INDUSTRIAL POLICY & THE ROLE OF THE STATE IN EGYPT: RELEVANCE OF THE EAST ASIAN EXPERIENCE

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Industrial Policy and the Role of the State in Egypt:

The Relevance of the East-Asian Experience*

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Abstract

This paper assesses Egypt's industrial strategy as embodied in its current economic reform and structural adjustment program (ERSAP) and appraises the role it implies for the state in light of the East Asian experience of industrialization. The argument for the lack of coherence in the industrial policies pursued over the past two decades in Egypt is presented on the basis of estimates of a Dutch Disease index for the manufacturing sector over the period 1959/60-1990/91, evidence on exchange rate, interest rate and real wage behaviour and some initial (theoretical and empirical) assessments of the effects of the current ERSAP. The results cast doubt on the sufficiency of the present mixture of policies in reversing the de-industrialization trend inherited from the oil-boom era and in promoting long-term growth in the manufacturing sector. Based on a comparison with the East Asian, in particular South Korean, experience of successful industrialization, the paper argues for the central importance of a developmental state that takes on the responsibility of designing and implementing a coherent industrial strategy. This includes provision of "entrepreneurial" vision and co-ordination for large-scale changes, institution building (in both the government and private sector) and a prudent management of both integration in the world economy and internal conflict in the domestic economy. Under each of these areas, important lessons and proposals for industrial policy design and an alternative reform program for Egypt are presented.

ملخص

تقيم هذه الورقة استراتيجية الصناعة في مصر والتي يتضمنها برنامج الإصلاح الاقتصادي والهيكل الجاري العمل به حاليا، كما تقيم دور الدولة في ضوء تجارب دول شرق آسيا في التصنيع. إن مناقشة قلة التنسيق بين سياست التصنيع التي تلتتها مصر خلال العقود الماضين قد عرضت بناء على مؤشرات المرض الهولندي (Dutch Disease) لفترة التصنيع خلال الفترة 1969/1990 - 1991، وعلى شواهد سعر الصرف، وسعر الفائدة وسلوك الدخل الحقيقي بالإضافة إلى الاتجاهات الأولية (نظرية وتطبيقية) لآثار برنامج الإصلاح الاقتصادي والهيكل الجاري. وقد أظهرت النتائج الشك في قدرة مزيج السياسات الحالية على تحويل الاتجاه التراجعي للتصنيع الموروث منذ الطفرة النفطية، وفي تطوير النمو في قطاع التصنيع في الأجل الطويل. وبناء على مقارنة بين تجربة شرق آسيا وخاصة تجربة كوريا الجنوبية الناجحة في التصنيع، فإن الورقة تناقش مسألة الاهتمام المركزية للدولة النامية التي تتحمل عبء التصميم وتنفيذ استراتيجية تصنيع مستندة. وهذا يتضمن تقديم رؤية وتسقير للتغييرات الكبيرة بشكل منظم، وبناء موسى (في كل من الحكومة والقطاع الخاص)، وادارة حفصية لكل من عملية الاندماج في الاقتصاد العالمي والصراع الداخلي في الاقتصاد المحلي. وفي كل من هذه المجالات تم استخلاص الدروس المهمة وتقديم مقتراحات لتقييم سياسة صناعية، وكذلك تم تقديم برنامج إصلاح بديل لمصر.
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I. INTRODUCTION

Egypt's current economic reform and structural adjustment program (ERSAP), initiated under agreements between the government and the IMF and World Bank in 1991, has the principle aim of shifting the economy to an outward-oriented, market-based one after more than three decades of central planning and the dominance of public sector activity in the economy. The program is particularly relevant to the country's manufacturing sector as it embodies a new approach to industrial policy. Central to this approach are two elements: First, an increase in the role of free markets and private enterprise coupled with a diminution in the role of the state and the state sector. Hence the inclusion of measures such as privatisation, deregulation, financial liberalisation, changes in taxation and other incentive systems. Second, a closer integration with the World Economy. Hence the emphasis on trade liberalisation, promotion of foreign investment and exchange rate reform.

It is generally argued that this approach was adopted on basis of its empirical validity and proven record in promoting fast and 'efficient' economic and industrial growth. The industrial success of the East-Asia Newly Industrialising Countries (NICs) is often cited as an example of the efficacy of these prescriptions. Yet there is a growing body of recent literature that challenges this view and argues that this success is in fact largely attributable to a highly active role of the state in formulating a vigorous economic system that promotes capital accumulation, innovation and productivity growth.

The purpose of this paper is to assess Egypt's industrial strategy as embodied in its current ERSAP and the role of the state that it implies. In particular, the adequacy of such a strategy in confronting current problems in the country's manufacturing sector and in laying the foundations for medium and long term industrial development will be questioned in light of the East Asian experience of industrialisation. Three country experiences will be highlighted: Japan, South Korea (henceforth Korea) and Taiwan, with particular attention to the experience of Korea, which is arguably the most relevant to Egypt given many similarities in their size, resource availability, and institutional set up (in fact, the two countries have frequently been contrasted in the Development literature). Thus, the term 'East Asian experience' is used in the paper as a short hand for a particular kind of 'policy regime' pursued notably in these three countries, rather than as a 'geographical denomination' that denotes all countries located in the eastern region of Asia.

The analytical framework underlying the discussion in the paper is based on a reformulation of the theory of the role of the state in development in an attempt to explain the East Asian Experience. Theoretical justifications for state intervention are not lacking in abstract terms, but the more important question pertains to 'how' should the state intervene in an efficient manner. In this paper it is argued that the experience of the East Asian countries shows some examples that can help in answering this question and can be of relevance in the design of industrial policy, and development strategy in general, in Egypt.

The discussion in the paper will be presented in four main parts. The first part reviews changes in the 'political-economy' of state intervention in the Egyptian economy, compares indicators of economic performance and structural change in Egypt to those in other LDCs, especially in East Asia and provides an overview and

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1 For example, recent contributions in this area can be found in the market failure literature, new growth and strategic trade theories and information economics.
brief assessment of the main elements in the country's current reform program that are of relevance to its industrial development. In the second part, the argument for the need for a coherent industrial policy and a reconstruction of the role of the state in development will be presented on basis of theoretical assessments highlighting the limits of liberalisation and depoliticisation and a review of evidence on East Asian performance in the areas of macroeconomic management, external policy and industrial policy. In the third part, the discussion turns more specifically to what can Egypt learn from East Asia, first by looking at arguments emphasising the special conditions that existed in East-Asia, then by comparing the Egyptian experience directly to that of Korea. Finally, the fourth part of the paper presents some concrete proposals of relevance to the design of industrial policy and an alternative economic reform program for Egypt.

II. INDUSTRIAL DEVELOPMENT IN EGYPT: THE STYLISED FACTS


Despite several successive but intermittent spurts of industrialisation since the 1820s, it was not until the 1950s that Egypt succeeded in building a broad modern industrial base (Mabro and Radwan, 1976). Five distinct phases of development in the industrial sector can be identified in the period starting in the 1950s (or more generally in the post World War II era) and ending in the 1990s, each corresponding to a different type of development strategy, institutional set-up and pattern of state intervention. Yet it remains doubtful in most of these phases whether one can identify a state industrial strategy per se and not just a group of investment projects undertaken or encouraged by the state that do not add up to a strategy.

The first phase in the post War era lasted till about the mid 1950s and was characterised by mostly private-enterprise led Industrialisation. Following several decades of being one of the World's leading exporters of raw cotton, the world Depression and World war II set Egypt on an early stage of Import Substitution Industrialisation under an economic system dominated by free private enterprise activity (partly indigenous and partly foreign) in turn operating under parliamentary democracy and relatively protected trade regime and investment policies (Richards and Waterbury, 1990). The state's development strategy since the early 1930s took the form of import substitution and infant-industry protection through higher tariffs, import controls and some subsidisation through loans coupled with export promotion of cotton.2 In the absence of government intervention and guidance, entrepreneurial activity was solely geared towards generating quick profit, which at that time were mostly in light consumer-oriented industries that required little investment and fairly modest technology. Besides tariff protection, government intervention was kept to a minimum. The only large state-owned enterprises were: oil-refinery in Suez, the

2 This strategy was actually adopted by consensus in 1918 by the members of the Commission on Commerce and industry as a compromise among on the one hand nationalist ideologists (including Ta'alat Harb, the founder of Egypt's first banking and industrialists group -- the Misr Group and Bank Misr) who were concerned about the problems of the economy in a future independent Egypt and, on the other, special interest groups such as cotton growers and exporters, emerging industrialists and importers and the foreign community which operated across all these groups (Hansen, 1991).
government press; a few military factories; and some workshops belonging to various ministries (Zaalook, 1989). It was not until 1954, following the 1952 revolution and the coming into power of a new military regime headed by Gamal 'Abd al-Nasser, that large direct government investment in industry took place.

This investment drive perhaps signalled the start of a second phase of development characterised by a state-led industrial push that was to last till the mid 1960's. Although the textile industry continued to dominate the scene, some new investments were taken in iron and steel, fertiliser, paper and mineral industries. Yet the attitude of the government till the late 1950s remained mainly geared towards undertaking projects that the private sector could not finance or manage (such as the Aswan Dam project, initiation of the iron and steel complex in Helwan and a large fertiliser plant at Aswan) (Zaalook, 1989 and Richards and Waterbury, 1990). In 1956, the nationalisation of the Suez canal company provoked the participation of England and France along with Israel in a direct attack on Egypt. All assets (trading and insurance companies, utilities and some manufacturing enterprises) owned by the former two were taken over by the Egyptian government. Yet it was not until 1961 that the radical shift toward central planning and state-enterprise led industrialisation was completed. With the drafting of the country's first five year plan for the entire economy, the private sector was called upon to mobilise about 55% of all investment over the five year period. The failure of the private sector to do so provoked a wave of nationalisations in 1961 that allowed the state to take over most large scale industry, all of banking, insurance and foreign trade, utilities, marine transport, airlines and many hotels and Department stores. In 1962, the national charter was promulgated defining the limits of the public sector (to include infrastructure, generally heavy and medium industry and institutions and companies responsible for foreign trade and financial operations) and the private sector (limited to ownership of land, buildings, construction and contracting, light industry and 25% of national exports and internal trade under state guidance) (Zaalook, 1989). The First five-year plan embodied a straightforward ISI strategy combining promotion of some of the easier industries (textiles, sugar, automobile assembly and pharmaceuticals) and more advanced ones (heavy engineering, steel, chemicals and fertilisers). The plan was quite successful in terms of employment creation (created one million jobs), growth of manufacturing output (more than 10% p.a.), overall production growth (6% p.a.) and level of delivery of service. Yet in 1965, the state ended up facing a domestic fiscal and external foreign exchange crisis due to rising imports of raw materials and capital goods and large outlays on construction and social services (Waterbury and Richards, 1990).

The third phase that can be identified spans the decade from 1965-1975 and corresponds roughly to the regional wars and the inter-war period. The second five-year plan, which would have led to industrial "deepening", had to be abandoned due to shortages in financing (U.S. aid was withdrawn and the Soviet Union was reluctant to extend new lines of credit). The military defeat of 1967 and Israel's occupation of the Sinai peninsula (with loss of oil revenue there, closure of the Suez canal to traffic and disruption of tourism) led the country into a severe recession that signalled the end of the Nasserist experiment. With the death of Nasser and his succession by the Sadat regime in 1970, still resources had to be diverted to defence purposes in preparation for the next war (which was to actually take place in 1973) and away from all other forms of investment including that in the manufacturing sector.

The fourth phase is associated with the implementation of the open door policy (henceforth ODP), announced in 1974, and various partial economic
liberalisation attempts that followed over the period 1975-1985. The initial ODP legislations were mainly aimed at encouraging foreign investment. It was followed by various other measures aimed at encouraging also domestic investment. The policy shift coincided with the oil boom of the 1970s and the associated windfalls from oil exports, Suez Canal dues and tourism, worker's remittances as well as capital inflows from foreign borrowing and aid. Despite these inflows, the country was accumulating a large public debt and the inflows of these resources directed attention away from the problems in the productive sectors in the economy, and in particular in manufacturing industry (Handoussa, 1988 and Amin 1987). In fact, one of the most striking features of that period has been the relative decrease of manufacturing growth, and of its contribution to domestic income, in contrast to other sectors, in particular trade and finance. Industrial strategy, to the extent that one can be identified for this period, has showed some signs of shifting towards export-oriented activities, and the subsectors manifesting the largest growth rates in this period are those partly financed and run by foreign investment (for example, petrol, the extractive industries and engineering and chemical industries). (Zaalook, 1989). The role of the state throughout that phase has been identified by several observers (see for example Abdel-Fadil, 1979, Beblawi, 1987 and Zaalook, 1989) as that of a 'rentier-state' (sustaining economic management from sources outside the economy's productive capacity) operating in a 'rentier-economy' or 'semi-rentier-economy' (an economy that relies on substantial external rent) and in a society where a 'rentier-mentality' (embodying a break in the work-reward causation, where reward, income or wealth is not related to work and risk bearing, but rather to chance or situation) is predominant. In 1987, it was estimated that the various external rents together account for 45% of the country's GDP. The role of the state as the main recipients of this rent was to redistribute it among the population, in form of government favours, now embodied in a welfare-state" doctrine of consumer subsidies and public employment (Beblawi, 1987).

