immediately transformed from one of a marginalized, ineffective proponent of change to that of a prominent source of funding and expertise for a coordinated implementation of a common economic vision. This newfound commonality has given USAID its traditional leverage to promote reform in recipient nations, as compared to its former perceived role as the uncomfortable dispenser of unconditional ESF largesse. The impact of the macro-economic environment's change upon USAID's fortunes as champion of policy reform should theoretically parallel an increase in policy reform and the resulting positive impact of said reform at the firm level, in this case, ARENTO.

2.4. ARENTO Performance under New Policy Environment

The above proposition is supported, with respect to the telecommunications sector, by over a decade of sector reform attempted in varied circumstances and environments. Analysis of these reform efforts has shown that the political and economic environment of a developing country determines the breadth and depth of telecommunications reform. The degree of political commitment to broad multisector restructuring, the ability to enhance factor mobility and supply response, and the suitability of the political process for reaching decisions on issues with economy-wide implications are the principal parameters that define the scope of sector reforms. Hence, the options for organizational and structural changes in telecom can not be seen in isolation. Ultimately, the pace of reform and the extent to which its potential benefits can be harnessed will be contingent on the capability of government to create an environment that promotes efficiency and enables private investment and initiative. (Wellenius, et. al. 1994. 71)

The new macro-economic environment's possibilities and limitations could be seen in ARENTO's efforts to benefit from the elimination of one of its largest obstacles. Freed from the encumbrances of being a wholly owned state enterprise since 1982, it was not until a decade later that the environment seemed suitable for ARENTO to experiment with its new status. In early 1992, ARENTO floated a tender inviting bids for the operation of a cellular service in a separate joint venture company in which ARENTO would have a stake. This project was intended to be one of Egypt's first privatized ventures, in which one or more foreign cellular operators would build, operate, and earn profits from a nationwide cellular phone system. The foreign operator would have worked under the general supervision of ARENTO and paid annual fees to ARENTO, thereby giving Egypt a modern cellular system with no drain on ARENTO's or the GOE's national budget. (Jensen. 1)

Despite its auspicious beginning and its role as a harbinger of the new economic system, the tender was canceled by the GOE in April 1994. Reasons given for the cancellation range from security concerns and rumors of leaked tenders benefiting sons of high officials. It was also said that the private companies involved in the deal simply tried to drive too hard a bargain. (EIU. Second Quarter. 1996) ARENTO, however, was determined to pursue the project because of the high profit margin possible from such a new (not subject to existing subsidized tariffs) high-value service. The tenders were reissued for a government-operated cellular phone system in phases, as ARENTO self-financing funds were available. (Jensen. 1) An $18 million contract was awarded to Alcatel of France for the 70,000- subscriber Global System for Mobile Communications (GSM) network in 1995. Alcatel was to provide a full turnkey mobile communication

network, comprising two high-capacity mobile switching systems and some 150 GSM base stations, by March 30, 1997. However, coverage of Greater Cairo has to be operational by mid-October, in time to iron out any faults in the system before the Middle East and North Africa Economic Summit in Cairo on November 12-14. (EIU. Country Profile. 1996)

2.4.1. ARENTO's Current and Future Five Year Plans

During the same time frame, ARENTO submitted an ambitious five-year plan (1992 - 1997) to the GOE. It proposed a capital investment outlay of $1.5 billion, with the intention of installing 300 to 500,000 digital lines annually during the course of this plan. (Kapor. 4) ARENTO's ultimate goals were to increase telephone density from less than five percent of the population to seven percent, and to reduce the waiting time for provision of service to a maximum of four years. At the end of 1996, ARENTO had an installed base of approximately 4 million main lines, giving Egypt a telephone penetration rate of around 6.6 percent (12 percent for Cairo and Alexandria). By the end of July 1997, the number of main lines was expected to reach 4.5 million, achieving a phone density of 7.25 percent. (Sandall. 1)

ARENTO's next five year plan (1998-2002), calls for the installation of over one million lines annually and an increase in network digitalization from approximately 45 percent to ninety-five percent. By the year 2002, it is expected that there will be a total of 8.6 million lines in service, thus achieving an overall teledensity of over 10 percent. In keeping with ARENTO and their vendors tradition of dividing the country into spheres of vendor influence (and financing), ARENTO signed Memoranda of Understanding (MOUs) for three "mega projects" with Alcatel (Nile Vision), Lucent Technologies (Golden

Pyramid), and Siemens (Egypt 2000). All three projects and vendors will utilize Synchronous Digital Hierarchy (SDH) technology, which will allow subscribers to use enhanced telecom services, such as ISDN, frame relay, and ATM-based services. (Sandall. 2) This level of technological sophistication shows a concerted effort by ARENTO to provide a telecommunications environment conducive to the new international-oriented and market based economy, as well as expansion into the less regulated, and therefore, more profitable value-added services markets.

