

Trade, Growth and Information Technology:

Potential for Egypt's Regional and Global Integration

by

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I. Introduction

The literature on international trade and growth almost invariably argued for the benefits of free trade for promoting economic growth while integrating countries into the world economy. While technology exogenously explained trade patterns, technological development itself has been considered to be endogenously achieved through technological spillovers resulting from international trade. This strengthens the argument for trade liberalization, and provides opportunities for developing countries to catch up.

Against this background, there have been two major developments on the world scene. First, the call for free trade to promote economic growth has materialized in the steps towards gradual trade barriers removal under the General Agreement on Tariffs and Trade (GATT) and the General Agreement on Trade in Services (GATS). Second, a more recent, and perhaps dramatic development has been the birth and fast growth of E-trade as an externality of the recent Information and communication technology (ICT) revolution. The ICT revolution had been characterized by unprecedented rates of development of the technology itself, as well as the widespread use of the Internet as a vehicle for trade, E-commerce, and eventually mobile commerce (M-commerce).

It is our contention that these two developments - approaching free trade and the birth and fast growth of E-trade - are dynamic factors that could have significant implications on the Egyptian economy, in particular providing a strong potential for Egypt's regional and global integration. It is the purpose of this paper to look into such implications, specifically the potential for Egypt's exports to the Middle East and North Africa Region and the rest of the

world in the information age. The paper is an attempt to look into how the Internet fits into the traditional models of trade and growth, and the very definition of comparative advantage in the Egyptian context. Since the Internet has practically revolutionized traditional means of production, communication, and exchange, the argument here is that IT, and Internet use in particular, call for a new look at Egypt's comparative advantage. There is also a need for a reassessment of Egypt's traditional key export sectors, especially as new sectors with promising export potential are emerging thanks to IT in general, and the Internet in particular (namely tourism and software development). The paper addresses how the Internet can be used as a means of utilizing this export potential in order to promote economic growth. Of particular interest is the potential role of Egypt as a leader in IT in the region, and how this potential can be utilized to promote its trade with the region and the rest of the world.

II. Trade, Technology and Growth - A Brief Theoretical Background

The literature on international trade and growth almost invariably argued for the benefits of free trade for promoting economic growth. Ever since the development of the classical theory of international trade, onto neoclassical theories, and all the way to new growth theories, there seems to have been a general consensus that trade is beneficial for economic growth. With countries specializing according to their comparative advantage, trade has been generally believed to allow for efficient utilization of resources, greater consumer choice, better living standards, higher productivity levels, and economies of scale (Dowrick 1997). Particularly in the case of developing countries, trade allows access to global markets, which provide these countries with development opportunities that would not be available otherwise (Todaro 1998). When governments impose trade barriers in an attempt to protect domestic producers from foreign competition, this may cause less efficient high cost industries to flourish at the expense of domestic consumers and global economic growth (Wahba & Mohieldin 1998). Trade is therefore considered 'an important stimulator of economic growth' (Todaro 1998), and open trade is believed to promote economic welfare.

Most relevant to this research, the gains from international trade include technological spillovers between countries, namely the notion of 'trade as a conduit of technology transfer', originally attributed to Mill. (Dowrick 1997). While technology can be an explanation of trade patterns, technological development itself occurs as a byproduct of trade transactions. The development of the technology gap model by Posner in 1961 and its generalization into the product cycle model by Vernon in 1966 look into how technology acquisition through trade may actually shift comparative advantage from the originally advanced to the less advanced nation. This development may be accompanied by direct foreign investment from the innovator to the less advanced nations who possess cheaper labor. (Salvatore 1998).

The concept of technology being endogenously determined by trade was further developed

by the new growth theories, where trade is considered a channel for technological spillovers, or 'a highway of learning' (Grossman and Helpman 1994). Grossman and Helpman argue that trade allows for the dissemination of knowledge through two main sub-channels: learning by doing, and/or innovation through investment in R&D. In both cases the crucial factors in determining the extent of technological gain is the access to the body of technical knowledge, and the scope and extent of information dissemination (Grossman and Helpman 1994).

When the body of technological information is equally accessible to all countries, i.e. knowledge dissemination is global, trade is believed to be explained by traditional theories of comparative advantage. Although technological progress has no bearing on comparative advantage in this case, trade may still affect national rates of productivity and output growth in the short and long run (Grossman and Helpman 1994). When, on the other hand, access to information is restricted, and hence knowledge transfer is confined within national boundaries, it is believed that trade may widen the technological gap in maintaining, and perhaps expanding already existing technology inequalities.

Despite that, two qualifications remain. First, in a world of increasing foreign direct investment, the notion of knowledge being restricted within national boundaries becomes arguable. In that case, multinationals and international licensing, inter industry spillovers, and industry clusters will allow for information flows between nations. This would provide an impetus for developing local technologies, and hence present new opportunities for developing countries to catch up. Next, although global access to knowledge may enhance persisting modes of comparative advantage, the evolution of the production of information and communication as an industry in itself, and the eventual emergence of knowledge generation industries, may create new areas of comparative and competitive advantage that did not exist before. This can be relevant to developing countries, and could allow new opportunities for technological catch up. Of course different countries may benefit from this scenario differently; hence the importance of developing appropriate domestic education and R&D policies, to go along with trade liberalization in order to maximize benefits from trade in a world of global information access (Dowrick 1997).

To sum up, it seems feasible to conclude that economic theory has generally supported the case for free trade as a stimulator of economic growth, a role which is augmented by its function as a channel for technological spillovers. While technology comes in to explain trade patterns, technological development also comes as a consequence of trade. By being a 'highway of learning', trade also becomes a 'handmaiden of growth' (Grossman and Helpman 1994).

III. Trade, Technology and Growth -Two Developments on the World Scene

Against this background, the world has witnessed two major developments in the second half of the twentieth century. The first entailed a move towards free trade; the second was the birth and growth of E-trade. These provide interesting applications of the argument of free trade as an engine for growth, and the relation between trade and technology. In the next sections, we present an overview of such developments.

III.1. The First Development: A Move Towards 'Freer Trade'

The most notable developments towards a world of 'freer trade' occurred in the second half of the twentieth century. These have been the establishment of the General Agreement on Tariffs and Trade (GATT), the General Agreement on Trade in Services (GATS), and the establishment of the World Trade Organization. While promoting freer trade between nations, the GATT, GATS and WTO still recognized the role of Regional Trading Agreements.

III.1.1. Institutional Framework: The GATT, GATS, WTO and Regional Trading Agreements

The General Agreement on Tariffs and Trade (GATT) was drawn up in 1947 and came into effect in January 1948. The objective was mainly to lay the groundwork for international economic cooperation after the Second World War. An important pillar of the post-war economic order was the establishment of 'an international trade body to lay down clear rules of the game governing trade relations across frontiers involving disciplines for governments as well as the behavior of the corporations and their anti-competitive practices'. The GATT was an inter-governmental treaty between nation states and customs territories, and became the permanent institutional basis for the multilateral world-trading regime that has prevailed. On the day it was signed, the GATT had 23 signatories, which grew to almost 130 by the end of 1994.

Reflecting a firm belief in the benefits of free trade for growth, the GATT has had a major influence in reducing tariff barriers to trade in industrial goods since its establishment. The first six GATT Rounds mainly focused on reciprocal negotiation of tariff concessions. As a result of these negotiations, average world tariffs on manufactured goods were reduced from 40% to around 6.3%. Attention was directed to non-tariff trade barriers for the first time during the Tokyo Round that ended in 1979. Such barriers included government procurement policies, subsidy policies, customs valuation policies, and technical standards (Shahin 2000)

Perhaps most effective was the Uruguay Round, which was launched in September 1986, signed in April 1994, and entered into force in January 1995. Among the achievements of the Uruguay Round were steps to increase and secure market access for developing countries. Among these was the agreement by developed countries to reduce their tariffs on industrial goods from an average of 6.3% to 3.8%, a 40% reduction. Moreover, the proportion of industrial products, which enter the developed country markets under most favored nation zero duties was set to more than double, from 20 to 44%. Finally, trade in agricultural goods was 'put on the path of liberalization'. Members agreed to bind virtually all tariff lines of agricultural product compared to 83% of industrial product tariff lines. They also did away with non-tariff barriers as a rule (Shahin 2000).