The fifth and final phase to be identified covers the second half of the 1980s and lasted till the initiation of the current ERSAP. This period witnessed a drastic fall in many of Egypt's external sources of revenue, following the two negative oil shocks. Interestingly enough, this period represented a positive shift to industrial development where many of the import-oriented entrepreneurs during the ODP/windfalls period shifted to industrial activity, due to encouragement by the state through the 'new industrial cities' law that was coupled with import restriction policies aimed at protecting the domestic industry. Commentators described this period as one of 'industrial-liberalisation' as opposed to 'trade liberalisation', with an orientation towards exports as opposed to import substitution (see for example Gazzarin, 1992). Among the industries that particularly prospered during this period are: clothing, food-processing, chemical (especially plastic and paint), engineering (especially consumer durables and electrical) and leather goods (ibid).

In the following sub-section, we will turn to investigating the impact of the industrial policies (or absence of industrial policies) during the era of economic liberalisation and the emergence of a semi-rentier economy in the 1970s and 1980s.
B. Indicators of Economic Performance and Industrial Development

During the 1950's and 1960's, the Egyptian economy witnessed several successive spurts of boom and recession, yet on the whole growth performance during that period fell short of that of other LDCs (such as Mexico and Brazil), especially those in East Asia (Japan, Korea and Taiwan). As can be seen from Table 1 in the appendix, it was not until the period between the mid-seventies and the mid-eighties, that the Egyptian economy grew at truly impressive annual rates close to 10% in real terms, thus outpacing the growth of almost all other developing countries in the sample in the table. As explained above, this impressive growth was associated with two major developments: first, the increase of foreign exchange earnings from external and rental sources such as petroleum exports, Suez Canal duties, migrant workers' remittances, tourism income, and external aid (see Chart 1 in the appendix) and second, the implementation of several partial liberalisation packages (including the ODP). It can be argued, however, that these windfalls ultimately represented a lost opportunity because they were not utilised in a way that could have laid the foundations for sustainable growth and made the economy less vulnerable to external shocks. Indeed, the observed high growth does not give the whole picture but conceals some important adverse structural developments, as seen in the fact that, when oil prices collapsed in the mid-eighties, so did the growth rate (to only 4.2% in the period 85/86-91/92).

By the end of the boom, in the second half of the 1980's, the Egyptian economy was far more dependent on external factors. During the period 1974 to 1990/91, the share of agriculture in real GDP dropped from about 34% to some 15.6%, and the share of manufacturing stagnated at about 15%, with a moderate decline in the middle of that period (see Chart 2). On the other hand, the shares of construction, electricity, and services, especially transport and communication, and trade and finance, increased significantly. In short, there was an expansion in the share of non-tradable sectors and a contraction in the share of tradables (except for oil). To the extent that there was a growth of manufacturing output during this period (see Table 2), this is unlikely to have been generated by any significant form of technical innovation. The overall trade deficit increased almost fivefold, in spite of the surge in oil exports. Non-oil merchandise exports declined in absolute terms for many years, and their contribution in financing merchandise imports dropped from about 75% to about 20%. The situation was apparently that of a Dutch Disease case (defined as a decline in the share of tradables associated with oil and oil-related windfalls). Several recent

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3 Following World War II, the economy enjoyed a period of rapid recovery which lasted only two to three years. This was followed by a cyclical downturn until the mid 1950s. High rates of growth obtained again between 1956/7-1963/64, reaching a height of 8.7% in the latter year. Afterwards, the rate of growth fell steadily reaching only 1% during the war year of 1967/8. Growth picked up again in the period until 1973 (in the range of 5%) mainly due to growth in the services sector (public administration and defence) (Mabro and Radwan, 1976).

4 China was the only exception after 1979.

5 Handoussa et al, 1986 proposed that much of the increase in TFP in the public sector during this period has been due to improvements in capacity utilization.

6 In 1970 non-oil merchandise exports financed about 68% of merchandise imports. By 1986, it financed only 21.6% of merchandise imports, and that figure dropped to a mere 19% in 1992. For over all exports, including oil, these figures are 75%, 37%, and 38% respectively (see IMF, Balance of Payments Statistical Yearbook, several issues).
works were devoted to testing systematically for the occurrence of the Dutch Disease in the case of Egypt by comparing trends in sectoral shares to some form of standardised patterns of structural change.\textsuperscript{7}

In a study by Syrquin (1989) investigating structural change in 100 developing countries, Egypt was one of the cases that showed Dutch Disease symptoms. In that study, regressions were run to estimate the changes in the shares of the different sectors in GDP associated with changes in per capita income.\textsuperscript{8} The relevant findings concerning the low-middle income countries group, to which Egypt belongs\textsuperscript{9}, are reported in table 4. The comparison of the results for Egypt with the group's averages shows a strong indication of a Dutch Disease case in Egypt. The parameter for manufacturing was negative for Egypt compared with a positive parameter for the group's average. For agriculture, the parameter for Egypt was about 50% lower than the group's average. In general, the results show that each 1% increase in per capita income was associated with a 0.25 percentage point decline in the share of tradables in GDP in Egypt compared with a decline of only 0.10 percentage point for the low-middle income countries as a group.\textsuperscript{10}

A formal methodology to construct an index for the Dutch Disease was developed by Gelb and Associates (1988). The index measures the deviation, of the share of the tradable sectors in non-oil GDP from their stylised shares. In their methodology, the authors exclude the windfall sectors from the economy and then calculate the deviation of the share of the tradable sector in real GDP from its stylised share according to Chenery (1976) and use this deviation as an index for the Dutch Disease.\textsuperscript{11} Along the above lines, it is possible to estimate Dutch Disease indices for Egypt for the period 1960/61-1991/92 as reported in table 5 and charts 3 and 4 in the

\textsuperscript{7} Most studies build on the methodology of Chenery and Syrquin (1975) and Chenery (1976).

\textsuperscript{8} These regressions were run using available data for each country within the period 1950-1983. The years used for each country varied between 11 and 34 years. The exact years used for Egypt were not specified in the study.

\textsuperscript{9} The classification of the countries was in accordance with that given in the 1986 World Development Report.

\textsuperscript{10} The estimated equations in Syrquin (1989) took the form

\[ y = a + b \ln x \]

where

- \( y \) is the share of the sector in GDP, and
- \( x \) is per capita income.

The general results of the study confirm the stylised pattern, especially in agriculture (more than 90% of the countries) and, though less strongly, in manufacturing (about 70% of the countries). In some countries (Algeria, Congo, Egypt, Iraq, and Iran), inverse signs of the estimated parameters were observed and this was attributed to the Dutch Disease.

\textsuperscript{11} The reason for excluding the booming sector from the economy before constructing the index is that the dramatic growth of this sector will lead to the decline of the shares of all the other sectors in GDP, including that of tradables. By excluding the booming sector this problem is neutralised.

Therefore, the equation Gelb uses to construct a Dutch Disease index is

\[ \text{DD} = (\text{AGR}_n + \text{MAN}_n) - (\text{AGR}_f + \text{MAN}_f) \]

where

- \( \text{DD} \) is the Dutch Disease index,
- \( \text{AGR} \) and \( \text{MAN} \) are the shares of agriculture and manufacturing, respectively, in non-booming real GDP,
- \( n \) indicates standardised shares, and,
- \( f \) indicates actual shares.
First with regards to changes in the manufacturing Dutch Disease index, it is interesting to note that until the early seventies this index was negative, indicating a higher share of manufacturing than the lower-middle income countries' average (a reverse Dutch Disease). This was, possibly, a result of the import substitution industrialisation policies pursued then. Indeed, the index was even showing a decreasing trend reflecting a steady increase in the degree of industrialisation. The situation has changed since the seventies, and by the eighties the index has more than doubled. There were some improvements during the eighties, possibly due to the non-traditional exports promotion adopted to some extent then, and then subsequent deterioration in the early nineties.

Second, it is interesting to note how policy shifts influenced the index. It appears that, generally, the index deteriorated significantly at the beginning of the implementation of each wave of liberalisation and then improved slowly but always to a level worse than that before the liberalisation wave. This scenario seems to hold with no exception. Note the deterioration in 1974 and 1975 which coincide with the introduction of the ODP. The index then improved in 1976 and 1977 with the phasing-out of the impact of the initial liberalisation which was slowed down due to the decline in foreign, mainly Arab, aid. The index started to deteriorate again in the late seventies with the introduction of the second wave of liberalisation and the abolishment of bilateral trade and payments agreements with the then socialist countries. The deterioration slowed down in the eighties and was eventually overturned to some improvement. During that period, the progress in the liberalisation trend was counter-balanced by the implementation of various trade restrictions and controls in response to foreign exchange shortages. The index started to deteriorate again in the early nineties with the implementation of the new IMF stabilisation/liberalisation programme.

Third, the mechanisms (or intermediate causes) of the Dutch Disease, according to the standard Dutch disease model, are (i) real appreciation of the national currency which reduces the profitability of tradables, and (ii) increases in the real wage and (iii) increases in the interest rate, which crowd out the production of tradables. These mechanisms, however, have been of little relevance to the Egyptian case during the period under study. Using different measures of the real exchange rate, such as the inflation-adjusted nominal rate and the price of nontradables relative to the price of tradables as shown in table 6 and chart 5 in the appendix, it can easily be seen that the Dutch Disease in Egypt occurred not because of real appreciation, but actually despite some real depreciation. As for interest rates, several studies showed that these neither

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12 Estimates of the Dutch Disease indices for Egypt presented in this paper are based on a previous work by one of the authors, Sakr (1995). For a more detailed analysis of these indices, refer to that work.

13 It is important to note that the index is not adjusted for tradability of manufacturing output. Thus a deterioration in the index (reflected by a higher number) signifies a decline in the share of all manufactured goods and not just manufactured tradables. To the extent that most manufactured goods are likely to be tradable, the deterioration in the index can still be taken as indicative of the occurrence of the Dutch Disease.

14 Table 5 shows that the index decreased from about -1 at the beginning of the sixties to almost -2.5 by the early seventies.

15 As can be seen also in Table 5, the index for manufacturing in 1991/92 remains at 2.88 compared to an average of -1.78 in the sixties and early seventies.
were raised nor were they the decisive factor in credit allocation in Egypt during the period covered due to financial repression.\textsuperscript{16} The only classical mechanism that appeared at work was that of real wages, in the sense that there was some evidence of divergence in wages between the different sectors. This factor, however, is not sufficient to explain the Disease, especially when we take in consideration the lack of the economy's flexible response to market signals because of structural rigidities and heavy regulations.\textsuperscript{17}

These empirical results, combined, cast doubt on the sufficiency of using policies such as devaluation, financial liberalisation and labour market reform to reverse the Dutch Disease, and in particular the 'deindustrialisation' effect, in Egypt; and highlight the need for a coherent industrial strategy as part of any overall economic reform program.


As mentioned above, by the late eighties, per capita real GDP was declining in Egypt and the external financial position was critical. The government found great difficulty in financing the most basic import: wheat. The situation was saved by a Paris Club 50\% debt reduction agreement in the aftermath of the Iraqi invasion of Kuwait. This debt relief and other foreign assistance was conditional on the implementation of an IMF/World Bank economic reform and structural adjustment program which the Egyptian government signed in 1991. Egypt's current reform program has a 'stabilisation' component and a 'structural adjustment' one. The stabilisation policies in the program aim at correcting the macro imbalances and curbing the inflation rate, and encompass a whole range of contractionary fiscal, monetary and domestic credit measures (including raising the interest rate and placing a restraint on credit extended to the public and the private sector) as well as a devaluation-cum-unification of the exchange rate structure. The structural adjustment component of the program, on the other hand, includes policies in the areas of public sector reform and privatisation, liberalisation of trade and investment policies and price liberalisation (IMF, 1991).

Telling from announcements by the government, the industrial strategy implied by the reform program (in so far as one can identify one), is based on the conviction that the poor performance of the industrial sector is mainly attributable to an overvalued exchange rate, excessive administrative control on prices as well as subsidies to public sector enterprises that led to a misallocation of resources. Thus the government is currently adopting an industrial policy that entails large-scale privatisation of state owned enterprises as well as gradual removal of subsidies and price controls in the remaining public-sector companies. Moreover, the government has announced its intention to pursue a policy of promotion of export-oriented industries and of liberalising imports to foster competition with the outside world (Ministry of Industry, 1991 and Said, 1992).

\textsuperscript{16}See for example Shafik (1989) and Sakr (1995).

\textsuperscript{17}This conclusion was confirmed by Karshenas (1994) who also reviewed evidence pertaining to the occurrence of the Dutch Disease in Egypt and concluded that the growing lack of competitiveness of the traded goods sectors seem to have more to do with productive inefficiencies within sectors rather than adverse relative price movements. See Sakr (1995) for more detailed discussions of these issues.
Recent appraisals of Egypt's ERSAP highlight the success of its stabilisation component in restoring the country's credit worthiness with the rest of the world, controlling inflation, removing discriminatory policies between the public and private sector in financial and foreign exchange markets and boosting expectation and confidence due to the stabilisation of the exchange rate. Yet its impact on growth has been highly negative and the assumption of the underlying model that a boost in private sector investment in the medium term will help to restore growth is now increasingly being questioned, given that there are elements in the ERSAP itself (such as decreasing public expenditure, which is mostly of the crowding-in type, credit restraint and maintaining high interest rates) that are likely to discourage private sector investment (Handoussa, 1993).