ARENTO's expansion of its more profitable market segments can also be seen in both domestic and international long distance service provision. With domestic long distance service to only seven cities in 1981, ARENTO has upgraded and expanded the service coverage to 254 cities by the end of 1996. As a result, long distance is up from 53 million minutes in 1981 to 2 billion minutes in 1996. Simultaneously, impressive expansion has also been achieved in ARENTO's international long distance service - from 1981 to 1996, international switching capacity increased from 160 lines to 8,060 lines and international channels increased from 820 to 8,480. (Sandall. 1) With reference to the previously discussed tariff gap between local and long distance service, the flow of revenue, both in local and hard currency, from such an extensive expansion effort would directly impact ARENTO's financial standing and in turn, its ability to serve as a catalyst for Egyptian economic development.

Although the experiment with private sector involvement in the provision of cellular service failed in 1994, ARENTO is once again attempting a private-sector involved project. In January 1997, ARENTO issued a pre-qualification tender for the installation and operation of 40,000 public pay phones. While the previous cellular attempt was an

ARENTO joint venture with the private sector, this effort will mark the first wholly private sector telecommunications entity to compete with ARENTO. With a requirement that the licensee be at least 51 percent Egyptian owned, there is still a tentative nature to private sector involvement. Regardless of the above condition, thirty-three companies reportedly requested tender documents for this project. The eventual contract will be divided between two companies with 20,000 lines each. Licenses will be for ten years, subject to renewal based on performance. Decisions on the technology to be used and pricing will be left to the discretion the bidder. (Sandall. 4)

In July 1997 ARENTO announced its intentions to once again experiment with privatization in the cellular phone sector. As ARENTO's most highly sought-after service, cellular service and its underlying network's expansion was being hindered by ARENTO's traditional means of project financing - new subscriptions have not been accepted since January 1998. To overcome this financing limitation and experiment further with the new economic order, the existing cellular phone service was to be privatized. (Nando. 1) The February 15 offering for thirty percent of the Egyptian Mobile Phone Services Company proved tremendously popular; it closed thirty-three percent oversubscribed. The remaining seventy percent of joint venture stock are to be held by ARENTO and its employees, twenty-eight and two percent, respectively, and another forty percent to be held by Egypt's four main banks (8% each) and two pension funds (4% each). A further twenty-five percent stake, achieved by either reducing ARENTO's holdings or through a capital increase, will be sold to a strategic investor, preferably a large multinational operator in the near future. The license for a second, private GSM network was also put out to tender in early February. (EIU. First Quarter. 1998)

With privatization and liberalization gaining political and popular acceptance, it could only be a matter of time before the state-owned telecommunications company became a target - in late November 1997, President Mubarak indicated an official willingness to relax the state monopoly on telecommunications. The Egyptian cabinet quickly concurred – on December 29 they agreed to corporatize TelecomEgypt, formerly ARENTO, as a first step towards privatization. (EIU. First Quarter. 1998) These actions culminated in parliament with the March 24 1998 passage of Law 19. TelecomEgypt, newly named the Egyptian Telecommunications Company, was transformed into a joint-stock company. Shares in the new entity could now be offered for public subscription provided that the state retained a majority holding and a percentage of shares were sold to employees. Initial plans were for a twenty percent tranche to be offered on the stock exchange by the end of 1998, in part to help set a market valuation on the company. (EIU. Second Quarter. 1998) Public subscription could eventually rise to forty percent, with a further twenty-five percent stake being sold to a strategic investor. Also included in Law 19 was the lifting of TelecomEgypt's monopoly status as Egypt's sole provider of telephone services. This liberalization of the telecommunications market necessitates the government establishing a new national telecommunications regulatory agency. With large-scale privatization and liberalization efforts now underway, Egypt's telecommunications and economic development policies now mirror those of a majority of developing countries. Any further study into the relationship between telecommunications and economic development awaits a consistent theoretical framework that properly addresses telecommunications' role in this new dominant macroeconomic paradigm.

