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MIGRATION IN THE MIDDLE EAST:
TRANSFORMATIONS, POLICIES, AND PROCESSES

by

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VOLUME

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PREFACE

This study of migration in the Middle East, with a special focus on the Egyptian case, is an analysis in political economy. The study is interdisciplinary in nature, combining insights and methods from economics, political science, sociology, statistics, mathematical modelling, and forecasting. The objectives are threefold: first, to present a comprehensive view of migration in the region, its composition and evolution over time; second, to examine the case of Egypt and the policy issues and responses posed by large scale movement of labor to other Arab countries, highlighting for policy makers the most critical factors at hand; and third, to assess future prospects through combined insights from policy analysis, computer simulations, and forecasting.

This report summarizes the results of the Migration and Development Research Program at M.I.T. As noted below, this phase of research is composed of several projects, supported by different organizations and institutions. The report is in two volumes, each representing a different facet of the migration process and analyzing its different dimensions. Together, they provide a comprehensive perspective of migration in the Middle East and the role of Egypt therein. The report serves as a vehicle for presenting the findings of a wide range of analyses undertaken over the past several years. It highlights the pieces of the migration puzzle and points to the detailed studies upon which the respective synopses are based.

Volume I establishes a framework for Middle East regional migration patterns. It is composed of three parts. Part I examines labor flows between the major labor exporting countries and the major labor importing countries,

as well as between those countries which are both donors and recipients of workers, are considered in terms of the volume of labor transfers and the levels of skills of the migrants. Recent developments in the migration process are placed in an historical perspective and the migration policies of sending and receiving countries are described. The relevance of migration theories to the Middle East situation is examined as a means of appreciating the distinctiveness of that region. Part I concludes with an analysis of migration in two critical sectors where the mobility of labor has been extensive -- education and construction.

Part II focuses on the Egyptian case. The evolution of demand for Egyptian labor is examined to provide the context for assessing trends in permanent migration and the characteristics of the recent massive temporary migration. Policies designed to regulate the temporary transfer of labor are reviewed and their implications drawn out. Specific attention is then given to the migration of Egyptians in education and in construction. The education sector represents a traditional source of Egyptian migration, yet one that has grown significantly since 1973. The migration of construction workers represents a new type of migration, shaped by the events of October 1973 and continuing to dominate the flow of labor within the region throughout the 1970s.

Part III examines the policy dimension for Egypt and for other countries of the region. A review and assessment of migration and related policies is presented for both sending and receiving countries. It is now clear that the entire development process in the Middle East has been influenced by labor transfers. The future will require further adjustments and policy responses to new conditions. Underlying these changes are structural adaptations that will define socio-economic parameters for the decade of the 1980s. Part III

concludes with an assessment of prospects for the future.

Volume II of this study focuses on analytical contributions: reviewing various approaches to analyzing and modelling migration processes to provide a means of assessing the macro-economic, social, and political effects of different types of migration and the effects of policy interventions on both the migration process and the system at large.

First, a survey of models for manpower planning is undertaken to determine the characteristics of models that would be most appropriate to the situation at hand. The analytical structure of models designed to represent migration processes are presented with the intent of highlighting generic features of this process.

Second, simulation models designed for Egyptian migration in the education sector are described in some depth, with additional details of the results presented in an appendix.

Third, analyses of the effects of workers' remittances as the Egyptian economy are presented in the context of a 10 sector macro-economic model of the Egyptian economy. The purpose of these analyses is to identify both macro-level and sectoral effects of alternative levels of workers' remittances.

The Appendices in Volume II present bsic data, results, and additional details. Appendices A and B examine the results of forecasts and simulation of Egyptian teacher migration. Appendix C considers the data requirements for analyzing Egyptian labor migration and for sustaining policy-relevant research. Appendix D presents a listing of reports and papers prepared in the context of the Migration and Development Research Program.

* * *

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The TAP/TPP sponsorship of this study was undertaken through the Egyptian Labor Migration Project for the period 1977 to 1980. The Egyptian Labor Migration Report was the principal context within which the basic data on the Egyptian case were developed and codified. The collaboration of Amr Mohie-Eldin, Ahmed Omar, Ali El Dine Hilal Dessouki, and Ahmed Yousef was a key feature of this phase of research. The late Ahmed Omar played a principal role in delineating, organizing, and modifying the information on teacher migration in and for the Ministry of Education in Egypt. This contribution provided invaluable insights into the education system in Egypt. Mohamed Walid, staff member at the Development Research and Technological Planning Center, Cairo University, assumed responsibility for data management for the Egyptian Labor Migration Project. Preliminary drafts for select chapters of Volume I appeared earlier as part of a Final Report for this Project.

The participation of government agencies in Egypt concerned with population, labor, and manpower issues was essential to the completion of various phases of the analysis. The Ministry of Labor, the Ministry of Planning, the Central Agency for Mobilization and Statistics, and the Ministry of Education contributed directly. The study benefitted particularly from the insights and assessments of Dr. Aziz Bindary, Chairman of the Supreme Council for Population and Family Planning.

Analysis of changes in sector output and macroeconomic conditions in Egypt was based on research undertaken in a TAP/TPP sponsored project on Resource Development and Policy in Egypt: Petroleum and Natural Gas, which provided an analysis of structural changes in the Egyptian economy.

The assessments of migration flows and composition throughout the Middle East is an ongoing study of development in the Middle East. The complexity of the flows point as much to evolution of the phenomenon itself as to the problems associated with developing consistent estimates at different points in time.

The collaboration of Peter Brecke throughout this project is gratefully acknowledged, particularly the estimates of labor migration throughout the 1970s and early 1980s. Diane Beth Hyman provided insightful editing of various parts of this report, integrating different aspects of the projects upon which this report is based, and contributed directly to the analysis of policy issues in the broader context of the Middle East. Iiaz Gilani assisted in developing the conceptual orientation for integrating the components of this study.

The original studies which are summarized in this report are referenced in each chapter and sections therein. A list of references and publications of this project is presented as Appendix D. Select bibliographical references are put forth at the end of this report.

Throughout the various stages of analysis, a number of M.I.T. Ph.D. candidates provided valuable research assistance. Peter Brecke, who collaborated in the preparation of this report, contributed to the data analysis and the development of consistent series of observations on manpower and migration. The contributions of Norma Kriger, Candace Roper, Robert Vitalis, Warren Van Wicklin, and Nancy Wright are gratefully acknowledged as is their

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PART I

A PERSPECTIVE ON MIGRATION FLOWS IN THE MIDDLE EAST REGION

CHAPTER 1

MIGRATION FLOWS IN THE MIDDLE EAST

1.1 Introduction

The large-scale movement of manpower across national borders is one of the most dramatic effects of the oil price increase and related events of 1973.[1] The issues raised by migration in the Middle East have not received the attention they deserve from political analysts, economists, or area specialists.[2] Yet almost all the developmental issues in the region are tied to manpower requirements; many bottlenecks and constraints on economic growth are related to the flow of labor across national borders. Among the most distinctive characteristics of the recent labor transfer patterns in the region as a whole are the following:[3]

First, it is a transfer among developing countries; labor remains largely within the region, rather than migrating externally, to Europe or the United States, for instance.

Second, it is composed of both skilled and unskilled labor; the entire skill and occupational structure of the labor force is involved in, and in turn is affected by, this movement.

Third, it is not permanent in nature, but temporary, generally from one to four years.

Fourth, it is generated and maintained by underlying economic and political forces that create the incentives for movement and the regulations for controlling the flows.

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Fifth, the supply and demand for labor place pressures on respective national governments for policy responses to regulate and facilitate the movement of labor across national boundaries.

Together, these five features of manpower transfers in the Middle East provide the context for development planning.

Considerable uncertainties exist regarding the number of migrants, their occupation or employment, their socio-economic characteristics, and their impact on the countries of origin or the countries of destination. Part I examines the issue of labor migration in the Middle East with a view to reconciling conflicting evidence and providing the context for analyzing the Egyptian case. This context is important for it clarifies the question of interdependence in labor force structures and highlights the elements that become important from both an economic and a political perspective.

1.2 The History of Migration Flows

The characteristics of intra-region migration can best be understood in the context of the history of the region. The colonial and precolonial periods created a unique socioeconomic context. Under the Ottoman Empire the Arab region had consolidated its sense of community, but with the demise of Turkish domination and the expansion of British and French control, a process of disintegration began to take place. This process was largely due to the common efforts of the colonial powers to establish their control and orient Arab economies to the metropolitan powers' economies.

During the period between World Wars I and II, the Arab east was divided into colonial possessions by the British and the French.[4] Despite gradual Western penetration in the region through the system of capitulations, before the breakup of the Ottoman Empire, there were no trade barriers in the Arab

region. After the breakup of the Empire and the establishment of formal Western colonialism, trade barriers were erected for purposes of establishing political control. One important consequence was that the economies of the Arab countries were gradually penetrated by and reoriented toward the economies of the metropolitan powers. The economic distintegration of the region is evidenced by the evolution of separate customs territories with different units of currency during the 1920s.

Significant increases in tariffs on intraregional trade and the new monetary dichotomy, which tied the countries to the pound sterling and the French franc, continued to adversely affect inter-Arab trade throughout the 1930s. This economic disintegration led to the fragmentation of labor markets. Labor forces were largely contained within boundaries set during the inter-war period, with no significant Arab immigration or emigration.

The events culminating in the war of 1948 constituted a massive intervention in the demography of the region, with large-scale inflows of non-Arabs and a resulting large-scale refugeeism with the dispersion of Palestinians outside their homeland.

Palestinian refugees cannot be considered as migrant workers, in the sense of voluntary search for employment. Yet over the years their presence in other Arab states made them an essential element in the respective labor forces and government bureaucracies, a factor that increasingly drew heated political attention.

At the same time, two traditional patterns of international migration took hold and were maintained during this period that were totally independent of the Palestine issue and continued to be important in subsequent years. The first was the movement of Egyptian teachers into other countries; the second

was the export of unskilled Sudanese workers primarily to Egypt. Both flows continue to play an important role today, but they have been supplemented by stronger and more complex trends. Egypt now exports all types of workers, and the Sudanese are increasingly moving into the service sectors of nations other than Egypt.

The fragmentation of labor markets continued during the post-World War II period largely due to two reinforcing factors. First, strong political differences among the countries of the region coupled with differences in their posture in the Cold War reinforced the political barriers to mobility. Second, the economic disintegration of the inter-war period persisted in the absence of economic or political incentives for greater cooperation.

Arab economic cooperation has increased significantly since 1967. This can be explained by two major factors:

1. The decline in the Arab Cold War depoliticized economic cooperation, thus making it possible to engage in economic cooperation despite political rivalries.
2. The remarkable increase in disposable economic resources of some Arab countries has created the motive and the ability to engage in economic cooperation with other Arab countries.

The oil price increases of 1973 led to massive investments in all oil exporting countries and consequently a great demand for labor, particularly construction workers.[5] Wages increased, employment opportunities grew, and labor from other countries responded by moving from areas with low wages to areas where wages were higher. At the same time, Egypt's "open door" policy had removed political obstacles to migration by Egyptians. Its more conciliatory posture toward other Arab countries encouraged Arab governments to recruit Egyptians. These factors resulted in new, massive shifts of manpower

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throughout the region.

A new profile of labor migration began to emerge. Some countries continued to export unskilled labor (Algerians to Europe). Some continued to import all skills (the oil rich countries). Exporters of skilled labor like Egypt became major sources of exports of all skills. There appeared to be no states which did not either import or export some workers (Morocco and Tunisia, previously self-sufficient, now encourage outmigration). Some countries continued to import and export labor (Iraq and Oman, each with a different economic necessity and political rationale).

About 1975 another phenomenon emerged, further transforming the labor structure of the Arab world, namely large scale migration of Asian labor.[6] The new flows were partly a response to market conditions and partly fueled by political concerns. On the economic side the Arab countrieds were simply not able to readily respond to the demand for labor. Asians would also work for lower wages than Arab workers and would accept jobs the Arabs would not take. Further, some believed them to be better disciplined and more productive. In addition Asians had a political advantage: Arab countries viewed them as non-claimants on citizenship. They were alien and could continue to remain disenfranchised. The Asians were regarded as more likely to be passive observers of political processes rather than as potential activists or even claimants on social services or benefits.

By 1983 the pendulum seems to be swinging the other way. The Middle East press now reports on labor agreements between Arab countries and criticism of the large number of Asians. If such a switch is indeed occurring, it is clearly politically motivated. While Arab labor contractors may now equal their Asian counterparts, they are unlikely to have surpassed them.

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1.3 Migration and Development

The movement of labor throughout the Middle East during the 1970s has been so extensive as to affect the entire economic and political future of both sending and receiving countries. It has also created a situation quite novel to development planners and policy analysts. Conventional theories of economic development, focusing on scarcity of capital, appear inappropriate to many facets of the Middle East situation where dislocations have occurred because of the abundance of capital. New scarcities have been created, posing various challenges to conventional views of development and change. More critical, however, is the paucity of insights from conventional theories of migration to assist in understanding and predicting the effects of such large-scale mobility.

A major characteristic of migration in the region is its dynamism. Understanding this changing situation should depend on the theories one draws upon for insights and guidelines. The following chapter therefore focuses on the contribution of migration theory to understanding labor migration in the Middle East. Subsequently, an analysis of the evolution and dynamic changes in the migration process itself will be examined and a view of the major transformations in the region will emerge. The initial focus on migration theory is designed to place the specific region in question in the broader context of international labor mobility.

CHAPTER 2

THE RELEVANCE OF MIGRATION THEORIES

2.1 Conventional Views of Migration

Conventional views of migration in developing countries focus on five types of movements, on the assumption that they represent all possible patterns:[1] rural-urban migration; seasonal movement; unskilled labor in searc of employment opportunities; the "brain drain" phenomenon; and the creatior refugees. Each of these patterns represents a particular type of populatic movement. Empirical evidence serves to sustain this prevailing fivefold conception.[2]

Almost all developing countries are experiencing rapid cityward movements which have contributed to urbanization problems since the end of the Second

employment patterns in many regions.[4] The migration of unskilled or semi-skilled workers -- such as Mexican migrants in the United States,[5] Turks and Yugoslavs in Germany and Austria,[6] Algerians in France,[7] and so forth -- is often regarded as the dominant pattern of labor movement from poorer countries. The brain drain, commonly described as pulling skilled labor toward advanced societies, led to a related belief that skilled migration always constitutes a drain.[8] Finally, everyone acknowledges the importance of a fifth pattern, namely political refugees such as those created most dramatically by great conflicts in the Indian subcontinent, Eastern Europe, Palestine, and elsewhere.[9]

A common characteristic of these patterns of movement -- except perhaps for refugees -- is that they affect only particular sectors of society, economy, or polity; they are unidimensional in the sense of being motivated largely by economic or political incentives; and they are seldom central to political performance or economic activities in either sending or receiving communities.[10] In short, developing countries still see international migration as largely peripheral to the central issues of political change and national development.[11]

The pattern of migration in the Middle East differs markedly from the other five patterns as it constitutes a salient feature of the polity and a crucial feature of the economy for donor and recipient alike, for it is labor migration <u>among</u> developing countries. It is generated by recent changes in the political economy of the region -- the greatly increased wealth of the oil exporters. The movement transcends narrow demographic concerns, and may well shape the political and economic future of the area for many decades to come.

The extent of this migration, its composition, the differentials in wages and employment opportunities, savings and remittances of migrant workers, government policies for regulating the movement of manpower across territorial boundaries, and official expectations of the role of migration in development programs all make this phenomenon extremely pervasive in the economies of the region. Population movements in the Middle East may well cast a new light on prevailing conceptions of international migration and reveal the full dependence of economic and political orders on the nature of labor flows across national boundaries.

2.2 The Role of Migration Theory in Analyzing Labor Transfers in the Middle East

Social scientists have developed a recent interest in the phenomenon of population movements across national borders and the existing literature on migration theory has been placed in sharper focus. Theories of migration have their origins in gravity models of geographers, augmented by concerns about conditions under which individuals make the choice to move. For the most part migration theories focus on internal patterns of mobility. The interest in cross-national migration is essentially derived from a concern with either the brain drain or with the migration of relatively unskilled workers from less developed countries to industrial societies. These theories do not approach the phenomenon as it relates to migration among developing countries. As a result, traditional theories lack complete explanatory power in the Middle Eastern context.

In general, migration theories have focused either on the individual (in terms of the factors that determine his decision to migrate) or on economy-wide conditions (such as wage levels, employment opportunities, and the like). Seldom have theorists attempted to incorporate both levels of analysis in the same theoretical context, or to provide ways by which one level can inform the other. Theories of migration in both these guises have tended to ignore the role of government or the potential regulations that might prevent individual choice or market forces from operating.

Individual-level theories are micro-analytic in that migration is seen as a response to uneven distribution of valued conditions such as employment opportunities, higher wages, and occupational prestige. The individual seeks to "close the gap" between his present condition and those in the society of

destination.[12] Implicit in these theories are rational calculations whereby the individual weighs costs and benefits and then chooses to upgrade.[13]

Economy-wide models of migration focus on national conditions that represent better employment opportunities (as perceived by the individual). These conditions pertain to employment, wages, working conditions, and so forth, as they are reflected in aggregate, economy-wide indicators. Migration is viewed as a macro-economic adjustment to labor conditions, where supply from the sending area responds to demand generated in the community of destination. These adjustments occur irrespective of, and unhampered by, government intervention. Indeed, in such models of migration, neither government nor state is acknowledged as a relevant variable.

More recent additions to theory focus on the international environment and the new mobility across national borders as a part of the conflictual center-periphery nexus of relations.[14] There the main concerns are with the exploitative outcomes of mobility, whereby the peripheral nations "serve" the central nations' economic needs. Migration is seen as simply another manifestation of international disparities in economic productivity and concomitant power. This concern is in response to the apparently increasing rate of mobility of workers from developing countries to economies of industrial societies (presumably responding to "demand" and exercising individual "choice"). This third strand of migration theories incorporates political factors as a consequence of an economically determined process. Migration is purportedly driven by international inequalities in productivity and power; as a result, the role of national governments as mediators of the process is given little attention.

These three themes are not mutually exclusive; they simply bear on different manifestations of the phenomenon. Migration processes in the Middle

East are consistent with some of the assumptions (and inferences) drawn by at least two of the three types of theories and draw attention to some implications generated by the third.

In the Middle East, while the actors are clearly individuals who migrate, the extent of this migration and its importance to the economies of both sending and receiving communities make the nation-state the most relevant level of analysis. Macroeconomic conditions shape and determine the process, but governments are instrumental in seeking to regulate migration and its ramifications. The overall regional developments are critical in making migration one element in an increasingly complex set of exchanges (trade, technology, capital flows, cultural affinity, political preferences) among countries that possess different national attributes (in terms of economic characteristics and political and military capability). Labor migration cannot be understood simply in terms of differences in economic conditions across countries. The essence of this migration is that the exigencies of the new political economy of the region coincide with individual preferences and reinforce the traditional patterns of migration.

On the demand side, at the macro-economic level the oil-related wealth provides investment opportunities and demand for labor. At the individual level this demand generates the economic conditions which provide the "pull" of employment opportunities.

On the supply side, at the national level donors of labor are responding to changing conditions. At the individual level the decision to move is a rational response to economic conditions. The post-1975 increase in the role of Asian labor highlights the continuously evolving interplay of economic (demand and supply of labor) and political factors in the migration process.

As the demand for immigrant labor increased, governments of the oil-rich states turned to South and East Asian sources to meet their needs. This shift to non-Arab sources can be explained in part by a political concern on behalf of the importing nations to retain their national identity. Asian labor cannot be assimilated into the host country as easily as Arab labor, and the work camp nature of some Asian immigration established by national contracting firms ensures physically separate, temporary migration.[15]

2.3 Limitation of Migration Theories

Theories of migration are not yet sufficiently versatile to incorporate both the economic and political factors that make supply (of Egyptians) respond to demand (of receiving Arab countries). Existing theories at each of the three levels (individual, economy-wide, or international) focus on one phase of the migration process, usually the initiating conditions, and not on the consequences. As a result, there is seldom any articulation of the ways in which both sending and receiving communities adjust to new conditions. The adjustment is in terms of economy-wide adaptations as well as changes in the labor characteristics on both the demand and the supply sides.