In fact the Uruguay Round negotiations have established a pattern for duty free trade on a sectoral basis for the first time. The 'zero-for-zero' approach called for a complete elimination of tariffs in particular sectors, conditional on the reciprocation of other trading partners. Although other barriers to trade were not addressed by this approach, it still resulted in a significant reduction of tariff barriers (ERF 2000). The volume of trade affected by the Uruguay Round reached \$ 2.7 trillion for goods, and about one trillion dollars for services. This comes in comparison to trade affected by the previous rounds, ranging from only \$ 2.5 billion to \$ 155 billion (Shahin 2000).

Finally, negotiations under the Uruguay Round extended beyond trade issues to include several new areas such as trade in services and intellectual property. Actually intellectual property rights and counterfeiting were covered by trade rules for the first time under the Uruguay Round. So were services, which account for 20% of total world trade (Shahin 2000). The General Agreement on Trade in Services (GATS) was one of the remarkable achievements of the Uruguay Round.

The drawing of the GATS reflected a firm belief in the role of free trade in promoting economic welfare. The Agreement was drawn with the basic purpose of establishing 'a multilateral framework of principles and rules for trade in services with a view to the expansion of such trade under conditions of transparency and progressive liberalization' (Shahin 2000). This framework would serve as a means of stimulating the economic growth and development of all trading partners, among which are developing countries. The GATS covered a total of 12 services, further classified into 155 sub-sectors.

The GATS recognized the role of services in promoting economic development, as well as the potential offered to developing countries in this context. In fact, one of the objectives of the GATS was 'facilitating and increasing the participation of developing countries in trade in services'. It also allowed countries to liberalize 'at their own pace' according to their 'development situation' (Shahin 2000). This flexible structure has provided a useful liberalization framework. In addition, the agreement covered the service as well as the service supplier. It also recognized that sound domestic policies are a pre requisite for proper trade liberalization, with barriers to service trade being inherent in domestic regulations

rather than border tariffs.

Another outcome of the Uruguay Round was the creation of The World Trade Organization in Geneva in January 1995. As of September 2000, the WTO included 138 members, including Egypt who joined in June 1995. WTO was established as an 'institutional framework' for the world trade system, since the GATT was only a treaty and not an organization. The WTO embodies 'a set of trade rules and principles concerning the use of policies that affect rights and obligations governing the multilateral trading system'. It sets the framework for the conduct of world trade in goods, services, and intellectual property rights. Core foundations for WTO rules remain to be the basic articles of the GATT (Shahin 2000). The WTO is the only global international organization that deals with world trade rules (WTO 2000).

Finally, while promoting free trade on the basis of equal treatment for all (most favored nation clause), the GATT still recognized the benefits of economic integration and regional trading arrangements. The GATT allows the setting up of regional trading arrangements 'as a special exception', on condition that they meet 'certain strict criteria'. In particular, regional integration should not jeopardize the region's trade with the outside world, but rather act to 'complement the multilateral trading system'. The GATS allows for regional trade agreements in services as well. The WTO includes provisions that permit developing countries to enter into regional or global agreements, which allow the reduction or elimination of tariffs and non-tariff trade barriers among themselves (Shahin 2000).

Between 1947 and early 1995, GATT and the WTO were informed of the creation of more than 100 regional economic agreements, some of which may no longer exist (WTO 2000). Among these agreements is the Greater Arab Free Trade Area, GAFTA, whose program calls for tariff reductions over a ten-year period at a rate of 10 percent per year, meaning that tariffs would be reduced to zero by 2007. GAFTA program also includes non tariff-barriers. (ERF 2000)

III.1.2. 'Freer' World Trade: Conclusion

In light of the above, it seems that the second half of the twentieth century witnessed a shift towards a more open system of world trade. This comes in line with the basic argument of the literature on trade and growth: free trade promotes economic welfare. In fact, the theoretical underpinnings of the gains from trade are evident in the ten listed benefits of the WTO trading system, including: 'Freer trade cuts the cost of living; it provides more choice of products and qualities; trade raises incomes; trade stimulates economic growth' (WTO 2000). In line with this, while described as 'an extensive and complex document', the basis of the GATT is believed to be imbedded in the economic theory of Ricardo's comparative

advantage (Wahba & Mohieldin 1998). Finally, both the GATT and GATS recognize the instrumental role played by sound domestic economic regulation in realizing the full gains from trade for development.

III.2. The Second Development: The Birth and Growth of E-trade

Perhaps in contrast to the gradual developments on the world trade scene, the past few years have witnessed a surge of developments in Information and Communication Technologies (ICT's) proceeding at an unprecedented pace. The Internet is especially interesting since it acts as a channel for trade, a role that could have numerous implications in a world of declining trade barriers. The Internet also allows for the free flow of information, which in turn has potential for technological spillovers that would promote economic growth. Moreover, as knowledge generation and application have become an industry in its own right, the Internet could bring up an untapped potential for developed and developing countries alike. The following section sheds light on the spread of E-commerce and the Internet in the world in the past few years.

III.2.1. E-trade/E-commerce

E-commerce is defined by the World Trade Organization as 'the production, distribution, marketing, sale or delivery of goods and services by electronic means' (Choi 1999). As such, E-commerce is actually a link in a chain from the very first stage of production until the commodity - be it a physical or digital good or service - reaches the target recipient and beyond, through Customer Relationship Management (CRM). A positive externality of networking through the Internet, E-trade extends beyond the simple setting up of a web site. It becomes trade on the world arena, with backward and forward linkages, as suppliers are exposed through an open window (the Internet), and compete with other producers in different parts and time zones of the globe. So far, the bulk of E-commerce activities have been mainly from Business to Business (B2B); the rest have been Business to Consumer (B2C) and Business to Government (B2G) activities.

Since 1998, and until the time of writing this paper, global Internet commerce revenues have reached US\$ 192,647,001,574 (Internet Indicators, December 2000), a figure which increases literally every second. Global E-commerce has reached a total of 42.3 billion \$ in 1998, (USIC 1999), and is expected to reach \$ 1.2 trillion in 2001 (Internet Indicators, December 2000). In 2000, E-commerce sales reached a figure of \$ 657 Billion, out of which about 78% took place in North America (including Mexico). Western Europe accounted for 13.3%, Pacifica Asia for 8.2%, while Latin America's share was 0.55%. The share of the 'rest of the world', including Africa and the Middle East was only 0.5%

(Calculations based on statistics by Forrester in Sanders and Temkin, 2000).

By the year 2004, global Internet trade is expected to reach 6.8\$ trillion, which would account for 8.6% of worldwide sales of goods and services. Out of that, 12 countries are expected to account for almost 85% of online trade. The share of the United States alone in Internet sales is expected to be about 40% (3.2 trillion). Internet sales of Western Europe are expected to reach 1.5 trillion (22.5%), while those of Asia Pacific are projected at 1.6 trillion (24.2%). Projections for Latin America stand at 1.2%, and a share of 1% for 'rest of the world'(Sanders and Temkin, 2000) .

While a fast expanding feature of the world economy, E-commerce is still an unsettled issue in the context of world trade. Within the GATT, and as one outcome of the Uruguay Round, The Information Technology Agreement (ITA) mainly dealt with IT products, rather than goods traded using IT infrastructure. According to the ITA, tariff-free trade is established in six product groups: computers, telecom equipment semiconductors, semiconductor manufacturing and testing equipment, software and scientific instruments. Participating countries agreed to bind and eliminate all customs and other duties and charges on IT products by the year 2000. Commitments were offered to address non-tariff barriers and to include more products in later negotiations. Negotiations for the ITA took only two years; the agreement covered more than 90% of world trade in this sector (ERF 2000)

In line with this, The Uruguay Round negotiations on trade in services did not overtly include E-commerce. Nevertheless, telecommunications and consulting services were included under the cross-border delivery mode (Shahin 2000). Since these are increasingly being channeled through electronic means, further discussions on E-commerce should consider including these and other E-services, and would in turn have implications on their competitiveness. This could open the door for new service trade opportunities, especially for developing countries.