Given the central importance that the ERSAP attaches to private investment, it is useful to briefly report on the results of some recent empirical works devoted to examining the behaviour of private investors in Egypt. Recent econometric work on the determinant of private investment in Egypt include Shafik (1989) and Sakr (1995) whose results are, more or less, similar. The significant determinants of private investment they identify are growth in demand, government investment in infrastructure, credit extended to the private sector and the real wage. Sakr identified demand and credit allocation as the most significant factors - both, of course, were negatively affected by the recent contractionary stabilisation policies.

Another important study to quote in this context is that by Fawzy (1992) who conducted a survey in the Tenth of Ramadan new industrial city to examine private industrialists' views on the expected impact of the current reform impact on their industries. On the whole, the survey showed an expected negative impact of many aspects of the reform program, especially with regards to the stabilisation side of the program and its likely adverse effect on domestic demand. The industrialists reported unutilised capacity to be already in the range of 40-60% of total capacity and found that the expansion of exports was a difficult option because of inferior quality, lack of expertise, fierce international competition, and import quotas imposed by other countries, including the European Union. They were rather pessimistic with regards to the expected effect of exchange rate devaluation as they believed that the demand for their exports was price inelastic. In their view, any increase in their income due to devaluation was wiped out by increases in taxes and prices of public utilities. There were also further concerns about the impact of devaluation on the cost of capital and intermediate inputs and the impact of exchange rate unification on customs dues. But what the industrialists, in fact, feared most was import liberalisation and the wave of fierce foreign competition and dumping practices that were expected to follow. They noted how similar liberalisation in the ODP period forced many of them to move from producing to importing and many only returned to industry during the first half of the eighties because of the then supportive industrial environment and the favourable concessions offered to the New Cities. They believed that many of them would now move again to importing under the new hostile atmosphere. The survey, however, identified a positive attitude towards privatisation due to the expected improvement of the quality of the intermediate goods that the public sector presently produces. The industrialists were not however ready to buy public sector companies as they believed they were mostly beyond their financial capability and because of the structural problems and regulation restrictions, including labour legislation, in that sector.

The survey as well as other recent studies on the industrial sector in Egypt identified that apart from the reform-related difficulties, industry continues to suffer
during the 1990s from the low quality of human capital, the lack of entrepreneurial and organisational skills, and political uncertainty. Handoussa (1991), after reviewing current problems in Egypt's manufacturing sector, also noted that it is unlikely that privatisation on its own can adequately address the problems of the manufacturing sector in Egypt, which are related more to ill-suited-industry specific strategies rather than to ownership structure.

In sum, the analysis in this section has pointed to the lack of coherence in industrial policies pursued in Egypt during the 1970s and 1980s, and demonstrated the insufficiency of the government's current economic reform and structural adjustment program in addressing the pressing problems in the manufacturing sector. It is argued here that there is a pressing need for policy-makers to formulate a sound industrial strategy along the lines of the East-Asian model of successful industrialisation. The following section explores this issue in some detail.

III. THE NEED FOR A COHERENT INDUSTRIAL STRATEGY: THE EAST ASIAN EXPERIENCE

A. The Limits to Liberalisation and De-politicisation

The idea that the state should play a leading role in economic development was central to many early development theories. At the core of these theories was the notion of the 'developmental state' that can create and regulate the economic and political relationships which can support sustained industrialisation. The economic reform program which has been implemented in Egypt during the last few years is based on what came to be known as the 'Neo-Liberal' paradigm in development economics, the core of whose policy proposals in fact constitutes an attack on the notion of the developmental state (for an assessment of this paradigm, see Chang & Rowthorn (eds.), forthcoming, chs. 1 & 2).

According to the neo-liberal argument, the main (if not the only) source of the current ills of developing countries can be found in the over-extended state, which not only tries to do too many things that the private sector agents should be doing but also intervenes too much in the workings of the price mechanism. Such an interventionist state opens the door for political forces to invade the sphere of economic management, thus leading to policies which promote only certain sectional interests or to 'wasteful' rent-seeking activities. Thus market liberalisation (both domestic deregulation and trade liberalisation) is perceived not only to increase economic efficiency but also to permanently render the sphere of economic policy more "rational" by de-politicising it.

The main contribution of Neo-Liberalism has been to identify certain important problems with the earlier industrialisation efforts of the developing countries, especially by pointing out that the apparent policy "errors" in many LDCs may have deeper causes than the technical incompetence of their bureaucracies or the

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18 Examples include the "Big Push" theory of industrialisation put forward by Rosenstein-Rodan (1943) and Scitovsky (1954); Gerschenkron's (1966) theory of late development, Baran's (1957) analysis of the nationalist capitalist state and Myrdal's (1968) theory the "Hard state". Simon Kuznets, someone who is not usually associated with the idea of a developmental state, also emphasised the role of the state as the mediator of political conflicts between the "winners" and "losers" in the process of growth and structural change (Kuznets, 1973).
"irrational" goals imposed by the political rulers - namely, the nature of interest groups and the nature of the state. However, one can identify several crucial limitations to the Neo-Liberal policy proposals of liberalisation and depoliticisation as strategies for attaining long-term developmental goals.

The case for liberalisation rests mainly on a number of static efficiency arguments: state intervention creates allocative inefficiencies by "distorting" price signals; it generates x-inefficiencies (or organisational slacks) by dampening competitive pressure; it leads to rent-seeking costs by creating the opportunities to acquire monopoly positions through "unproductive" activities. As far as the importance of dynamic efficiency is recognised (which is frequently not the case), it is argued that increased competitive pressure following liberalisation should lead to faster innovation and productivity growth.

These arguments for liberalisation, however, are subject to the following limitations. First of all, it is well-known that the "theoretical" conclusion on the allocative optimality of the free market depends on many stringent assumptions which do not obtain in the real world (Schotter, 1985, provides a nice summary). Secondly, the Second Best Theorem (Lipsey & Lancaster, 1956) tells us that liberalising more (but not all) markets does not necessarily guarantee a higher allocative efficiency. As far as a total liberalisation is not possible, there is no guarantee that a (partial) liberalisation will bring about an improvement, even purely in terms of static allocative efficiency. Thirdly, liberalisation does not necessarily lead to a faster growth - or increased dynamic efficiency (Chang, 1993). The argument that liberalisation will lead to greater competition, which will in turn lead to faster innovation and productivity growth ignores the fact that withdrawal of the state does not guarantee more competition. There exist entry barriers other than the ones created by the state, which would still exist and some of which could become even more prominent after liberalisation (Handoussa, 1994, cites some examples from Egypt). One could go even further and argue that there may even be a trade-off between static and dynamic efficiencies, as innovation often requires complex institutional arrangements which cannot be provided by the arm's length market relationships and maximum price competition, which is aimed to attain through liberalisation (Schumpeter, 1987, is a classic statement of this position; for more recent contributions, see essays in Dosi et al. (eds.), 1988, and Nelson (ed.), 1993).

As for the case for "de-politicisation", it rests on the belief that the "political" management of the economy will be subject to abuses by those who have privileged access to the government (politicians, bureaucrats, powerful interest groups). Hence, it is argued, the need to "de-politicise" the economy by emasculating those who can exercise political influences on government economic policies. Although this is a very important and powerful argument, it still has a number of important limitations (for details, see Chang, forthcoming).

First of all, contrary to the assumption that self-interest prevails in the polity in the same manner as in the economy, our political actions are very often based on

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19 It is interesting to note that the same reasoning was used in the Dependency Theory, which argued that the apparently "irrational" policies of developing countries were in fact serving the interests of the "compradore" ruling classes. On this point, see Toye (1991).
21 Needless to say, this is not to argue that more oligopolistic market structures or more "relational" contracting arrangements will necessarily lead to higher rate of innovation.
motivations which are not entirely selfish - nationalism, religious beliefs, public service ethic, ethnicity, gender, etc. - nor could they be dealt with as a mere "packaging" for self-interests. Assuming away these motivations will give us only a distorted picture of the political reality and lead us to wrong solutions - for example, can we treat the recent spread of Islamic fundamentalism in Egypt simply as another form of "interest group" activity? Secondly, in the Neo-Liberal view of politics, "interests" determine government policy with little, if any, mediation through institutional mechanisms such as political parties, bureaucratic hierarchy, and state-chartered corporatist institutions. These institutions in reality play an important role in determining the kinds of interests that can legitimately be represented (or repressed), the way in which they are represented (or repressed), and the impact they have on policies. Thirdly, it is not clear whether the degree of de-politicisation recommended by Neo-Liberals propositions is in fact politically feasible. For good or bad reasons, all countries have developed certain (at least implicitly accepted) ways to "politically" modify certain market outcomes (e.g., import protection, subsidies, welfare schemes, job guarantees, etc.). Whether or not these schemes are desirable, they may be politically very costly to eliminate (For example, they may have to be acheived by considerable political repression as in Chile under the Pinochet regime). Finally, it is not clear whether de-politicisation is an attractive option even from a purely "economic" point of view. In a world full of assets with limited mobility (taskspecific equipments, firm-specific or industry-specific skills, etc.), the owners of such assets have the incentive to resist those economic changes that may threaten their positions. In such a case, a more overtly political management of the process of change may be better, if it is done in a forward-looking manner - as recent researches on the East Asian industrial policy and the Scandinavian social corporatism show (see Chang, 1994b, for details).

B. The East Asian Challenge

In addition to the theoretical criticisms that we discussed above, the successful developmental experience of East Asia (especially Japan, South Korea, and Taiwan) pose a major challenge to the above policy prescriptions (Chang, 1995). Initially, these countries (especially Korea and Taiwan) were portrayed as the ideal Liberal economies which pursued the policy of free market and free trade, but, by the early 1990, the accumulation of research have revealed that these economies actually grew on the basis of policies which are almost antithetical to the Neo-Liberal recommendations. In the following, rather than trying to portray a full picture of the East Asian experience, we bring out only some of its important aspects which question some of the standard Neo-Liberal policy proposals (for detailed pictures on Japan, see Johnson, 1982, and Dore, 1986; on Korea, see Amsden, 1989, and Chang, 1993; on Taiwan, see Amsden, 1985, and Wade, 1990).

22 We should not forget that these schemes exist on a large scale even in those "successful" economies such as the East Asian economies. These economies protect their "inefficient" farmers and small shopkeepers quite heavily both from international and domestic competition. They have heavily protected many "infant" industries (although such protections are withdrawn when the industries concerned have "grown up"). About 1/3 of the Japanese workers have "lifetime employment". And so on. The point is less whether a country has such "political" schemes to protect certain groups (because every country does), but more how such schemes are used in order to promote overall growth and structural change (see Chang, 1994b, and Chang, 1995).
1. Macroeconomic Management

The crux of macroeconomic policy in East Asia was to give priority to investment over consumption so that a new capital stock embodying more advanced technology can be built quickly. Maintaining the level of investments was considered crucial, to the degree that their macroeconomic management is better described as "investment management" rather than "aggregate demand management" (Chang, 1993, p. 139). Macroeconomic policy in East Asia was geared towards creating an expansionary environment in order to sustain high levels of investment by maintaining "investors' confidence". And if this resulted in some inflation, the policymakers were willing to live with it as far as it did not get out of hand (which it never did). Contrary to a widespread assumption, these economies did not grow on the basis of anti-inflationary policies - until the 1980s they had inflation rates which were higher than those in many other developing countries, including some Latin American ones. Earlier in their developmental experiences, of course, domestic savings fell short of investment demands, and therefore policy measures such as restrictions on consumer loans and heavy taxation on luxury consumption were employed in order to repress consumption demand. The anti-consumption policy was even stricter when it came to consumptions which involve foreign exchange expenditure. For example, in Korea, foreign holidays were banned until the late 1980s and the importation of "luxury" consumption goods have been either banned or subject to high tariffs and inland taxes. We are still some way away from fully understanding the dynamics of savings-investments-growth in East Asia, but it is clear that the rise in saving in these countries was not achieved through the "liberalised" financial regime with high positive real interest rates, which the Neo-Liberal economists have been recommending to developing countries during the last decades or so. The financial regimes in the East Asian countries have been highly "repressed" (with often negative real interest rates) by the governments which either owned (Korea and Taiwan) or heavily controlled (Japan) the banking sector (for some critique of the Neo-Liberal "financial liberalisation" arguments based on the evidence from East Asia, Harris, 1987, Dornbusch & Park, 1987, and Somel, 1990).