VII. CONCLUSIONS

A. Microeconomic Environment

ARENTO's experience during this new macro-economic environment is in agreement with the telecommunications reform analysis cited at the beginning of this paper. Given political resolve, emphasis on the executive branch in Egypt's case, to carry out widespread market-based economic reform and restructuring, the ability of a firm to more effectively utilize its existing resources, as well as, expand into new areas is noticeably enhanced. This conclusion is particularly glaring in ARENTO's case because large telecommunications investments made before macro-economic change were clearly not delivering concomitantly large benefits, either to ARENTO or the nation as a whole. In comparison, the same telecommunications entity, operating under the new economic environment, has been shown, in perspective, to be more aggressive and innovative in addressing growing telecommunications demands and opportunities. As a result, the larger economic environment in which the telecommunications entity operates must be considered a crucial influence on the its performance and must be considered in any evaluative effort.

B. Macroeconomic Environment

In order to address the influence of a country's macroeconomic condition on telecommunications' ability to enhance economic development the time frame under consideration must be subdivided into two distinct categories. The mutual beneficial merger of computer and communications technologies in the late 1970s and early 1980s proved to be the pivotal event in casting telecommunications' role as a catalyst for

economic development. Prior to this convergence of technologies, telecommunications was essentially a voice medium, with data transfer limited to governmental and large business concerns. Its relation to economic development, given what now can be considered technological limitations, was, even in the most conducive of macroeconomic environments, at best, correlational. Following convergence and the resulting improvement and addition of services, decreases in price and widespread accessibility, it was now possible for telecommunications to assume a catalytic role in development, and thus give rise to the correlational vs. causational argument. What this watershed event marked was a difference in magnitude between the linear and the exponential affect of telecommunications on economic development.

To discuss a country's macroeconomic environment before this period is to provide background on the environment that could, as argued in this paper, either enhance or hinder the catalytic role afforded telecommunications by the aforementioned convergence. Except for a few isolated cases, telecommunications was another state-owned, operated, and regulated service provider. This near-ubiquitous PTT model went unquestioned until the liberalization/privatization boom of the mid-1980s coalesced with the newly energized telecommunications industry. The new telecommunications philosophy placed most of the developing world in an uncomfortable position - the PTT model, as legitimized by its continued use by the European industrialized nations, meshed well with the political and macroeconomic policies pursued by many LDCs. As discussed earlier, the benefits derived from the model were both political and economic. At a minimum, abandonment of the PTT model would require the government to forego these benefits to achieve hypothetical advancements in the telecommunications sector that would then positively

affect overall economic development. Even if the government were able to overcome the inherent foreign technology and hard currency drawbacks of telecommunications, as well as, the proponents of maintaining the status quo, the pseudo-autonomous telecommunications entity would still interact with and be acted upon by the macroeconomic environment in which it would still operate.

The macroeconomic environment in which ARENTO had to function during this critical juncture was one based upon the integrative economic development approach. ARENTO, as were most PTTs of the era, was an exemplary example of how the integrative approach should function. As a basic utility in a self-sustaining system, it provided service (with a high probability of no compensation) to other business entities, employment opportunities, and of special significance, hard currency revenues from international service. Because its primary service was voice - even in the industrialized nations, data communications was still in its infancy - limitations imposed on ARENTO for the hypothetical good of the whole did not translate into a larger deprivation to national development. Once technology imbued telecommunications with a catalytic role in overall economic growth and development, the inherent restraints that the model imposed on the telecommunications entity, as it did on all individual SOEs, could be seen to hobble the ultimate goal of the model, national development.