The important issue for both sending and receiving communities is not only the costs and the benefits associated with migration, but the options available to each side as gains and losses are evaluated. Of concern to labor-exporting countries such as Egypt are the macroeconomic benefits of emigration, such as reduction of domestic unemployment and worker remittances, in relation to macroeconomic costs incurred through the outflow of labor. As will be revealed below, these costs include sectoral labor shortages, loss of expensively-trained, skilled labor, and a possible subsequent decline in national productivity. Political benefits accruing to exporters, like Egypt,

include increased cultural influence in the region and new foreign policy bargaining leverage vis-a-vis countries which import Egyptian labor. Like their economic counterparts, these political benefits entail costs to senders, including decreased governmental control over a critical national attribute (the labor force) and perhaps heightened suspicion of their political intentions in the region on the part of labor-importing nations.

The migration process can be regarded as both an asset and a liability for labor-importing countries as well as exporters. The process benefits receiving countries as it contributes to their labor requirements, yet it simultaneously creates political costs which cannot be ignored.

The role of governments is central to Middle East migration, precisely because of the dual nature of the process. The historical interdependence in the region is being heightened by the mobility of labor, and governments reinforcing the traditionally strong linkages among the countries of the Middle East. By the same token the nature of the relationship between the countries of the Middle East is changing. Theories of migration have been singularly static -- insensitive to the very real changes that occur after the migration process has begun to take place.

2.3.1 Migration-Related Characteristics

The concept of "migration as investment" is based on the prospect of expected income, that is, income differentials discounted by the costs of the move itself, increased living expenses, and the probability of finding a job in the modern urban sector.[16] Migration theory also asserts that some groups will tend to migrate more than others, thus changing the population structure in both sending and receiving countries. Agriculture in the sending region

may suffer from the withdrawal of its young men. For example, Yemen is no longer self-sufficient in food since the departure of up to one-third of its labor force. Yet it may be that more women may participate in the rural labor force to compensate for this loss.[17] Also, the demonstration effect of returning migrants' consumption patterns can promote economic activity by increasing consumer demand, but it also fuels inflation.

Migrants seem to have a higher labor force participation rate than non-migrants. They are less able to fall back on friends and family and are thus under greater pressure to get and hold a job. Their wage aspirations are generally lower than those of non-migrants. Removed from their own cultural context, they are more willing to accept low-status work. Their influx lowers the going wage rate, or at least mitigates its increase, so that non-migrants are even less tempted to compete for the same jobs. Single individuals, migrant or not, tend to have a higher participation rate than larger families and the vast majority of migrants are single.

These migrant-related characteristics can have important consequences in terms of the overall costs and benefits associated with migration. Theories of migration, however, do not explicitly relate labor force participation to social gains and losses of migration. This drawback is due, in part, to the absence of reliable data on these issues and, in part, to the inherent incompleteness of migration theories.

2.3.2 Macro-Economic and Sociopolitical Effects of Workers' Remittances

One initial aspect of migration (and a relatively underanalyzed dimension) pertains to the macro-economic effects of remittances and their attendant social and political implications. With few exceptions, the focus so far has been on assessing the volume of remittances and not on incorporating that

factor within the existing theories of migration or even explicitly in theories of economics or political development.

The Egyptian case below examines the macro-economic effects of remittances in terms of sectoral output, sectoral prices, impacts on income shares, and impacts on balance of payments. The results are presented in Appendix __. Related to remittances is the importance of saving propensities for various income groups. These two factors will inevitably affect political expectations and patterns of social interaction. Theories of migration (as well as empirical analyses) remain singularly silent on these issues.

A related gap in migration theory pertains to the decision of potential migrants not to migrate. Theories of migration have little to say about returning migrants or the conditions under which potential migrants may choose not to exercise the option of migrating. The Egyptian case does provide some evidence of "refusals." This phenomenon exists despite the prevalence of high wage differentials between senders and receivers. Thus, other factors may include working conditions, improved job opportunities at home, or just a desire to return home and enjoy the money earned.

2.4 The Role of Government

Despite their drawbacks, theories of migration are useful for clarifying the Egyptian case because they highlight the importance of economic differentials between sending and receiving countries. These differentials serve to shape the migration situation and the responses of senders to conditions in the receiving communities. Beyond that, however, they are inappropriate for a more complete explanation of the Egyptian case, for they fail to incorporate the prominent role of government policy in facilitating migration in response

to these differentials.

The salient role of governments in Middle East migration is a result of the long history of national interaction, efforts to achieve political integration (motivated by the cultural affinity among Arab countries), and the importance of the region's interdependent labor market for the development processes of all countries involved. The need for labor in conjunction with political and cultural forces has led to several inter-Arab agreements directing the flow of migrant workers. It is these factors and events that make the Middle East case unique in relation to other cases of international migration. Political decision-making significantly alters migration patterns beyond those created by the economic situation and conventional migration theory says little about that effect.

In the case of the traditional flows, that is, of Egyptian educators to other Arab countries, it was government policy in the 1930s and 1960s that set up the ties with other Arab countries. The Egyptian government subsequently reinforced and institutionalized these relationships by creating the secondment and official mission migration procedures.

The open door policy signalled governmental change in policy orientation. This change encouraged the differentials between senders and receivers to take hold and manifest themselves in the flows described earlier in this report. Thus, the Egyptian case contributes to current migration theories as an empirical situation that clarifies the role of governments in this process. This role may vary among the states of the Middle East, but <u>in each case</u> the government is a relevant factor -- as a regulator of migration and the ultimate arbiter.

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2.5 Transformations in Migration

Migration processes themselves change as a result of the movement of labor and the Middle East demonstrates this dynamism very well. Transformations in the flows have been dramatic, leading to deep rooted impacts in both sending and receiving countries, far in excess of the initial dislocations created by the response of labor to higher wages. A notable drawback in migration theories is their inability to anticipate these changes.

In the Middle East, the successive operation of supply and demand has created a set of costs and benefits for both sending and receiving countries that contribute to transformations in the pattern of migration. New conditions generated in both sending and receiving countries lead to a demand for new sources of supply as well as changes in the quantities and skill mixes supplied. The following chapter traces these transformations and the characteristics of the migration profile at each new phase. It provides a dynamic perspective for the detailed discussion of migration processes presented in the following chapter.

CHAPTER 3

THE FIVE PHASES OF MIGRATION

In the past it has been customary to view the Arab world as a closed demographic system with relatively little inflow or outflow of population. The establishment of Israel constituted a massive intervention in the demography of the area. But, other than migration of workers from Algeria to France, the region appeared fairly contained in its overall population characteristics.

Economic changes induced by the events of 1973 created a dynamic process that fundamentally changed both the view of and the reality in the Arab world. For example, in 1962 there were 100,000 Egyptians abroad, mostly permanent migrants; in 1983 there are roughly 2 million Egyptians in the Middle East, most of these being away only temporarily. These migrant workers constitute about 16 percent of the country's total labor force. Data problems aside, such magnitudes represent qualitative changes in both the structure and the composition of the labor force. Between 1973 and 1982 the employment and labor matrices of almost all Arab states experienced substantial adjustments and transformations.

The most important fact about migration in the Middle East is its rapidly changing nature: in retrospect it appears that there have been five phases in the flow of labor across national boundaries. While not mutually exclusive, they characterize substantially different types of movements dominant at each point in time. Together they reveal the underlying shifts that have taken place as the individual economies of the area adjust to new realities.

3.1 Phase One: Traditional Flows

The first phase in the intra-regional migration process ended with the events of October 1973. It was characterized by two types of flows, as noted earlier. The first was composed of Egyptians (and, to some extent, Jordanians) to other Arab countries, principally as teachers and administrators. These migrants were regulated by both their own governments and those of receiving countries through the method of individual secondment or through official state-to-state missions. Their movement was likened to the brain drain phenomenon, allegedly depriving the sending country of skills, benefiting individual migrants first and recipient communities only secondarily. The other type of traditional mobility was that of unskilled workers, such as Sudanese to Egypt or Yemenis to Saudi Arabia. They contributed the backbone of the service and construction sectors in the communities of destination. The creation of refugees from Palestine cannot properly be thought of as migration since it results from coercion and violence, yet this refugeeism itself became a cornerstone of the migrant communities in many labor importing countries.

Table 3-1 presents the stocks of migrant workers by origin and destination for the period around 1970. All but 12 percent of the migrant workers were from other Arab states. Except for the case of Yemenis moving to Saudi Arabia, no single migrant group dominated the labor force of any one recipient country.

During this period, the overall labor profile of the region can be characterized as follows:

(i) countries that exported unskilled or relatively unskilled labor to Europe (Algeria, Turkey) or the Gulf region and Libya (North and

TABLE 3-1

Migrant Workers by Origin and Destination, 1970

Destination \ Origin	Date	PDR Yemen+	Egypt	Syria	Palestine	Lebanon	Jordan	Oman	Other Arab Countries	All Arab Countries	Non-Arab Countries	Unknown	
Saudi Arabia	1970	200 000-250 000	n.a.	(40 000)	(50 000)	(30 000)	n.a.	n.a.	n.a.	(345 000)	n.a.	(55 000)	(400 000)
Kuwait	1970	6 898	17 714	12 659	*	8 419	41 299	10 483	24 467	121 939	53 500	-	175 439
Libya	1973	-	60 752	6 162	4 324	8 324	4 324	-	24 215	108 101	20 300	-	128 401
Lebanon	1970	n.a.	4 500	33 800	8 100	-	n.a.	n.a.	n.a.	46 400	n.a.	21 600	68 000
U A E	1968	n.a.	11 100	-	6 640	n.a.	6 640	6 640	4 430	35 450	8 819	n.a.	44 269
Qatar	1970	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	(24 000)	(16 090)	n.a.	(40 090)
Bahrain	1971	(2 000)	n.a.	n.a.	(2 000)	n.a.	(2 000)	(5 600)	(4 000)	(15 600)	(6 000)	(751)	(22 351)
Oman	1973	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	(2 000)	(3 000)	n.a.	(5 000)
	1970 circa	233 898	94 066	92 621	71 064	46 743	54 263	22 723	57 112	648 490	107 709	77 351	883 550

Notes: * included with Jordanians
n.a. is not available
figures in brackets denote rough estimates.
+ despite the label, this category almost certainly must include North Yemen

Source: Abdelmegid M. Farrag, "Migration between Arab countries," in Manpower and Employment in Arab Countries: Some Critical Issues (Geneva: International Labor Office), 1975, p. 105 (numerical discrepancies have been corrected).

South Yemen and Syria);

(ii) countries that imported a small number of workers at all skill levels (the Gulf region and Libya);

(iii) countries that were exporters of relatively highly skilled labor (Egypt and Jordan);

(iv) and states that could be termed self-sufficient in manpower requirements (Morocco and Tunisia).

3.2 Phase Two: Heightened Demand

The oil price increases of 1973 initiated almost overnight the second phase in the movement of labor, namely an exploding demand for workers in the newly rich oil-exporting countries. Labor responded quickly to the higher wages offered in these countries. The immediate result was large-scale labor force adjustments and expanded economic interactions among the countries involved.

By 1975 migration flows in the Middle East had evolved to such an extent that there were now five distinct profiles for the nations in the region. These profiles can be described as follows:

(i) countries that imported labor of all kinds (the Gulf states and Libya);

(ii) countries that sent highly skilled as well as unskilled labor (such as Egypt and Jordan);

(iii) countries that sent relatively unskilled labor to the countries of destination but labor which was skilled in relation to the local distribution of skills (such as the Sudan or Yemen);

(iv) countries that sent labor to Europe while importing skilled labor

from senders in the Middle East (such as Algeria, Tunisia, and Morocco);

(v) countries that both exported and imported labor within the region (such as Iraq and Oman).

Tables 3-2(a) and 3-2(b) depict both the expansion and the diversification of migrant flows. The stock of migrant workers mushroomed from 880,000 to over 1,800,000 between 1970 and 1975, with most of the increase occurring in the last two years.

Accelerated migration from the traditional labor exporting countries as well as new labor exporters fueled this growth further. Egypt's role as a supplier of labor expanded dramatically. Sadat's new regime and the eventual open door policy paved the way for Egyptians to take advantage of both the employment opportunities and the higher wages in the oil-rich countries. Thus, when oil prices exploded both skilled and unskilled Egyptian workers flocked to the Gulf, transforming Egypt from an important but by no means dominant labor exporter to the largest source of labor in the Middle East. Over time, this massive outflow of labor created bottlenecks in Egypt's own development projects. Popular support for the opportunity to migrate prevented the government from taking any regulatory action. Worker remittances created further disincentives for establishing official controls over this migration.

The surge of Egyptian workers coincided with massive increases in the number of Yemeni, Jordanian, and Palestinian migrants. By the mid-1970s one fourth of North Yemen's labor force was in Saudi Arabia and the Emirates. Tables 3-2(a) and 3-2(b) indicate that over 250,000 Jordanians and Palestinians found employment in the Gulf states. These figures must be compared with a Jordanian workforce of 400,000.[1] However, a significant proportion of the

TABLE 3-2(a)

Migrant Workers in the Arab Middle East by Nationality and Country of Employment, 1975

Country of Employment	Egyptian (%)	Yemeni (YAR) (%)	Jordanian and Palestinian (%)	Yemeni (PDRY) (%)	Syrian (%)	Lebanese (%)	Sudanese (%)	Tunisian (%)	Omani (%)	Iraqi (%)	Saudi (%)	Moroccan (%)	Algerian (%)	All Arab (%)	Pakistani (%)	Indian (%)	Other Asian (%)	All Asian (%)	European and American (%)	African and Other (%)	Turk (%)	Iranian (%)	Total (%)
Saudi Arabia	95,000 (23.6)	280,400 (96.2)	175,900 (56.1)	55,000 (77.9)	15,000 (21.3)	28,000 (40.3)	35,000 (76.3)	-	17,500 (68.4)	2,000 (9.7)	1,000 (76.4)	-	-	699,900 (54.0)	15,000 (7.2)	15,000 (9.7)	8,000 (54.1)	38,000 (16.6)	15,000 (10.7)	14,000 (93.0)	500 (1.3)	16,000 (9.4)	773,000 (48.3)
Libya	229,500 (57.0)	-	14,150 (5.3)	-	13,000 (18.5)	8,700 (12.5)	7,000 (15.3)	38,500 (99.8)	-	-	-	3,500 (96.9)	-	314,350 (24.4)	3,500 (1.6)	500 (0.3)	500 (3.4)	5,500 (1.5)	7,000 (10.5)	500 (4.7)	9,000 (94.6)	-	336,350 (20.3)
U.A.E.	12,500 (3.1)	4,500 (1.6)	14,500 (5.3)	4,500 (6.4)	4,500 (6.4)	6,500 (9.4)	1,500 (3.3)	-	14,000 (36.4)	500 (2.4)	1,000 (13.3)	-	-	63,000 (4.9)	100,000 (13.4)	61,500 (39.8)	2,000 (12.5)	163,500 (68.4)	5,000 (13.3)	-	-	21,000 (19.8)	251,500 (13.8)
Kuwait	37,350 (9.3)	2,757 (1.0)	47,613 (18.0)	8,650 (12.3)	16,547 (23.6)	7,313 (14.6)	671 (1.5)	40 (0.1)	3,650 (9.5)	17,900 (87.3)	347 (3.0)	35 (1.1)	10 (100.0)	143,290 (11.1)	11,030 (5.0)	21,475 (13.9)	1,163 (7.5)	33,614 (9.4)	2,000 (1.6)	167 (1.0)	37 (0.0)	30,913 (37.5)	208,000 (11.0)
Qatar	2,850 (0.7)	1,250 (0.4)	8,000 (3.3)	1,250 (1.8)	750 (1.1)	500 (1.0)	400 (0.9)	-	1,870 (4.9)	-	-	-	-	16,870 (1.3)	16,000 (7.4)	16,000 (10.3)	2,000 (13.5)	34,000 (9.4)	840 (1.2)	-	-	4,000 (2.0)	55,710 (2.9)
Bahrain	1,217 (0.3)	1,121 (0.4)	616 (0.3)	1,112 (1.6)	68 (0.1)	120 (0.3)	400 (0.9)	-	1,343 (3.5)	128 (0.6)	-	-	-	6,309 (0.5)	6,620 (3.0)	6,943 (4.5)	941 (6.3)	14,504 (4.0)	4,440 (13.7)	17 (0.3)	-	3,962 (1.9)	29,302 (1.5)
Jordan (East Bank)	5,300 (1.3)	-	-	-	20,000 (28.4)	7,500 (15.1)	-	-	-	-	-	-	-	32,800 (2.4)	-	-	-	-	30 (0.1)	-	-	-	32,900 (1.6)
Oman	4,600 (1.2)	500 (0.4)	1,600 (0.6)	100 (0.1)	600 (0.8)	1,100 (2.3)	500 (1.1)	100 (0.3)	-	-	500 (4.5)	-	-	8,800 (0.7)	32,500 (17.4)	26,000 (16.8)	300 (1.8)	58,700 (16.3)	2,030 (7.4)	-	-	400 (0.4)	70,130 (3.4)
Dubai (UAE)	2,000 (0.5)	-	300 (0.1)	-	150 (0.2)	-	-	-	-	-	-	-	-	2,450 (0.2)	-	-	-	-	300 (0.2)	-	-	-	2,450 (0.1)
Iraq	7,000 (1.8)	-	5,000 (1.9)	-	-	3,000 (4.4)	300 (0.8)	-	-	-	-	-	-	15,300 (1.1)	5,000 (2.6)	5,000 (3.3)	-	10,000 (2.8)	5 (0.1)	-	-	40,000 (19.5)	65,305 (3.2)
Total	399,145 (100.0)	290,128 (100.0)	264,717 (100.0)	70,530 (100.0)	70,415 (100.0)	69,441 (100.0)	45,071 (100.0)	38,640 (100.0)	[illegible]	20,025 (100.0)	4,047 (100.0)	3,529 (100.0)	10 (100.0)	1,359,710 (100.0)	190,710 (100.0)	154,418 (100.0)	14,701 (100.0)	359,830 (100.0)	37,816 (100.0)	14,644 (100.0)	3,037 (100.0)	165,313 (100.0)	2,020,[illegible] (100.0)

"-" indicates no migrants of this nationality recorded.

Note: Numbers specific to one digit possess a greater reliability than those rounded to 000s. Totals are left specific to one digit, but they are only as reliable as the figures which sum to their total.

Source: J. S. Birks and C. A. Sinclair, "International Migration in the Arab World: Rapid Growth, Changing Patterns, and Broad Implications," paper prepared for a seminar on Population, Employment, and Migration in the Arab Gulf States, Kuwait, December 16-18, 1978, p. 9.

Best Available Document

TABLE 3-2(b)

Immigrant Labor in the Middle East and North Africa by Source and Destination, 1975 (in thousands)

Source \ Destination	Algeria	Bahrain[b]	Iran	Iraq	Kuwait	Libya[b]	Oman	Qatar	Saudi Arabia	United Arab Emirates	Total
Egypt	1.0	1.2	–	2.3	37.6	175.0	5.3	2.7	95.0	12.7	332.8
Jordan[a]	.4	.8	–	3.1	47.7	13.0	2.6	1.7	175.0	6.4	250.7
Morocco	.5		–	–	.1	1.8	–	–	–	–	2.2
Oman	–	1.5	–	–	3.7	–	–	1.5	17.5	7.0	31.2
Somalia	–	–	–	–	.2	–	.1	–	5.0	1.6	6.9
Sudan	–	.5	–	–	.9	7.0	.2	.5	35.0	1.8	45.9
Syria	.4	.1	–	.2	16.5	15.0	1.5	.4	15.0	3.4	52.5
Tunisia	.2	–	–	–	–	29.0	–	–	–	–	29.2
Yemen Arab Rep.	–	.9	–	–	2.8	–	1.0	1.6	280.4	3.5	290.2
P.D.R. Yemen	–	.4	–	–	8.7	–	–	1.0	55.0	1.5	66.6
Europe and North America	6.1	4.4	35.0	.7	2.0	28.0	3.6	9.2	15.0	9.1	113.1
India	.3	9.0	4.4	.3	21.5	2.0	24.8	19.8	6.0	73.0	161.1
Pakistan	.1	6.7	2.4	.9	11.0	5.0	20.2	14.5	25.0	94.0	179.8
Others	1.0	3.9	140.2[c]	.9	58.7	19.2	7.9	8.9	49.5	31.8	322.0
Total (N)	9.8	29.4	182.0	8.4	211.4	295.0	67.2	61.8	773.4	245.8	1,884.2
% of Total Employment	0.2	38	2	1	71	33	39	83	39	89	

Sources:
- Algeria: Ministry of Labor, unpublished mimeograph.
- Kuwait: State of Kuwait, Central Statistics Office, Population Census 1975.
- Libya: Ministry of Planning and Scientific Research, unpublished mimeograph.
- Saudi Arabia: J.S. Birks and C.A. Sinclair, "International Migration Project, Country Case Study: Saudi Arabia". University of Durham, England 1978.
- Bahrain: Estimates based on 1971 census and 1976 arrival/departure statistics.
- Iraq: Estimates based on "Foreigners in Iraq by Sex and Nationality, 1974" statistics.
- Iran: Estimates of the Ministry of Labor.
- Oman, Qatar, U.A.E.: Author's estimates derived from available information on population, employment, work permit and other related data.