2. External Policy

It is often uncritically assumed that the East Asian countries, being successful exporters, have maintained a comprehensive openness to the outside world. This view, however, has been challenged in several recent works which revealed that East Asia's openness to the outside world has been highly selective. The East Asian external policies were based on a "strategic" attitude, putting long-term national interests first in determining the scope and degree of openness in various areas (Singh, 1994). First, with regards to trade issues, The East Asian governments heavily used tariffs and quantitative restrictions, sometimes to deal with the balance of payments problems, but mainly to protect "strategic" infant industries (and "declining" industries later in their developmental experiences). There also has been a widespread foreign exchange rationing by the government, which gave priority to the importation of capital goods and intermediate inputs over the importation of consumption goods. Prohibitive inland taxes were also used virtually to ban the importation of luxury consumer items which were subject only to non-prohibitive tariffs. For instance, in Korea, up until the late 1980s, the domestic price of imported scotch whisky, whose
tariff was "only" 100%, was over 9 times that of c.i.f. price after various inland taxes, e.g., liquor tax, luxury consumption tax, and value added tax. (Chang, 1993)

Also in the area of foreign direct investment (FDI) and technology import, there has existed a similar, if more severe, picture. The East Asian policy-makers, especially in Japan and Korea, have tried their best to discourage foreign direct investment if the national firms could do the job (with some government support). As a result, for example, FDI accounted for only 5% of total foreign capital inflow into Korea between 1962-83. Even when FDI was allowed, foreign majority ownership was practically banned, with some rare exceptions. Again, there is a telling statistics that comes from Korea. As of mid-1980s, only 6% of the subsidiaries of multinationals in Korea were wholly-owned, compared to 50% in Mexico and 60% in Brazil. It is now also well known that the East Asian governments imposed conditions on the multinationals regarding the terms and speed of technology transfer, and on other issues which were deemed to be relevant for the national interests.

And even when it came to licensing technology from abroad (which was preferred over FDI), the East Asian governments imposed heavy restrictions regarding the type of technology and the terms in which it could be imported (especially the royalties and export restrictions clauses). This is, of course, not to say that the East Asian policy-makers were against importing foreign technology on principle. On the contrary, the East Asians have always been keen to acquire the latest foreign technology. Restrictions on technology imports were imposed because the policy-makers have regarded the accumulation of technological and managerial capabilities by domestic firms as a vital condition for effective industrial upgrading.

3. Industrial Policy

The most important, and the most controversial, aspect of East Asian state intervention is industrial policy - or more specifically, "selective" industrial policy, involving the deliberate promotion of certain industries by the state through various formal and informal channels (for details, see Chang, 1993; also see Amsden, 1989, and Wade, 1990). Within the framework of medium-term indicative planning, the East Asian policy-makers identified sectors with high growth potential as "priority" sectors, and provided selective supports to them. The choice of "priority" industries reflected the stage of development at which the economy was at a particular point of time - thus starting from industries which are relatively less demanding such as non-durable consumer goods and intermediate inputs industries, and later moving to more demanding industries as the technological and managerial capabilities of the domestic producers developed. The "priority" industries received various state supports such as subsidised credits, rationed foreign exchange, preferential tax treatments, temporary suspension of antitrust measures, subsidies for R&D activities, import protection, etc.. In return for these supports, they became subject to state controls on pricing, choice of technology, capacity expansion or reduction, entry and exit, etc..

The basic idea behind the East Asian industrial policy is that, in a world where it takes time to master new technology, it makes sense for the government to create temporary protective barriers (which can be quite long - the Japanese protected its auto industry for decades) in order to give the private sector firms the incentives to start new industries. This is exactly the sort of idea which is criticised by theories advocating the benefits of free trade, but this is exactly how most, if not all, leading industries in East Asia were established. Indeed, many of the world-leading industries in the East Asian countries, such as the Japanese automobile industry and the Korean
steel industry, were established exactly against such criticisms from home and abroad.\(^{23}\)

As we mentioned above, the role of industrial policy in the East Asian economic success has been one of the most controversial issues in economics during the last couple of decades (for a review, see Chang, 1994a, ch. 3). Initially, the supporters of the free market interpretation of East Asian industrialisation dismissed the role of industrial policy in these countries as an, at best, marginal phenomenon (e.g., Balassa, 1988). Later, as the evidence accumulated which showed the ubiquitous and heavy-handed character of industrial policy in these countries (see, among others, Amsden, 1989, Wade, 1990, Chang, 1993), they changed the argument took the form that industrial policy, while widespread, had only a very limited effect on productivity change and production structure. The "East Asian miracle" report by the World Bank (World Bank, 1993) is representative of such view. However, a large number of critiques have showed that the World Bank's verdict is based on an analysis which commits some very fundamental mistakes: it misidentifies the "promoted" industries\(^ {24}\), it ignores certain important criteria in assessing the performance of industries\(^ {25}\), it uses wrong time frame in assessing industry performances\(^ {26}\), it employs questionable counterfactuals\(^ {27}\), and so on (for details, see Chang, 1995, appendix; also see the special section of *World Development*, 1994, no. 4; essays in Fishlow et al., 1994 and Singh, 1994).

\(^ {23}\) For example, during the early postwar years, the Japanese MITI had to fight the Bank of Japan and other domestic and international critics in order to develop the automobile industry, which, needless to say, has become the world leader later (for some details, see Magaziner & Hout, 1980, pp. 54-64). Likewise, during the late 1960s, Korea's application for loan facilities to build an integrated steel mill was turned down 3 times by various international lending agencies, including the World Bank. It is well-known that the steel mill which they finally built using some Japanese loans, the Pohang Steel Company (POSCO), went on to become the most efficient steel producer in the world (for some details, see Chang, 1993, p. 145, f.n. 1).

\(^ {24}\) For example, by equating the "promoted" industries with industries with higher valued added or higher wages (proxy for higher capital intensity), it wrongly classifies the Korean textile industry as a "neglected" industry when it was in fact one of the most heavily promoted industry.

\(^ {25}\) It does not consider the balance of payments contribution and dismisses the importance of spill-over effects in assessing the performance of industries, and entirely relies on total factor productivity (TFP) indicators, which are subject to numerous specification and measurement problems (see Abramovitz, 1989, on the problems of TFP studies).

\(^ {26}\) Even in assessing the total factor productivity performance, it only covers the period between 1966-1985. In the case of a country like Korea, during at least the first half of which many "promoted" industries did not get promoted, and worse still, many of them did not even exist in their present modern form (e.g., iron & steel, shipbuilding, semiconductor). If we allow for several years of "maturation", the period covered is almost irrelevant.

\(^ {27}\) It argues that the current industrial structure of East Asia is what the market forces would have produced anyway, on the ground that it is not incompatible with factor-endowment-based projection. However, this ignores the numerous barriers faced by late-developing countries in moving up the ladder of international division of labour without state support - such as cumulative causation in technical progress, imperfections in domestic and international financial markets, lack of marketing skills and infrastructure, and so on. Moreover, even if one accepts that what resulted could have been produced by the market, the fact still remains that industrial policy in East Asia compressed a process that took the market at least a few generations in other countries into a single generation. Even if the final destination is the same, if one method of getting there cuts the time required by, say, two-thirds, there is a definite reason to favour that method.
C. Redefining the Role of the State in Development

So what do we conclude from our preceding discussions on the limitations of the Neo-Liberal paradigm and on the lessons from East Asia? To begin with, it has to be made clear that, despite the numerous limitations of its policy proposals, the Neo-Liberal paradigm has made an important contribution by making us rethink the role of the state in developing countries. In particular, the case for policy reform, and by implication political reform, in order to overcome 'government failure' problems in developing countries has to be taken seriously.

However, we have discussed in some detail why the liberalisation/de-politicisation package may not provide a correct proposal for policy reforms in these countries. We have also reviewed the East Asian experience, which shows the attraction of a developmental strategy which is based on pro-investment macroeconomic policy, activist industrial policy, and vigorous but selective interaction with the world economy. All these point to one direction: namely, the need for the reconstruction of the developmental state. This is a state which takes the goals of long-term growth and structural change seriously, "politically" manages the economy to ease the conflicts inevitable during the process of such change (but with a firm eye on the long-term goals) and engages in institutional adaptation and innovation in order to achieve those goals (Chang, 1995). Moreover, what seem to be appropriate for a serious policy reform in many developing countries is an alternative approach which takes Neo-Liberalism seriously but goes beyond it. As we have no space to discuss this issue in any detail, let us just very briefly sketch what we believe should be its main elements (for some more systematic arguments, see Chang, 1994b and 1995).

First of all, it has already been pointed out above that the Neo-Liberal paradigm pays too little attention to the issue of dynamic efficiency. An alternative approach has to take the issue of dynamic efficiency very seriously, and try to explore the way in which various technological and institutional factors affect the process of innovation and productivity growth. Recent literature on technical progress provides us with some interesting insights in this regard.

Secondly, the Neo-Liberal paradigm rightly emphasises that economic policy-making (and policy-implementation) is a fundamentally political process and, therefore, that a serious policy reform may require an accompanying political reform. However, as we suggested, the Neo-Liberal view of politics is based on a simplified notion of politics in which personal interests are the only motivation that drive political actors and these "interests" determine government policy with little, if any, mediation through different institutional mechanisms. The presence of these factors casts doubt on both the feasibility and desirability of the de-politicisation of the economic policy process as a proposition for reform. Thus, the alternative approach should be based on a more sophisticated understanding of politics which overcomes the above-mentioned limitations, if it is to be able to present a realistic but innovative agenda for policy and political reforms. And despite the fear that an activist state could under certain conditions lead to the "corruption" of economic policy-making, an explicitly "political" management of the economy may be better in a world full of assets with limited mobility, as far as this is done with an eye on long-term "developmental" goals (Chang, 1995).

Lastly, the alternative approach has to overcome another critical weakness of the Neo-Liberal paradigm, namely, its inability to recognise that a modern economy
cannot be sustained simply by an arms' length market relationship but that it requires a rather complicated institutional fabric (Coase, 1992, provides a concise but powerful statement of this point). When it comes to practical policy suggestions, the Neo-Liberal recommendation amounts to the proposition that developing countries should copy the Anglo-Saxon economic institutions characterised by arms' length relationships between contracting partners (and very highly stylised versions of them at that). However, recent theoretical developments in institutional economics and empirical researches on different OECD economies have shown that the Anglo-Saxon institutional configuration is not the only viable, not to speak of being the most efficient, way of organising a capitalist economy. (on this point, see Chang & Kozul-Wright, 1994).

In the following section, before attempting to draw specific lessons from East Asia for industrial policy design and economic reform in Egypt, we will examine the various arguments on whether it is indeed useful or plausible to engage in such an exercise and on the extent to which the Korean experience is of particular relevance.

IV. WHAT CAN EGYPT LEARN FROM THE KOREAN EXPERIENCE?

A. East Asia As a Special Case

When we talk about the possible "lessons from the East Asian experience", a common response is that the East Asian experience is almost irrelevant to other countries because it is a "special case" with so many unique conditions. To name just a few important ones: they possess the magical Confucian culture which produces highly-educated, frugal, and hard-working population; their ethnic and cultural homogeneity and, in the case of Korea and Taiwan, small size make them "easy to run"; their positions as "frontier states" during the Cold War brought them a large amount of US aid. With so many unique conditions, it may seem almost pointless even to think of drawing lessons from East Asia. But how persuasive are these "special case" arguments?

First of all, some of the special case arguments are simply ill-informed (see Little, 1980, for an excellent criticism of some of these arguments). One good example is the "size" argument. Despite the widespread misconception that it is a "small" country, in terms of population, Korea, with 43 million (as of early 1990s) people is the 21st largest country in the world and the 12th largest developing country. If Korea benefited from its small size, there are more than one hundred other countries which should have enjoyed more of such benefit.28 Another example is the homogeneity argument. The East Asian countries may be more homogeneous than many other (especially ex-colonial) countries, but it is not well known that Korea suffers from acute regionalism and that Taiwan is culturally and politically divided between those 20% of population which came from mainland China after 1949 and the rest who are "native" (at least for a few generations) to the island.

Of course, not all the special case arguments are ill-informed. Confucianism and geopolitics are cases in point. However, it is not clear whether they have been unmixed blessings. First consider the case of Confucianism. Contrary to what people think now, many East Asians thought at least until the 1950s Confucianism, with its

28 Moreover, whether being small leads to better economic performance is questionable. Cross-sectional analyses show, if anything, that small countries tend to grow slower than large ones (Perkins & Syrquin, 1988).
disdain for commercial activity and its emphasis on conformity (which may hamper entrepreneurship), was actually an obstacle to economic development (also see Balassa, 1988). The point is that all "traditional" cultures, be it Confucianism, Christianity, or Islam, embody certain elements which are 'potentially' beneficial for economic development and others which may not be. The question is how a particular society can "reconstruct" its culture in a way that encourages the beneficial elements and suppresses the harmful ones.  

Another example of "mixed blessing" is geopolitics. It is true that thanks to their role as frontier states against Communism in the Cold War, Korea and Taiwan received among the highest levels of per capita aid from the US during the 1950s. However, exactly because of this role, both countries had to devote about 6% of its GDP to defence until very recently. Especially in the case of Korea, the Cold War led to the division of the country and to the Korean War, which was very costly in terms of both human lives and physical capital.

By refuting the "special case" arguments, we are not trying to argue that a country's historical and cultural legacies do not matter. What we wish to dispute is the view that no lesson can be drawn from the experiences of other countries which had different initial conditions. The fact that a country is different from yours does not mean that you cannot learn from it. It only means that you should try to identify the conditions which made a certain policy or an institution viable in that country before importing it and that you should think more carefully about how to adapt the imported policy or institution to your local conditions. In fact, the East Asian countries themselves, indeed, provide a useful antidote to the "special case" argument. If the East Asians believed in a similar "special case" argument regarding the West and gave up on importing and adapting the Western technologies and institutions, we simply would not have the so-called East Asian miracle today.