In 1998, the WTO adopted the declaration on Global Electronic Commerce directing the General Council 'to establish a comprehensive work program to examine all trade related issues relevant to global electronic commerce' (Choi 1999). Despite that, negotiators are still grappling with E-commerce related issues, and a number of concerns remain unsettled. In the case of GATS, for example, among these are issues related to including electronic supply as a service, clarifying the modes of delivery, and its compatibility to the GATS provisions. Furthermore, of concern is the need for clarifying the difference between goods and services in a digital world as well as dealing with domestic E-commerce regulations, custom duties on e-transmission, and pricing mechanisms for encrypted digital products (Choi 1999).

The main challenge faced by the WTO, GATT and GATS in this context is to reconcile trade regulations that were originally devised for goods and services produced by traditional 'brick and mortar', to an e-world of digitally produced and provided goods and services. In addition, global trade regulations have to be flexible enough to embrace new forms of trade developed through new technologies. E-commerce is in fact a predator of mobile commerce (M-commerce), which is defined as 'the use of mobile handheld devices to communicate, interact, and transact via an always-on, high-speed connection to the Internet'. It is simply undertaking E-commerce from a mobile device (mobile phone, PDA's, etc). With wireless portal revenues expected at \$ 42 billion by 2005, (NUA, 2000), this new form of trade, and the accompanying evolution of business models and modes of delivery, are yet to be incorporated into international trade regulations.

III.2.2. E-trade Primary Infrastructure: The Internet

A necessary prerequisite for undertaking E-commerce (and M-commerce) activities is Internet literacy, access, and use. Originally developed as ARPANET by the US army in 1969, Internet has infiltrated worldwide at a remarkable rate. While it took 74 years for the telephone to reach 50 million users, it took only 4 years for the Internet to reach the same number (see Fig. 1). The number of Internet users in the world has increased more than twenty-fold from 16 million in December 1995 to 378 million in September 2000. This latter figure is double the number of users in May 1999 (see Table 1). The number of domain names on the Internet has increased dramatically from only 900 in July 1988, to 26,000 in 1993 (Lottor 1992), to 26 million in November 2000 (Internet Indicators December 2000). The number of Internet hosts (computers with an IP address) has increased considerably, from 0.04 million in 1990 to 43.5 million in 1998. (see Fig. 2). Finally, the number of connected countries has increased from 22 in 1990 to 217 in 1998 (Fig. 3)

Within this framework, the bulk of Internet users have been located in North America and Europe, together accounting for more than 70% of world users in September 2000. Countries of Pacific Asia have witnessed a remarkable increase in the number of Internet users, more than threefold from 27 million in May 1999 to almost 90 million in September 2000. The percentage share in world users has increased from 15.75% to 23.75% (see Table 2). This comes in sharp contrast to Africa and the Middle East, who together account for less than 1.5% of world users. Considering that Israel alone accounts for one million out of the 2.4 million users included in the Middle East figure (even though the latter does not include Arab African countries), it becomes evident that the number of Internet users in the Arab and African countries is at best modest.

The number of Internet users in the Arab world is roughly 1.9 million users (March 2000), which represents less than 1% (0.62%) of the number of world users in the same period (304 million). In fact the number of Internet users in Israel is more than 50% of users in the Arab countries taken together. While the percentage of Internet users to the population in

Israel reached 17.12% in September 2000, it has not exceeded 7% in any of the Arab countries, with the exception of the United Arab Emirates (17%). In some cases (Yemen, Sudan and Algeria), the percentage was less than 0.1% of the population (see Tables 3A & 3B).

The recent performance of East Asian countries is of interest here. In the case of Singapore, for example, the number of Internet users increased more than threefold between September 1997 and May 2000, representing almost 42% of the population (see Table 4). According to the percentage criterion, Singapore ranks ninth worldwide after the US, Iceland, Scandinavian countries, the Netherlands and Canada (see Table 5). In South Korea, Internet users as a percentage of the population increased from 1.53 % in February 1997 to 32.31% in July 2000. This is close to the percentage in the United Kingdom and Switzerland, and higher than the percentage in Austria, Belgium, Ireland, Germany, Italy and France (see Table 5). Of particular interest is the case of India, where Internet users have increased from only 80,000 users in July 1997, to reach 4.5 million in March 2000. As a share of the population, the figure increased from 0.01% to 0.45% (see Table 4).

III.2.3. World E-Trade: Conclusion

The above figures show a clear inequality in the distribution of Internet users among different countries of the world. The Digital Divide is evident. Despite an exceptionally impressive performance of the East Asian countries, most Internet users and E-commerce activities are located in developed countries. The scale of Internet use in Arab countries and Africa has been rather limited. As a necessary prerequisite for E-trade, the Internet must be available, accessible, and affordable for the populations of developing countries.

III.3. Freer Trade and E-Trade: Opportunities and Potential Worldwide

In the above section, we have highlighted two main developments on the world scene: a move towards freer trade between nations, and an emerging opportunity for E-trade through the Internet. The expansion of E-trade could enhance the role of free trade in promoting world economic welfare as presented at the outset of the paper. By opening new trade channels, E-trade allows countries to exploit their traditionally accepted areas of comparative advantage. More importantly, E-trade can help countries discover and develop new areas of comparative and competitive advantage. Trade in services, for example, is an area with strong potential to be exploited through E-trade. By being an industry in its own right, E-commerce applications and related services could itself be a new area of comparative advantage. The production of knowledge and its transfer through digital means could be a niche for countries blessed, among other things, with high quality human capital

and governments that are flexible enough to adapt sound economic policies.

While such opportunities are available globally, it seems that developing countries have not had much chance to capitalize on the potential for technological catch up through E-trade. The bulk of Internet use and E-commerce activities have taken place in developed countries. The Digital Divide between the Net-haves and the Net-have-nots represents a threat for developing countries, imposing a high opportunity cost for those countries that lag behind. Such Divide can act as an impediment against opportunities for E-trade, which would limit the role of trade as a channel for technological spillovers. The threat of technological divergence becomes more pressing in light of the dynamic development and evolution of the technology itself and its modes of delivery at exponential rates. The result then, would be a wider Divide, between the 'Net-have-nots' and the 'Net-have-mores'. In the next section, we analyze these issues in light of the case of Egypt.

IV. The Case of Egypt:

After a long legacy of a controlled economy and a host of import substitution policies in the sixties, Egypt supposedly started economic liberalization in 1974 with the adoption of the Open Door Policy. Effective liberalization measures, however, started taking place after the adoption of the stabilization and economic reform program in 1991. The program encompassed measures towards privatization and trade liberalization. Since 1998, Egypt has also been active in promoting information and communication technologies in an attempt at becoming an active member of the global village.

IV.1. Trade

In this section, we present a quick overview of Egypt's trade regulatory framework and performance over the last decade. Already a member of the GATT since 1971, Egypt joined the GATS and the WTO in 1995. Egypt's commitments in GATS cover four main service groups: construction, travel and tourism, financial services, and maritime services. Egypt's well-established and accepted areas of comparative advantage have been oil, cotton, and tourism.

IV.1.1. Trade: Regulatory Framework

Most of Egypt's current customs regulations are based on the program laid down in 1986. In 1991, however, tariffs have been reduced to a maximum of 55% on most goods, with the exception of certain 'luxury' items (e.g. cars with engines larger than 1300cc, alcoholic beverages, customs sometimes reaching 3750% mushrooms and 250% on vans) (Mostafa, 2000). Tariffs were further reduced in 1995, and again in 2000 to a maximum of 40%, again excluding 'luxury' items (Ministry of Economy and Foreign Trade, 2000 a).

Despite a general commitment to liberalization, Egypt's trade continues to be plagued by a number of tariff and non-tariff restrictions, as well as bureaucratic inefficiencies. Along with reducing tariffs, the government sometimes resorts to levying other forms of expenses, e.g. service fees. In 1994, the government raised the service fee on shipments to 3-6%, depending on the custom duty. An extra sales tax (5-25%) is added to the final customs value of the imported item. Import bans have also been used on items such as clothing and textiles. Finally, the system is plagued with 'valuation and procedural mess', including 14 different hurdles before a shipment is cleared (Mostafa 2000).

Although the government is committed to export promotion as an objective, the system continues to include multiple bureaucratic hurdles. Egypt's exporters are offered two 'privileges': the temporary exemption system, and the drawback system. Under the former, exporters are exempted from customs on imported raw materials provided the latter will be processed in Egypt and exported within a finished product. Importers are required to put a bank guarantee or insurance covering the value of custom duties and 5% of the value of the product itself until the final commodity is exported. Under the 'drawback system', importers are required to pay the full amount of customs duty at the time of entry. They are then given six months to one year to re-export the imports as part of a finished product at which time they may be reimbursed the full amount of duties and taxes paid. In practice, the implementation of these two policies falls short of expectations; the system is subject to rigidities, delays, and even constant battles with customs officials (Mostafa 2000).