Notes: [a]Jordanians and Palestinians.
[b]End of 1976.
[c]Includes 120,000 Afghan workers and others from the Gulf states.
(–)None or insignificant

Source: Zafer C. Ecevit, "International Labor Migration in the Middle East and North Africa," in Mary M. Kritz, Charles, B. Keely, and Silvano M. Tomasi (eds.), Global Trends in Migration: Research on International Population Movements (New York: Center for Migration Studies), 1981, p. 262-263.

workers are Palestinians traveling with Jordanian passports and should not be included in the assessment. We estimate that there is about an equal number of Jordanians and Palestinians. This still means that roughly 30 percent of the Jordanian labor force was working in other countries during the mid-1970s -- a very high figure indeed. By that time the number of workers from North Yemen and Jordan approached a ceiling; little additional growth could be expected from either source. Other Arab countries expanded their exports of workers, but the numbers were quite marginal in comparison. Sudan and Somalia began to supply workers as well, but the numbers were again relatively small.

In short, the period 1975-76 was particularly dynamic for the political economy of the region. The new equilibrium in labor force disposition was transitional, with new changes in the offing. A convergence of labor shifts, economic change, and massive investment programs contributed to the emergence of new trends which ushered in the next phase.

Detailed information about the countries involved in Middle East migration is concentrated around the year 1975. This availability of data for the middle of the decade allows us to present the following picture.

3.2.1 Sources of Labor Transfer[2]

Egypt has clearly been the largest source of Arab manpower in the region. In the context of Egyptian history this trend is a major departure from past practices, for Egyptians have generally been characterized as non-mobile. In 1962 it was estimated that only 100,000 Egyptians lived or worked abroad. Twenty years later the number is more than 20 times higher. In the 1970s Egyptian labor employed in other countries covered the spectrum -- from the most sophisticated to the least skilled.[3] This was another dramatic

transformation from the earlier Egyptian labor migration, which was predominantly highly skilled, approximating the conventional "brain drain" syndrome.

The Egyptian migrant workforce, more than any of the others, played a major role in all the labor importing countries. Its role in Saudi Arabia, Libya, Kuwait, Jordan, and Iraq was especially significant, being the largest or second largest supplier of labor. Even in the other Gulf states, where workers from Pakistan and India predominate, the Egyptian role was important because many of the workers were skilled and worked as teachers or government administrators. The dependence of the other Arab states on Egyptian teachers has traditionally been strong and this historical role was reinforced by the massive investments by oil-rich economies in their own education systems.[4] The resulting expansion increased the demand for Egyptian educators. Oman, for example, recruited Egyptians for almost 60 percent of its teaching positions in 1975/76.[5]

Yemen has been the second largest Arab donor of manpower, but its workers are exclusively concentrated in the less-skilled activities.[6] The major destination was Saudi Arabia, where over 90 percent were employed. The complementarity of their labor needs and capabilities as well as the relatively open border between the two countries reinforced this concentration. At this time most Yemenis in Saudi Arabia worked in construction, although about 75,000 were in manufacturing and transport and perhaps 10,000 more were in other sectors. Yemen's near monopoly of lower-level employment in Saudi Arabia has been challenged by the import of Asian labor, which is satisfied with wages lower than those paid to the Yemenis. Since most of Yemen's foreign exchange comes from remittances, it is essential to Yemen that the special position of its workers in Arab markets be protected.[7]

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3.2.2 Contributors and Recipients of Labor

Jordan, Oman, Iraq, and, recently, Yemen are both donors and recipients of labor in the overall transfer processes of the Arab world. The remittances from foreign earnings of Jordanians rose twentyfold between 1973 and 1976. Their major destinations were Saudi Arabia and Kuwait, followed by the United Arab Emirates and Libya.[8]

Jordanian workers abroad are mostly skilled and, with the Egyptians, staff those positions requiring a high level of training. Jordan contributes one of the highest proportions of total population to employment of any country in the region. Because of this outflow, Jordan was forced to begin importing principally low skilled workers from Egypt, Syria, and Pakistan.[9]

Iraq remains slightly problematical, due to the conjunction of data uncertainties and active recruitment by the government of other Arabs to settle there. However, we believe the immigrant population there to have been considerable even by 1975. Migration of Iraqis to other countries has been allowed by the government, but the dominant policy has been to try to retain workers.

Although Oman was active on both sides of the transfer process, its receipt of external labor about doubled its outflow. Approximately 20 percent of the country's non-migrant labor force was employed externally. The major destinations were Abu Dhabi (receiving 32 percent of the migrants), Saudi Arabia, Kuwait, Qatar, Bahrain, and Dubai. At that time they were preferred to Asians in the more service oriented jobs.[10]

Recently, Yemen has had to import workers because, like Jordan, so many natives have left to work elsewhere. Many of these workers are Egyptian teachers and other professionals.

3.2.3 Hosts in the Transfer Process

As the principal destination for migrants in the Arab world, Saudi Arabia plays an important role in the overall process. It was estimated in 1977 that well over one million workers from other countries were employed in Saudi Arabia, principally from Yemen, Egypt, Jordan, the People's Democratic Republic of Yemen, and the Sudan.[11] Since then the number has grown to over 1.5 million with Pakistan, South Korea, and the Philippines becoming major additional suppliers.[12] These labor transfers affect the country's entire economic structure, but are concentrated in construction, agriculture, commerce, and services.[13]

In 1975 Kuwait had a unique distribution of migrant workers compared to the other countries. Migrant construction workers constituted a smaller percentage of total non-Kuwaiti employment, even though they comprised almost all workers in the construction sector.[14] Because of the more developed nature of the Kuwait social and economic system relative to other Gulf countries, the requirements for managerial and technical skills were relatively higher.

The United Arab Emirates are unique in that their labor force quickly became about 90 percent foreign, with most workers coming from India and Pakistan. The construction and services sectors have dominated, with almost all of Abu Dhabi's construction sector composed of citizens of other countries.[15]

Bahrain posed a different labor profile than the other Gulf states because its non-citizen labor force was smaller than its own work force. Most of the migrant labor has been from India and Pakistan and works in the service and construction sectors.[16]

Over 83 percent of Qatar's labor requirements were met by external sources. Of these almost 60 percent come from India and Pakistan. The construction and manufacturing sectors rely most heavily on external labor, drawing almost all of their labor requirements from foreign sources.[17]

In Oman most workers come from India and Pakistan. In 1975 Egyptians ranked third and served mainly as teachers. Government data show that 87.4 percent of all resident permits issued in 1975 went to Indians and Pakistanis and 2.8 percent to Egyptians.[18] The majority of migrants moved into the construction sector, where 88 percent of all employees were of foreign nationality.[19] A complex pattern of labor transfers characterized the Omani profile: skilled administrators and senior managers from Europe, especially Britain; government officials and teachers from Egypt and Jordan; and most of the rest from India and Pakistan.

Libya received most of its workers from Arab countries, principally from Egypt and, to a lesser degree, from Jordan, Syria, and Tunisia. More recently Pakistanis emerged as a major group. Most of this early employment flowed into the construction sector, which absorbed 65 percent of Egyptian movement to Libya under private contracts in 1976.[20]

3.2.4 Changing Roles in Labor Transfers

Iran and Iraq traditionally played an important role as suppliers of labor to the other Gulf countries. Their influence is diminishing. For example, in 1965, 6.6 percent of the non-citizen population of Kuwait was Iranian in nationality; in 1975, this figure dropped to 4.1 percent. The percentage of Iraqis fell from 5.5 to 4.5.[21] Until the 1979 Revolution, Iran was becoming a major importer of both skilled and unskilled workers. But the

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new government changed the situation overnight and imposed strict self-sufficiency.

Iraq is the only country that grants citizenship to any Arab upon request, thereby accentuating its posture on the issue of Arab unity. Exactly how many migrant workers were in Iraq remains unclear. In 1978 one source estimated over 50,000 Egyptians, but the total was probably much higher.[22]

3.3 Phase Three: Asian Workers in the Gulf

The third phase in the migration process evolved throughout the latter part of the 1970s. Arab workers continued to migrate to other Arab countries, but there was a new phenomenon, the inflow of South Asian labor into the region. This labor was composed largely of Indians, Pakistanis, and Bangladeshis, who had earlier migrated in small numbers but were now becoming an increasing presence in the Gulf states. Tables 3-2(a) and 3-2(b) show the presence of sizable Pakistani and Indian communities by 1975. These two groups amounted to 18 percent of all migrant workers, while Arabs comprised about 60-70 percent.

Two factors led to the large-scale entry of Asians into the labor markets of the Middle East. First, the sheer demand of the labor importing countries for migrant workers outstripped the ability of Arab states to supply them easily. Second, South Asian workers were willing to take jobs and work for wages that Arab workers found unacceptable. This Asian migrant flow expanded rapidly, challenging the position of the more traditional suppliers of labor. There was even some evidence to suggest that Indians and Pakistanis began to replace Egyptians and Jordanians in some of the more skilled occupations.

Table 3-3 depicts aspects of the continued growth in migration, particularly with respect to Asians. From less than 200,000 in 1975, the number of

TABLE 3-3

Estimates of Migrant Workers in the Middle East in the Late 1970s

Exporters: / Importers	Egypt (1978)	Sudan	North Yemen	South Yemen	Jordan	Pakistan (1979)	India	Bangladesh	South Korea	Philippines	Thailand	Total
Saudi Arabi	500,000					608,000						1,000,000 (1977)
Libya	500,000											350,000 (1977)
United Arab Emirates	150,000					352,000						400,000 (1977)
Kuwait	150,000											400,000 (1977)
Iraq	50,000											70,000 (1977)
Qatar	15,000											35,000 (1977)
Bahrain												74,000 (1977)
Oman												
TOTAL	600,000 (1976) 350,000 (1977)* 1,365,000 (1978)	50,000 (1977)	500,000 (1977) 600-800,000 (1977)	300,000 (1977)	150,000 (1977)*	500,000 (1977) 1,246,000 (1979) 200,000 (1979)*	234,000 (1977) 500,000 (1979) 300,000 (1979)	50,000 (1977) 100,000 (1979)	60,000 (1977) 60,000 (1979) 80,000 (1979)	80,000 (1979)	30,000 (1979)	

*These figures are almost certainly too low.

Table 3-3

Sources

The importer totals and the first row of exporter totals come from Andreas S. Gerakis and S. Thayanithy, "Wave of Middle East Migration Raises Questions of Policy in Many Countries," IMF Survey, vol. 7 (1978), p. 261.

The 1976 Egyptian figure comes from J.S. Birks and C.A. Sinclair, Human Capital on the Nile: Development and Emigration in the Arab Republic of Egypt and the Democratic Republic of the Sudan (Geneva: International Labor Office), May 1978, p. 12.

The 1978 Egyptian figures come from "More Than One and a Half Million Egyptian Workers," Al-Ahram, September 18, 1978.

The first 1979 Pakistani figures come from Ijaz Gilani, Pakistani Emigration to the Middle East: A Cost-Benefit Analysis (Islamabad: Pakistan Institute of Development Economics), 1981, p. 23.

The alternative 1977 figure for North Yemen comes from Lee Ann Ross, Yemen Migration: Blessing and Dilemma, paper prepared for AID Seminar on Near East Labor Flows, September 20, 1977, p. 2.

The first 1979 South Korean figure comes from Charles Keely, "Asian Worker Migration to the Middle East," Center for Policy Studies Working Paper no. 52, The Population Council, New York, 1980.

The first 1979 figure for India comes from Myron Weiner, "International Migration and Development: Indians in the Persian Gulf," Population and Development Review, vol. 8 (1982), p. 31.

The row of 1979 data for Pakistan through Thailand comes from "The Middle East Boom Starts to Tail Off," Far Eastern Economic Review, May 11, 1979, p. 38.

Pakistanis working in the Middle East skyrocketed to 500,000 in 1977 and to almost 1.25 million in 1979. The number of Egyptians continued to grow rapidly, from 330,000-400,000 in 1975, to 600,000 in 1976, to 1,365,000 in 1978. If these figures are correct, Egypt and Pakistan clearly dominated the labor flows in the late 1970s. More importantly, they indicate that the migration phenomenon is much larger than depicted by reports based on 1975 data collected for the World Bank and the International Labor Office.

The figures in Table 3-3 for North Yemen and India reinforce these assertions. North Yemen managed to increase its export of workers to 500,000 or higher by 1977. India emerged as an equally important supplier, with 500,000 workers in the Gulf by 1979. Whereas Egypt and North Yemen were dominant in 1975, by 1979 they were forced to share their positions with Pakistan and India. Asians were now almost as important as Arabs in the labor force of the region.

Table 3-4 presents another estimate of migrant workers in the region for the late 1970s. While seemingly comprehensive, they must be treated cautiously for they miss the upsurge of Asians. Data on remittances for 1979 reinforce the assertion that the Asian presence in Arab countries is as strong as that of migrant Arab workers. The combined remittances for Egypt and North Yemen total $3.4 billion. For Pakistan and India the sum is $3.1 billion.[23] Without evidence to the contrary, the safest assumption is that migrants from different countries remit approximately the same proportion of their wages. Under that assumption the sheer magnitude of Asian migration becomes obvious. In fact, India's role as a labor exporter appears to be at least as large as that of Pakistan.

TABLE 3-4

Migrant Workers in the Red Sea Region by Source and Destination in the Late 1970s

Source/ Destination	Bahrain	Kuwait	Libya	Qatar	Saudi Arabia	UAE	Others	Total (by source)
Egypt	5,000	60,000	340,000	20,000	200,000	15,000	260,000	900,000
Jordan+	5,000	60,000	30,000	5,000	200,000	10,000	40,000	350,000
PDRY	5,000	15,000	-	5,000	140,000	10,000	25,000	200,000
Somalia	-	10,000	-	-	30,000	10,000	20,000	70,000
Sudan	-	20,000	10,000	-	90,000	10,000	10,000	140,000
YAR	5,000	10,000	-	-	400,000	10,000	35,000	460,000
Others	30,000	100,000	100,000	70,000	260,000	200,000		
Total (by source)								2,120,000
Total (by destination)	50,000	280,000	480,000	100,000	1,340,000	280,000		2,530,000

+ Includes also Jordanians from the West Bank and Palestinians who register themselves as Jordanians with labour exporting countries.

Note: By country of origin, these estimates are considerably higher (50 percent) than the figures projected by the International Migration Project for 1980. Part of the difference rests on the fact that the International Migration Project neither accounts for migration outside the region (390,000 migrants or 36 percent of the difference according to our estimates) nor for clandestine, illegal migration (at least 100,000). Part is the result of having more recent data, particularly for Jordan, Somalia, PDRY, and the Sudan.

Source: Giuseppe Pennisi, Developmental, Manpower, and Migration in the Red Sea Region: The Case for Cooperation (Hamburg: Deutsches Orient-Institute, 1981), p. 26.

3.4 Phase Four: Increased Complexity in the Composition of Foreigners

The fourth phase in this overall process emerged by the end of the decade, when two further trends appeared. First, the composition of Asian labor was becoming increasingly complex. Koreans, Taiwanese, Filipinos, and others began to appear in the Gulf region. Second, state-to-state interactions ensued and both the sending and the receiving communities assumed direct responsibility for managing the flows.

Another look at Table 3-3 reveals the addition of these new actors in the late 1970's. While India and Pakistan were the only Asian nations enumerated separately in 1975, by 1977 they were joined by South Korea and Bangladesh, and by 1979 by the Philippines and Thailand. These trends continued into the 1980's. Table 3-5 presents estimates of the number of East Asian workers in the Middle East in the early 1980's. China, Taiwan and Indonesia, while small in terms of absolute numbers, nevertheless are important because they along with South Korea, the Philippines and Thailand represent the eastward expansion of the Middle East migration phenomenon.

Comprehensive estimates of the stock of migrant workers in the Middle East for 1980 are not readily available. One projection of Table 3-2(a) is available for 1980 and is presented in Table 3-6. It shows the declining proportion of Arab workers, from 70.8 percent in 1975 to 62.5 percent in 1980, and the rising proportion of Asians, from 20.2 percent to 29.1 percent. Unfortunately, these figures almost certainly underestimate the growth in Asian migration. One additional comment on Table 3-6 is that the number of Syrian migrant workers may be far higher than the World Bank estimates. While the 400,000 figure mentioned by Schmida may be too high, Saudi statistics on foreigners entering and leaving in 1979 depict the Syrians as the fourth largest group. That means there were probably 200,000 Syrians in Saudi Arabia

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TABLE 3-5

Estimates of East Asian Workers in the Middle East, 1980-1982

	1980	1981	1982
South Korea	80,000		
Philippines	80,000	35,000	150,000
Taiwan	3,400	7,000	
China	13-15,000	3,000	
Thailand		120,000	
Indonesia	8-14,000		

Source: Lily H.M. Ling, Change in the International System: East Asian Emigration to the Middle East, M.S. thesis, M.I.T. Department of Political Science, March 1982, pp. 30-31.

TABLE 3-6

Projection of Migrant Workers in the Arab Region by Sending Country and Country of Employment, 1980

Sending Country	Country of Employment										
	Saudi Arabia	Libya	United Arab Emirates	Kuwait	Qatar	Bahrain	Jordan(East Bank)	Oman	Yemen(YAR)	Iraq	Total
Egypt	155,100	250,000	18,200	85,000	5,750	2,800	68,500	6,300	4,000	100,000	695,650
Yemen(YAR)	325,000	-	5,400	3,000	1,500	1,125	-	120	-	-	336,145
Jordan and Palestine	140,000	15,000	19,400	55,000	7,800	1,400	-	2,250	2,000	7,500	250,350
Yemen(PDRY)	65,000	-	6,600	9,500	1,500	1,125	-	120	-	-	83,845
Syria	24,400	15,000	5,800	35,000	1,000	150	-	600	1,000	-	83,150
Lebanon	33,200	5,700	6,600	8,000	750	300	-	1,500	500	4,500	61,050
Sudan	55,600	21,000	2,100	5,500	750	900	-	620	2,250	500	89,220
Maghreb	500	65,600	-	300	-	-	-	120	-	-	66,520
Oman	10,000	-	19,400	2,000	1,150	900	-	-	-	-	33,450
Iraq	3,250	-	1,200	40,000	-	310	-	-	-	-	44,760
Somalia	6,700	5,000	5,000	500	-	-	-	400	500	-	19,700
All Arab	820,550	377,300	89,700	243,800	20,200	9,010	68,500	12,030	10,250	112,500	1,763,840
Pakistan	29,700	65,000	137,000	34,000	20,770	26,160	4,000	44,500	3,000	7,500	371,630
India	29,700	32,000	109,500	45,000	11,850	12,300	500	35,600	2,000	2,000	280,450
Other Asian	93,500	27,000	20,700	10,000	4,500	10,000	1,000	-	300	1,500	168,500
All Asian	152,900	124,000	267,200	89,000	37,120	48,460	5,500	80,100	5,300	11,000	820,580
OECD & East Europe	30,000	15,000	11,600	5,000	1,250	6,500	2,000	3,900	1,000	2,000	78,250
African and Other	6,000	2,200	1,300	300	350	400	-	200	450	-	11,200
Turkey	2,000	27,000	300	600	400	200	-	170	-	-	30,750
Iran	11,800	-	40,900	40,000	20,850	3,150	-	400	-	-	117,100
Total	1,023,250	545,500	411,000	378,700	80,250	67,720	76,000	96,800	17,000	125,500	2,821,720

This table has been derived in large part on the basis of material collected as part of an ILO study. The precise methodology employed was to estimate employment growth in each country of employment by sector, estimate, albeit roughly, the growth of the indigenous labour supply, allocate that supply to economic sectors, and thereby calculate a demand for expatriate manpower. Then, additional migrants were added to a 1975 stock of migrants in such a way as to reflect labour market trends from 1975 to 1980. In this process extant information on labour market trends was of critical significance although they were not always available. These figures should be seen as first approximations and will require subsequent refinement as time passes. Where the methodology was not applicable, alternative approaches were used, notably in the case of Jordan, where estimates were provided by Ian Seccombe, of the Department of Economics, Durham University. See Ibid, Jordanian Labour Migration; the Impact on Domestic Development (Durham, unpublished MA thesis, 1980)

Note: This table does not take account of a small number of migrations which are acknowledged but about which few if any data are available. These include the migration of: Sudanese to Egypt; Syrians to Lebanon; West Africans to Sudan; Syrians to Jordan; and Turks to Syria.