B. Comparison of Egypt and Korea

As mentioned in the Introduction, due to various similarities between the two countries, the recent industrialisation and development experiences of Egypt and Korea have frequently been contrasted in the literature. Thus in drawing lessons to Egypt from the East Asian experience, it might be informative to compare Egypt directly to Korea. Studies in this area identified similarities between the two countries to include: population size, structure of production (see table 3), and scarcity of natural resources, including endowments of arable land, relative to the abundance of human resources. An important exception to the latter point, of course, is the existence of surplus in oil trade balance in Egypt (although not large enough for the country to be considered 'oil-rich') compared to a relatively large oil-import bill in Korea (Mason, 1986). Moreover, on the human resource side, the adult literacy rate in Korea is currently almost universal, while it is only 50% in Egypt. Yet, it is interesting to note that both countries did manage to raise the literacy rate over the past three

29 A more general criticism of explanations involving "Confucian ethic" is provided by the following short but exquisite passage from Foster-Carter (1992): "Quite unlike Weber's 'Protestant ethic' argument, which at least attributed one novelty (the birth of capitalism) to another contemporaneous trend (Protestantism), the idea of 'Confucian ethic' purports to explain something very new (development) in terms of something much older" [italics added] (p. 28).

30 As can be seen from this table, in 1986 the percentage share of industry in GDP in Korea and Egypt was not substantially different (42% and 34% respectively); yet within that, manufacturing alone accounted for 30% of GDP in Korea as opposed to only 15% in Egypt.
decades to cover an additional 25% of their adult population (see table 7 in the appendix).

Other important similarities between the two countries can be seen in table 8. For example, both Egypt and Korea have an equally large outstanding foreign debt (estimated to be 40 billion U.S$ in 1991). Yet, when measured as a percent of GNP, the figure is a high as 133% in Egypt and only 14% in Korea. and the debt service ratio has also been much higher in Egypt than Korea. Both countries have heavy food imports and a high trade dependency ratio, yet the export-import ratio is much higher in Korea than in Egypt -- indicating its ability to finance more of its imports out of its export revenue than in the case of Egypt. Moreover, on the international relations front, both countries have been subject to considerable international interest and interference from the super-powers and were involved in regional conflicts that led to the allocation of a substantial part of their physical and human resources towards defence (Handoussa, 1986). In 1990, military expenditure stood at about 4% of GDP in both cases, constituting a reduction from the 1960s by almost 60% in Korea and 40% in Egypt. Yet, when considering the size of their armed forces, it is interesting to note that unlike the common view that Egypt is much more 'security-oriented' than Korea (see Mason, 1986, for example), the figure for enrolment in the armed forces, when compared to population size, is twice as much in Korea and almost three times higher there when it is compared to the number of teachers in each case.

When comparing government economic policies in the two countries, one would note that up until the 1960's, both Egypt and Korea followed similar policies of import substitution industrialisation, yet Egypt's per capita income was substantially higher and the development of its manufacturing industry was ahead of that of Korea. Starting from the early 1960's, however, the course of Egyptian and Korean development started to diverge with a remarkably higher real GDP and manufacturing growth in Korea (9.6% and 18.3%) as opposed to Egypt (only 3.4% and 3.5%) over the period 1963/4-1972/3. During the boom era of the 1970s and first half of the 1980s, GDP growth in Egypt reached the same levels as (or even slightly outpaced) that in Korea, yet manufacturing growth continued to lag behind (see tables 1 and 2). Three main factors have been highlighted in the literature as accounting for these differences in growth rates.

First, there was the difference in the development strategies pursued by the two countries. Egypt continued more fiercely on the road of import-substitution led by a dominant public sector following the 1961 nationalisations; whilst Korea shifted early towards an export-oriented strategy based on exploiting its abundant and relatively skilled labour force. (Handoussa, 1986 and Mason, 1986). It is important to note, however, that the era of labour intensive industrialisation was pursued in Korea only for a decade or so (that is during the 1960s). In 1973, a heavy and chemicals industrialisation (HCI) program was announced, and during the Third and Fourth Five Year Plans Plan (1972-81), chemicals, steel, machinery, shipbuilding and electronics were designated as priority sectors. This ambitious HCI program resulted in an even further acceleration of manufacturing growth between the two oil shocks (1973-8) at a time when all other major NICs experienced a substantial slowdown in their manufacturing growth. (see table 2). The practice of promoting heavy and hi-tech industries continued in the Fifth and Sixth Five Year Plans. Thus, Korea's first stage of labour-intensive export-oriented industrialisation in effect was used to raise the foreign exchange requirements for the next stage of promotion of 'new' industries. Egypt's industrialisation effort, on the other hand, was interrupted in the mid 1960s.
due to lack of financing at the time; and although quite substantial sources of revenues became available to the government since then, they were not effectively channelled to revive industry. To date, almost three decades onwards, the country has not yet entered its 'industrial deepening' phase nor has a coherent strategy to reach that stage been formulated.

Second, the large domestic investment in physical and human capital and the role of foreign direct investment have been highlighted as major determinants of the Korean industrial success. On the human development front, one can compare some important measures of educational wealth and investment in education in Egypt and Korea as shown in table 7. As suggested in Fergany (1994), educational wealth can be approximated by the mean years of schooling received per person aged 25 years and over, which is only 3 years in Egypt compared to 9.3 in Korea. Quality of educational wealth can be approximated by the number of R&D scientists and technicians as a percentage of the total population which is almost four times as large in Korea than in Egypt.31 looking at expenditure on education as a percent of GDP, it would appear that Egypt is investing almost twice as much as Korea. Yet, as convincingly argued by Fergany (1994), this does not constitute an adequate indicator of investment in education for comparative purposes as it does not correct for population size, age structure and the magnitude of gross product, all important factors in international comparisons. An alternative measure is that of current expenditure on education per individual in the education bracket (6-21) in 1990 US dollars. Measured as such, the estimate in table 7 shows that Korea, in fact, spends almost seven times as much as Egypt on Education.32 As for domestic capital investment, an important factor has been the anti-consumer, pro-producer bias of Korean financial and macroeconomic management as highlighted in the previous section. This is in sharp contrast to the attitude towards the investor in Egypt, who is often perceived by the public service as an exploiter to be taxed to subsidise the consumer. Finally, the selective approach of Korea to foreign direct investment was discussed in the previous section. Handoussa (1986) argued that if Egypt had adopted a similar approach following the Open Door policy, then it could have avoided the entry of various foreign firms and the setting up of various joint ventures whose main pursuit was the earning of huge capital gains while hardly making any contribution to exports or the transfer of new product or technology.

Third, there are a host of other factors that Mason calls "managerial factors" and Handoussa calls those pertaining to the "role of the state as a manager and institution builder". Handoussa identified macroeconomic management and institution building as two areas were state intervention was highly effective in providing the Korean "rare blend of what is predominantly a private sector economy manipulated to perform to what are publicly chosen objectives". The main factor behind Korea's success story was identified by the author as a pervasive role of government intervention within a private enterprise context by selectively choosing policy tools, developing effective specialised public institutions (in the areas of planning, trade

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31 Fergany (1994) noted that all indicators of educational wealth can be inaccurate in international comparisons involving labour exporters and labour importers, as labour exporting countries could lose a significant portion of their qualified educational output to countries of destination. This caveat perhaps is less applicable to the comparison between Egypt and Korea, as both countries can be considered of the 'labour-exporting' category.

32 Fergany calculated this from three variables: educational expenditure as a percent of GNP, per capita GNP and the proportion of the population in the age bracket (6-21) derived from the ILO Estimates and Projections for 1990.
promotion, management training, applied research and technology for industry and the exchange of information among manufacturing firms and between them and the state) and continuously reassessing both policies and organisational structure in light of changing circumstances. Mason, on the other hand, emphasised factors such as differences in governmental objectives, choice between public and private enterprise, management practices in the public sector, policies affecting incentives in the private sector and, most importantly, the way policies were implemented in the two countries.

The concept of the 'hardness' (or alternatively 'softness') of the state is often invoked in the context of comparing policy implementation in the two countries whereby the Korean state is described as a 'hard state' in the Myrdalian sense, while its Egyptian counterpart is seen as (in Mason's words) "one of the softest of the soft states". Evidence on the hardness of the Korean state cited by Mason include the repeated devaluation of the currency despite the interests of Korean firms with large foreign obligations, severe dealing with tax evasion (including by prison sentences on occasions) and lack of tolerance to mismanagement in the public sector, while the softness of the Egyptian state is exemplified by its long-standing reluctance to reduce subsidies on common consumption goods and the protection of public sector employment which resulted in considerable overstaffing in government agencies.

C. On the 'Hardness' of the State and the Role of Rents in Industrial Upgrading

The concept of the hardness of the state, particularly in relation to its role in controlling rent-seeking activities, has also been highlighted in studies dealing with the political economy of state intervention in Egypt and Korea (without attempting to draw any parallels between the two countries). In case of Egypt, Hansen (1991), defined the spoils of the patron-client system under different regimes in Egypt as rents, the nature of which were dependent on the institutional aspects of the system. Prior to 1952, rent-seeking took the form of efforts to increase tariff rates or government-subsidised loans and rent seekers were private businesses. The regimes of Nasser and Sadat were described by the author as those of weak autocrats who relied on an implicit social compact between the ruler and the ruled, the latter offering acquiescence and surrender of political rights in return for the ruler's commitment to providing an ever-increasing standard of living (through rising consumer subsidies and public sector employment of graduates from the rapidly expanding secondary and higher education systems, all financed by 'rents' or the 'spoils' accruing from foreign borrowing and oil and oil-associated windfall revenues).

In Korea, on the other hand, the essence of its industrial policy has been to entice firms into new industries through state-created rents. It has been argued that the potential waste of rent-seeking (where resources are diverted from productive purposes towards influencing the state) was minimised in Korea, relative to other countries, due to the presence of a hard state (for example, Bardhan, 1984). Yet, as Chang (1994a) argued, the emergence of huge corruption scandals on a regular basis in Korean business and politics, shows that the Korean state certainly is subject to influence, if less than other 'softer' states. However, what differentiates Korea from other countries is that access to rent has been exclusive only to a limited number of people: the 'chaebols' (literally - financial clans) or conglomerates and the Korean state has been willing and able to withdraw support from any one firm whenever performance (revealed through exporting and fierce competition in the domestic market) lagged. Such state discipline, when combined with industrial upgrading
(which involves creation of new and often bigger rents in more productive industries), has acted as a powerful incentive of firms to enhance their technological capabilities.

Thus, for the purposes of the present paper, the distinction between a hard and a soft state, while useful in a certain descriptive sense, is of limited analytical use in drawing practical lessons for the design of industrial policy. For one thing, the concepts are too broad and do not allow for the fact that, for good or for bad reasons, almost all states are subject to a certain degree of influence by certain groups or individuals. Moreover, the distinction pertains only to the stage of policy implementation and is not informative on differences in the goals of government intervention, and other crucial functions of the state that shape industrial policy, as will be explained below.

Instead, the important point to be drawn from the Egypt-Korea comparison is that the presence of rents in an economy and the involvement of the state in its creation and distribution does not necessarily have to lead to 'unproductive' results. What seems to matter is the source of these rents and the manner in which they are utilised or distributed by the state. In Korea, the rents were internally produced through the provision of tariff protection and other forms of subsidies (for example subsidised credits) in order to entice private firms into new industries. Due to its control over the banking system, the state set strict criteria so that rents would not go on regardless of the performance of their recipients. Thus in the Korean context, rents were ultimately utilised to achieve higher productivity and growth rates in the economy.

In Egypt, on the other hand, the source of the rent was 'external' to the country in form of "mineral" rents (oil revenue and the associated worker remittances from oil-rich states), "location" rents (from Suez Canal dues and tourism) and "geopolitical" rents (resulting in foreign aid). Three important characteristics of these rents introduced a sinister dynamic in the system. First, many of these rents are temporary in nature (the mineral and geopolitical rents are cases in point), as opposed to the ability, say, to invent new things and build a piece of machinery. Second, some rents (like oil export revenue and remittances, for example) are highly correlated with each other and/or subject to violent swings in magnitude. (see tables 9 and 10 in appendix). Third, when a large part of the rents accrue from abroad, the ability to maintain a certain standard of living becomes in effect de-coupled from the domestic productive capacity of the country. These three factors when combined can easily (but not necessarily) lead to a sort of 'ratchet effect' in consumption - when the time is good the consumption rises while when the time is bad people find it difficult to cut back on it. This effect may be more serious in case of government consumption or spending (including that on subsidies and wages an salaries), but should also apply to private sector consumption. As for investment (or expenditure on capital goods), including that in the manufacturing sector, to the extent that it is not sustainable purely by domestic productive capacity, it will tend to fall as the external sources of rent are reduced. In Egypt, it is more challenging (but not impossible as will be discussed below) to use these rents for long-term planning purposes and to upgrade the productive capacity of the economy, as was accomplished using state-created rents in Korea.

In sum, the above comparison of the industrialisation experience of Egypt and Korea reveal that although the state intervened significantly in both economies, this intervention was significantly more efficient in Korea. Yet in Korea, and East Asia in general, the role of the state in industry did not stop at regulating industry in the
conventional sense (i.e. regulating monopolies and imposing certain product standards, for example, for safety or environmental reasons), but took a much more proactive stance, including imposing restrictions on the private sector, in order to "promote" rather than "restrain" industry in the long run. The main functions of the state in that context has been to (i) provide a clear 'vision' or 'national project' for the future of the economy, (ii) develop its own institutional capabilities, (iii) as well as those of the private sector (or individuals) in order to pursue this vision or project while (iv) prudently managing the process of integration into the world economy and (v) managing internal conflict due to structural change in the domestic economy. In what follows specific proposals for the role of the state in industrial policy design and economic reform in Egypt, based on the East Asian experience in reconstructing a developmental state, will be suggested under each of the above five areas.