IV.1.2. Trade Performance

Against this background, exports have actually declined from 3.88 billion \$ in 1992 to 3.13 billion in 1999. Imports, on the other hand, have increased from 10 billion to about 12.5 billion (see Table 6). Petroleum industry products continue to dominate Egypt's exports (33.7% in 1998), followed by spinning and weaving industries (almost 15%) (Table 8). This is reminiscent of the traditionally accepted areas of Egypt's comparative advantage, oil and cotton. Machines and transport equipment, on the other hand, represent the biggest share of imports (almost 27% in 1998).

Egypt's trade balance with all its trading partners is negative (Table 7). Egypt's number one

export destination is the United States followed by the European Union, two areas that, interestingly enough, encompass almost two thirds of world Internet users. Egypt's major source of imports is the group of EEC countries (Table 6)

Although a member of the Greater Arab Free Trade Agreement (GAFTA), and a signatory of a number of bilateral free trade agreements (Tunisia, Morocco, Lebanon, Libya, Jordan), Egypt's trade with Arab league countries is very limited. Exports to Arab countries represented 13% of total Egypt's exports; imports from Arab countries represented 3.8% of total imports (Table 6).

The share of exports in Egypt's current GDP has actually declined, from 28.8% in 1992, to only 19% in 1998, and 14.8% in 1999. This comes in contrast to countries like Indonesia, where this share has climbed from 19.4% in 1992, to 50.6% in 1998, and Malaysia, from 76.9% to 94.9% in 1997. Mexico's share also more than doubled, from 15.2% in 1992, to 31.2% in 1998 (Table 9). This is also comparable to Israel, where the share increased from 30.9 in 1995 to 36.1 in 1999.

In fact, the share of trade as a percentage of GDP for Egypt has declined from 73% in 1980, to 45% in 1997 (Table 10). This comes in comparison to Malaysia, whose share has increased from 113 % to 187 %, and Korea, whose share ranged between 75-77%. Israel's share as a percentage of GDP was 76% in 1997 (ERF 2000). The speed of integration, taken as the percentage change in the trade share in GDP over the previous period, was quite modest for Egypt: a negative figure in 1996, and zero in 1997.

Egypt's performance in the tourism sector has also been modest. The number of tourist and tourist nights in April 2000 were actually below the 1991 figure (Tables 11 A, B, &C). It is worth noting that almost 65% of tourists coming to Egypt are from Western and Southern Europe, a region that includes a high proportion of world Internet users.

On a positive note, Egypt witnessed an increase in per capita exports of manufactures between 1990 and 1997, and a notable growth in the share of manufactures in merchandize exports between 1980 and 1995 (Table 10). The share of high technology exports in merchandize exports, however, has been low and declining, from 0.4% in 1995 to 0.2 percent in 1998. (Table 10). The comparable figures for Israel are 15.9% and 19.7%, respectively (World Bank, 2000 a)

IV.1.3. Egypt's Trade: Conclusion

In light of the above, one can conclude that Egypt's trade performance has been modest. Despite commitment to the GATT, Egypt is still leaping on the road to regional and global integration. In spite of the increase in per capita export manufactures, Egypt continues to specialize in traditional areas of comparative advantage: namely petroleum and cotton. Of particular interest is the fact that Egypt's major export market, namely the United States and the EEC countries, alone include about two thirds of Internet users in the world. A similar argument also applies to tourism: Western and South Europe is the major source of tourists coming to Egypt. The potential offered to Egypt by the Internet in this context, therefore, cannot be overlooked. It is in that light that we move to the next section where we view Egypt's performance within the global IT revolution.

IV.2. E-Trade and ICT in Egypt

Although in many ways in its infancy, E-commerce is recognized as an area with strong potential, and is therefore a priority on the agenda of the Egyptian Ministry of Communication and Information Technology (MCIT). In fact The E-commerce Network is the first on the list of National Information Networks to be developed within The National Telecommunications and Information Technology Plan drawn in September 1999. The Ultimate establishment of Egypt's 'E-government' is also a notable measure in this regard, and has already started taking shape at the time of writing this paper.

IV.2.1. Regulatory Framework

As far as custom regulations are concerned, e-trade follows the general regulations laid for trade in physical goods between brick and mortar institutions. IT products themselves, however, enjoy special incentives under the IT Plan, including tax exemptions on IT software and services, custom exemptions on software, 50% discounts on sales tax for hardware, and 5 years tax break for all ICT activities (Nazif 1999). Like other governments, the Egyptian government will have to grapple with laws on digitally transmitted goods and services.

In the meantime, efforts at promoting E-commerce in Egypt have come within the context of strengthening the ICT infrastructure to promote exports. One of the goals of the above-mentioned Plan was to create a strong ICT industry that would 'contribute positively to job creation and export expansion' (Nazif 1999). The government has also signed agreements with major American and European ICT companies in an attempt to strengthen the domestic capacity for ICT and E-trade.

In an effort to encourage E-trade, business development comes as one of the four main axes of the Plan, together with human resource development, information base building, and infrastructure development. Of particular interest is the wide expansion of telecommunications network, reaching 7 million telephone lines in July 2000 (Nazif 2000) with a projected increase of one million lines per year. In addition, there has been a cut in the cost of telephone use: 75% decline in the cost of international communication, and the introduction of line licenses for communication companies. The cost of Internet use has been cut down by about 60% charge for 64 K link from 12,000 L.E. to 5000 L.E. a year. A New Telecom Act is being presented to parliament. Moreover, measures aiming at human resource development included intensive training programs in 380 public community centers across the country, the introduction of technology clubs, and signing training and other cooperation agreements with multinational companies financed by the government and implemented by the private sector (Nazif 2000).

IV.2.2. E-trade: Performance and Challenges

E-commerce is in its infancy in Egypt. While there may have been a few attempts at exporting Egyptian products through the Internet (e.g. www.t-shirtsegypt.com), most attempts at establishing E-trade have been limited and directed to the local market as B2C activities. Of course there have been imports bought through the Internet (books, CD's mostly), but also on a small scale, especially when compared to other parts of the world. In fact one may safely argue that the Egyptian market has not yet witnessed any significant E-commerce activity in the proper sense of the term.

Despite the positive steps taken by the government for ICT development, Egypt's yet modest performance in that field is evident in its position within the rest of the world. This is presented by the evaluation of its position in comparison to other countries' e-readiness. Based on criteria of computer infrastructure, information infrastructure, Internet infrastructure, and social infrastructure, the Information Society Index ranking placed Egypt at 50th among a group of 55 countries. Egypt came among the last group, the 'strollers', in comparison to the most advanced 'skaters', 'striders', then 'sprinters'. The group of 'skaters' included Singapore, while 'striders' included Hong Kong, Taiwan, Israel, and Korea (IDC 2000).

A similar assessment was reached by two other studies. The Economist Intelligence Unit, accorded Egypt a modest 4.6 out of ten on e-readiness, ranking 49th in a group of 60 countries (see Table 12). Another study undertaken by McConnell International concluded that Egypt needed improvement in the conditions necessary to support e-business and e-government. Substantial improvement was needed, however, in the areas of connectivity, information security, human capital and e-business climate (McConnell International 2000).

Since E-commerce is a relatively new concept, the Egyptian government will have to grapple with issues of universal concern, in addition to issues that are unique to Egypt. Of universal concern are issues such as the definition of a digital good/service, taxation issues, copyright, privacy, content, e-payment and security, language, and governance. While universal in nature, these concerns could become more pronounced in Egypt, as well as other developing countries, in light of their weak institutional structure.

In addition to the above, Egypt faces a number of unique challenges. The most pressing in this context is the high rate of illiteracy, with the adult illiteracy rate reaching 46.3% in 1998 (UNDP 2000). While this could represent a major obstacle hindering electronic infiltration, Egypt presents an interesting paradox as it possesses a critical mass of well-educated labor force. The UNDP estimates Egypt's Education Index as 0.6. The Index is calculated as a weighted average: two third weight on adult literacy rate, and one third combined gross primary, secondary, and tertiary enrollment ratio (UNDP 2000). Egypt actually possesses a strong and well-established institutional structure in education. With 160,000 students graduating from university annually, the quality of human capital in Egypt blesses the country with a new area of comparative advantage - namely software development and related applications and services.