While most LDCs were not able to embark upon large-scale infrastructure expansion and upgrade because of drawbacks specific to the telecommunications field, Egypt was able to exploit its geopolitical advantage and the resulting extraordinary relationship with the United States to launch such a large-scale modernization effort. Another result of this relationship was the inability of USAID or any of the international lending institutions to

leverage their aid or loans to Egypt to promote any sort of substantive macroeconomic reform. Thus, in this environment, ARENTO, as a single firm, had resources and technical expertise lavished upon it while still functioning in, what in hindsight, can be considered a less than optimal economic environment. These factors combined to create an extraordinary test case for telecommunications as an engine of development model - the majority of the microeconomic constraints affecting the entity were either eliminated or negated while virtually all macroeconomic variables were held constant.

Analysis of the USAID-led portion of Egypt's massive telecommunications upgrade efforts, demonstrate a limited positive benefit to ARENTO's financial status; due primarily to limitations - social responsibility goals - imposed on ARENTO by the macroeconomic system. Taking into account additional benefits delivered to other sectors of the economy and the subscriber base, a far more positive return on investment was achieved. It is the existence of these additional benefits that provide legitimacy for state ownership of the sector. However, these benefits are derived from the traditional subsidization of one firm or sector at the expense of another, rather than through externalities particular to the sector, as postulated by telecommunications-for-growth advocates. When the rehabilitation and modernization effort is evaluated with respect to its overall impact on the Egyptian economy, the envisioned catalytic effect on national growth and development seemed nonexistent. The telecommunications upgrade effort, taken in its entirety, was proven to be a necessary, but not a necessary and sufficient condition for achieving overarching economic goals.

ARENTO, restructured and modernized, was unable to demonstrate its ability as economic catalyst until the macroeconomic restructuring of the early 1990s. Not only did

the new private-sector-led growth and international integration model guarantee ARENTO's strategic role, but also allowed it the opportunity to fulfill the role. Broad-based economic liberalization freed ARENTO, the individual firm, of the more onerous encumbrances of the former model as detailed earlier in the paper. Unshackled from these restraints, ARENTO's ability to respond to the demands of a market-driven economy have been positively affected. Increased independence in the areas of tariffs, employment, financing, and provision of new services have thus far shown ARENTO to be more robust and responsive under the new economic model. While Egypt is beyond the first tentative steps of macroeconomic reform, it is still too early in the process to determine the ultimate success of, or the level of telecommunications' involvement in the effort. What can be observed is that a functionally equivalent ARENTO, when granted more latitude as part of an overall economic liberalization and restructuring effort, has been able to more aggressively adopt and adapt to its enhanced role in economic development. As demonstrated above, an appropriate macroeconomic environment is one of the necessary conditions for telecommunications to fulfill its role as a catalyst, but to achieve a conducive economic environment, the issue of a nation's political environment comes to the fore.

C. Political Environment

In response to the third question of this thesis, the political environment's influence over both the macro and microeconomic decisions is ubiquitous. The current Egyptian regime's actions, as heir to the first coup de tat in Africa, are still circumscribed by the political choices that followed this precedent setting event. The overthrow of the monarchy and the ultra-nationalistic tone of Egypt's first native born leader in over a

thousand years were inevitably contrary to the beneficiaries of the existing status quo. Given the political instinct for self-preservation, the lack of a popular mandate and a large number of opponents intent on subverting the new order, the oft observed pattern of such a narrowly-based and tenuous LDC leadership to concentrate all existing and possible sources of power and/or opposition in the hands of the state was evident in Egypt. This control would in turn make the state the primary source for goods, services, prestige and power - the major characteristic of the patron state. Able to dispense a full spectrum of largesse, from basic necessities to blatant favoritism, the regime could then begin to build its own loyal coalition. Having created a new coalition with a vested interest in maintaining the new status quo, the regime gained increased legitimacy and maneuverability to deal with its opponents - a reflection of the dual goals of a populist authoritarian regime. With regime survivability as the primary goal and the consequent subservience of any economic development plan to this priority, the impact of the political on the macroeconomic environment and the both of these on an individual firm's effectiveness is clearly visible.

While the integrative economic development model can be pursued and justified for purely economic goals, its central administrative control and attempted balancing of all the economic actors in a closed system, make it a sound choice in fulfilling the objectives of the populist authoritarian state. The regime acquires an economic rationale and legitimization for the arbitrary nature of its rule. Limited debate and discourse over the economic program of the regime is acceptable because, by fiat, it accepts the regime and its political environment as the unassailable status quo. Unfortunately, while the above economic and political policies mutually reinforce each other and are therefore effective in

achieving the overriding goal of regime preservation, the intrinsic and mutually reinforcing limitations of both, not only hinder, but negate economic development efforts - and as discussed earlier are both highly resistant to overarching reform efforts attempting to alleviate these limitations.