V. PROPOSALS FOR THE DESIGN OF INDUSTRIAL POLICY AND AN ALTERNATIVE REFORM PROGRAM FOR EGYPT

A. Provision of a Vision and Co-ordination for Change

Various recent studies on industrial development in Egypt have highlighted that the root of the industrialisation problem in the country lies in the lack of a 'national project' or 'focal point of co-ordination' that can instigate a re-industrialisation drive in face of the country's recent problems of de-industrialisation (see the various contributions to Abdel-Aleem, ed., 1993 and Abdallah, 1994).

If we agree that economic development, as Hirschmann (1958) long time ago said in his critique of Big Push models, "depends not so much on finding optimal combinations for given resources and factors of production as on calling forth and enlisting for development purposes resources and abilities that are hidden, scattered, or badly utilised", then the problem facing a state promoting development is not only that of identifying and moving to an optimal state in a given "choice set", but also that of formulating the "choice set" itself. As there are certain choices that can be made sensibly only at the national level, the state, as the only agent which has the potential (if not the actuality) of representing the "national" interest, has to formulate the choice sets required for those choices, by providing a "vision" for the future of the economy. As such there is an important "entrepreneurial" dimension in the role of the developmental state.

In Egypt, it can be argued that the current goals of industrial policy have been mainly those of maintaining the status quo (that is not to overload the import bill, not to reduce employment and to maintain a source of government revenue through measure such as taxation of enterprises and charging interest on credit). Needless to say, these goals are hardly sufficient and may in fact be obstructive to the 're-industrialisation' effort in the county. Instead, a goal of continuously upgrading productivity in the manufacturing sector and of that sector leading the process of growth in the economy need to be reasserted as a first step in building a coherent industrial strategy. It is in that context that shifting the boundaries between public and private sectors and between the state and civil society should be decided. This, in turn, entails a shift from the allocative aspects of industrial activities towards production-oriented ones (Chatelus, 1987), - that is, from an industrial policy that is mainly geared towards selecting appropriate means of spending money, distributing income, providing power or rent control (i.e. it hardly goes beyond some spending programs)
to one that is more committed to selecting objectives, establishing priorities between them and implementing these goals. An important side effect of adopting such goals and building up the industrial capability in the country is that the rent component in people's income is reduced which creates a closer association between work and reward (significantly weakened in the previous windfalls era in Egypt) - which in itself is a crucial prerequisite for long-term productivity growth in the economy.

Once such an entrepreneurial vision is formulated, it is important to recognise that systematic changes to achieve this vision need co-ordination. An important insight from early development economics that has been confirmed in recent developments in the literature on technical change is that when interdependence prevails between economic agents, change would not automatically be made without the (explicit and implicit) guarantee that complementing changes would also be made. In terms of designing industrial policy, this calls for a centralised co-ordination of investment plans. Although in principle it is possible that the potential investors in complementary projects devise a contract between themselves, such contract may be costly to draw up and monitor, especially when it involves a large number of agents. State intervention in this case may cut the transaction costs involved in such contracts sharply. Such intervention need not involve financial resources like subsidies. Governmental "announcements" as in the French and East Asian "indicative planning" exercises, may suffice, if it can provide obvious "focal points" for co-ordination between complementary investments. Of course, financial incentives provided by the state, say, for co-operative research in new industries, although not necessary, may make that state's commitment to its announcement more credible by serving as a "signalling" device.

B. Developing the Institutional Capabilities of the Government

Currently, there is a view that sophisticated interventionist measures as adopted in East Asia are not usable in other developing countries because their governments do not have the institutional capabilities to implement them (e.g., World Bank, 1993). Although this is a valid point at a particular point of time, we should also recognise that the institutional capabilities of the government themselves develop over time. This happens both through "automatic learning by doing" in government administration and through conscious effort (training and retraining of bureaucrats, changes in recruitment policies, changes in incentive system). Therefore the fact that a particular government does not have the institutional capabilities to conduct a certain type of policy (e.g., directed credit programme) does not mean that it should never try such a policy, because in the long run, such capabilities themselves can be enhanced.

One obvious way to improve the government's decision making capability is to recruit better bureaucrats, say, by offering higher salaries. Yet, recruiting better people will not necessarily improve the quality of government decisions, if the actual decision-making structure is not reformed itself (with regards to factors such as the degree of centralisation, how to departmentalise a ministry, how the ministries should interact with the private sector etc.). Another way to improve the quality of government decision is to reduce information asymmetry both within the government (between the top decision makers and lower bureaucrats) and between the government and the private sector agents. The former problem can be tackled by improving the internal information flow in any government entity and by promoting organisational loyalty among the bureaucrats so that they will reveal information more truthfully,
while the latter can be handled by improving the information collection capacity of
the state as well as setting up institutions which are intended to improve the
information flow from the private sector, such as a general forum for government-
private sector dialogue, industry associations, or deliberation councils intended to deal
with specific issues.

With regards to the issue of how to reconcile the pursuit of self-interest by the
policy makers with "public" interest, there is ultimately a need for "moral persuasion"
against exploiting the public office for selfish reasons. Contrary to what is usually
implied in various mainstream economic theories which implicitly or explicitly
assume individuals to be "born" with totally self-oriented preferences, one can argue
that individual motivations are in fact partly determined by the "socialisation
process", which goes on inside the family, schools, communities, and places of work.
It is no coincidence that those renowned bureaucracies (e.g., France, Japan and Korea)
are almost invariably those which are able to imbue the senses of public service,
commitment to the national cause, and esprit d' corps, etc., amongst its members.

C. Developing the Capabilities of the Private Sector

The success or otherwise of private entrepreneurship itself also critically depends on
the construction of new institutional vehicles for the realisation of its vision. Like
governments, private sector agents also develop their capabilities over time. And
given that the government does not have unlimited capabilities to do things, some
relegation of power to the private sector through de-regulation may be needed in
accordance with the development of private sector capabilities.

The experience in the East Asian countries point to such 'capability building'
as the most important task in designing an industrial strategy. In Egypt, before aiming
to export, there is a need to concentrate on producing what can be exportable in the
first place (in terms of its quality and competitiveness on world markets). To this end,
there is a need for a long-term approach that provides 'selective' intervention on an
industry to industry basis (which certainly imposes short term costs and therefore not
too many industries can be promoted simultaneously). For this not to lead to a 'once-
and-for-all' spurt, which ends up with a few well-protected industries, the state needs
to provide a continuous spur to industrial upgrading. Thus seen, sectoral promotion is
not an aim in itself but should always be tied to achievement of certain long-run
targets in domestic and/or foreign markets. Moreover, there is a need to continuously
coordinate investment policies, education policies and technology transfer policy in a
consistent manner to provide strong incentives for private firms to build the capability
to absorb technology and innovate.

Of course, even with the general development in the private sector capability,
the government cannot release itself from all involvements in industries. New
industries constantly emerge and the governments need to intervene heavily in them
(e.g., providing technology standards, co-ordinating investments, supporting co-
operative R&D). As new industries mature, the government may reduce its
involvements, but when the industries later become "senile" there is a strong case for
government intervention in order to engineer an orderly "phasing out" of that industry
(for details, see Chang, 1994a, ch.3). So, the government will be releasing some of its
old duties in order to take up some new ones.
D. Managing the Process of Integration in the World Economy

As mentioned above, the East Asian openness to the outside world has been highly selective in areas of trade, foreign direct investment and licensing technology from abroad. The East-Asian experience in general, and Korea particular, show that the widely accepted inward/outward, import substitution/export orientation dichotomy is a misconceived one. The two policies were either pursued simultaneously or the country underwent a strategic shift from one to the other. The developmental state's function is to determine the optimal degree of insertion in the World economy, given the stage of development and level of capabilities of its industrial sector, in a manner that would maximise its long run growth objectives.

In case of Egypt, an initial stage of export promotion based on traditional labour-intensive industrialisation while building up industrial capability in more advanced industries is probably necessary. Yet the question has to be raised as to what extent can this strategy be pursued after the approval by the government of the Uruguay Round and whether there is a need for a joint industrial policy in the region that entails a regional division of labour and co-operation in R&D in certain industries. Co-ordination of activities with the Maghreb countries, in particular, may serve to provide access to preferential European arrangements. However, labour-intensive industrialisation for the sake of exports should not be viewed as an end in itself and a long-term perspective would necessitate continuous investment in human resources and pursuing an active policy of technology acquisition to create a comparative advantage in a number of 'new' and leading sectors of the future. These are likely to be of the skill-intensive and knowledge-intensive variety rather than those which rely on cheap unskilled labour alone (Handoussa, 1993). All policies available to the state should be used in an effort to entice future investment in these industries, including the encouragement (or discouragement, depending on the case) of foreign direct investment and the provision of selective protection for limited duration to new or leading industries (which in turn entails a strategic shift in trade strategies).

E. Managing Internal Conflict Due to Structural Change

Economic development involves the shift of resources from low-productivity activities like agriculture into high productivity ones like manufacturing. When the mobility of certain physical and human assets is limited, this means that their owners will face the prospect of "obsolescence, unemployment and income differentials", if they accept the market outcome (Kuznets, 1973. p.204). And for this reason, those who have invested in particular physical capital, skills, contractual relationships, and even political patronage, are likely to resist changes, thereby often provoking counteractions from other groups. This makes the developmental process potentially very conflictual. And dealing with the conflicts which arise out of such resistance and the counteractions to them is another important function of the developmental state.

In this context, the important question for the state becomes how to "manage" such conflict in a "forward-looking manner", or, more concretely, how to help different groups in society to come to an (explicit or implicit) agreement where the losers would accept the need for adjustment and the gainers would compensate them for the burdens of such adjustment. The state in its role as conflict manager can be seen as providing insurance to the members of the society, by providing a governance structure which will guarantee some "fair" level of income to all of them under even
the most adverse circumstances. In societies where the state fails to manage conflict in an appropriate way, people will be reluctant to take risk or commit their resources to specific investments, and therefore the dynamism of the economy may suffer.

In Egypt, special attention need to be paid to the internal dynamics of the labour market. The current initial pattern of income distribution has important implications for industrial dynamism and there is a real risk that industrialisation might lead to unequalising growth with two societies growing at two speeds: a rapidly growing but still rather small modern sector which adopts new technologies but specialises mainly in consumer-oriented industries and a large informal sector which lacks dynamism and lacks linkages with the modern sector. Thus industrial policy must also be geared to Industrial policy must also be geared to promoting a strong relationship and new collaboration between small-scale and modern industry, through channels such as subcontracting for example. The experiences of successful rural industrialisation an Japan and Taiwan, on the one hand, and the development of subcontracting networks in Japan (and to a limited extent Korea), on the other hand, may provide some useful lessons in this regard.

VI. CONCLUSION

During the three decades following the Second World War, the logic of market failure dominated economic theory and policy making, especially in relation to developing countries. During this period, a wide range of theoretical argument developed to show why the market mechanism may fail to achieve efficient resource allocation and to promote long-term growth, and various kinds of state intervention which were supposed to remedy the failures of the market were practised. The results of such interventions were not always satisfactory and sometimes even disastrous - although we had quite a few "interventionist success stories" from East Asia and from Latin America (before the Debt Crisis). And partly because of such results, we have had an age of reaction since the mid-1970s. Thus, during the last 20 years, two types of arguments based on the logic of "government failure" were developed to show that state intervention may not only fail to correct for market failures but also may lead to perverse outcomes. The first type questioned the "intention" behind state intervention and is usually known as the Neoclassical Political Economy or New Political Economy argument. It was argued that the universally valid assumption of self-seeking should be applied to the realm of politics as well, and therefore that we should expect politicians, bureaucrats, and interest groups to use their influences on policy-making to advance their own-self interests rather than to promote the "public" interest. The second type of government failure arguments questioned the "ability" of the government and highlighted that there is a clear limit to what a government can do, because government intervention is not costless. Such costs of intervention, arise either from the costs of information collection, information processing, and policy enforcement, or from the costs from some "unintended consequences" of intervention such as rent-seeking.

33 Douglass North's theory of "predatory state", William Niskanen and Alan Peacock's "self-seeking bureaucrats" and George stigler's theory of "regulatory Capture" are examples of such arguments.

34 Various arguments based on insufficient information (e.g., arguments against the government "picking the winners"), asymmetric information (e.g., arguments against the public enterprises), and the rent-seeking arguments developed by Anne Krueger and Gordon Tullock are examples of the "ability" argument.
Following the rise of the government failure school, policies intended to "roll back the state" (such as large-scale deregulation, market and trade liberalisation and de-policisation) were proposed and implemented in many parts of the world during the last 20 years. It was in that context, that successive partial liberalisation programmes were implemented in Egypt since the mid 1970s, culminating in the current ERSAP. After 20 years of reaction however, the pendulum seems to be swinging back, partly because these policies very often failed to deliver their promises (they produced unimpressive results in countries of their origin, namely, the US and the UK) and frequently even compounded the problems faced by the "reforming" economies (especially in Eastern Europe). Now it is coming to be accepted that many "government failure" arguments are based on extreme assumptions, which can produce misleading policy recommendations. And the time seems to be ripe for the formulation of a more balanced view on the issue.