Source: J. S. Birks and C. A. Sinclair, The Socio-Economic Determinants of Intra-Regional Migration, paper prepared for the Conference on International Migration in the Arab World, May 11-16, 1981, in Nicosia, Cyprus, p. 18.

alone, which completely contradicts the estimates of less than 100,000 Syrian migrant workers given in the World Bank publications.[24]

Drawing upon the most recent available information, Table 3-7 presents our best estimates of the number of migrant workers by exporter and importer in the early 1980s. The size of the labor force in each state and the proportion of migrant workers are presented as well. Two factors stand out: the sheer size of the migrant portion of the labor force in many of these countries -- both for exporters and importers -- and the pervasiveness of mobility as almost every state in the region has a strong mobile component of its population.

These figures are in some cases uncertain, but the scope and scale point to important directions. If we focus on the five small Gulf countries the number of migrant workers totals to 1,190,000 while their labor forces total to 1,580,000. Three-fourths of the workers in those countries are migrants. Adding Libya changes the figures to 1,657,000 migrants and a combined labor force of 2,500,000 which lowers the proportion of migrants to 66 percent. Saudi Arabia's inclusion changes them to 2.75-3.65 million migrants, 5-5.9 million workers, and a proportion ranging from 55 to 62 percent. Finally, adding Iraq brings the totals to 3.5-4.65 million migrants, 9-10.2 million workers, and a proportion of 40-46 percent. With figures such as these it should come as no surprise that governments became directly involved in the migration by the end of the 1970s. Further, labor importing countries were becoming much more concerned with urging, if not forcing, migrants to return home upon completion of their contracts.

TABLE 3-7

Migrant Workers as a Proportion of the Labor Force in Several Middle East Countries in the Early 1980s

	Exports of Migrant Workers to Libya and the Gulf Region	Imports of Foreign Workers	Labor Force	Proportion of Migrant Workers to Labor Force
Algeria	(650,000)		4,000,000	(16)
Bahrain		80,700	137,900	59
Egypt	2,000,000		11,000,000	18
Iraq		.75-1 million	4-4.3 million	19-25
Jordan	300,000	120,000	450,000	67 27
Kuwait		378,710	482,000	79
Lebanon	140,000		700,000	20
Libya		467,000	920,000	51
Morocco	(366,000)		5,800,000	(6)
Oman	50,000	145,000	298,000	17 49
Qatar		94,400	111,400	85
Saudi Arabia		1.1-2 million	2.5-3.4 million	44-59
Sudan	200,000		5,695,000	4
Syria	80,000		2,400,000	3
Tunisia	80,000 (350,000)		1,400,000	6 (25)
Turkey	250,000 (1,000,000)		15,000,000	2 (7)
UAE		491,000	551,000	89
Yemen, A.R.	600,000		2,350,000	26
Yemen, P.D.R.	80,000		430,000	19
Pakistan	1,400,000		23,650,000	6

TABLE 3-7

Notes

Algeria

Migrant workers are those in Europe. The numbers come from Quarterly Economic Review of Algeria: Annual Supplement 1982, The Economist Intelligence Unit Ltd., 1982, p. 5.

Bahrain

Foreign worker and labor force figures come from Size and Composition of the Labor Force and Population in Gulf Cooperation Council Countries, a paper presented at a seminar on "Foreign Labor Migration in Arab Gulf Countries" in Kuwait on January 15-18, 1983.

The labor force figure is an estimate based on adding the number of migrant workers to 25 percent of the domestic Bahraini population. The population figure comes from The Middle East and North Africa, 1981-82 (London: Europa Publications Ltd.), 1981, p. 276.

Egypt

The only recent estimate of the number of migrant workers is 3 million. We believe that to be too high. The estimate of 2 million comes from adding the 1,365,000 estimate for 1978 by the Egyptian Ministry of Work and Training to the estimate of 700,000 Egyptians in Baghdad in 1981 by Hannah Batatu. the 1978 figure appeared in Al-Ahram, September 18, 1978. Batatu stated his estimate at a talk given at the Harvard University Center for International Affairs on October 29, 1981.

The labor force figure comes from an extrapolation of figures given in The Middle East and North Africa, 1981-82, p. 348, and the Quarterly Economic Review of Egypt: Annual Supplement 1981, 1981, p. 7.

Iraq

The lower estimate for migrant workers was arrived at by adding Batatu's estimate for Egyptians with an estimate of 60,000 Filipinos which appeared in the Middle East Economic Digest, 29 January 1982, p. 53.

The labor force figure is an estimate based on adding the migrant workers figure to an extrapolation of Iraqi labor force figures given in the Iraq Annual Abstract of Statistics, 1978 and Iraq: A Country Study, Area Handbook Series (Washington, D.C.: American University, 1979).

The higher estimate comes from the Egyptian Minister for Immigration and Egyptians Abroad as reported by Stephen K. Hindy, "Egyptians Evacuating to Higher Pay Nations," Sarasota Herald Tribune, December 17, 1982. The total including other

nationalities may well exceed the one million estimate used.

Jordan

Quarterly Economic Review of Syria, Jordan: Annual Supplement 1982, 1982, p. 26.

300,000 Jordanian migrant workers is an implausible number. Many of them are Palestinians with Jordanian passports and are not really relevant to the Jordanian workforce. A reasonable guess is that about half are Palestinians, which would mean that one-third of the Jordanian workforce has been migrating — a much more believable figure than two-thirds.

Kuwait

Migrant workers figure from Al-Salem and Dhahar, Expatriate Labor in the Gulf, p. 25.

The labor force figure comes from Size and Composition of the Labor Force and Population in Gulf Cooperation Council Countries. The population figure comes from The Middle East and North Africa, 1981-82, p. 525.

A corroborating estimate of "about 70 percent" appears in the Quarterly Economic Review of United Arab Emirates: 3rd Quarter 1982, 1982, p. 7.

Lebanon

Quarterly Economic Review of Lebanon, Cyprus: Annual Supplement 1981, 1981, p. 6.

Libya

The migrant worker figure comes from the Quarterly Economic Review of Libya, Tunisia, Malta, 1st Quarter 1982, 1982, p. 10. The labor force figure is extended from a figure for 1980 given in the Middle East Economic Digest, 4 July 1980, p. 22. The estimates given in that article are 350,000 migrants and a labor force of 800,000. Since the revised migrant worker figure is 117,000 higher, the labor force figure should be raised as well.

Morocco

Migrant workers are in Europe. The figures come from the Quarterly Economic Review of Morocco: Annual Supplement 1982, 1982, p. 4. The number for the labor force is an extrapolation from the 1971 and 1976 figures given in the QER.

Oman

The exported migrant worker figures are calculated from the Middle East Economic Digest Special Report on Oman, 18 November 1980, p. 8.

The imported migrant worker and labor force figures come from Size and Composition of the Labor Force and Population in Gulf Cooperation Council Countries.

The labor force figure is problematic. In The Middle East and North Africa, 1981-82, p. 641, the estimated number of gainfully employed in 1978 was 150,000. That is too low to be

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plausible. If we allow for some growth in the domestic workforce and add most of the migrant workers figure, the sum will be in the area of 250,000. Population figures give some support to that number. An extrapolation of the numbers given in the 1980 World Bank Atlas, p. 14, to 1980 would be 890,000. Twenty-five percent of that is 222,500. However, migrants have a much higher participation rate than the native population, so it is likely that the labor force is somewhat higher — probably around 250,000.

Qatar

The foreign workers and labor force figures come from Size and Composition of the Labor Force and Population in Gulf Corporation Council Countries.

Saudi Arabia

The number of migrant workers and consequently the size of the Saudi labor force is a matter of great uncertainty. The Saudi government claimed a migrant workforce of 1,059,800 in 1979/80, but outside observers tend to give much higher estimates. They range from 1.5 million to 2.7 million and are presented in the Middle East Economic Digest, issues 19 December 1980, p. 97, 24 April 1981, p. 40, and 20 November 1981, p. 23, and Al-salem and Dhahar, Expatriate Labor in the Gulf, p. 25. Al-salem and Dhahar's estimate was used as an upper limit because 2.7 million seems impossibly high. The size of the native Saudi labor force ranges from 750,000 (MEED, 24 April 1981, p. 40) to 1,411,400 (Quarterly Economic Review of Saudi Arabia: Annual Supplement 1982, p. 6). Adding the numbers gives a possible range for the total workforce of up to 3.4 million. The uncertainty leads us to simply present the range of plausible values.

Sudan

The estimate of 200,000 Sudanese migrant workers is a number we cannot find in print, but which has been mentioned in discussions with two individuals knowledgeable about Sudan.

The labor force figure is calculated from data appearing in the Quarterly Economic Review of the Sudan: Annual Supplement 1982, p. 7.

Syria

The migrant worker number is again a projection appearing in Birks and Sinclair, The Socio-Economic Determinants of Intra-Regional Migration, p. 18.

The labor force figure is an extrapolation of figures given in the Quarterly Economic Review of Syria, Jordan: Annual Supplement 1982, 1982, p. 6.

Tunisia

The first migrant worker figure is Tunisians working in Libya. The second figure is the total number of Tunisian migrant workers. These and the labor force figure come from the Quarterly Economic Review of Libya, Tunisia, Malta: Annual Supplement 1980, 1980, p. 17.

Turkey

The first migrant worker figure is from the Middle East

Economic Digest, 29 January 1982, p. 55. The second figure is the total number of migrant workers. It appears in The Middle East and North Africa, 1981-82, p. 800. The labor force figure is from the same source, p. 807.

United Arab Emirates

The migrant workers and labor force figures come from Size and Composition of the Labor Force and Population of Gulf Cooperation Council Countries.

Yemen, A.R. (North) The Middle East and North Africa, 1981-82, p. 856, reports a 1980 Yemeni census finding of 1,395,123 migrant workers. This seems impossibly high since on the same page it reports 600,000 in Saudi Arabia, and we know that the vast majority of Yemenis go to Saudi Arabia. The larger number corresponds to two thirds of the male workforce, which also defies believability. Another estimate appearing in the Middle East Economic Digest, 8 January 1982, p. 41, is 500,000. We decided to use to 600,000 figure.

The labor force figure comes from Joan Clarke, Yemen: A Profile, paper prepared for the AID/Near East Bureau Seminar on Labor Migration in the Middle East on September 20, 1977, p. 8.

Yemen, P.D.R. (South)

The migrant worker figure is a projection from 1975 presented in Birks and Sinclair, The Socio-Economic Determinants of Intra-Regional Migration, p. 18.

The labor force figure is an extrapolation of figures appearing in the Middle East and North Africa, 1981-82, p. 882.

Pakistan

The migrant worker figure comes from the Middle East Economic Digest, 29 January 1982, p. 48.

The labor force figure comes from the Quarterly Economic Review of Pakistan, Bangladesh, Afghanistan: Annual Supplement 1981, p. 6.

3.5 Phase Five: Stabilization and Shifts in Composition

A fifth phase in the migration of labor in the Middle East is in the offing. It consists of the stabilization and, perhaps, decline in the total number of migrants; an increasing shift towards industrial and service jobs rather than construction; a concomitant shift toward more highly skilled workers; and a relative (but not large) increase in the proportion of East Asian workers. These changes result from a combination of three factors: (a) structural change in the labor importers' economies; (b) an end to the financial surplus for some of the labor importers, necessitating investment cutbacks; and (c) political opposition to continued unbridled growth because of problems with the large number of migrant workers. Migration in the Middle East may well have reached its peak.

Supporting this assertion is evidence on work permits in Kuwait and on the number of foreigners entering and leaving Saudi Arabia. Kuwaiti work permits for the private sector peaked in 1980, dropping over 10 percent in 1981.[25] The net inflow of foreigners to Saudi Arabia reversed in 1980 with the net outflow for 1980 and 1981 totalling to 1,178,000. The bulk of those leaving is Arab.[26] Apparently the Saudis, in response to the Grand Mosque takeover in December 1979, decided to reduce the number of Arab workers hanging round following the completion of most major infrastructural projects by that time.

One important characteristic of these phases in the migration process is that each one was superimposed upon the previous pattern. Each new phase brought an additional flow with attendant political and economic characteristics, creating a substantially more complex web of interdependence. Thus, one important conclusion drawn from this assessment of numbers and trends pertains

to the fact that seemingly data-related difficulties may point more to changes in the phenomenon itself than to a number problem. The migration process itself has changed and evolved over time. Numbers that appear wrong at one point in time may in large part reflect an earlier condition.

Perhaps the most important consequence of the current situation -- the fifth phase of the migration process in the Middle East -- is that if migration declines, there will be political repercussions in the exporting countries. A large cadre of returning migrant workers accustomed to a higher income and greater job opportunities could be a potential source of political unrest. The larger numbers of workers who did not or will not obtain the opportunity to "strike it rich" by working abroad poses an even greater threat to political stability. Countries such as Egypt or Yemen must face the possibility of domestic unrest if or when the option to migrate is no longer available for many workers in the labor force.

3.6 The Nationality Mix in 1980-81[27]

The migration process in the Middle East has contributed to the development of a labor structure that approaches a mosaic of nationalities and skills. The proverbial melting pot of North America and other industrial states eludes a region where, despite the strong religious and cultural bonds, the nationality factor dominates. In some cases, the proportion of foreigners in the total population, already high, is far exceeded by the proportion of foreigners to the total labor force.

Table 3-8 presents the migrant factor in the labor importing countries -- their population and labor force in terms of national composition -- and shows some of the newer characteristics of the region (circa 1980-81).

TABLE 3-8

Population and Labor Force by Nationality in 1980-81
for Select Labor Importing States

	Citizens	%	Migrants	%	Total
Bahrain (1981)					
Population	238,000	67.8	113,000	32.2	351,000
Labor Force	57,000	41.3	81,000	58.7	138,000
Kuwait (1980)					
Population	562,000	41.4	794,000	58.6	1,356,000
Labor Force	103,000	21.4	379,000	78.6	482,000
UAE (1980)					
Population	292,000	28.1	748,000	71.9	1,040,000
Labor Force	60,000	10.9	491,000	89.1	551,000
Qatar (1981)					
Labor Force	16,900	15.2	94,400	84.8	111,400
Oman (1980)					
Labor Force	153,000	51.3	145,000	48.7	298,000

Source: These figures come from censuses taken in the five countries in 1980 and 1981. The materials in this table and in Table 3-9 became available at a conference on migrant labor in the Gulf held in Kuwait in January 1983 and sponsored by the Arab Planning Institute and the Center for Arab Unity.

In Bahrain, for example, about one-third of the population is foreign, while close to 60 percent of the labor force is migrant. Kuwait shows the migrant factor even more sharply. There, about 60 percent of the population and close to 80 percent of the labor force is composed of migrant labor. In the U.A.E., almost 90 percent of the workforce is foreign, a proportion almost matched by Qatar. Oman, on the other hand, has only about 50 percent of the labor force composed of migrants.

With respect to the distribution of nationalities, in Table 3-9 we note in Kuwait a greater proportion of new work permits issued for Asians than for Arabs in 1979 to 1981, with a peak in 1980 for permits issued. The drop for Arab nationalities is greater than for workers holding Asian passports. The issuance of work permits is a useful indicator of composition of demand and/or of official directives regarding meeting labor requirements and/or specifications of supply sources.

In Oman, work permits for the private sector have been issued predominantly to Indians. Pakistanis rank second, but with a much smaller proportion of permits issued. In the civil service, detailed distribution of nationalities is not readily available, but two factors stand out. First, Arabs and Asians are roughly similar in size in terms of their employment by the government of Oman. Second, in education Arabs clearly dominate (56.8 percent in contrast to .8 percent for Asians), reflecting the comparative advantage of Arab nationals in this particular sector.

In Abu Dhabi, where over 80 percent of all employees in the government are foreign, a similar pattern prevails -- Arabs and Asians each account for about 40 percent of workers employed by the government. Of the Asians, Pakistanis account for 20 percent and Indians for 17 percent. This predominance of Asians is seen also in work permits granted by the U.A.E. In 1980, two

TABLE 3-9(a)

Distribution of Nationality for Select Labor Importing States: Work Permits

Kuwait[1]

	1979	%	1980	%	1981	%
Arabs	16,900	38.1	22,500	40.0	11,700	23.2
Asians	25,400	57.2	31,600	56.2	30,600	60.7
Other	2,100	4.7	2,100	3.7	8,100	16.1
Total	44,400		56,200		50,400	

Oman

	1979	%	1980	%
India	67,400	61.9	80,800	64.7
Pakistan	30,800	28.3	30,000	24.0
Bangladesh	5,900	5.4	8,900	7.1
Sri Lanka	1,900	1.7	1,700	1.4
Britain	2,800	2.6	3,400	2.7
Total	108,000		124,000	

United Arab Emirates

	1979	%	1980	%
Arabs	35,000	15.0	46,000	18.6
Indians	89,000	38.2	98,000	39.7
Pakistanis	73,000	31.3	58,000	23.5
Other Asians	23,000	9.9	32,000	13.0
Total for Asians	185,000	79.4	188,000	76.1
Europeans and Americans	12,000	5.2	13,000	5.3
Others	1,000	--	1,000	--
Total	233,000		247,000	

TABLE 3-9(b)

Distribution of Nationalities for Select Labor Importing States

Employment

Bahrain, 1981[2]

	Citizens	Row %	Migrants	Row %	Total
Professional and Technical	8,200	50.3	8,100	49.7	16,000
Administrative and Management	800	38.1	1,300	61.9	2,100
Clerical	12,300	69.5	5,400	30.5	17,700
Sales	4,900	50.5	4,800	49.5	9,700
Services	8,200	30.7	18,500	69.3	26,700
Agriculture	2,800	56.0	2,200	44.0	5,000
Production and Transport	19,300	32.3	40,500	67.7	59,800
Other	500	83.3	100	16.7	500
Total	57,200	41.4	80,700	58.6	137,900

Oman, 1980

Agriculture	100,000	96.2	4,000	3.8	104,000
Other	30,000	19.2	126,000	80.8	156,000
Total Private Sector	130,000	50.0	130,000	50.0	260,000
Government	23,000	60.5	15,000	39.5	38,000
Total	153,000	51.3	145,000	48.7	298,000

Qatar, 1981

	Citizens	Row %	Arabs	Row %	Others	Row %	Total
Government	13,600	30.2	10,700	23.7	20,800	46.1	45,100
Personal Services	700	2.8	2,800	11.1	21,800	86.5	25,200
Private Sector	2,300	9.7	4,100	17.3	17,300	73.0	23,700
Construction	400	2.3	4,600	26.4	12,500	71.8	17,500
Total	16,900	15.2	22,100	19.8	72,300	64.9	111,400

TABLE 3-9(c)

Distribution of Nationalities in Select Labor Importing States
Employment in Government Sector

Oman, 1981

	Citizens	%	Arabs	%	Asians	%	Total
Ministry of Education	3,300	34.7	5,400	56.8	800	8.4	9,400
Ministry of Health	2,700	58.7	300	6.5	1,600	34.8	4,600
Other	15,600	63.2	1,100	4.5	3,700	15.0	24,700
Total	21,600	55.7	6,800	17.6	6,100	15.4	38,800

Qatar, 1981[3]

	Citizens	%	Arabs	%	Others	%	Total
Scientific and Technical	3,200	27.8	4,300	37.4	3,300	28.7	10,800
Management	2,100	45.7	1,600	34.8	700	15.2	4,400
Service	5,500	57.3	1,100	11.5	2,800	29.2	9,400
Total	11,900	43.1	7,300	26.4	7,300	26.4	27,600

Abu Dhabi, 4-30-82[4]

Distribution of Employees in Government by Nationality

	Number	Percentage
Citizens	3,962	16.4
Arabs	9,885	41.1
Pakistanis	4,933	20.4
Indians	4,014	16.7
Other Asians	1,171	4.8
Total for Asians	10,118	42.0
Europeans and Americans	70	0.3
Other	43	0.2
Total Migrants	20,116	83.5
Total	24,078	

TABLE 3-9

Sources

[1] Annual Report of Utilization Activity and Principal Characteristics.
[2] 1981 Census.
[3] Qatar Government Annual Report.
[4] Statistical Declaration of the Management System of the Abu Dhabi Government.