The limitations of the Egyptian political/economic system began to show strains within the first decade of its existence, not only from the enormity of the resources required, human, financial and physical, but from the cost of two wars and an extended border conflict. This seven year perpetual conflict also perpetuated the system by providing significant popular distraction and added increased significance to its primary goal of regime preservation. With the ending of hostilities in 1974 forcing a reevaluation of Egypt's neglected economy upon the regime, Sadat implemented the its first major survival strategy. Buoyed by Egypt's external rents, the political/economic system, with minor modification, was able to not only delay the inevitable day of reckoning, but present an outward facade of economic growth and political stability.

It was into this environment, that the first USAID telecommunication projects began to provide the first possibilities of transforming the moribund PTT into an engine of development. A twenty-year master plan was created, new switches installed, outdated physical plant replaced, and ARETO reorganized and restructured - everything a PTT, at least on a microeconomic level, required for assumption of its new responsibilities. American assistance and advice was gratefully accepted, but not necessarily implemented in a timely manner nor consistent with the original intent, particularly in areas concerning alterations in the regime's social pact with its coalition. The political/economic system was at its high-water mark during this period; the external rents made uncomfortable

changes such as subsidy elimination, employee cutbacks and autonomy, unnecessary and Egypt's new political relationship with the U.S. left USAID unable to forcefully demand these changes. Thus, the situation of ARETO improved, but to a far lesser extent than was possible and much less than was needed for it to fulfill a development role.

The collapse of the oil market, all of its related revenue streams and the service economy it had generated, once again brought the inherent limitations of the economic system to the forefront. However, Egypt was still able to avoid fundamental and radical change through an excessive accumulation of foreign debt, the continued flow of foreign aid into state coffers and the leveraging of its geopolitical relationship with the U.S. In spite of an ever-worsening domestic economic situation and a concomitant increasing of pressure from the international community, Egypt doggedly maintained the untenable. Unswerving devotion to the tenets of the integrative economic development model aside, the holistic, all-sectors-in-balance approach finds microeconomic reform abhorrent because it attacks the very foundations of its being, but more importantly the reform promoted by the international community called for the regime to proactively deprive its supporting coalition of the largesse upon which it was initially founded - a call to flirt with self-destruction. In choosing between the uncertainties of a painful and possibly fatal reform program or managing and thereby prolonging the known crisis, the Egyptian regime has always chosen the latter.

1. Telecommunications vis a vis the Political Environment

Having overcome the two largest obstacles which prevent most of its LDC peers from positioning telecommunications as a catalyst for national development - foreign technology with a short life cycle and its tremendous drain on hard currency reserves,

ARENTO was unable to maximize the benefits of its new infrastructure. As detailed in the section on American policy towards Egypt and the limitations this placed on USAID, ARENTO was both blessed and cursed by politics, both domestic and foreign. Egypt, as the largest of Economic Support Fund recipients was able to update its communications infrastructure in a relatively short time frame for a minimum of Egyptian commitment, either financial or with regards to policy implementation. As part of a larger guaranteed "political" package, Egypt felt little pressure to implement agreed upon reform and organizational conditions. This newly revamped telecommunications entity may or may not have been able to become a catalyst for heightened economic growth but the economy was growing at its fastest rate in modern history and saw little reason to interfere with any part of its "working" economic model or upset any members of its coalition through subsidy reduction. The collapse of the oil boom brought the feasibility of the entire government patronage system into question, as well as to the brink of collapse. As the regime was forced to defend the entire system against the conditions mandated for international debt relief, reform at the sector level, especially reform that so closely mirrored that which was demanded for the economy as a whole, was politically untenable. Thus the potential of telecommunications was underutilized and an opportunity squandered in both the best and worst of macroeconomic conditions - notably, the one constant throughout was the regime's political methodology and its preeminence over all else.