In this paper, we presented an overview of the pattern of state intervention in the Egyptian industry and various strategies pursued over the past four decades and argued that there was a clear lack of coherence in the industrial policies pursued, especially since the mid 1960s. We discussed why, both on a theoretical level and on basis of some initial assessments of the effects of the current ERSAP in Egypt, the present mixture of policies are not on their own sufficient to reverse the 'de-industrialisation' effect inherited from the oil-boom era and to promote long-term growth, and may in fact exacerbate the current problems in the country. Based on the East Asian experience of successful industrialisation, we pointed out that the issue of industrial development is much more complex than a simple matter of changing trade regimes and ownership structure and argued for the need for a developmental state that takes on the responsibility of designing and implementing a coherent industrial strategy. We then suggested that the central functions of such a state go far beyond correcting for market failures in the conventional sense. They include provision of "entrepreneurial" vision and co-ordination for large-scale changes, institution building (in both the government and private sector) and a prudent management of integration in the world economy and of internal conflict in the domestic economy. As we tried to demonstrate in our discussion, an approach which is richer in institutional texture and more sophisticated in its understanding of politics is called for in analysing the question of the role of the market versus the state in industrialisation.

That we have made a case for the developmental state, of course, does not mean that we can ignore the costs associated with active interventionist policies as repeatedly pointed out by the "government-failure" arguments mentioned above. The various informational and rent seeking problems in relation to policy design and implementation as well as the danger of the expropriation of the state apparatus for the "sectional" interests of various individuals and groups has to be taken seriously. Yet, to the extent that many relatively simple institutional changes can significantly reduce these costs (for example, see Chang, 1994a, pp. 33-54 and pp. 79-89), we argue that the appropriate response to this problem should be the reform of the state in order that it can properly deal with such dangers, rather than a wholesale "rolling-back" of the state. Examples of successful "state reform" that produced effective developmental states as seen in Meiji Japan, postwar France, post-1949 Taiwan, or post-1961 Korea may be relatively rare, but they are still numerous enough to give some hope that such reform is indeed feasible and can lead to remarkable outcomes.
Appendix

Tables and Charts
### Table 1. Comparative Growth Performance in Some Selected Developing Countries, 1950-87
(average annual growth rates)

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<td>3.0</td>
<td>2.2</td>
</tr>
<tr>
<td>Mexico</td>
<td>6.2</td>
<td>6.6</td>
<td>6.1</td>
<td>1.7</td>
<td>5.3</td>
<td>4.7</td>
</tr>
<tr>
<td>Austria</td>
<td>5.5</td>
<td>5.1</td>
<td>2.9</td>
<td>1.7</td>
<td>4.2</td>
<td>3.3</td>
</tr>
<tr>
<td>Italy</td>
<td>5.7</td>
<td>5.1</td>
<td>2.6</td>
<td>2.2</td>
<td>4.3</td>
<td>3.4</td>
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<tr>
<td>Japan</td>
<td>9.5</td>
<td>8.9</td>
<td>3.6</td>
<td>3.8</td>
<td>7.1</td>
<td>5.7</td>
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</table>

Source: Calculated from Maddison (1989), Tables B-3, B-4, and B-5, Mabro and Radwan (1976), Table 3.2 and Ministry of Planning (for Egypt).

Notes: 1. for 1952/53-63/64

### Table 2. Manufacturing Growth in Some Selected Developing Countries, 1963-88
(average annual growth rates)

<table>
<thead>
<tr>
<th></th>
<th>1963-72</th>
<th>1973-78</th>
<th>1979-88</th>
</tr>
</thead>
<tbody>
<tr>
<td>Korea</td>
<td>18.3</td>
<td>24.7</td>
<td>11.7</td>
</tr>
<tr>
<td>Brazil</td>
<td>6.7¹</td>
<td>n.a.</td>
<td>1.5</td>
</tr>
<tr>
<td>China</td>
<td>9.5²</td>
<td>12.6³</td>
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</tr>
<tr>
<td>Chile</td>
<td>4.1</td>
<td>-2.9</td>
<td>2.7</td>
</tr>
<tr>
<td>Egypt</td>
<td>3.5</td>
<td>6.6</td>
<td>8.9</td>
</tr>
<tr>
<td>India</td>
<td>4.5</td>
<td>4.3</td>
<td>8.3</td>
</tr>
<tr>
<td>Malaysia</td>
<td>n.a.</td>
<td>n.a.</td>
<td>7.3</td>
</tr>
<tr>
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<td>7.4</td>
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<tr>
<td>Singapore</td>
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<td>South Africa</td>
<td>6.8</td>
<td>1.3</td>
<td>1.6</td>
</tr>
<tr>
<td>Spain</td>
<td>10.8</td>
<td>3.3</td>
<td>1.5</td>
</tr>
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Notes: 1. for 1963-69
2. for 1965-80
3. for 1980-87
4. for 1966-72

30
Table 3. Structural Change in Some Selected Developing Countries, 1965-86

<table>
<thead>
<tr>
<th></th>
<th>per capita GNP (dollars)</th>
<th>population (millions)</th>
<th>Production Structure in 1965 (as percentages of GDP)</th>
<th>Production Structure in 1986 (as percentages of GDP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>290</td>
<td>781.4</td>
<td>47</td>
<td>22</td>
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<tr>
<td>China</td>
<td>300</td>
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<td>38</td>
</tr>
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<td>Kenya</td>
<td>300</td>
<td>21.1</td>
<td>35</td>
<td>18</td>
</tr>
<tr>
<td>Egypt</td>
<td>680</td>
<td>47.8</td>
<td>41</td>
<td>24</td>
</tr>
<tr>
<td>Chile</td>
<td>1,320</td>
<td>12.2</td>
<td>9</td>
<td>40</td>
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<tr>
<td>Brazil</td>
<td>1,810</td>
<td>138.4</td>
<td>19</td>
<td>33</td>
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<tr>
<td>South Africa</td>
<td>1,830</td>
<td>32.3</td>
<td>10</td>
<td>42</td>
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<tr>
<td>Mexico</td>
<td>1,860</td>
<td>80.2</td>
<td>14</td>
<td>31</td>
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<td>Argentina</td>
<td>2,350</td>
<td>31.0</td>
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<td>Korea</td>
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<td>n.a.</td>
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<tr>
<td>Greece</td>
<td>3,680</td>
<td>10.0</td>
<td>24</td>
<td>26</td>
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<tr>
<td>Spain</td>
<td>4,860</td>
<td>38.7</td>
<td>15</td>
<td>36</td>
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</table>


Notes: A=Agriculture; I=Industry (Mining, Manufacturing, Construction, Electricity, Water, and Gas); M=Manufacturing; S=Services
1. for 1960
2. for 1985

Table 4. Estimated change (percentage points) in share in real GDP corresponding to each 1% increase in GNP per capita in the low-middle income countries group

<table>
<thead>
<tr>
<th>The group's average</th>
<th>Egypt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>-0.14</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>0.04</td>
</tr>
<tr>
<td>Total tradables</td>
<td>-0.10</td>
</tr>
</tbody>
</table>

Source: Syrquin (1989)
Table 5. Dutch Disease Indices for Egypt, 59/60-91/92

<table>
<thead>
<tr>
<th></th>
<th>Agriculture</th>
<th>Manufacturing</th>
<th>General (DD)</th>
<th>Incremental Indices</th>
<th>Agriculture</th>
<th>Manufacturing</th>
<th>General (DD)</th>
</tr>
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<tr>
<td>1959/60</td>
<td>.206</td>
<td>(1.01)</td>
<td>1.06</td>
<td>2.06</td>
<td>(1.01)</td>
<td>1.06</td>
<td></td>
</tr>
<tr>
<td>1960/61</td>
<td>5.99</td>
<td>(2.32)</td>
<td>3.67</td>
<td>3.92</td>
<td>(1.31)</td>
<td>2.62</td>
<td></td>
</tr>
<tr>
<td>1961/62</td>
<td>3.33</td>
<td>(1.43)</td>
<td>1.90</td>
<td>(2.65)</td>
<td>0.89</td>
<td>(1.77)</td>
<td></td>
</tr>
<tr>
<td>1962/63</td>
<td>3.27</td>
<td>(1.95)</td>
<td>1.32</td>
<td>(0.06)</td>
<td>(0.52)</td>
<td>(0.59)</td>
<td></td>
</tr>
<tr>
<td>1963/64</td>
<td>2.86</td>
<td>(1.66)</td>
<td>1.20</td>
<td>(0.41)</td>
<td>0.30</td>
<td>(0.11)</td>
<td></td>
</tr>
<tr>
<td>1964/65</td>
<td>3.53</td>
<td>(1.29)</td>
<td>2.24</td>
<td>0.67</td>
<td>0.36</td>
<td>1.04</td>
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</tr>
<tr>
<td>1965/66</td>
<td>5.07</td>
<td>(2.11)</td>
<td>2.96</td>
<td>1.54</td>
<td>(0.82)</td>
<td>0.72</td>
<td></td>
</tr>
<tr>
<td>1966/67</td>
<td>4.80</td>
<td>(1.33)</td>
<td>3.47</td>
<td>(0.28)</td>
<td>0.78</td>
<td>0.51</td>
<td></td>
</tr>
<tr>
<td>1967/68</td>
<td>5.72</td>
<td>(1.96)</td>
<td>3.75</td>
<td>0.92</td>
<td>(0.64)</td>
<td>0.29</td>
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</tr>
<tr>
<td>1968/69</td>
<td>4.87</td>
<td>(1.62)</td>
<td>3.25</td>
<td>(0.84)</td>
<td>0.34</td>
<td>(0.50)</td>
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</tr>
<tr>
<td>1969/70</td>
<td>7.04</td>
<td>(2.22)</td>
<td>4.81</td>
<td>2.16</td>
<td>(0.60)</td>
<td>1.56</td>
<td></td>
</tr>
<tr>
<td>1970/71</td>
<td>6.27</td>
<td>(2.41)</td>
<td>3.86</td>
<td>(0.76)</td>
<td>(0.19)</td>
<td>(0.95)</td>
<td></td>
</tr>
<tr>
<td>1971/72</td>
<td>5.49</td>
<td>1.78</td>
<td>7.26</td>
<td>(0.79)</td>
<td>4.57</td>
<td>3.78</td>
<td></td>
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<tr>
<td>1972/73</td>
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<td>2.11</td>
<td>7.11</td>
<td>(0.49)</td>
<td>0.23</td>
<td>(0.25)</td>
<td></td>
</tr>
<tr>
<td>1974</td>
<td>5.78</td>
<td>2.18</td>
<td>7.96</td>
<td>0.78</td>
<td>0.25</td>
<td>1.03</td>
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<tr>
<td>1975</td>
<td>6.30</td>
<td>1.92</td>
<td>8.23</td>
<td>0.53</td>
<td>0.02</td>
<td>0.55</td>
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<tr>
<td>1976</td>
<td>8.62</td>
<td>1.75</td>
<td>10.37</td>
<td>2.32</td>
<td>(0.05)</td>
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<tr>
<td>1977</td>
<td>8.47</td>
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<td>(0.14)</td>
<td>1.12</td>
<td>0.98</td>
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</tr>
<tr>
<td>1978</td>
<td>9.11</td>
<td>2.86</td>
<td>11.96</td>
<td>0.63</td>
<td>0.08</td>
<td>0.71</td>
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</tr>
<tr>
<td>1979</td>
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<td>13.55</td>
<td>0.47</td>
<td>1.13</td>
<td>1.60</td>
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<tr>
<td>1980/81</td>
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<td>3.27</td>
<td>14.72</td>
<td>1.88</td>
<td>(0.79)</td>
<td>1.08</td>
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</tr>
<tr>
<td>1981/82</td>
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<td>3.89</td>
<td>14.72</td>
<td>(0.62)</td>
<td>0.59</td>
<td>(0.02)</td>
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</tr>
<tr>
<td>1982/83</td>
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<td>3.80</td>
<td>14.65</td>
<td>0.02</td>
<td>(0.06)</td>
<td>(0.04)</td>
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</tr>
<tr>
<td>1983/84</td>
<td>11.01</td>
<td>3.47</td>
<td>14.49</td>
<td>0.16</td>
<td>(0.30)</td>
<td>(0.14)</td>
<td></td>
</tr>
<tr>
<td>1984/85</td>
<td>11.05</td>
<td>3.29</td>
<td>14.33</td>
<td>0.03</td>
<td>(0.22)</td>
<td>(0.18)</td>
<td></td>
</tr>
<tr>
<td>1985/86</td>
<td>11.12</td>
<td>2.99</td>
<td>14.12</td>
<td>0.07</td>
<td>(0.34)</td>
<td>(0.26)</td>
<td></td>
</tr>
<tr>
<td>1986/87</td>
<td>11.10</td>
<td>2.78</td>
<td>13.89</td>
<td>(0.02)</td>
<td>(0.19)</td>
<td>(0.21)</td>
<td></td>
</tr>
<tr>
<td>1987/88</td>
<td>11.10</td>
<td>2.63</td>
<td>13.73</td>
<td>(0.01)</td>
<td>(0.19)</td>
<td>(0.20)</td>
<td></td>
</tr>
<tr>
<td>1988/89</td>
<td>11.09</td>
<td>2.51</td>
<td>13.60</td>
<td>(0.01)</td>
<td>(0.14)</td>
<td>(0.15)</td>
<td></td>
</tr>
<tr>
<td>1989/90</td>
<td>11.06</td>
<td>2.53</td>
<td>13.59</td>
<td>(0.03)</td>
<td>(0.01)</td>
<td>(0.03)</td>
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</tr>
<tr>
<td>1990/91</td>
<td>11.11</td>
<td>2.88</td>
<td>13.99</td>
<td>0.05</td>
<td>0.36</td>
<td>0.41</td>
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### Table 6. Measures of the Real Exchange Rate in Egypt, 59/60-91/92.