General Source: These figures come from censuses taken in 1980 and 1981. The materials in this table and in Table 3-8 became available at a conference on migrant labor in the Gulf held in Kuwait in January 1983 and sponsored by the Arab Planning Institute and the Center for Arab Unity.

thirds of work permits issued went to Asians. Permits to Indian nationals amounted to about 40 percent of all permits issued.

The census of 1981 for Bahrain shows the distribution of labor force by occupation in terms of migrant composition. The strongest migrant presence is in the services and in production and transportation (close to 70 percent). Migrants are also very strong in administrative, technical, and managerial occupations. The clerical occupations have the smallest migrant presence (other than the "other" category) at 30 percent of overall employment.

3.7 Worker Remittances: The Role of Foreign Earnings

The immediate economic effects of migration are associated with remittances. For the major labor exporting countries, remitted earnings are an essential element in the composition of GNP. Table 3-10 presents in segmental terms remittances over time for Egypt, Jordan, North Yemen, South Yemen, Sudan, and Jordan -- as major sending countries. For Egypt, remittances through official channels have increased tenfold between 1974 and 1981. The figures for 1982 are officially placed at LE 2.7 billion. As a percentage of GDP, remittances stood at 11.4 percent in 1980 and considerably higher two years later. Compared to exports, there is evidence to suggest remitted earnings constitute close to two-thirds of the country's exports in 1980. The impact of this expansion on the Egyptian economy is analyzed in Volume II in the context of a structural macro-economic model.

For Jordan, remittances play an even larger role, accounting for almost one third of GDP in 1981 and well over a hundred percent of the country's export earnings. Considerable uncertainties exist over the size of Sudanese workers abroad, and even greater uncertainty over their remittances. In 1980

TABLE 3-10

Remittances in Select Major Arab Labor Exporting Countries

	Remittance in Million US Dollars	Compared to GDP (%)	Compared to Exports (%)	Compared to Imports (%)
Egypt				
1974	268.2	2.5	16.0	9.2
1975	365.5	2.9	23.3	9.3
1976	755.0	4.7	46.9	19.7
1977	896.6	4.3	45.4	22.2
1978	1772.8	7.1	91.4	37.4
1979	2213.2	12.4	91.3	36.9
1980	2695.4	11.4	70.5	39.6
1981	2181.4	7.4	54.6	27.5
1982[1]	3857.2			
Jordan				
1974	75.2	9.[illegible]	48.5	17.4
1975	166.7	16.[illegible]	109.0	25.7
1976	410.8	31.[illegible]	198.6	45.3
1977	469.9	29.[illegible]	188.7	38.4
1978	520.0	24.7	175.3	39.0
1979	600.5	23.[illegible]	149.5	34.5
1980	792.4	21.[illegible]	125.9	33.9
1981	1047.3	28.4	140.7	36.7
Sudan				
1975	6.1	0.1	1.5	0.8
1976	39.7	0.7	6.7	6.3
1977	40.0	0.6	6.1	6.2
1978	67.6	0.9	12.0	10.9
1979	117.8	1.5	22.9	16.0
1980	256.0	3.2	37.1	22.7
1981	366.5	4+ (est.)	45.9	22.2

[1] Egypt's 1982 remittance figure comes from a statement by Prime Minister Fuad Mohieddin in which he said it was 2.7 billion Egyptian pounds. It is unknown whether it can be compared to the other IMF figures because it is so much higher.

TABLE 3-10 continued

	Remittance in Million US Dollars	Compared to GDP (%)	Compared to Exports (%)	Compared to Imports (%)
North Yemen				
1974	156.9	19.3	1376.3	81.2
1975	309.7	37.4	2181.0	125.6
1976	795.1	73.5	5846.3	167.2
1977	1193.3	83.9	8062.8	158.6
1978	1222.0	67.8	21821.4	129.4
1979	1177.3	52.8	24026.5	83.4
1980	1255.5	48.1	9964.3	67.2
1981	926.5	30 (est.)	8995.1	53.4
South Yemen				
1974	43.8		256.1	24.4
1975	61.9	15 (est.)	314.2	36.2
1976	120.8		272.7	46.9
1977	184.7	32 (est.)	393.8	53.7
1978	257.7	33 (est.)	655.7	70.2
1979	316.8	37 (est.)	816.5	81.8
1980	352.1		652.0	58.9

Sources: International Monetary Fund, Balance of Payments Statistics, vol. 33, Yearbook, Part I, 1982;

International Monetary Fund, International Financial Statistics, vol. 36, no. 6, June 1983.

official figures record remitted earnings at a scale of about 4 percent of GDP and 45 percent of export earnngs. By some estimates these figures are underrated. In North Yemen, where large scale migration to Saudi Arabia is a dormant characteristic of the labor market, remittances are the major component of GDP, despite the apparent estimated declines in 1981. For South Yemen the size of remitted earnings is an estimate, as is the magnitude of GDP. Nonetheless, it is believed that remittances account for one third of the value of economic activity.

The Asian picture is presented in Table 3-11, showing the size of remittances and relations to GDP and to trade. Overall remitted earnings for Asian exporting countries represent a much smaller population in relation to economic productivity. For Pakistan the highest estimate is for 1980, when remittances accounted for 8.5 percent of GDP. This magnitude stands in sharp contrast to India, whose remitted earnings reached 1 percent of GDP in 1978/79. In terms of size, Indian remittances are about two-thirds those of Pakistan. In Bangladesh, while the scale is lower than the other two countries, the contribution to GDP is higher. Thailand and the Philippines are included in Table 3-11 for comparison. In both cases remittances are smaller in size than for other Asian states. This, of course, is due to the relatively lower number of migrants.

Remitted earnings of select traditional labor exporters are presented in Table 3-12, noting the size of remittances for Turkey and Portugal. In terms of size, Portuguese remitted earnings are only a little higher than Turkish remittances, but their contribution to total GDP is considerably greater. Relative to imports and exports, Turkey and Portugal show a roughly similar performance.

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TABLE 3-11

Remittances in Select Major Asian Labor Exporting Countries

	Remittance in Million US Dollars	Compared to GDP (%)	Compared to Exports (%)	Compared to Imports (%)
Pakistan				
1974	178.0	2.0	17.5	9.4
1975	257.4	2.3	24.5	11.7
1976	409.9	3.1	35.2	18.7
1977	866.3	5.7	77.3	34.8
1978	1303.3	7.4	93.2	40.5
1979	1494.8	7.5	76.7	34.8
1980	2038.2	8.5	79.3	37.4
1981	2056.5	7.3	75.7	36.3
India				
1974	232.1	0.3	6.4	5.4
1975	429.8	0.5	9.2	8.7
1976	641.9	0.7	11.9	13.9
1977	932.8	0.9	14.9	17.6
1978	1169.4	1.0	17.9	15.8
1979	1436.7	1.1	18.9	14.6
Bangladesh				
1975	15.7	0.2	4.9	1.3
1976	18.8	0.3	4.7	2.3
1977	78.8	1.1	16.5	7.7
1978	115.3	1.3	21.0	8.6
1979	152.6	1.6	23.3	8.8
1980	286.2	2.6	36.1	12.2
1981	385.9	3.6	49.0	15.8

TABLE 3-11 continued

	Remittance in Million US Dollars			
Thailand				
1975	18.2	0.1	0.8	0.6
1976	24.2	0.1	0.8	0.8
1977	44.4	0.2	1.3	1.0
1978	103.9	0.4	2.6	2.1
1979	187.3	0.7	3.6	2.8
1980	376.1	1.1	5.8	4.5
1981	477.6	1.3	6.9	5.4
Philippines				
1974	60	0.4	2.2	1.9
1975	90	0.6	4.0	2.6
1976	90	0.5	3.6	2.5
1977	90	0.4	2.9	2.3
1978	110	0.5	3.2	2.3
1979	191.2	0.6	4.2	3.1
1980	205.6	0.6	3.6	2.7
1981	253.5	0.7	4.4	3.2

Sources: International Monetary Fund, Balance of Payments Statistics, vol. 33, Yearbook, Part I, 1982;

International Monetary Fund, International Financial Statistics, vol. 36, no. 6, June 1983.

TABLE 3-12

Remittances in Select Major Traditional Labor Exporting Countries

	Remittance in Million US Dollars	Compared to GDP (%)	Compared to Exports (%)	Compared to Imports (%)
Turkey				
1974	1426.3	4.8	93.1	42.4
1975	1312.5	3.7	93.7	31.0
1976	982.5	2.4	50.1	21.5
1977	981.9	2.1	56.1	19.3
1978	976.6	1.9	42.9	24.3
1979	1701.6	2.4	75.3	38.3
1980	2068.1	3.6	70.9	29.7
1981	2515.1	4.4	53.3	32.0
Portugal				
1974	1144.9	8.6	50.0	26.7
1975	1100.0	7.5	56.7	31.1
1976	908.6	5.9	50.7	22.9
1977	1173.4	7.2	46.4	25.9
1978	1665.2	9.4	60.7	34.8
1979	2450.9	12.1	69.1	39.7
1980	2923.2	12.1	63.8	34.0
1981	2848.9	10.8	70.2	31.3

Sources: International Monetary Fund, Balance of Payments Statistics, vol. 33, Yearbook, Part I, 1982;

International Monetary Fund, International Financial Statistics, vol. 36, no. 6, June 1983.

The other side of the picture is presented in Table 3-13, showing the size of remitted earnings flowing from several select labor importing countries. For Saudi Arabia, the leading oil exporter, the outflow of workers' earnings is barely noticeable in the balance of payments accounts. Nonetheless, in 1981 US $4.7 billion was paid by Saudi Arabia alone, a figure that is not negligible. The Kuwaiti and Libyan outflows are relatively smaller, at about 600-700 million US dollars.

In sum, the financial flows in the region -- tied to remitted earnings -- are sizable. Their role in the labor exporting economies is in some cases truly dramatic. The economic effects must be all accounts be equally notable. The case of Egypt is examined more fully in Volume II, where the macroeconomic and sectoral effects due to remitted earnings are identified in some detail.

3.8 The Next Phase in the Migration Process

The decline in oil prices evidenced by mid-1983 raises important questions about impacts on demand for labor in the oil-rich states and effects on worker migration. The impacts for Middle East migration yet remain to be identified, but the Nigerian case appears as an extreme manifestation of potential effects: the retrenchment in economic activity in conjunction with potential political instability motivated the government to expel about 2 million mostly Ghanian workers. The mass exodus was not very orderly and some workers have been invited back, yet the precedent has been set for other labor exporting countries.[28]

Even without the price declines -- and the attendant Nigerian syndrome -- one cannot expect continued upward trends in migration across national borders. Limits on demand for foreign labor will sooner or later be reached.

TABLE 3-13 continued

Kuwait

	Remittances in Million US Dollars	Compared to GDP (%)	Compared to Exports (%)	Compared to Imports (%)
1975	275.6	2.6	3.2	11.7
1976	315.2	2.4	3.3	9.6
1977	370.1	2.6	3.9	7.8
1978	433.2	2.8	4.2	10.0
1979	532.3	2.2	2.9	10.9
1980	692.4	2.5	3.3	10.2
1981	688.6	2.6	4.4	9.8

Sources: International Monetary Fund, Balance of Payments Statistics, vol. 33, Yearbook, Part I, 1982;

International Monetary Fund, International Financial Statistics various issues.

TABLE 3-13 continued

Oman

	Remittances in Million US Dollars	Compared to GDP (%)	Compared to Exports (%)	Compared to Imports (%)
1975	207.6	9.9	14.7	22.9
1976	219.4	9.2	13.7	21.9
1977	221.8	8.7	13.7	21.2
1978	241.6	9.3	15.1	20.6
1979	281.7	8.3	12.4	20.9
1980	361.8	3.9	9.7	19.3
1981	488.2	n.a.	10.4	19.0

Libya

	Remittances in Million US Dollars	Compared to GDP (%)	Compared to Exports (%)	Compared to Imports (%)
1974	345.2	2.6	4.1	6.7
1975	253.8	2.0	3.9	5.7
1976	243.6	1.5	2.8	5.7
1977	839.4	4.3	8.0	15.4
1978	545.9	2.8	5.5	8.5
1979	639.5	2.4	4.0	7.2

TABLE 3-13 continued

Kuwait

	Remittances in Million US Dollars	Compared to GDP (%)	Compared to Exports (%)	Compared to Imports (%)
1975	275.6	2.6	3.2	11.7
1976	315.2	2.4	3.3	9.6
1977	370.1	2.6	3.9	7.8
1978	433.2	2.8	4.2	10.0
1979	532.3	2.2	2.9	10.9
1980	692.4	2.5	3.3	10.2
1981	688.6	2.6	4.4	9.8

Sources: International Monetary Fund, Balance of Payments Statistics, vol. 33, Yearbook, Part I, 1982;

International Monetary Fund, International Financial Statistics, various issues.

The only uncertainties pertain to timing, composition of the retrenchment of demand, and implications for sending and receiving countries. The financial consequences -- in terms of remittances and macro-economic impacts -- are easier to anticipate than are the attendant social and political implications.

3.9 The Prominence of Politics

Even this cautious assessment is subject to qualification. There is some evidence that in some cases migration is on the upswing. For example, recent reports indicate the Egyptians are moving in greater numbers into Iraq. This latter country's war with Iran is creating serious drains on its labor force. Egyptians are recruited to fill the gaps. While this situation is far from normal, it does illustrate the impacts of politics in the region and the extent to which economic factors are dominated by political ones. Indeed, it has been estimated that 15,000 Egyptian "volunteers" are active in the Iraq armed forces, and that Egyptians flock to Iraqi construction sites "in the thousands." The most recent figures on Egyptians in Iraq exceed the high range of the estimates presented in Table 3-7 above. In July 1983 it was believed that Egyptians in Iraq numbered 1.25-1.5 million in a country with a population of 14 million people.[29]

The case of Iraq may be unique, but political factors play an increasingly important role in shaping migration in the Middle East. Politics may shape economic relations and determine the nature of supply and demand for labor. The laws of economic behavior will restore the proverbial equilibrium, yet the vagaries of politics may pose a persistent challenge.

CHAPTER 4

ASIANS IN THE ARAB WORLD

By 1980 Asians accounted for approximately one-third of the foreign labor force in the region. According to the high growth scenario of a recent World Bank study, the Arab proportion of the foreign workforce in Bahrain, Kuwait, Libya, Oman, Qatar, Saudi Arabia, and the UAE will decline from 65 percent in 1975 to 51.9 percent in 1985.[1] The percentage from the Indian subcontinent will increase from 21.6 percent (1975) to 25.6 percent (1985), while workers from the Far East over the same period will soar from 1.3 percent of the foreign labor force (or 20,500) to 10.5 percent (or 370,500). While there are differences of opinion over the rates of increase of the two groups, it is clear that they are strong competitors with Arab labor exporters.

4.1 Characteristics of Asian Labor

Asian migration differs from inter-Arab migration in several fundamental ways:

(i) Asian migration encompasses the entire cross-section of skills in the sending countries, but there are heavy concentrations in specific sectors;

(ii) it is directed toward target countries that are relatively unknown and where earlier contacts have been marginal;

(iii) it occurs between states that occupy similar positions in the international system as well as in the respectiv national economies;

(iv) it occurs as a result of officially sanctioned policies;

(v) it is the migration of both individual workers and entire corporations to receiving areas.

The overall effect of this type of migration is to consolidate economic relations among states conventionally labelled the periphery in the political science literature.

These characteristics differ from inter-Arab migration in the following ways: first, Arab migration is relatively less formalized; second, Arab migration occurs among individuals and states that are familiar with each other and where cultural affinity is one of the motivations for migration; and, third, migration for the Arabs is limited in its objectives. It is not designed as one part of a strategy to restructure overall relations between sending and receiving communities.

Worker migration is regarded by Arabs largely as a means of bringing national demand and supply of labor into balance. It is assumed, either implicitly or explicitly, that some day the national labor forces will be self-sufficient, making migration a transitional phenomenon. Until that time, the oil-rich states will draw upon the labor forces of their neighbors. The Asian labor exporters also consider the migration as a temporary phenomenon, a way to pay their oil import bills, but they also wish to establish longer term trading relationships.

Decision makers in Asian countries view migration more as an opportunity to influence a range of economic relations over and above those directly induced by migration. Migration is viewed as only <u>one</u> of the possible linkages that will evolve between sending and receiving countries. Moreover, both sides are seeking to transform the flow of labor, making it the basis for broader interactions.

It is useful to distinguish between South Asians, who come from Pakistan, India, and Bangladesh, and East Asians, coming from South Korea, the Philippines, Thailand, Sri Lanka, Malaysia, and other countries. The former have been called "true migrants" on the whole, because they conform to the description of worker migrants as a transfer of production capacity and purchasing power in search of employment abroad. The majority of East Asians, on the other hand, are regular employees of companies from their own countries that have contracts in the Middle East or other Third World multinationals. Those on company contracts stay much less time than others, typically six months to one year, as opposed to the average two to four year stay of the South Asian migrant. The terms of the contract are similar to those at home plus an expatriation allowance. Much of the salary is paid directly to the family in the home currency (80 percent for South Koreans).

The motivations for bringing East Asians to the Gulf differs from those which led to the drawing upon South Asian labor. First, in many instances East Asian firms tendered lower bids for construction projects. More importantly, they offered a novel method for supplying workers which would minimize the workers' contact with and effect upon the importing countries. Since the importers had become sensitive to the large numbers of foreign workers already in their midst, they welcomed this alternative source of labor and the arrangements under which they were recruited. East Asian firms (particularly South Korean and Taiwanese) were willing to build work camps resembling military barracks to house, feed, entertain and otherwise support their workers. Their labor would be fully controlled, accounted for, and would have little opportunity to interact with the local population.

The clearest distinction between Asian labor and Arab labor (in all the previous phases) is that the former is organized migration, regulated by governments and corporations, whereas the latter, though regulated in some occupations (such as education), has been until recently generally unorganized and individual (or private) in nature. This difference suggests that the policy issues raised by Asian labor are substantially different than in the more traditional forms of migration of Arab citizens.

Migration of Arabs (intra-regional migration) has itself changed substantially over this period, causing changes in perceptions of the importance of migration and of the role of government in regulating this movement. Even within the same occupation (such as education) the labor market is highly segmented. For example, one portion of the demand for educators in receiving countries is regulated, consisting of a formalized demand by a government. Some of it is unregulated, responding to market conditions (such as occurs when, for instance, the Kuwaiti government advertises in local and foreign newspapers to recruit teachers from the "free market," extending to them "private contracts"). In other occupations (such as construction work) markets operate largely without direct intervention by governments (although some portion of the demand for construction workers has been regulated by both sending and receiving countries through formal agreements). Firms in the importing nations are the mediators. An Arab laborer must rely on individual initiative to get a job with these foreign firms, rather than formalized recruitment by a local firm which in turn supplies the labor to an importer.

4.2 Migration Procedures for Asians[2]

The introduction of South Asian and East Asian labor in the Gulf represents a substantial transformation of both the methods of migration and the

expected interactions between governments of sending and of receiving countries. The South Asian worker is generally hired by a local firm, sometimes run by the government, which in turn has a contract with a labor importer or government. The East Asian worker is usually employed by a local firm which has a contract to perform some service in the importing country itself. Depending upon the ownership or control of the local firm and the nature of the contract, the respective governments may have a direct role in the migration.