D. Counterfactual Argument for Telecommunications Sector Reform

Given the background information and analysis of Egypt's economic and political environments, it is possible to present a counterfactual case in which ARENTO was

allowed to "corporatize" and the telecommunications sector was liberalized. If, by fiat, the recommendations of USAID had been implemented on agreed upon schedules in the early 1980s, the affect of an unfettered ARENTO upon the Egyptian economy can be predicted. ARENTO's microeconomic condition would have improved immediately. Relieving it of forced hiring quotas, mandatory revenue treasury transfers and service subsidization, amongst other hindrances would have immediately improved the its financial condition and put ARENTO in good stead on the international financial market, both of which would have granted it access to the financial resources necessary to aggressively expand both the quality and quantity of services of an already modern communications infrastructure. The immediate benefit to the tourist, financial, trade and multinational segments of the economy are self-evident, but all of these sectors were principal beneficiaries of the oil boom service-led economy of the era and quite possibly would have experienced only linear growth because of enhanced telecommunication service.

Considering the ultimate result of this service led growth effort, could very well negate whatever contribution telecommunications could have made. Also negated is Egypt's ability to exploit its new network and freedom to serve as a regional communications hub for Middle Eastern business because part of the initial price paid for America's largesse was peace with Israel and the resultant isolation of Egypt from the Arab World for the entire boom period. Contributions to economic growth would have to come from the efficiencies brought from the more timely and effective use of information by Egypt's state owned enterprises and government and new industries expedited or created from the communications boom. Given the overriding social functions, cross subsidization and overall bureaucratic nature of the SOEs and of the Egyptian government itself, improved

information access and distribution seems highly unlikely to have turned the tide of inefficiency and red ink endemic to the public sphere of the economy. The latter possibility of new industries does have credence, but the limitations as discussed under the Open Door Policy would have had a negating effect and even if that were not the case, the creation of enough new privately owned new businesses to support overall economic deficiencies is doubtful. Ultimately, it can be assumed that, barring any other changes to the economy, its collapse at the end of the boom could neither have been prevented nor softened by the implementation of "appropriate" policies in the telecommunications field.

VIII. TELECOMMUNICATIONS SECTOR REFORM – GENERALIZATIZED CONCLUSIONS

While Egyptian telecommunications sector reform and its affect on national economic development is a unique case study, the conclusions of this study are in agreement with a number of country specific and country comparison research efforts. In Implementing Reform in the Telecommunications Sector - Lessons from Experience, Peter Scherer argues the range and impact of telecommunications reform are intrinsically linked to the broader economic reform agenda. Successful restructuring toward international competitiveness typically would include actions in the following areas:

- Macroeconomic policies geared toward providing a stable business environment based on prudent fiscal, monetary, and exchange rate policies.
- Effective competition policies combining phased import liberalization, changes in regulations to reduce barriers to entry and exit, promotion of export rivalry.
- Liberalization of factor and output prices combined with competitive deregulation of financial and capital markets.
- Provision of effective institutional and infrastructure services, including the establishment of a credible administration, sound governance, and development of human resources, power, transport, and telecommunications. (Wellenius, et.al. 1994. 69-70)

In Egypt, each of the above conditions was proved a necessary requirement - as the government reluctantly admitted to the unfeasibility of status quo preservation and had to opt for true reform, the above conditions were clearly a fundamental part of the reform effort. The same research effort found that, although organization and management improvements within the telecommunications operating enterprises of several developing countries did result in a more efficient use of scarce resources, if sector policies did not provide the necessary freedoms and incentives for these entities to perform better, internal changes alone had proved to be of limited value. (Wellenius, et. al. 1994. 17) As discussed earlier, for the corporatized ARENTO to fully utilize its new capabilities, it had to wait a decade for a "friendly" Egyptian macroeconomic environment. This bares out Scherer's hypothesis that the economywide incentive system is more important than ownership for effective modernization of telecommunications. (Wellenius, et. al. 22)

When the World Bank summarized the lessons of the 1970s and 1980s about development in its 1991 World Development Report, it could have served as a succinct description of Egypt's experience: "Sound fiscal and monetary policy create a hospitable climate for private investment and thus promote productivity....Macroeconomic stability certainly does not by itself lead to development - but without it all other efforts are likely to be in vain." (Barkey. 222) It could also be added that without the political will to embark upon and endure the protracted macroeconomic reform process, true economic development and growth will always be overshadowed by uninspired efforts to respond to the symptoms of a perpetual economic crisis.

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