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<tr>
<th>Year</th>
<th>Nominal US$/L.E Average</th>
<th>Nominal L.E/US$ Average</th>
<th>Inf. adj. real rate</th>
<th>PNT/PT inf. adj. real rate (Indices: 1960=1.0)</th>
<th>PNT/PT inf. adj. real rate (Indices: 1974=1.0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1959/60</td>
<td>2.60</td>
<td>0.38</td>
<td>2.60</td>
<td>1.72</td>
<td>1.00</td>
</tr>
<tr>
<td>1960/61</td>
<td>2.38</td>
<td>0.42</td>
<td>2.39</td>
<td>1.63</td>
<td>0.92</td>
</tr>
<tr>
<td>1961/62</td>
<td>1.96</td>
<td>0.51</td>
<td>1.95</td>
<td>1.59</td>
<td>0.75</td>
</tr>
<tr>
<td>1962/63</td>
<td>1.79</td>
<td>0.56</td>
<td>1.77</td>
<td>1.60</td>
<td>0.68</td>
</tr>
<tr>
<td>1963/64</td>
<td>1.80</td>
<td>0.56</td>
<td>1.77</td>
<td>1.63</td>
<td>0.68</td>
</tr>
<tr>
<td>1964/65</td>
<td>1.75</td>
<td>0.57</td>
<td>1.79</td>
<td>1.48</td>
<td>0.69</td>
</tr>
<tr>
<td>1965/66</td>
<td>1.69</td>
<td>0.59</td>
<td>1.72</td>
<td>1.44</td>
<td>0.66</td>
</tr>
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<td>1966/67</td>
<td>1.70</td>
<td>0.59</td>
<td>1.77</td>
<td>1.47</td>
<td>0.68</td>
</tr>
<tr>
<td>1967/68</td>
<td>1.75</td>
<td>0.57</td>
<td>1.75</td>
<td>1.37</td>
<td>0.67</td>
</tr>
<tr>
<td>1968/69</td>
<td>1.72</td>
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<td>1.65</td>
<td>1.32</td>
<td>0.63</td>
</tr>
<tr>
<td>1969/70</td>
<td>1.69</td>
<td>0.59</td>
<td>1.58</td>
<td>1.29</td>
<td>0.61</td>
</tr>
<tr>
<td>1970/71</td>
<td>1.73</td>
<td>0.58</td>
<td>1.45</td>
<td>1.20</td>
<td>0.56</td>
</tr>
<tr>
<td>1971/72</td>
<td>1.74</td>
<td>0.58</td>
<td>1.43</td>
<td>1.22</td>
<td>0.55</td>
</tr>
<tr>
<td>1973</td>
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<td>0.50</td>
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<td>1.01</td>
<td>0.61</td>
</tr>
<tr>
<td>1974</td>
<td>2.06</td>
<td>0.48</td>
<td>1.72</td>
<td>1.03</td>
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<tr>
<td>1975</td>
<td>1.98</td>
<td>0.50</td>
<td>1.68</td>
<td>0.97</td>
<td>0.65</td>
</tr>
<tr>
<td>1976</td>
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<td>0.56</td>
<td>1.57</td>
<td>0.92</td>
<td>0.60</td>
</tr>
<tr>
<td>1977</td>
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<td>0.56</td>
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<td>0.57</td>
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<td>0.88</td>
<td>0.62</td>
</tr>
<tr>
<td>1979</td>
<td>1.39</td>
<td>0.72</td>
<td>1.43</td>
<td>1.06</td>
<td>0.55</td>
</tr>
<tr>
<td>1980/81</td>
<td>1.36</td>
<td>0.74</td>
<td>1.56</td>
<td>0.99</td>
<td>0.60</td>
</tr>
<tr>
<td>1981/82</td>
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<td>0.83</td>
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<td>1.00</td>
<td>0.56</td>
</tr>
<tr>
<td>1982/83</td>
<td>1.17</td>
<td>0.85</td>
<td>1.50</td>
<td>0.94</td>
<td>0.58</td>
</tr>
<tr>
<td>1983/84</td>
<td>1.16</td>
<td>0.86</td>
<td>1.59</td>
<td>0.95</td>
<td>0.61</td>
</tr>
<tr>
<td>1984/85</td>
<td>1.12</td>
<td>0.89</td>
<td>1.65</td>
<td>0.91</td>
<td>0.64</td>
</tr>
<tr>
<td>1985/86</td>
<td>0.92</td>
<td>1.09</td>
<td>1.44</td>
<td>0.84</td>
<td>0.55</td>
</tr>
<tr>
<td>1986/87</td>
<td>0.89</td>
<td>1.12</td>
<td>1.36</td>
<td>0.82</td>
<td>0.52</td>
</tr>
<tr>
<td>1987/88</td>
<td>0.80</td>
<td>1.25</td>
<td>1.41</td>
<td>0.83</td>
<td>0.54</td>
</tr>
<tr>
<td>1988/89</td>
<td>0.75</td>
<td>1.33</td>
<td>1.42</td>
<td>0.89</td>
<td>0.55</td>
</tr>
<tr>
<td>1989/90</td>
<td>0.56</td>
<td>1.80</td>
<td>1.14</td>
<td>0.78</td>
<td>0.44</td>
</tr>
<tr>
<td>1990/91</td>
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<td>2.55</td>
<td>0.93</td>
<td>1.06</td>
<td>0.36</td>
</tr>
<tr>
<td>1991/92</td>
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<td>3.33</td>
<td>0.92</td>
<td>0.92</td>
<td>0.53</td>
</tr>
</tbody>
</table>

Notes: Average: is the average of the primary, secondary and tertiary rates.

Inf. adj. real rate: is the real rate calculated as the nominal rate adjusted for changes in the inflation rate relative to the US inflation rate.

PNT/PT: is the real rate calculated as the price of nontradables relative to the price of tradable goods.

Table 7. Trends in Human Capital Formation in Egypt and Korea

<table>
<thead>
<tr>
<th></th>
<th>Egypt</th>
<th>Korea</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Adult Literacy Rate (age 15+)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1960</td>
<td>25.8</td>
<td>70.6</td>
</tr>
<tr>
<td>1992</td>
<td>50</td>
<td>97</td>
</tr>
<tr>
<td>2. Enrolment Ratio</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(% of age 6-23, 1990)</td>
<td>66</td>
<td>74</td>
</tr>
<tr>
<td>3. Mean Years of Schooling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(age 25+, 1992)</td>
<td>3.0</td>
<td>9.3</td>
</tr>
<tr>
<td>4. R&amp;D Scientists &amp; Technicians</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(per 10,000 people, 1986-9)</td>
<td>6.0</td>
<td>22.0</td>
</tr>
<tr>
<td>5. Expenditure on Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(as % of GDP, 1990-91)</td>
<td>6.7</td>
<td>3.6</td>
</tr>
</tbody>
</table>

Table 8. Resource Flow Imbalances and Military Expenditure in Egypt and Korea

<table>
<thead>
<tr>
<th></th>
<th>Egypt</th>
<th>Korea</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. $ (billions)</td>
<td>40.6</td>
<td>40.5</td>
</tr>
<tr>
<td>As % of GNP</td>
<td>133</td>
<td>14</td>
</tr>
<tr>
<td><strong>2. Debt Service Ratio (% of exports)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1970</td>
<td>38.0</td>
<td>19.5</td>
</tr>
<tr>
<td>1991</td>
<td>16.7</td>
<td>7.1</td>
</tr>
<tr>
<td><strong>3. Trade Dependency (1991)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(exports plus imports as % of GDP)</td>
<td>39</td>
<td>54</td>
</tr>
<tr>
<td>(exports as % of imports)</td>
<td>49</td>
<td>88</td>
</tr>
<tr>
<td><strong>5. Military Expenditure (% of GDP)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1960</td>
<td>5.5</td>
<td>6.0</td>
</tr>
<tr>
<td>1990-91</td>
<td>4.0</td>
<td>3.8</td>
</tr>
<tr>
<td><strong>6. Armed Forces (1990)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>per 1,000 people</td>
<td>8.6</td>
<td>17.5</td>
</tr>
<tr>
<td>per teacher</td>
<td>0.9</td>
<td>2.7</td>
</tr>
</tbody>
</table>

Table 9. Correlation Coefficients between Oil and Major Foreign Revenue Items in Egypt, 1970-92.

All variables in real terms

<table>
<thead>
<tr>
<th></th>
<th>Oil price</th>
<th>Oil Exports</th>
<th>Net Oil Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Cotton Exports</td>
<td>-0.3767</td>
<td>-0.4731</td>
<td>-0.5546</td>
</tr>
<tr>
<td>Raw Cotton Price</td>
<td>-0.0672</td>
<td>-0.0048</td>
<td>0.0367</td>
</tr>
<tr>
<td>Raw Cotton Volume</td>
<td>-0.2485</td>
<td>-0.2297</td>
<td>-0.2900</td>
</tr>
<tr>
<td>Cotton Yarn Exports</td>
<td>-0.3123</td>
<td>-0.1939</td>
<td>-0.1796</td>
</tr>
<tr>
<td>Suez Canal Revenue</td>
<td>0.5293</td>
<td>0.6117</td>
<td>0.6551</td>
</tr>
<tr>
<td>Tourism Earnings</td>
<td>-0.4286</td>
<td>-0.3790</td>
<td>-0.2615</td>
</tr>
<tr>
<td>Remittances</td>
<td>0.4658</td>
<td>0.6626</td>
<td>0.6992</td>
</tr>
<tr>
<td>Total Major Sources</td>
<td>0.6577</td>
<td>0.8230</td>
<td>0.8510</td>
</tr>
</tbody>
</table>

**TABLE 10.**
Variability of Major Sources of Foreign Earnings in Egypt, 1970-92.

<table>
<thead>
<tr>
<th>Source</th>
<th>Current Mean</th>
<th>S.D.</th>
<th>S.D./Mean</th>
<th>Real Mean</th>
<th>S.D.</th>
<th>S.D./Mean%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil Price Index</td>
<td>64</td>
<td>42</td>
<td>66</td>
<td>61</td>
<td>36</td>
<td>60</td>
</tr>
<tr>
<td>Oil Exports</td>
<td>1512</td>
<td>1192</td>
<td>79</td>
<td>1384</td>
<td>1089</td>
<td>79</td>
</tr>
<tr>
<td>Net Oil Exports</td>
<td>1122</td>
<td>1017</td>
<td>91</td>
<td>980</td>
<td>975</td>
<td>99</td>
</tr>
<tr>
<td>Raw Cotton Exports</td>
<td>330</td>
<td>137</td>
<td>42</td>
<td>436</td>
<td>310</td>
<td>71</td>
</tr>
<tr>
<td>Cotton Yarn Exports</td>
<td>246</td>
<td>208</td>
<td>85</td>
<td>248</td>
<td>132</td>
<td>53</td>
</tr>
<tr>
<td>Raw Cotton and Cotton Yarn</td>
<td>603</td>
<td>205</td>
<td>34</td>
<td>723</td>
<td>301</td>
<td>42</td>
</tr>
<tr>
<td>Suez Canal Revenue</td>
<td>763</td>
<td>602</td>
<td>79</td>
<td>667</td>
<td>413</td>
<td>62</td>
</tr>
<tr>
<td>Tourism Earnings</td>
<td>807</td>
<td>516</td>
<td>64</td>
<td>700</td>
<td>332</td>
<td>47</td>
</tr>
<tr>
<td>Workers' Remittances</td>
<td>2244</td>
<td>1698</td>
<td>76</td>
<td>1923</td>
<td>1228</td>
<td>64</td>
</tr>
<tr>
<td>Total Major Sources</td>
<td>5779</td>
<td>3496</td>
<td>60</td>
<td>5228</td>
<td>2363</td>
<td>45</td>
</tr>
</tbody>
</table>

Chart 1. Shares of Windfalls in Real GDP in Egypt (1981/82 prices)

Legend:
- Oil
- Suez Canal
- Tourism
Chart 2. Sectoral Shares in Real GDP in Egypt (1981/82 prices)

- Manufacturing
- Agriculture
Chart 3. Dutch Disease Index for Egypt

Manufacturing
Agriculture
Chart 4. Incremental Dutch Disease Index for Egypt

- 1959/60
- 1964/65
- 1969/70
- 1975
- 1980/81
- 1985/86
- 1990/91

Legend:
- Manufacturing
- Agriculture
Chart 5. Real Exchange Rate Indices

in Egypt (1960 = 1.00)
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