Another challenge that Egypt could exploit to its benefit is the language issue. While language is a concern for non-English speaking nations, Arabic is a language spoken by over 300 million people in the Region. As such, Egypt could use the language factor to its advantage as an IT leader in the Region.

One major concern for the development of ICT's and E-trade in Egypt is the question of financing. With venture capital hardly being an option, and a yet underdeveloped capital market, the threat is that the digital divide within the country would aggravate the already existing economic inequalities. In the end, the rich could be the ones capitalizing on the ICT revolution and E-trade gains.

Another hurdle in this context is the traditional mindset or corporate culture. This can be a hindrance against internalizing ICT into business models that are necessarily dynamic and flexible. Related to that are informal and undocumented production activities, improper inventory and resource management systems, as well as weak supply chains.

Related to that is the underdeveloped domestic infrastructure. Until 1995, only 78% of roads in Egypt were paved (World Bank 2000a). This comes in contrast to a figure of 100% for Israel. A backward postal system aggravates an already weak physical communications

infrastructure.

Finally, ICT infrastructure and connectivity represent a major challenge for E-trade growth. In fact connectivity is a necessary pre requisite for the expansion of Egypt's E-trade. Until the time of writing this paper, there were 66 Internet Service Providers (ISP's) in Egypt. The number of Internet users is now 600,000 (Hashem 2000). This is a low figure considering the number of population (about 1% of the population), and again comes in sharp contrast to the figure for Israel (see Tables 3 A & B). The rate of increase, however, could be promising, since the number of users started at 35,000 (0.05% of the population) in 1997 (Table 3 A&B). While the projected number of Internet users in 2005 is 5 million, these will not represent more than 7% of the population, which is still a low percentage, especially when compared with East Asian Countries and Israel (Tables 3 & 4).

The number of personal computers per 1000 people in Egypt has more than doubled from 1995 to 1998 (Table 13). PC' s per 1000 are projected at 60 in 2005 (Radwan 2000). Teledensity has also improved significantly in the past few years: the number of lines per 1000 people has doubled from 1990 to 1998: from 30 to 60.2, (Table 13). The expansion in telecommunications had been notable within the current CIT Plan: the number of lines per 1000 reached 110 in 1999/2000, and projected at 250 in 2005 (Radwan 2000). Particularly pronounced has been the expansion in mobile telephone subscribers: from 58.2 thousand in 1997, to 1.4 million in 2000, projected to reach 1.6 million in 2001. In 2000, there were 1.4 mobile phone lines per 100 people; the figure is projected to go up to 4 lines per 100 people in 2005.

IV.2.3. Egypt's E-trade: Conclusion

Despite positive steps by the Egyptian government to speed up the country's ICT infrastructure, the results so far have been modest, especially when compared with countries like Israel and East Asian countries. Since the ICT revolution is rather recent, there is potential for Egypt to catch up, especially in light of its strong human resource capital. Catching up on ICT, E-trade, will have implications for developing Egypt's trade and promoting its regional and global integration. In the next section, we elaborate on this issue.

IV.3. Conclusion: 'Freer Trade' and E-trade - Potential for Egypt's Integration

This paper has been an attempt to look into the incorporation of ICTs into the development potential of Egypt in a world of freer trade. While freer trade should allow for exploiting

traditional areas of comparative advantage, E-trade may facilitate further and better utilization of this potential. E-trade also opens the door for new areas of comparative and competitive advantage within the development of new dynamic and flexible business models. In the case of Egypt, tourism is a typical example of a traditional area of comparative advantage that can be better exploited through the Internet. In fact, improper marketing of Egypt's tourist potential has always been a major deterrent affecting Egypt's performance in this sector. This point is supported by the fact that most of Egypt's tourists come from countries with high levels of Internet use. As tourism is included in Egypt's GATS commitments, there is certainly room for Egypt to further develop this sector utilizing ICT's. In fact the Internet should serve the same function for other traditionally accepted areas of comparative advantage, namely oil and cotton products, which are also imported by major Internet users.

In a world of freer trade in goods and services, ICT's and E-trade also present new areas of comparative and competitive advantage, especially as E-commerce is viewed as an industry in its own right (hardware, software, services and networks). In the case of Egypt, software development emerges as a new key export sector. The dynamic nature of this industry, encompassing digitally produced and transferred services, together with Egypt' high quality human capital, bless Egypt with a strong potential to be exploited, globally and regionally. On the regional level, proper utilization of this potential can prove Egypt an IT leader in the Arab world, especially in light of the uniqueness of the language and geographical proximity. With the Internet as a multimedia communication channel, there are new opportunities for developing software that will transfer Egyptian films and mass communication services to Arab countries. Egyptian film and entertainment services have always been popular in the Arab world. Films and mass communication services are covered by the GATS.

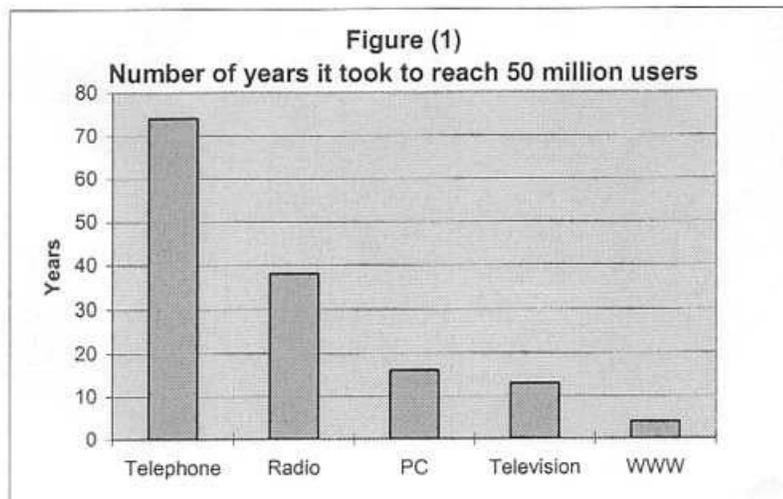
As a matter of fact, the dynamic nature of ICT's and evolution of modes of delivery bring up new opportunities in the service sector as a whole. Once considered a burden on the economies of developing countries, the service sector is now becoming a wild card for their competitiveness globally. The service sector is expected to reach 50% of world trade in 2020 (Shahin 2000). With services increasingly being transferred through the Internet, this is one area where Egypt should try to exploit in its attempts at regional and global integration.

While such opportunities are presently available for Egypt, utilizing this potential necessitates a number of factors. First, ICT infrastructure development must be backed up by sound and transparent economic policies on the domestic front. In order to exploit the potential of E-trade, improving Internet availability, access, and affordability has to go along with easing official and empirical trade restrictions. Next, there is a need to change the traditional mindset, and encourage the adoption of flexible and dynamic business models with strong domestic linkages as well as international supply chains. Moreover, the government, businesses, and International donors should work on developing new and creative modes of financing which would encourage small and medium enterprise to develop E-trade activities. This would save the country the ills of a widening domestic

digital divide, and an income inequality gap. Finally, the development of a regional agenda encompassing E-commerce, perhaps within GAFTA, could prove useful in coordinating E-trade activities in the Arab world, and strengthening its position against other regional trading blocs in the world.

V. A Final Word

The originally theorized gains from trade can be better achieved in a world of global flow of information and smoother flow of goods and services. Although E-trade may expose weaknesses, it might also reveal current and potential strengths, bringing up new challenges and opportunities. Especially with increasing foreign direct investment, Egypt can benefit from technological spillovers that could be exploited by its qualified human capital. Through learning by doing, and/or investing in domestic R&D, there is certainly room for Egypt to capitalize on ICT's and the freer trade environment to achieve higher levels of regional and global integration. Within this context, the keyword remains to be flexibility. Domestic law, which is most territorial in nature, has to be flexible enough to accommodate the Internet, which is least territorial in nature. There is a need for new and creative thinking. In short, Egypt needs to be dynamic and flexible enough to adapt, and hence survive, in this Brave New World.