Recruitment procedures differ, but in general inducements occur at the group or state level. The Philippines and South Korea regulate the process more than other senders in the region. In 1974 the government of the Philippines created the Overseas Employment Development Board to serve as a government placement office and the Bureau of Employment Services to supervise private agencies. These institutions are frequently bypassed, however, by numerous illegal -- and often unscrupulous -- agencies operating without a license.

South Korean construction companies do their own recruiting in Korea and elsewhere. They select from the domestic labor pool, but are increasingly employing East Asians from other countries at a cost 40 percent below that of Korean nationals. The Korea Overseas Development Corporation is the government agency through which all South Koreans are hired by foreign companies. The government thus attempts to put a quality control on labor it exports.

South Asians are recruited through a multitude of private agencies that vary widely in their reliability. Some 400 such agencies operate in Pakistan, 300 in India, and over 200 in Bangladesh. Prior to 1976 there were no central controls on the system. In 1976 the Pakistani government created the Overseas Employment Corporation with its charter to promote the export of labor. The

next year India established a licensing system to screen and supervise the agencies without resorting to direct government intervention which might impede the migration process. In 1979 Bangladesh created a similar institution.

While East Asian migration encompasses the entire cross-section of the labor force of sending countries, there are heavy concentrations in specific sectors, most notably construction. The skill profile of migrants from South Asia resembles that of Egypt, Jordan, and the Sudan. Approximately one-third have completed at least secondary school and many of these have had higher or vocational education as well. One-third are skilled workers, such as electricians or technicians. The final third comprises mainly semi-skilled laborers, for example, bricklayers and painters.

As a rule the South Asian migrants are older than their Arab counterparts. They tend to bring their families and establish themselves in communities. Previously, Moslem South Asians were often preferred over Arabs because they would accept lower wages, were apolitical, and were willing to leave after a set period. Now, however, their wage demands are moving up to Arab rates. And, more ominously, communities of workers become organized by nationality, a development that could serve as a proxy for labor unions.

Although East Asian migrants had been considered superior to South Asians, this view has recently been reevaluated. Except for the low labor costs, the very characteristics that had made them so attractive -- young, single men at their peak of productivity, supervised by their own nationals in self-contained and isolated work camps -- have also caused some alarm that they may not always be controllable.

There have been largely unsubstantiated allegations that the crime rate in the U.A.E. has increased as a result of East Asian migrants. A law re-

cently passed in the U.A.E. requires that foreign workers leave the country for at least six months before changing jobs. The twin objectives are to assure rotation, and, more importantly, to avoid any lag time between jobs when unemployed aliens might cause trouble.

The future of Asians in the Middle East will be influenced by economic conditions, changes in labor force composition in the region, and future investment patterns. At this writing, observers already note a trend toward a new "preference" for Arab workers. Such observations are purely speculative. This issue is raised again in the conclusion of this volume. The following chapter turns to policy issues and policy responses to migration in the region.

CHAPTER 5

MIGRATION POLICY IN THE SENDING AND RECEIVING COUNTRIES

In contrast to other regions of the world where labor migration is a longstanding process, migration policy in the Middle East is not as well developed for either senders or recipients. Migrants from the Mediterranean states have played an important role in the economies of the industrial states and governments of both sending and receiving states have entered into formal agreements for regulating the process. Information about the Middle East situation is generally out of date and unreliable, but it is clear that, while the overall stocks of migrants in Europe are larger, migrants as a proportion of the workforces of labor importing countries of the Arab world are much larger than in Europe. The Arab labor importers, having until recently small and inefficient immigration departments, simply could not process so many visa applications. This constraint forced them to employ block visas or informal restrictions which exacerbated labor imbalances. Another problem from the crush of workers has been inadequate supervision of their treatment, both by private, contracted firms and the importer governments. Until recently, the situation has been that the workers are usually not protected, as in Western Europe, by a network of formal bilateral labor transfer agreements. Thus living and working conditions vary tremendously.

5.1 Policy Responses of Labor Exporting Countries[1]

All sending countries -- Algeria, Jordan, Morocco, Yemen, Syria, and to a lesser extent Iraq, as well as Egypt -- have developed certain policies and

official attitudes towards emigration. With the exception of the education sector, there is limited government intervention in the process of emigration, which is often desirable and in any case not easily amenable to government control. Some countries have expressed concern over the growing shortages of skilled workers, but on the whole they have tended to favor mobility. Replacement migration has become significant enough in some cases to provoke immigration controls among these primary sending countries.

5.1.1 Broader Context

The sending countries of the Middle East show an inability or unwillingness to place restrictions on the migration process. Egypt has become assertive in facilitating employment abroad through agencies and treaties. Jordan has tried to retain skilled workers indirectly through incentives and Syria has used more direct measures. In all cases success is limited. In Yemen policy measures adopted demonstrate that the magnitude of the immediate financial need dwarfs a concern over the longer term demographic and developmental consequences of the temporary labor transfer.

The broader policy context shows a new concern for replacement migration. The entry of new sources of labor is further distorting the economies of both sending and receiving countries. For example, Jordan has been moved to restrict the expatriate percentage on domestic construction projects. The entry of Chinese workers, prominent in North Yemen and Iraq, as well as in Jordan, is a new element.[2] In this context one notes the International Labor Office's warning of the potentially dangerous gaps in the agricultural sector of some labor exporting countries and of the threat of low-cost Asian competition.

In some countries of the region supply expansion policies are adopted. Vigorous vocational training programs are designed to boost the basic numbers

available. Expansion of the workforce by facilitating the entry of women is increasingly apparent in all countries of the region. For example, a recent study of the economic participation of women in Egypt concluded that "male migration among less-skilled and less educated groups can be assumed to increase the available supply of poorly educated young women for industrial employment, especially in the urban working class and among rural teenagers."[3]

Last is the broader concern for "quality of life" issues, which are largely beyond the scope of this analysis. Nonetheless, we note a World Bank study that has concluded that temporary emigration is an important opportunity for improving the lives of individual migrants and that skill shortages in primary exporting countries have been exaggerated.[4] These conclusions are partial at best since a full accounting of costs and benefits of migration must precede any robust assessment.

5.1.2 Select Illustrations

In the Middle East, two countries have traditionally exported labor to Western Europe -- Algeria and Turkey. The transformation of migration processes (highlighted in Chapter 3 above) revealed the evolution of the process and an increasing number of "senders." This section selectively reviews some of the policy responses of labor exporting countries, for they represent the evolution of policy and reactions to evolutions of "reality."

The Algerian case is distinctive because of its longstanding relation with France and the government's attempt to manage a complex set of interactions. Since 1973 Algeria has officially stopped all workers' emigration to France. Even with the ban, the number of workers in France declined only from

440,000 in 1973 to 334,000 in 1977.[5] Until 1980, Algeria had neither insisted on the return of workers with critical skills, nor legislated to interrupt the exodus of professional and technical workers, nor provided effective incentives for the return of those Algerians who are permitted to go abroad for training.[6] At the end of 1979 estimates of Algerian workers in France were between 800,000 and 900,000.[7] Motivated by the 1.5 million unemployed French citizens in 1980, France agreed to spend $168.9 million over three years to repatriate between 30,000 and 35,000 Algerians per year. The key policy incentives were two: Algerian expatriates would be given a ticket to return and a sum of money, and they will also be offered training programs in France and in Algeria. In return, the Algerian government will provide low interest loans to the returnees and, according to the agreement, release bank accounts that had been frozen since 1962 to their French owners. It was estimated that 680,000 Algerians in France will be affected by the government accords.[8]

On the institutional front, an Arab Employment Institute was proposed within the context of the Arab Labor Organization. Its purpose would be to help Arab migrants in Western Europe to repatriate those whose skills are needed in their own countries and to serve as a social and political advocacy group. The Algerian case would be well served by such an organization.[9] However, its embryonic stage makes it difficult to make any additional inferences. Planners in Morocco increasingly recognized emigration as an important variable in demographic policy. But emigration continues to be perceived as a partial, short-term solution to unemployment. And Morocco has not yet developed the complex policy procedures evident in Algeria or evolving in Jordan.

In Jordan perception of the need for migration policy are well articulated. For example, the 1976-1980 Five Year Plan recognized that at least one third of the 32 percent increase that would take place in the labor force in

the plan period would be lost through emigration, leaving insufficient labor to implement the plan.[10] Jordan's 1981-85 Plan counts on the import of 70,000 workers, mostly unskilled Egyptians. However, flows into Jordan had been essentially unregulated, rising to an estimated 120,000 foreign workers in 1981. Agriculture and construction claimed most of them. Unofficial estimates of seasonal agricultural workers from Syria alone, at one point, were put at 20,000. In October 1979 foreign contractors in Jordan were required to recruit at least 25 percent nationals, rather than relying exclusively on workforces they would bring to the country.

The labor problem in Jordan is seen as a mismatch between the overabundance of university graduates for the country's needs and the shortage of workers with vocational training. One way out is expanding the domestic labor pool by facilitating the entry of women into jobs on a part-time basis near their homes.[11]

Although the Jordanian government believes it is in no position to compete in wages with the oil-rich states, it hopes to reduce emigration by offering incentives such as social security and access to easier credit for housing. It has also raised wages and salaries in the public sector and believes that this has restrained the outflow of labor. Because of its perception of the very limited impact the government can have on emigration, Jordan has abandoned attempts at direct controls. A suggestion that a 2 to 3 percent tax be levied on migrants' income to be paid by the labor importer to the supplier state has been entertained, but dismissed as impractical.[12] Replacement migration has partially alleviated the acute labor shortages and the recent slowdown in the flow of Jordanians elsewhere indicates that the worst shortages may be over.

The Yemen case is more extreme -- in scale and in the need for a comprehensive policy response. Yemen is among the major exporters of labor, sending out about 25 percent of its labor force. Yemen appears to have left the emigration rate to market forces. It does not control its northern or eastern borders, and its apparent attempt to limit emigration through passport control has been futile since Yemenis may enter Saudi Arabia without passports. Traditionally, Yemenis have been the only workers whose migration has not been regulated by Saudi Arabia. Workers crossed the border seasonally without restriction. The Saudis now require work permits. Given the importance of remittances in the Yemeni economy, it is questionable whether the government would really want to restrict emigration, even if it could.[13] Nonetheless, there is a growing concern for examining ways of limiting the emigration of its skilled workers.

The Syrian case points to yet another set of policy concerns. The government has recognized that the drain on skilled workers, particularly manual laborers, is extensive enough to represent a problem, and it has reportedly discouraged the emigration of workers possessing critical skills.[14] Syria has been particularly effective in retaining those well educated or employed in the government sector. Manual workers can easily circumvent restrictions, however, by giving a false account of their skills and thereby attaining the necessary passports. Nonetheless, the regulatory nature of the Syrian regime is increasingly manifested in the area's population movement. Policies remain to be articulated and implemented.

The Iraqi case is unique for the ease with which labor is allowed to enter and to leave the country. Unskilled labor is exported mostly to Kuwait. There is a nascent regulation of skilled workers. Iraq is reportedly discouraging emigration of its own skilled workers and enticing skilled Iraqi exiles

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to return home.[15] Iraq does encourage in-migration of Arabs at all skill levels. Egyptians and Moroccans replace Iraqis moving into the cities. The law states that aliens who have been residents for ten years are eligible for citizenship. Recent events in the area have had profound effects on labor and migration related policies. For example, the war with Iran has pulled domestic labor into the military, thereby reducing available supply. This has contributed to increasing employment of women. Guarantees of equal opportunities in employment, pay, and promotions served as major operating incentives. The size of the foreign population is becoming a potential source of concern among policy makers. Although this issue has not fully surfaced, there is some talk of introducing quotas on nationalities of entering workers.[16]

5.2 Policy Responses of Labor Receiving Countries

The migration policies of the primary receiving countries (Saudi Arabia, Libya, and the Gulf States) can be illustrated in the context of three issues: employment laws and practices, provision of social services and general rights of foreign migrants, and conditions of work.

5.2.1 Employment Laws and Practices

Since the receiving countries depend upon foreign workers for a critical portion of their labor force, policies on granting entry visas and work permits have until recently been liberal relative to those in Western Europe or the United States. In almost all labor importing states work permits are issued for specific jobs to control where foreigners are employed. For the construction sector, as an example, contracting firms recruit most of the labor, often arranging block visas for large numbers of workers. Governments

generally discourage the entry of dependents of less skilled workers. Policies may be more liberal in theory than in practice, however, for there are often bottlenecks in implementation and there is evidence of large numbers of illegal aliens in some of these countries. For example, it is estimated that half of the foreign workers in Dubai are there illegally, and many of those entering Saudi Arabia on the hajj remain to work there. So, too, in 1976 the Libyan government reported some 11,500 illegal aliens (compared to 332,578 legal aliens).[17]

In all the Gulf countries, including Saudi Arabia, reducing dependence on foreign labor is a policy objective.[18] This objective is more in the nature of a policy stance than a realistic goal. Bahrain, Qatar, and Saudi Arabia have official policies that give preference in hiring to nationals, then Arabs, and only then to non-Arabs. Similarly, layoffs first occur amongst non-Arabs, then foreign Arabs, and lastly nationals. In practice, however, some countries have demonstrated prefrences for South and East Asian labor, although this preference is seldom formally articulated.

Increasingly there is the stipulation that foreigners may be employed only if there are no nationals qualified for the job -- a restriction that still permits large-scale immigration because of the shortage of skilled workers in these countries. But this stipulation provides the legal basis for favoring nationals, discriminating aginst other Arabs, and creating grounds for possible confrontation and conflict. Such policies are designed to reduce dependence on "foreign" labor, of course, and in practice are aimed at a decoupling of labor markets.

The desire to reduce dependence on foreign labor in Bahrain emerged in a 1976 labor law and in Qatar in a 1962 labor law. In a January 1972 memorandum issued by the Bahraini Minister of Labor and Social Affairs, one of the main

manpower problems identified was the very large number of unskilled foreign workers, mostly in very low income occupations. Bahrainization of the labor force is stated to be central to planning. The government set a target date of 1977-1981 for the accomplishment of this goal. Nonetheless, it is expected that Bahrain will continue to import labor for some years. Bahrainization of the labor force has been one of the major demands of the Bahraini labor force in a series of strikes since 1968.[19]

Kuwait, Saudi Arabia, and the United Arab Emirates depend much more on immigrant labor than does Bahrain. Hence their policy objectives with respect to achieving early nationalization of the labor force are less ambitious than those of the government of Bahrain. Nonetheless, the development plans of these countries set indigenization of the labor force as a national goal. Even prior to the oil price increase in 1973 and the subsequent economic development, the first Kuwaiti development plan (1967/8-1972/3) stipulated the importance of increasing the percentage of Kuwaitis in the labor force and the population, creating employment opportunities, expanding the size of the citizen labor force, and restricting the use of migrant labor to skilled job categories.[20] Clearly, this has not occurred. The discrepancy between stated objectives and actual outcomes is especially glaring in the sector of manpower planning.

The percentage of nationals in the Kuwaiti population shows a downward trend: 41.5 percent in 1980, 38.9 percent in 1981, and predictions for 2000 are as low as 25 percent.[21] The government has moved to decrease the import of unskilled laborers. In 1980 foreign contractors were required to hire unskilled workers from the pool of those already in Kuwait. Previously construction firms were allotted quotas for recruiting en masse abroad. Skilled

staff must now be requested through the Ministry of Social Affairs and Labor, where decisions are made on a case-by-case basis. As a result of restricting the issuance of new permits, there has been an increase in the number of expatriate residents changing jobs in Kuwait. What was termed an "excess of available expatriate workers" is thus rapidly absorbed.[22] A large proportion of the foreigners have moved from the private to the public sector.

Kuwait makes it very difficult for expatriate workers to bring dependents. Most earn less than the minimum required to bring in a family ($1411 per month in 1980).[23] Both working and non-working wives of expatriates are fingerprinted before residence permits are issued.[24]

Palestinians in Kuwait constitute a politically significant group. Together with the Jordanians (they are combined in the census figures) they are the largest foreign group in the workforce. There does not appear to be any discrimination against Palestinians in employment, for many occupy the more skilled occupations. The underlying malaise pertains more to politics and the Palestine issue, rather than to discrimination.

One important goal of Saudi Arabian migration policy that appeared in both the Second Development Plan 1976-1980 and the Third Development Plan 1980-1985, as well as in labor and immigration legislation, is to ensure that foreigners are not competing with Saudis for the same jobs and to improve the ability of Saudis to compete with foreigners. The 1969 labor legislation stipulates that a certain portion of the labor force and payroll of a company must be Saudi. All companies with a workforce of over 100 must employ 75 percent Saudis and the Saudi payroll must be 51 percent of the total unless the Minister of Labor authorizes a temporary reduction until Saudis can be found. However, enforcement of laws has not been very strict.[25] Indeed, analysts have noted that the 75 percent Saudi target has been met by very few

companies.

The Saudi government prefers to employ its own nationals in the higher echelons of government; nevertheless, of the nearly 195,000 Saudi government employees in 1981, 69,397 were expatriates.[26] Although there is no legal provision to this effect, the government does follow discriminatory policies in issuing entry permits.[27] Since 1978, Saudi law has required migrant workers to have sponsors. In the same year the government issued a warning to companies employing Saudi and expatriate women in jobs other than those in which Saudi women are permitted to work -- jobs in hospitals, schools, and certain government departments dealing with social and charitable matters -- that they would be liable for prosecution.[28] In 1981 foreign companies were warned to report the absence of any foreign employee or be subject to a $2932 fine.[29]

The Saudi Minister of Planning, Hisham Nazer, evaluated migration policy during the 1975-80 Plan as "extremely successful."[30] He supported this affirmation by noting that migrants came from a variety of sources, there was no permanency, and restrictions on family entry had been enforced. In the last year of the Second Plan a new law explicitly excluded wives and dependents of foreign workers, with some exceptions.[31] The government acknowledged that, at the time, 60 percent of the migrants entered construction, however it argued that the sector will be declining in the kingdom. The official posture toward expatriates remains uneasy. For example, on occasion the government reiterates Saudization as a main goal, but argues that expatriates help to keep the country stable because they earn more in Saudi Arabia than they would in their native countries -- they have a real stake in Saudi stability.

The 1980/85 Plan stipulates limiting the foreign labor force by concentrating on training of Saudis, maintenance, and mechanization.[32] The Plan expects the foreign worker proportion to decrease, although the numbers will remain the same, because of the increased participation of Saudis. Among the resultant directives are that foreign companies with more than 100 workers are required to set up training programs to augment the government-subsidized vocational training centers. Since economic growth will be based on capital-intensive industries,[33] highly qualified people, preferably Arabs, will be recruited from new employment offices in Western Europe, North Africa, and the United States.[34] One measure of the seriousness of these directives is found in the recent regulation requiring that companies recruiting new foreign staff formally document their needs before work visas are issued.[35]

In the United Arab Emirates government policy toward nationalization of the workforce is still emerging. Unlike other Middle Eastern countries, their share of nationals in government employment is similar to the share in overall employment, indicating that either UAE nationals are not sufficiently available for the jobs required by the government, or that the government has no strong preferences for the employment of nationals. This factor is now perceived as potentially disruptive. For example, an Abu Dhabi newspaper editorial warns that an expatriate population larger than the indigenous population can be dangerous.[36]

There is no explicit policy statement by the Omani government about its preferences for Arab versus non-Arab workers, but the non-Arab labor force is large. Although Egyptians have traditionally been brought in as teachers and civil servants, the main sources of unskilled and semi-skilled labor have been Pakistan and India, with whom Oman has longstanding economic links. The Baluchistan area of Pakistan has traditionally supplied soldiers for the

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Sultan of Oman's army, and today many unskilled workers in Oman are Baluchi peasants.[37]

In all these labor importing countries policy orientation toward employment of other Arabs is ambiguous. For example, the new regulation that Yemeni manual workers must now obtain a permit to work in Saudi Arabia suggests a less liberal attitude to Yemeni migrants, who have been given preferential treatment in the past. This, as well as the knowledge that there are an increasing number of Indians, Pakistanis, and other Asians entering Saudi Arabia, casts doubt on the sincerity with which the government is implementing its declared policy of hiring Arabs. So, too, since sixty percent of the foreign labor force of Qatar comes from India and Pakistan and one half of the migrant labor in Bahrain also comes from these two countries, Arabization of the labor force appears unlikely. Labor structure stands in contrast to government policies of giving preference in hiring to Arab nationals.