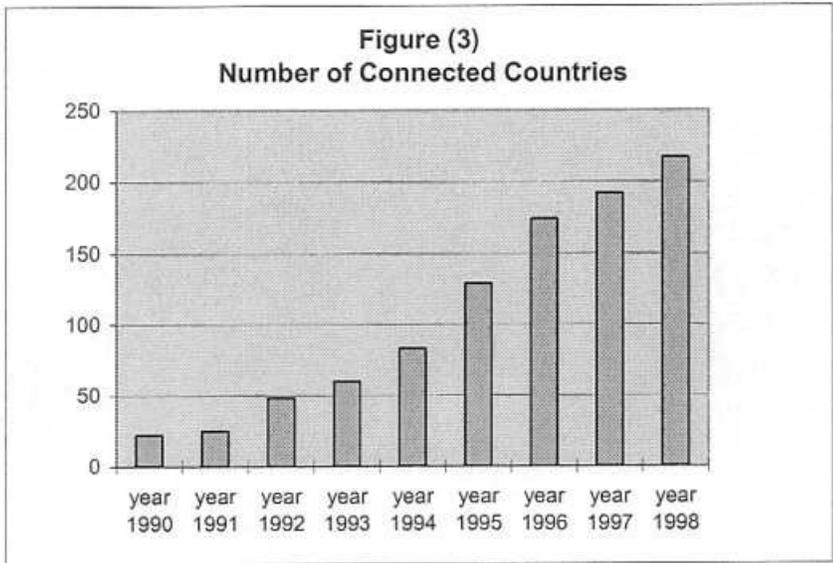
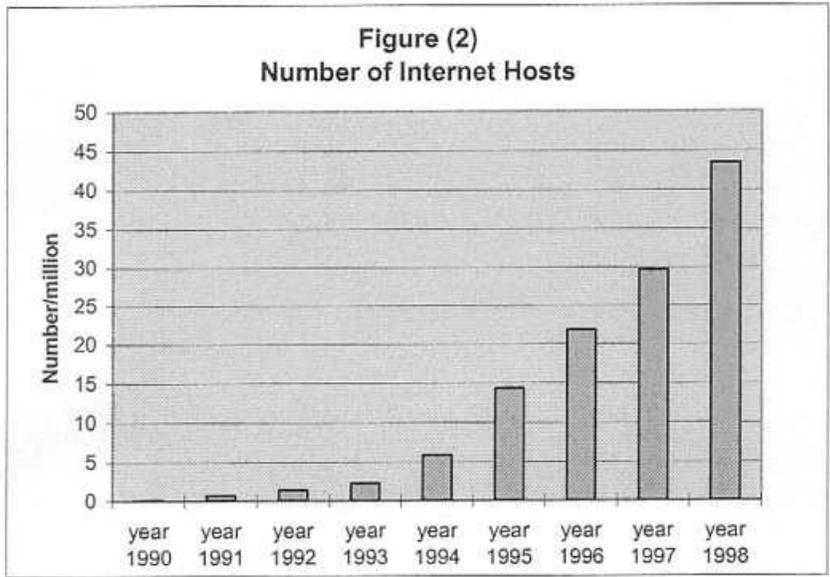


Table 1: Internet Users Worldwide (1995-2000)

	Users (millions)	% of World Population	
Dec-95	16	0.39	Dec-95
1995	26	0.63	1995
Jan-96	30	0.73	Jan-96
Dec-96	61; 37; 36; 55 *	1.49; 0.88; 0.88; 1.34*	Dec-96
Feb-97	57	1.41	Feb-97
Apr-97			Apr-97
Jun-97			Jun-97
Sep-97	74	1.81	Sep-97
Nov-97	76	1.81	Nov-97
Dec-97	70, 101 *	1.71; 2.47*	Dec-97
Jan-98	102	2.49	Jan-98
Feb-98			Feb-98
Mar-98	66.68	1.61	Mar-98
Jul-98	129.5; 117*	3.17; 2.91*	Jul-98
Aug-98			Aug-98
Sep-98	147	3.6	Sep-98
Oct-98			Oct-98
Nov-98			Nov-98
Dec-98	150; 160; 147.8 *	3.67; 3.91; 3.62*	Dec-98
Jan-99			Jan-99
Feb-99	153.5	3.75	Feb-99
Mar-99	159	3.89	Mar-99
Apr-99	163.25	3.9	Apr-99
May-99	171.25	4.09	May-99
Jun-99	179	4.27	Jun-99
Jul-99	185.2	4.41	Jul-99
Aug-99	195.19	4.64	Aug-99
Sep-99	201.05	4.78	Sep-99
Dec-99			Dec-99
Jan-00	248.66	4.1	Jan-00
Feb-00	275.49	4.54	Feb-00
Mar-00	304.33	5.02	Mar-00
Jun-00	332.73	5.4	Jun-00
Jul-00	359.8	5.93	Jul-00
Aug-00	368.54	6.07	Aug-00
Sep-00	377.65	6.22	Sep-00
Oct-00	381.79	6.29	Oct-00
Nov-00	407.1	6.71	Nov-00

* different sources of data.

Source: NUA Surveys (http://www.nua.how_many_on_line/index.html)

Table 2 (A)
 Number of Internet Users 1999-2000 (millions)

	Mar-99	Feb-00	Mar-00	Sep-00	Nov-00
Africa	1.1	2.46	2.6	3.11	3.11
Asia/Pacific	27	54.9	68.9	89.68	104.88
Europe	40.1	71.99	83.4	105.89	113.14
Middle East	0.9	1.29	1.9	2.4	2.4
Canada & USA	97	136.06	136.9	161.31	167.12
Latin America	5.3	8.79	10.7	15.26	16.45
World Total	171.4	275.54	304.4	377.65	407.1

Source: NUA Sureveys (http://www.nua.net/surveys/how_many_on_line/index.html)

Table 2 (B)
 Number of Internet Users as a Share of World Total (%)

	Mar-99	Feb-00	Mar-00	Sep-00	Nov-00
Africa	0.64	0.89	0.85	0.82	0.76
Asia/Pacific	15.75	19.92	22.63	23.75	25.76
Europe	23.40	26.13	27.40	28.04	27.79
Middle East	0.53	0.47	0.62	0.64	0.59
Canada & USA	56.59	49.38	44.97	42.71	41.05
Latin America	3.09	3.19	3.52	4.04	4.04
World Total	100	100	100	100	100

Source: Based on NUA data provided in Table above.

Table 3A: Internet Users in the Arab Countries and Israel (July 1997- July 2000)

	Jul-97	Nov-97	Dec-97	Jan-98	May-98	Jul-98	Jan-99	May-99	Jul-99	Oct-99	Mar-00	Jul-00
UAE	45,150			88,552				204,300			400,000	
Oman	11,425			20,888				40,000			50,000	
Qatar	8,265			17,295				27,500			45,000	
Bahrain								32,500			37,500	
Syria											20,000	
Saudi								112,500			300,000	
Kuwait	29,600			42,350				62,800			100,000	
Jordan	11,840			20,213				50,000			87,500	
Yemen			2,426					6,300			12,000	
Egypt	35,520			61,021				207,000	400,000		440,000	
Libya											7,500	
Lebanon	35,520			43,828				132,200			227,500	
Tunisia				3,500			7,000	15,000			110,000	
Morocco				6,000			20,000	32,500				
Sudan				300			300	900			10,000	
Algeria				500			750	2,250				20,000
Palestine										23,520		
Israel		200,000			300,000	500,000	600,000					1,000,000

Table 3B: Internet Users in the Arab Countries and Israel as a % of Population (July 97- July 2000)

	Jul-97	Nov-97	Dec-97	Jan-98	May-98	Jul-98	Jan-99	May-99	Jul-99	Oct-99	Mar-00	Jul-00
UAE	1.47			2.99				8.71			17.06	
Oman	0.52			0.95				1.63			2.04	
Qatar	1.51			3.1				3.8			6.22	
Bahrain								5.17			5.96	
Syria											0.12	
Saudi								0.52			1.4	
Kuwait	1.51			2.15				3.15			5.02	
Jordan	0.28			0.5				1.1			1.92	
Yemen			n.a.					0.04			0.07	
Egypt	0.05			0.09				0.31	0.6		0.65	
Libya											0.15	
Lebanon	0.95			1.14				3.71			6.39	
Tunisia				n.a.			n.a.	0.16			1.16	
Morocco				0.02			0.66	0.11				
Sudan				n.a.			n.a.	n.a.			0.03	
Algeria				n.a.			n.a.	0.01				0.06
Palestine										n.a.		
Israel		3.7			5.5	9	10.8					17.12