5.2.2 Provision of Social Services and General Rights of Migrants

Housing: In most Gulf countries the government provides low-cost housing for its citizens. Interest-free (as in Kuwait) or low-cost loans are made available for citizens who wish to purchase non-government housing. Foreign workers are often housed in provisional quarters outside of the city. Kuwait has regulations that preserve the residential segregation of its citizens from the alien population. In Saudi Arabia, the housing shortage for foreigners became so severe that the government introduced regulations making the provision of accommodation the responsibility of the contracting firm. East Asian states (Korea, the Philippines, Indonesia, and Thailand) minimize demands on host countries by providing work camps for their laborers. This form of

accommodation is prevalent at the new industrial enclaves that have been developed away from population centers, such as Shuaiba (Kuwait), Umm Said (Qatar), Jebel Ali (Dubai), Ruwais (Abu Dhabi), and Yanbu and Jubail (Saudi Arabia). Indians and Pakistanis, however, are evolving communities with workers and their dependents.

The foreign population at Yanbu outnumbers the Saudi population at 20,000 to 18,000, respectively. It is unclear whether Saudis ever will perform the maintenance and service functions needed at Jubail and Yanbu. Partly on account of the efforts to reduce the number of foreigners, development of both cities is lagging behind schedule. As one experienced Western observer put it, "Yanbu ... needs Saudis to come forward for jobs both as managers and process operators if it is to be anything more than an airconditioned enclave for time-serving expatriates."[38] The housing process therefore provides a strong "pull" factor for labor migration into these countries.

Taxes: In none of the Gulf countries are the citizens taxed (at least on income), although immigrants sometimes are. In Saudi Arabia, however, local inhabitants pay income tax while foreigners are exempted. This could be a reflection of the Saudi design to attract the highly educated and skilled immigrants necessary for Saudi economic development. Neither Saudi Arabia nor any of the Gulf countries have any exchange controls. The absence of such controls is perceived by migrant workers as an inducement to send earnings home, and by their governments as an added incentive to try to capture remittances.

Citizenship: The government has passed very stringent naturalization laws in Bahrain and Qatar designed to prevent foreign workers from becoming permanent citizens, although these laws have not been strictly applied in the latter country. In Kuwait and Saudi Arabia it is virtually impossible to

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apply for and obtain citizenship. By contrast, laws in the UAE have been relatively liberal for Arabs since 1965.

It is important to note that in contrast to permanent migration, a traditional brain drain to the West, acquiring citizenship from the recipient country is not a determinant factor in migration, nor does it feature prominently in the calculus of the migrants. The recipient countries, on the other hand, view citizenship regulations as the best, if not only, means of maintaining control of the structure and composition of their populations.

5.2.3 Conditions of Work

In other labor importing countries, labor codes are often vague or exclude foreign workers. Where protective legislation does exist, there are few agencies to process complaints or enforce employer compliance with the laws. Saudi Arabia has recently introduced two measures to protect foreign workers. The first is a compulsory occupational hazards insurance requirements administered through the state-owned General Organization of Social Insurance. Workers in Jeddah, Riyadh, and Damman will be compensated for work-related injuries and diseases.[39] The second measure is directed at expatriates who have returned to their native countries. An overseas department was created for the General Organization for Social Insurance to ensure that those workers who contributed to the Saudi social security system for 12 months or more receive the payment due to them through local banks.[40] The plan thus combines incentive to return for the foreign worker with concern for social equity.

Trade Unions: Only Kuwait permits the organization of trade unions. None of the other Gulf countries or Saudi Arabia sanctions them. Non-Kuwaitis may become union members only if they have been in the same job for 5 years.

They may not hold union office. Trade unions in Kuwait are opposed by a very powerful Chamber of Commerce. Again, while overall working conditions affect the decision to migrate, and are part of the "pull factors," trade unionism has not yet emerged as an important inter-Arab issue. Some evidence exists, however, regarding politicization of Arab labor as a result of contacts with Indian labor in the Gulf, but it points largely to a nascent phenomenon.

Equal Pay for Equal Work: One characteristic of the wage structure in recipient countries is for different wages to be paid for the same job, with the actual wage a function of the worker's national origin. For example, in Kuwait wages and conditions of work are apparently better for Egyptians than for Pakistanis and Indians. Saudi Arabia at least has legislation -- the 1969 Labor and Workman Law -- that provides for equal pay for equal work for all workers (except employees in the public sector, agriculture, family enterprise, and domestics) regardless of nationality.[41] Where minimum wage legislation exists in the Gulf countries, it does not cover foreign workers.

From the perspective of the migrants, of course, wage differentials are more critical than equality of wages. It is the wage gap that serves as a "pull" factor, and any wage inequality in the recipient country is merely an irritant.

5.3 The Posture for the 1980s

In sum, the Middle Eastern receiving countries have used their policy instruments to change the composition of their migrant workforces, with preferences both for and against Arabs. Their desire to reduce the proportion of foreigners in the workforce has not been matched by the re-evaluation of elaborate development plans or an increase in the activity rate of the citizen

labor force. Efforts are directed at keeping the foreigners contained, holding costs down by making them the responsibility of contractors, and strictly limiting the possibilities for assimilation and naturalization. These inchoate policies can be considered migration-influencing, at this point, but the magnitude of the flows and the dependency ratios clearly point to the inevitability of the consolidation of migration-responsive policies.

With the declines in oil prices of 1981-82, every labor importing country was faced with the necessity of retrenching its domestic investment. Inevitably foreign labor would be affected. At this writing it is too early to tell how extensive has been this impact nor the specific ways in which foreign labor must adjust to meet new constraints. The regulatory mechanism controlling inflows has tightened up to some extent, and observers expect even greater controls.

The case of the UAE is illustrative. The Emirates have generally been open in their immigration policies. New procedures have been introduced in February and March 1983 stipulating that visitors as well as workers spend at least six months outside following a visit.[42] Executive recruiters are forced to hold interviews outside. The government is trying to reduce illegal labor and to strengthen its own mechanisms for monitoring the forign workforce. Even day laborers are under closer scrutiny.

This case is not unique. It illustrates the new expansion of regulatory procedures and the role of government in establishing greater control. Other labor importing countries are also tightening up. For the cases of Saudi Arabia and Kuwait, however, the system is already tight. Yet additional controls may be set in place.

* * *

Part II examines the Egyptian case in some depth to highlight the various manifestations and implications of migration at the macro-level as well as sectoral aspects. A special emphasis is placed on construction and education given the prominence of migrants in these two sectors. Analyses of macro-economic effects of remittances enable identification of potential impacts of a retrenchment in migration trends -- if and when that occurs.

Part II begins with the total picture presented in Chapter 6, including factors influencing the demand for Egyptian labor, both as permanent and as temporary migrants. The characteristics of temporary migration are described in terms of total numbers, duration, levels of skill, and migration policies.

Chapter 7 examines the construction sector as an illustration of the new types of migration. Beginning with a discussion of the importance of this sector for economic development, the chapter proceeds to examine employment and transfer of Egyptian construction workers, construction employment in labor importing countries, and the consequences of this type of emigration.

Chapter 8 focuses on the education sector and select professions in Egypt. Since education is the traditional vehicle for migration, special attention is given to secondment procedures, flows of migrants, and determinants and consequences of emigration. In addition, migration in the medical and engineering professions is discussed.

The evolution of migration policy in Egypt is then reviewed in Chapter 9. The government's approach to the development of policy has been piecemeal and halting. More recently, policy debates in both academic and official circles have contributed to a greater concern for formulating a coherent migration policy.

Part II concludes with a broad assessment of the costs and benefits of migration, evaluated in Chapter 10, identifying some of the most prominent effects for the Egyptian case.

PART II

THE EGYPTIAN CASE

CHAPTER 6

THE OVERALL PICTURE

By the mid 1970s migration in the Middle East was dominated by the movement of Egyptians to other Arab countries, motivated largely by economic incentives. Egypt has long provided much of the technocracy of the Middle East, exporting professional manpower, although, to some extent, relatively unskilled workers as well. Egyptian teachers, engineers, lawyers, doctors, and the like are among those who have migrated to other Arab countries in search of better opportunities. They have formed the backbone of the professional communities in Libya, Kuwait, Saudi Arabia, and the other Arab states in the Gulf area. It is not the fact of Egyptian emigration that is novel, but its extent, rate of increase, and role in the economies of the recipient countries.

6.1 Demand for Egyptian Labor[1]

Egypt's position as a major supplier to other Arab states is due to a particular mix of supply and demand relationships. On the supply side, two factors stand out. First, Egyptian universities and educational institutions produce a large number of graduates every year. Second, these graduates find limited domestic opportunities for employment; many join the pool of unemployed or underemployed. These factors result partly from the social equity programs of the government, initiated in 1952, which maintain a commitment to the expansion of the country's educational base irrespective of employment opportunities, and partly from the economy's inability to perform in ways that

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could increase employment opportunities to levels commensurate with the demographic and manpower pressures.

On the demand side, the most important factor has been the economic incentives offered by the Arab states that have provided the traditional motivations for immigration. It was reinforced by the events of October 1973, with the attendant price increases and the generation of surplus revenue. The often hasty formulation of elaborate development programs that relied on imported labor provided a greater impetus for the migration of Egyptians to the oil-rich states.

The new demand for Egyptian manpower is further reinforced by the long-standing role of Egyptians as mediators between Western technology and Arab requirements. A two-step flow of technology transfer in the Middle East has evolved during the past twenty years, channelling flows from the industrial states to Egypt, and from Egypt to the other Arab countries. Since 1973 the brokerage role of Egyptians in technological transfers has intensified with the increased demand for Western technology in the oil-rich states. But the nature of the brokerage changed. Egypt was bypassed as direct transfers of technology took pace -- from the West to Arab states. But Egyptian workers in Arab countries facilitated the transfer and served as brokers, easing the often painful establishment of novel technologies in traditional societies, on the one hand, and serving as conduits of Western technology, on the other.

Non-economic factors also affect the demand for Egyptian labor. In the area of manpower Egypt's advantage lies in the cultural similarity that reduces the difficulties of accommodation and adaptation to the labor importers' societies. Although Arab states import other labor, most notably from Yemen, Pakistan, and India, Egyptian labor is clearly more desirable for certain activities, such as teaching. The country's traditional role of political

leadership in the Middle East is undoubtedly another important consideration contributing to the demand for Egyptian labor in high-skill areas. For instance, economic advisors to the governments of oil importing countries are often Egyptian. Indeed, former government officials in Egypt became advisors or consultants to other governments -- in one of three capacities or roles. First is the role of an independent consultant; second is that of a United Nations expert (especially through the UNDP); and third is through secondment, sent by the Egyptian government to assist other states.

Egypt has long set the lines of regional policy, shaping ideological debates and serving as the hub of communication throughout the Arab world. It has helped meet educational requirements of other Arab states through expanded enrollments in Cairo University and in Al Azhar to accommodate more Arab students. The adoption of an Arab identity, officially promulgated in the 1956 constitution following the revolution, reinforced Egypt's cultural and political leadership in the region, strengthened its service role vis-a-vis the other Arab states, and increased the demand for Egyptian labor.

But the flow of manpower is only partly determined by the supply of Egyptians and the demand in other Arab states. Migration has become, for both donor and recipient, an indirect, often inadvertent instrument of foreign policy. Regional politics and migration patterns are inextricably intertwined. During times of poor relations among the Arabs migration rates decline; occasional inter-Arab detentes accelerate the flows. For example, one important impact of the "open door" policy was to encourage Egyptians to migrate by abolishing the exit visa. The pro-West policy of Sadat (and his successor, Mubarak) served to reassure the Arabs of the Gulf states that Nasser's revolutionary orientation would not be exported through the migration

of labor. The deterioration of relations between Egypt and other Arab states, following the Camp David agreements, did not substantially affect Egyptian labor, but the potential was there, nonetheless. (This issue is raised more fully in a subsequent chapter.)

In the Middle East, political objectives and priorities have long shaped economic policies. Should migration be explicitly viewed as an instrument of policy -- or a political weapon -- the volume of Egyptian workers in Arab countries could become a salient foreign policy issue. So far labor migration has remained in the realm of "low politics," with a continued potential for labor issues spilling over into "high politics."

6.2 Permanent Migration[2]

Traditionally, Egyptians have not settled in the countries where they work. Although the volume of permanent emigrants during the period 1962-1979 was relatively small (56,000), it is especially significant because many of them are of the most highly skilled professionals. Some observers have assumed that the cost of human capital formation for this group was a considerable net loss to the economy.

Permanent emigration gathered momentum following the war of 1967, with 40 percent concentrated over 1968-1970. In the face of a failing domestic economy and some relaxation of migration policies, many left for the United States, Australia, and Canada. Permanent migration began to decline in 1971 and dropped sharply after 1973. Concurrent with that decline was the increase in temporary migration. The open door policy following the 1973 war reduced the incentive for permanent migration because such a dramatic break was no longer necessary. The highly skilled who wanted jobs commensurate with their skills could now take temporary appointments in the oil exporting countries

yet still return after a few years.

Most of the permanent emigrants are from the most productive age group, under 40 years of age. The majority worked in the public sector where opportunities for earning extra income were limited. Scientific and technical professions represent the largest share of occupations, accounting for 34 percent of the total. Existing evidence suggests that about 40 percent of the migrants hold either a university degree or a post-graduate degree. Some travelled abroad on scholarships and refused to return after the period of their studies. Despite the country's economic problems over the past two decades, and periodic political upheavals, the permanent migration of Egyptians has been extremely low. Egyptians have simply been reluctant to leave their country for good.

6.3 Temporary Migration

In the past, Egyptians who moved to other Arab lands went largely to Libya and to the Sudan. Except for those employed in education, they were mostly unskilled and represented only a marginal and unimportant fraction of the labor force. Geographical continuity, coupled with periodic political schemes towards unifying the Nile Valley and the immediate surroundings, fueled these erratic movements. There were also skilled Egyptians working in the Arab Peninsula and the Gulf region for many years, but again, the numbers have been small until recently. For example, the 1965 census of Kuwait reports 11,021 Egyptians. Ten years later, census figures report a more than quintupling of the Egyptian population to 60,534. More recent estimates are even higher.

The 1967 war undoubtedly contributed to the growth of migration. The closing of the Suez Canal and the devastation of Suez City and Ismailia resulted in the uprooting of several hundred thousand Egyptians, most of whom poured into Cairo. This movement, in turn, may have led to the search for employment opportunities in other Arab countries by a group of people who, once uprooted, were more likely to move again, this time because of the lure of employment and high wages.

6.3.1 Total Numbers

It was not until the war of 1973 that a marked acceleration of Egyptian migration took place. Although precise figures are not available from Egyptian sources, educated guesses of total migrants in 1975-76 range from 225,000 to 600,000, to as high as one million, or 10 percent of Egypt's total labor force. By the 1980s the stock of migrant workers appears to be close to 2 million, which is about 16 percent of the current labor force. The largest numbers have gone to Saudi Arabia, Libya, Kuwait, and the other Arab Peninsula states, in that order. Unfortunately, given changes in migration patterns (as noted in Chapter 3) and the paucity of systematic information, it is difficult to evaluate the reliability of these estimates.

6.3.2 Duration

In the past, the Egyptians moved for short periods. Work permits and contracts often specified termination dates. Countries of destination seemed to encourage this and, in some cases, placed specific obstacles to permanent residence. It remains unclear at present whether the recent wave of Egyptian migration will be short term or permanent. Existing rules and regulations reinforce short durations. Should they change, it is likely to be largely in

response to economic pressures in receiving states, not to political pressure exerted by the government of Egypt. Nevertheless, those who wish to stay longer probably will find ways to do so. There are some estimates that place the period of foreign employment at an average of two to three years, but the duration varies depending upon the job and country of employment. In education fields, for example, the duration of secondment is four years (with a low rate of premature return). Teachers recruited through private contracts apparently stay for an average of three years. Skilled workers average three years; less skilled workers, two years.[3]

6.4 The View in 1980: Egyptian Workers in Select Arab Countries

Consistent estimates of Egyptian workers in Arab countries are difficult to obtain. In an article published in 1983, the Egyptian Ahran Iktisadi presents a breakdown of the Egyptian presence in a number of Arab countries. Table 6-1 organizes these estimates into plausible numbers, indicating the scale and composition of Egyptian workers in Kuwait, Saudi Arabia, Jordan, and the United Arab Emirates. There are discrepancies in these estimates, as noted in the entries for Kuwait, but on the whole a picture emerges for 1980.

Egyptian workers in Kuwait are principally in construction (36,881), services (23,281), and commerce (10,441). The Iktisadi identifies 1044 workers in agriculture and 2604 in communications and transportation. The entries in Table 6-1 are organized somewhat differently to convey additional details.

The Egyptian Labor Bureau in Jedda estimates the number of workers to be 400,000, principally in production, construction, and mining (i.e., the oil sector) and secondarily in professional occupations. In Jordan, construction is also the principal source of employment for Egyptians. The Iktisadi

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TABLE 6-1

Egyptian Workers in Select Arab Countries

Egyptian Workers by Occupation in Kuwait at the End of 1980*

Construction	36,881
Agriculture and Fishing	1,044
Quarries	555
Foodmaking	2,247
Leather and Textiles	325
Wood and Wood Products	1,050
Paper Production and Printing	578
Oil and Gas	193
Chemical and Petrochemical	800
Non-Metallic Production	1,513
Metallic Production Instruments	1,195
Electricity and Gas	766
Wholesale Trade	1,253
Retail Trade	5,285
Restaurants and Hotels	1,501
Transportation and Storage	2,308
Communication	296
Insurance	325
Finance	854
Real Estate	1,213
Administration and Defense	8,056
Public Health	5,657
Cultural and Recreational	828
Domestic and Personal Services	8,740

*The total is given as 105,400; the difference of 21,917 is not accounted for.

TABLE 6-1 continued

Egyptian Migrant Workers in Jordan
(early 1980s)

Total -- 112,000

40.2% construction
31.2% agriculture
17.8% odd jobs
10.8% services, education, finance, trade

Egyptians in the United Arab Emirates*
(December 1980 UAE census)

10,600	government employment
3,400	public sector
4,000	private sector
	5,000 construction
	6,000 hotels and services
	3,000 other

Total: 45-50,000
Perhaps 62% of this total is economically active, resulting in:
28,000 Egyptian workers in the UAE

*Egyptian Labor Bureau

TABLE 6-1 continued

Egyptian Workers in Saudi Arabia*

83,000	professionals
2,000	administration and management
50,000	clerical
15,000	trade
20,000	services
35,000	agriculture
195,000	production and construction and mining
400,000	TOTAL

*Estimate of Egyptian Labor Bureau in Jedda.

Source: "The Extent of the Egyptian Presence in the Arab Countries and Greece," Al-Ahram Iktisadi, no. 745, April 25, 1983.

presents an estimate of 112,000 Egyptians for the early 1980s. Of these, 85,000 have been accorded resident status and 4500 are classified as in transit.

The Egyptian Labor Bureau in the United Arab Emirates indicates that government is the major employer of Egyptians. Almost 28,000 Egyptians are presumed to work in the UAE, an estimate we believe to be on the low side. The Iktisadi accounts for 25,750 workers. Of these over 10,000 are employed in professional occupations and roughly the same number in transportation and industry. Almost 3600 workers are classified in clerical occupations.

By far the most visible presence of Egyptians is in Iraq. While precise numbers continue to be debated, the estimate of 1.25-1.5 million presented in Chapter 3 appears increasingly plausible. The war with Iran has increased Iraq's manpower problems. Egyptians are recruited for work in the construction sector and, by some accounts, for direct service in the Iraqi army. Earlier we characterized this situation as "unique;" however, Egyptian willingness to respond to demands for assistance -- in money or manpower -- by other Arab states has been a persistent feature of Egyptian policy in the region.

Finally, there are only scanty estimates of an Egyptian presence in Europe. For 1982, it was plausible to assume that almost 33,000 Egyptians worked in Greece. Of these, the same Iktisadi survey identifies 18,000 in industry and 9000 in shipping. Agriculture and service sectors claimed 3000 workers each.

6.5 Egyptians in Sudan

Egypt's special relationship to Sudan requires a closer look at the two-way migration. No one knows how many Sudanese are working in Egypt, nor how

many Egyptians are in fact located in the Sudan. The interlocking institutional arrangements between these two countries confuse a clear accounting.