Source: NUA Surveys (http://www.nua.how_many_on_line/index.html)

Table 4: Internet Users in Selected Asian Countries (June 1996-July 2000)*

	China	Hong Kong	India	Japan	Malaysia	Singapore	S.Korea	Taiwan
Jun-96								365,000 (1.7)
Dec-96								441,000 (2.5)
Feb-97					30,000 (0.15)		700,000 (1.53)	700,000 (3.2)
Jun-97	200,000 (0.001)							1,060,000 (5)
Jul-97			80,000 (0.01)					
Aug-97	150,000 (n.a.)	500,000 (7.9)						1,260,000 (5.9)
Sep-97				8,000,000 (6.32)		500,000 (14.7)		
Oct-97			68,718 (n.a.)	10,000,000 (8)	137,436 (0.7)			480,012 (2.7)
Nov-97			120,000-240,000					
Dec-97								1,660,000 (7.7)
Jan-98	500,000 (0.004)			8,840,000 (6.4)	600,000 (3)			
Mar-98				12,100,000 (9.6)				
Apr-98		850,000 (13.4)						
Jun-98								2,170,000 (10.01)
Jul-98	1,175,000 (0.08)							
Sep-98								2,800,000 (12.9)
Oct-98				14,000,000 (11.1)				
Nov-98			500,000 (0.049)				1,800,000 (3.9)	
Dec-98	1,500,000 (0.1)							
Jan-99							3,100,000 (6.7)	3,010,000 (14.3)
Mar-99				15,000,000 (12)				
Apr-99				18,000,000 (14.4)				
May-99			800,000 (0.08)				4,000,000 (8.53)	
Jun-99	4,000,000 (0.26)							
Nov-99								4,200,000 (18.99)
Dec-99	7,000,000 (0.56)			19,500,000 (15.5)			10,000,000 (21.33)	4,790,000 (21.66)
Jan-00	8,900,000 (0.71)							
Mar-00			4,500,000 (0.45)	21,210,000 (16.81)				
May-00				27,060,000 (21.38)		1,740,000 (41.91)		
Jun-00	12,300,000 (0.97)	1,850,000 (26)						
Jul-00	16,900,000 (1.34)				1,500,000 (6.88)		15,300,000 (32.31)	6,400,000 (28.84)

*Figures in brackets represent internet users as a percentage of the population
: Nua Surveys (http://www.nua.how_many_on_line/ondex.html)

Table 5: Internet Users as a % of Population
Highest Ranking Countries in North America and Europe

	Country	%	Month
1	U.S	53.72	Sep-00
2	Iceland	52.11	Jul-00
3	Sweden	50.72	Sep-00
4	Norway	49.79	Sep-00
5	Finland	43.93	Aug-00
6	Denmark	43.1	Sep-00
7	Canada	42.8	Dec-99
8	The Nethrland	42.79	Sep-00
9	Switzerland	33.05	Sep-00
10	U.K	32.72	Jul-00
11	Austria	31.98	Aug-00
12	Belgium	26.36	Sep-00
13	Ireland	24.78	Aug-00
14	Germany	21.74	Aug-00
15	Italy	20.13	Jul-00
16	France	15.26	Mar-00

Source: Nua Surveys (http://www.nua.how_many_on_line)

Table 6
Egypt: Exports and Imports Proceeds by Regional Distribution (%)
(US\$ millions)

	Exports Proceeds							
	1992	1993	1994	1995	1996	1997	1998	1999
Total (US\$ millions)	3,880	3,725	3,337	4,957	4,608	5,345	5,128	3,126
EEC countries	34.5	36.8	37.5	39.4	36.7	34.2	30.5	29.8
Other European countries	5.2	3.3	3	3.8	5.9	5.7	5.7	6.8
United States of America	15.8	20.3	23	31	29.6	32.7	32.7	38.4
Arab League countries	13.1	13.6	12.7	9.8	10.9	11.9	13.9	13
Afro-Asian countries	16.2	18.4	15.3	13.1	15.1	13.7	14.6	10.5
Russian & Commonwealth	8.7	1	1.1	1.4	1.3	0.9	1.3	0.8
Australia	0.1	0	0	0	0	0.1	0.1	0.1
Other countries	6.3	6.4	7.2	1.5	0.6	0.8	1.3	0.8

Source: Egypt, Ministry of Economy (2000a).

Table 8 B
Imports by Commodity Groups (%)

	1991	1992	1993	1994	1995	1996	1997	1998
Total Imports (US\$ millions)	11,425	10,054	10,728	10,647	12,811	14,107	15,565	16,899
Livestock, products of animal and vegetables kingdoms, foodstuffs and beverages industry.	15.8	19.7	17.5	18.2	21.5	17.8	18.5	14.8
Fats, greases, oil and products, metallic products and fuel.	9.3	9.5	11.8	9.2	5.6	11	12.3	12.9
Chemical, rubber and leather products	10.2	11.3	10.4	11	13.8	13.6	11.8	10.9
Wood, cork, paper, textile materials and manufacturers thereof	10.1	9.8	10.2	9.4	10.8	9.7	8.9	9.3
Machines and transport equipment	20.4	24.1	23.7	27.6	24.3	29.1	25.3	26.8
Base metals and manufacturers thereof	7.1	6.7	8.5	9.5	8.2	13.5	7.6	8.4
Miscellaneous manufacturers	3.3	3.9	4.4	4.3	3.7	4.5	5.9	5.3
Unclassified Commodities	23.8	14.9	13.5	10.8	99.3	0.9	3.1	4.8
Free Zones							6.6	6.8

Source: Egypt, Ministry of Economy (1999 & 2000a).

Table 9 (A)
Share of Exports of Goods and Services in Current Price GDP (%)

	1992	1993	1994	1995	1996	1997	1998	1999*
Chile	30.7	27.5	29.3	30.5	28.7	28.8	25.8	n.a.
China	17.5	14.6	21.4	20.6	20.5	22.6	n.a.	n.a.
Egypt	28.8	25.7	23.3	24	22.7	21.9	19	14.8
Indonesia	19.4	26.8	26.5	26.3	25.8	28	50.6	n.a.
Jordan	52.1	51.6	49.6	52.8	54.5	50.6	n.a.	n.a.
Malaysia	76.9	82	91.3	95.4	92.1	94.9	n.a.	n.a.
Mexico	15.2	15.2	16.8	30.4	32.5	30.2	31.2	n.a.
Tunisia	39.5	40.4	44.9	45	40.4	43.4	42.3	n.a.
Turkey	13.9	13.1	20.5	19.5	22.2	24.3	24.7	n.a.
Israel*	n.a.	n.a.	n.a.	30.9	n.a.	n.a.	32.4	36.1

Source: Egypt, Ministry of the Economy (2000a)

* Source: World Bank (2000a)

Table 9 (B)
Share of Imports of Goods and Services in Current Price GDP (%)

	1992	1993	1994	1995	1996	1997	1998	1999*
Chile	29.3	29.9	28	28.7	30.9	30.7	29.8	n.a.
China	16.4	16.5	20	18.9	18.4	18.1	n.a.	n.a.
Egypt	37.4	33.7	35.5	31.4	30.6	24.9	27.5	23.1
Indonesia	27.1	23.8	25.4	27.6	26.4	28.2	43	n.a.
Jordan	85.2	82.9	73.7	74.4	80.6	73.6	n.a.	n.a.
Malaysia	75.5	82.1	93	99.4	91.1	93.5	n.a.	n.a.
Mexico	20.3	19.2	21.7	27.8	30.3	30.2	33.2	n.a.
Tunisia	46.5	48	47.9	48.9	43.5	46	45.6	n.a.
Turkey	16.8	18.6	19.6	23.9	28.7	30.1	30.5	n.a.
Israel*	n.a.	n.a.	n.a.	45.9	n.a.	n.a.	41.2	46

Source: Egypt, Ministry of the Economy (2000a)

* Source: World Bank (2000a)

Table 10
Egypt: Trade Indicators, selected years

	1980	1985	1990	1995	1996	1997	1998
Trade integration (trade as % of GDP)	73		53			45	
Speed of integration (above % change over pervious period)	na	-34.7	0.7	5.7	-11.7	0	
Manufactured exports as a % of merchandize exports	11	10	42	40			
Percapita exports of manufacturers (\$)			49	59	60	65	
High Technology exports as a % of manufactured exports*				0.4			0.2

Source: ERF (2000), various tables.

* Source: World Bank (2000a)

Table 11 (A)
Number of Tourists (By Region)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	Apr-00
Total	2216 (2214*)	3207	2508	2582	3133	3896	3961	3250(3455*)	4797(1804*)	1851
Middle East	1051	1035	892	1032	1038	829(1150*)	839(1186*)	986	897(305*)	257
Africa	172	204	187	153	130	116	120	131	151(63*)	53
Americas	120	225	187	182	229	259	257	218	277(104*)	113
Eastern Europe	41	72	83	101	170	206	192	188	278(118*)	113
Western & Southern	729	1483	999	930	1345	2137(1816*)	2202(1910*)	1564(1769*)	2946(1126*)	1194
Asia and Pacific	100	187	158	181	219	288	260	161	245(87*)	120
Other	1	1	2	3	2	61	37(36*)	2	2(1*)	1

Table 11 (B)
Number of Tourists By Region (%)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	Apr-00
Total	100	100	100	100	100	100	100	100	100	100
Middle East	47.5	32.3	35.6	40	33.1	21.3(29.5)*	22.5(29.9)*	39.3(29)*	18.7(16.9)*	13.9
Africa	7.8	6.4	7.5	5.9	4.2(4.1)*	3	3	4	3.1(3.5)*	2.9
Americas	5.4	7	7.4(7.5)*	7	7.3	6.6	6.5	6.7(6)*	5.8	6.1
Eastern Europe	1.9	2.2	3.3	4	5.4	5.3	4.9(4.8)*	5.8(5)*	5.8(6.5)*	6.1
Western & Southern	32.9	46.3(46.2)*	39.8	36	42.9	54.8(46.6)*	55.6(48.2)*	48.1(51)*	61.4(62.4)*	64.5
Asia and Pacific	4.5	5.8	6.3	7	7	7.4	6.6	5	5.1(4.8)*	6.5
Other	0	0.03	0.1	0.1	0.1	1.6	0.9	0.1	0.04(0)*	0.03

Table 11 (C)
Number of Tourist Nights (By Region)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	Apr-00
Total	16231	21836	15089	15433	20451	23764(23765*)	26577(26579*)	20151(19003*)	31002(12941*)	10496
Middle East	8300	8532(7532*)	5461	6434	6586	5650(7057*)	5646	5141	51911(1614*)	1081
Africa	1464	1475	1059	1073	1051	815	868	795	935(361*)	255
Americas	709	1314	1010	1003	1462	1471	1693(1694*)	1207	1699(736*)	637
Eastern Europe	216	311	325	423	895	981	976	924	1497(764*)	514
Western & Southern Europe	4781	10121	6416	5510	9053	13394(11987*)	15851	10110	20560(9003*)	7541
Asia and Pacific	750	1074	806	967	1380	1433	1523(1524*)	799	1104(431*)	646
Other	11	9	12	23	24	20(21*)	20	27	16(5*)	5

Source: Ministry of the Economy (2000c)
(*Source: Ministry of the Economy, 2000a)

Table 12: The EIU e-Business-Readiness Rankings

Rank	Countries	Bs Env Ranking 2000-04	Connectivity Ranking	E-Business-Readiness Ranking
1	US	8.69	9	8.8
2	Sweden	8.26	9	8.6
3	Finland	8.21	9	8.6
4	Norway	8.00	9	8.5
5	Netherlands	8.84	8	8.4
6	UK	8.80	8	8.4
7	Canada	8.66	8	8.3
8	Singapore	8.55	8	8.3
9	Hong Kong	8.52	8	8.3
10	Switzerland	8.42	8	8.2
11	Ireland	8.42	8	8.2
12	Denmark	8.41	8	8.2
13	Germany	8.32	8	8.2
14	France	8.17	8	8.1
15	Belgium	8.17	8	8.1
16	Australia	8.14	8	8.1
17	New Zealand	8.10	8	8.1
18	Austria	7.96	8	8.0
19	Italy	7.68	8	7.8
20	Israel	7.61	8	7.8
21	Japan	7.43	8	7.7
22	Spain	8.01	7	7.5
23	Chile	7.85	7	7.4
24	South Korea	7.30	7	7.2
25	Portugal	7.59	6	6.8
26	Argentina	7.22	6	6.6
27	Taiwan	8.13	5	6.6
28	Thailand	7.27	5	6.1
29	Poland	7.15	5	6.1
30	Hungary	7.09	5	6.0
31	Czech Republic	7.07	5	6.0
32	Malaysia	6.91	5	6.0
33	Greece	6.90	5	6.0
34	Mexico	6.78	5	5.9
35	Brazil	6.37	5	5.7
36	South Africa	6.25	5	5.6
37	Slovakia	6.19	5	5.6
38	Indonesia	6.16	5	5.6
39	Turkey	6.06	5	5.5
40	Saudi Arabia	6.02	5	5.5
41	Bulgaria	5.61	5	5.3
42	Venezuela	5.51	5	5.3
43	Romania	5.45	5	5.2
44	Russia	5.16	5	5.1
45	Ukraine	4.79	5	4.9
46	Philippines	6.72	3	4.9
47	Peru	6.36	3	4.7
48	Colombia	6.13	3	4.6
49	Egypt	6.10	3	4.6
50	India	5.97	3	4.5
51	China	5.88	3	4.4
52	Sri Lanka	5.87	3	4.4
53	Ecuador	5.32	3	4.2
54	Vietnam	5.30	3	4.2
55	Pakistan	4.94	3	4.0
56	Kazakhstan	5.07	2	3.5
57	Algeria	4.90	2	3.5
58	Iran	3.60	3	3.3
59	Nigeria	4.54	2	3.3
60	Iraq	2.07	2	2.0

source: The EIU (2000) 12

Table 13: Information Technology Indicators, Egypt and Selected Countries

	Telephone main lines (per 1000 people)				Personal computers (per 1000people)				Internet hosts (per 10,000 people)			Roads, paved (%)			
	1990*	1995	1998	1999	1990*	1995	1998	1999	1995	1998	1999	1995	1998	1999	
Egypt	30	46.3	60.2	n.a.	n.a.	4.3	9.1	n.a.	0.1	0.3	0.3	78	n.a.	n.a.	Egypt
UAE	206	291.1	389	n.a.	n.a.	49.8	106.2	n.a.	1.6	49.6	63.6	100	100	n.a.	UAE
ME&NA	n.a.	58.1	81.8	n.a.	n.a.	12.1	n.a.	n.a.	0.1	0.2	0.3	57.1	n.a.	n.a.	ME&N
USA	545	607.3	661.3	n.a.	217	328.1	458.6	n.a.	230.4	975.0	1,122.6	60.7	n.a.	n.a.	USA
Israel	343	416.9	471.1	n.a.	63	133.5	217.2	n.a.	49.8	147	160.4	100	100	n.a.	Israel
India	6	12.9	22.0	n.a.	n.a.	1.3	2.7	n.a.	0.0	0.1	0.1	45.7	n.a.	n.a.	India
Sweden	681	681.1	673.7	n.a.	105	249.2	361.4	n.a.	164.0	430.0	487.5	76.2	77.5	n.a.	Sweden
World	99	121.8	146.0	n.a.	n.a.	42.4	70.6	n.a.	16.8	63.1	74.2	40.0	n.a.	n.a.	World

Source: compiled from World Bank (2000a); 1990 figures from UNDP (2000).

* Source: UNDP (2000)

Appendix

Definition of Services under the WTO:	
1. Business (including professional and computer services)	7. Environmental services
2. Communication services	8. Health services
3. Construction and engineering services*	9. Tourism and travel services*
4. Distribution services	10. Recreational, cultural & sporting services
5. Educational services	11. Transport services*
6. Financial services (insurance and banking)*	12. Other services
* Services to which Egypt has commitments. Source: Shahin (2000), p. 3.	

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