There are numerous Egyptian institutions with "branches" in the Sudan. Educational missions, the Khartoum branch of Cairo University, a variety of development projects, as well as religious institutions, all provide the basis for employment of Egyptians. In addition, there is a small but active private sector in Sudan where Egyptians play a notable role. Al-Ahram Iktisadi argues that by 1983 there are over two thousand Egyptians in Sudan, an estimate we regard as too low. This presence is important less for its total magnitude than for the impacts it may have on Sudanese development.

The new, complicating factor is that Sudanese workers are migrating in apparently large numbers to the Gulf states, thus pulling labor out of the country in yet another direction. The traditional outflow of workers in the Egyptian service sector is now augmented by large-scale migration of professionals to the Gulf.

6.6 Internal Migration

Internal migration, from rural to urban areas, continues in Egypt and in many ways appears to have more significant, long-term consequences than the current large-scale emigration and immigration.[4] In the sheer number of people involved, internal migration is larger than the temporary external migration. For example, estimates of the external flow of Egyptian workers have now risen to 350-400,000 thousand per year. By comparison, the net internal migration flow alone is over 400 thousand.[5] External migration consists largely of temporary workers who will return to the labor force within a few years. In contrast, migrants to the cities are not temporary;

the vast majority stay in the city the rest of their lives. For example, 74 percent of the immigrants in Cairo have been there 10 years or more.[6]

Traditionally, people leave the countryside to look for better employment and to improve their living standards. Egyptians are no exception. Seventy-nine percent of the labor force moving to Cairo and 70 percent of that moving to Alexandria cited work as the main reason for moving.[7] Of all individuals moving to Cairo and Alexandria, 66 percent went either because of work or because the family was moving.[8]

The migrants' job skills interest both social scientists trying to understand the motivations for moving and policymakers attempting either to coordinate available skills with jobs or to plan job training programs. The information enables policymakers to refine programs according to available skills and to target other programs to import new skills.

Statistics for 1973 indicate that about one third (33.2 percent) of the migrants in Egypt have skills appropriate to manufacturing and transportation (see Table 6-2). The second largest group is composed of people whose job skills fall under the general category of "services" (21.1 percent). Individuals with professional, technical, and scientific skills are the third largest group. They are migrating to some provinces in numbers far surpassing their proportion of the labor force -- roughly 25-30 percent of the migrants as opposed to 5.4 percent of the workforce. This is not surprising because these highly educated individuals can be expected to be more amenable to moving in order to find a better job. What is surprising is the direction of migration. Rather than moving to urban areas like Cairo and Giza, many are going to governorates experiencing large net out-migration, such as Fayyum, Minya, and Sohag.

TABLE 6-2

Immigrant Percentage Distribution in the Work Force (12-65) by Job Skill for Every District

	Technical & Scientific	Administration & Management	Clerks	Salesmen	Services	Agriculture & Livestock	Manufacturing & Transportation	Not Classified	Not Declared
Cairo	11.0	2.6	14.0	11.3	23.4	0.8	35.9	0.6	0.4
Alexandria	10.1	3.1	9.6	11.0	24.4	3.0	36.9	1.2	0.7
Dumyat	11.2	3.1	9.3	8.7	16.8	13.7	34.8	1.8	0.6
Dakahlia	27.6	5.1	13.5	8.4	13.5	8.4	19.3	2.4	1.8
Sharkia	14.8	8.1	8.2	11.9	20.0	7.4	26.7	2.2	0.7
Kalioubia	12.5	2.3	15.8	7.7	12.5	2.9	45.0	1.3	-
Kafr El Sheikh	17.5	5.0	18.8	11.3	13.8	15.0	16.2	1.2	1.2
Gharbia	15.8	2.4	11.3	7.0	15.5	2.1	43.2	1.8	0.9
Manufia	25.9	5.2	19.5	10.4	19.5	3.9	11.7	2.6	1.3
Buhaira	24.4	9.7	17.1	4.9	12.2	-	26.8	4.9	-
Guiza	29.1	3.8	14.6	9.5	20.9	1.0	27.7	1.8	0.6
Beni Suef	22.4	5.6	11.2	10.3	20.6	5.6	23.4	0.9	-
Fayyum	33.3	5.6	12.5	-	22.2	5.6	16.7	2.8	1.3
Menya	29.0	7.5	19.4	10.8	1.0	1.0	19.4	2.1	-
Assuit	23.5	6.6	14.7	8.8	19.9	0.7	22.8	2.2	0.8
Sohag	28.0	10.0	22.0	-	16.0	4.0	18.0	-	2.0
Kena	27.3	8.0	23.9	6.8	11.4	2.2	19.3	1.1	-
Aswan	8.0	3.8	8.4	8.7	14.6	20.2	32.4	2.5	1.4
Total	14.2	3.4	13.3	10.2	21.1	2.8	33.2	1.2	0.6

Source: General Mobilization and Statistics, General Statistics and Analytical Studies, Central System for General Mobilization and Statistics, Nasser City-Cairo, Issue 93, Table 6.

Most interesting is the remarkably small number of migrants with agricultural skills (2.8 percent in 1973), considering the proportion of agricultural workers in the labor force (49.7 percent 1973). The figures for individual governorates support the assertion that Egypt's internal migration is a two-step process. Egyptians are not moving from farms directly to the large urban areas. A scant 0.8 percent of the migrants enter Cairo with agricutural skills. The figures for Alexandria, Giza, and Qalioubia concur with those for Cairo. In each case the proportion is higher than 3 percent. Aswan is an exception, with 20.2 percent of the immigrants in agriculture, the highest proportion of any of the governorates.

Two other governorates with unusually large inflows of agricultural workers are Damietta and Kafr El Sheikh (13.7 and 15.0 percent, respectively). This could be attributed to the small number of people migrating either in or out of these governorates (assuming that the low level of migration between 1960 and 1970 did not change by 1973).

There are two outstanding cases in the manufacturing and transportation category. A much higher proportion of Egyptians with experience in the manufacturing and transportation sectors are moving to Qalioubia (45.0 percent) and Gharbia (43.2 percent). The figure for Gharbia can be discounted if we assume that it did not also experience an increase in migration from 1970 to 1973. Kalioubia, on the other hand, experienced an extensive inflow of population from 1960 to 1970. Again assuming no significant change to 1973, the data point to the conclusion that a large number of people with manufacturing skills are moving to Qalioubia. One explanation is that manufacturing firms are locating outside of Cairo in Qalioubia and that people are migrating there for employment.

Giza is a special case. Unlike the other governorates with large-scale in-migration, a large proportion (29.1 percent) of the migrants have technical, professional, and scientific skills. Giza is virtually indistinguishable from Cairo, a fact that is not readily apparent by looking at statistics alone. Many of the organizations requiring highly skilled individuals are iocating outside of Cairo, a pattern paralleling the spread of similar organizations in the United States to the suburbs.

Data on the distribution of immigrants by economic activity reveal similar patterns (see Table 6-3). A disproportionately high number of those migrating to Aswan go into the agricultural sector (26.1 percent). Qalioubia and Gharbia again stand out with large proportions going to manufacturing (35.1 and 37.4 percent, respectively). Kafr El Sheikh also has a high percentage of migrants going to agriculture, although not nearly as high as Aswan.

When distinguished according to their level of education, 43.2 percent of the migrants are illiterate. An additional 31.9 percent are literate but have not finished high school. At the other extreme, 6.8 percent of the migrants have had education beyond high school, while the percentage with professional, technical, administrative, and management skills is 17.6 percent (Table 6-4 presents some basis for these comparisons, despite differences in the categories of skills). Evidently, only a high school degree is necessary for many of these jobs, which means the definitions of professional, technical, administrative, and management work must be broader than those operative in the United States or Western Europe.

The majority of the migrants to Cairo have come from the urban areas of rural governorates, even though the populations of those governorates are usually less than 25 percent urban. The only important exception is Manufia,

TABLE 6-3

Immigrant Percentage Distribution of the Work Force (12-65) by Economic Activity, May 1973

	Agriculture	Mining	Intermediate Industries	Electricity & Gas	Construction	Trade	Transportation, Communication	Insurance	Services	Undeclared
Cairo	0.9	0.5	24.5	1.2	6.5	17.6	9.8	2.5	35.3	1.2
Alexandria	3.8	1.6	32.3	0.6	4.2	16.7	7.8	1.6	29.5	1.9
Dumyat	11.2	-	21.1	-	2.5	12.4	10.6	4.4	33.5	4.3
Dakahlia	9.0	-	9.6	1.5	3.0	12.6	10.8	3.6	45.7	4.2
Sharkia	10.4	1.5	9.6	-	4.5	17.0	12.6	0.7	40.7	3.0
Kalioubia	3.2	1.6	35.1	1.0	3.5	10.9	9.7	1.9	31.5	1.6
Kafr El Sheikh	15.0	-	7.5	2.5	1.3	15.0	8.7	2.5	46.2	1.3
Gharbia	4.3	-	37.4	0.3	2.4	10.0	10.0	1.8	30.7	3.1
Manufia	3.9	-	16.9	-	-	10.4	1.3	2.6	61.0	3.9
Buhaira	7.3	-	24.4	-	-	9.8	2.4	2.4	48.8	4.9
Guiza	3.2	0.3	19.4	1.2	6.9	14.3	5.7	3.7	42.3	3.0
Beni Suef	7.5	-	7.5	-	1.9	14.9	8.4	2.8	55.1	1.9
Fayyum	15.3	-	11.1	1.4	2.8	2.8	4.2	2.7	55.6	4.1
Menya	2.2	1.1	9.7	1.1	2.2	11.8	11.8	3.2	53.7	3.2
Assuit	1.5	-	11.0	2.2	1.5	14.0	14.0	3.7	49.2	2.9
Sohag	6.0	-	8.0	2.0	2.0	2.0	12.0	6.0	60.0	2.0
Kena	10.2	-	13.6	-	2.3	9.1	3.4	3.4	56.8	1.2
Aswan	26.1	0.7	13.3	4.5	5.9	12.2	7.7	1.4	25.1	3.1
Total	3.9	0.6	23.5	1.1	5.3	15.4	8.9	2.6	36.7	2.0

Source: General Mobilization and Statistics, General Statistics and Analytical Studies, Central System for General Mobilization and Statistics, Nasser City-Cairo, Issue 93, Table 5.

TABLE 6-4

Migrant Percentage Distribution by Education and Location

Education	Urban		Villages		Total	
	Males	Females	Males	Females	Males	Females
Illiterate	12.6	28.8	0.6	1.4	13.2	30.2
Literate	17.7	9.3	0.3	0.2	18.0	9.5
Less than high school	2.6	1.7	0.1	-	2.7	1.7
High school degree	9.2	4.7	0.1	0.1	9.3	4.8
Above high school, no B.A./B.Sc.	0.7	0.5	-	-	0.7	0.5
B.A./B.Sc.	4.2	0.9	0.1	-	4.3	0.9
Above B.A./B.Sc.	0.4	-	-	-	0.4	-
Undeclared	0.1	0.1	-	-	0.1	0.1
Outside distribution	1.8	1.7	0.1	-	1.9	1.7
Total	49.3	47.7	1.3	1.7	50.6	49.4

Source: General Mobilization and Statistics, General Statistics and Analytical Studies, Central System for Mobilization and Statistics, Nasser City-Cairo, Issue 93, Table 7.

the least urban governorate in Egypt. One hypothesis is that migration within Egypt follows the commonly observed two-step process. Many migrants first move to a small urban area, probably a city within their home governorate, then they or perhaps their children make the move to Cairo. In the small urban areas they learn non-agricultural skills to facilitate finding employment in the larger cities.

One reason why Manufia has grown so slowly may be its nearness to Cairo, making Cairo an especially strong magnet. Two items in the data support this notion. First, up to 1966, more migrants to Cairo have come from Manufia than from any other governorate. The number from Manufia is twice that of the second-ranking governorate, Assuit -- 156,874 to 79,877. Second, most of the migrants from Manufia to Cairo come from rural rather than urban areas. Evidently, the two-step process in other governorates does not apply to Manufia. People who want to migrate to a city go straight to Cairo.

The temporary international migration of the 1970s and 1980s adds a new element to Egypt's internal migration. While there is no data available on internal migration more recent than 1973, wage data to 1978 and anecdotal information, together with what is known about the scale of the Egyptian movement to other countries -- particularly in construction -- suggest another interaction. Given that the number of emigrants in construction is an exceedingly high proportion of the country's domestic construction workforce, large-scale substitution of the migrants has certainly occurred. To attract or keep workers, construction firms have raised wages at a rate much faster than that of other economic sectors. Only agriculture kept pace. Evidently, agricultural workers migrated to the cities to take the place of construction workers who left for the Gulf states or Libya. The higher agricultural wages reflect

the shortage of farm workers. Recent internal migration data, if available, would most likely show a much higher proportion of individuals moving straight from rural areas to large cities, rather than continuing to indicate a two-stage process.

6.7 Migrant Workers into Egypt

While precise numbers are non-existent, it is clear that a large number of Sudanese workers are employed in Egypt. The flow between the two countries has generally been easy and Sudanese have traditionally migrated into the service sector. Estimates of total Sudanese workers abroad could range as high as one million -- the figure of two million is being cited in the Sudan -- although a figure of 200-250 thousand is much more plausible. The Egyptian share probably does not exceed 100,000.

The second strand of workers is much smaller in scale but critical in denoting new patterns. It involves Korean migration into the construction sector. This migration is usually part of a larger package, whereby workers constitute a component of a construction project and presumably leave when the project is terminated. The important point, however, is that the Egyptian labor force is conventionally one of "surplus" labor has, and does, in fact, accommodate migrant workers. This accommodation signals the existence of shortages, at least, imbalances between supply and demand.

6.8 New Cities

Finally, there is the role of new cities. The government's policy of establishing urban centers around new industries, such as Tenth of Ramadan City and Sadat City, represent a concerted effort to redistribute population.

This policy had been attempted earlier, under the Nasser regime, with experiments like the Tahrir Province. The new cities orientation, however, represents a large-scale effort to build entire settlements -- including housing, infrastructure facilities, transportation and communication networks, and industry.[9]

Government policy is to expand the country's inhabited area from 4 to 16 percent of its landmass by the year 2000. Eighteen million people are to be accommodated in the new cities. An underlying goal is to reduce the population density of Egypt's inhabited area from 1000 people/km^2 to 400 people/km^2. Table 6-5 shows the proposed magnitude of the plans.

The responsibility for the planning of the new towns devolved upon the Ministry of Development and New Communities. Following the 1973 war, much of the energy of the Ministry of Development and New Communities was devoted to reconstructing the western canal cities of Suez, Ismailia, and Port Said, which were treated as new towns. Emphasis gradually shifted to the planning and construction of new cities.

Sadat City and the Tenth of Ramadan were conceived as cities to be located in the desert regions outside of Cairo. Al-Ameriyah El-Gedida, located to the southwest of Alexandria, was planned, in addition to the city entitled Fifteenth of May. This city, located to the east of the industrial city of Helwan, is a minor undertaking compared to the other planned cities. Finally, there are Al Amal, Al-Obur, and Sixth of October.

In Cairo, there are two main corridors of population growth. One runs north-south and is characterized by heavy industrial growth extending to Helwan in the south. The second corridor of urban growth is east-west, where residential areas predominate. A study of population saturation in the two

TABLE 6-5

New Cities: Select Characteristics

Land Area of the New Cities

New City	Area (in feddans)
10th of Ramadan	13,000
6th of October	3,000
15th of May City	1,500
Salam City	41,500
El Ameriyya	40,000
Al-Amal	2,500
Al-Abour	3,000

Construction Projects under Implementation

Number of Projects	69
Local Capital	69.5 million LE
Foreign Capital	97.9 million LE
Total Capital	167.4 million LE
Total Investment Costs	399.0 million LE

Source: Egyptian Ministry of National Planning Reports, summarized in Jerry Theodorou, "The Arab Republic of Egypt and the New Towns," M.I.T. working paper, May 1983.

corridors shows the probable chief sources of population for the new towns, as noted in Table 6-6.

The proposed towns of Al-Obur and, to a lesser degree, Tenth of Ramadan, are a logical solution to the heavy saturation in the eastern end of the east-west population growth corridor. Sadat City and Tenth of Ramadan, which are located in the Western Desert and Eastern Desert, respectively, serve to divert the population of the Arab Republic of Egypt to uninhabited areas. Planning for the cities of Al-Obur, Sixth of October, and Al-Amal is motivated by other reasons. First, they aim to combat the undesirable effect of sprawl. Second, lying so close to the industrial, social, and economic center of Cairo, they have direct linkages to the builders and planners and telecommunications systems that created them in the first place.

When the sites were first chosen with the acreage allotments, Al-Amal, Al-Obur, and Sixth of October were planned as cities with eventual populations of 250,000 each. This would mean an average density of 55 people per acre or about half the average density of the 100 people/acre in the GCUR. Growth of population in these cities would be accompanied by an enlargement of the area of all new cities except Al-Obur, where there is no room for expansion.

The new cities experiment is still at too early a phase to allow for an assessment. However, two questions arise: will the incentives devised be sufficient to attract population to these cities? and, related, will there by any shortage of labor in the process of building? The role of construction manpower -- and potential shortages due to labor migration -- is an essential key to the second of these queries. Indeed, the new cities of the 1980s will provide a critical "pull" for internal mobility in the country. The extent of this pull is twofold, of course: the impact during the construction phase and

TABLE 6-6

Sources of New Towns' Population

East-West Corridor Total		
	Eastern half	37%
	Western half	18%
North-South Corridor Total		
	Northern half	32%
	Southern half	4%
Other		9%

Source: Jerry Theodorou, "The Arab Republic of Egypt and the New Towns," M.I.T. working paper, May 1983.

the impact after the initial construction when longer term settlement is envisaged.

CHAPTER 7

MIGRATION IN THE CONSTRUCTION SECTOR[1]

7.1 Introduction[2]

The movement of construction workers constitutes a new form of Egyptian migration. It is almost exclusively a response to the massive investments in infrastructure in the Arab world following the oil price increases of 1973. It also reflects a fundamental departure for the Egyptian labor force. What is new about this migration is its scale, duration, and consequences.

The transfer of construction workers from Egypt since 1973 reflects the changes in overall migration patterns. These workers encompass a wide range of occupations, from engineers, contractors, and other technicians to sand and brick carriers and other unskilled workers. This contrasts with the earlier migration which was predominantly highly skilled workers.

The distinctiveness of the Egyptian case is that Egypt's workers are moving into less developed economies, where the level of industrialization is lower and where it is the Egyptians who represent the most skilled workers. This factor has important implications for developing a coherent set of policies to regulate the transfer of labor across national boundaries.

This chapter will first indicate the size and role of the construction sector in the Egyptian economy and then provide estimates of the stocks, flows, and vocational categories of Egyptians migrating in the sector. A discussion of their consumption patterns and remittances, including an evaluation of government attempts to capture them, follows. The remittances and substantial personal benefits to the migrants have exacted a toll on domestic

industry. The chapter concludes with an assessment of the net costs and benefits to Egypt of such mass migration.

7.2 The Role of the Construction Sector[3]

The construction sector's role in the Egyptian economy requires an evaluation of its contribution to total demand for investment goods. The construction sector is linked to the rest of the economy mainly through satisfaction of final demand for investment goods, rather than demand for intermediate goods or intermediate consumption.

The intermediate sales of the construction sector to the other sectors is negligible. However, the sales of these other sectors to the construction sector is sizable. These sales indicate the inputs required from the other sectors in terms of materials and services which the construction sector uses to produce its output.

Since 1960 the construction sector in Egypt has contributed 3.0 to 3.9 percent of the country's gross domestic product. This figure is small relative to other countries in the Middle East. However, the open door policy has increased incentives for investments and the construction sector has responded accordingly: in 1979 it accounted for 9.2 percent of Egypt's GDP.

The importance of the construction sector, of course, lies not solely in its size, but in its contributions to the activities of other sectors of the economy. Based on an analysis of Egypt's social accounting matrix for one year (1976), disaggregating information on the direct contribution through value added and indirect contributions through backward and forward linkages to other sectors, it is possible to delineate the role of construction. The direct share of total investment attributed to construction can also be de-

rived from the matrix (see Table 7-1).

With GDP in current factor costs equalling LE 6041 million in 1976, the percentage share of value added in construction was 4 percent. Value added comprised 40 percent of the gross value of the construction product, the rest coming from intermediate goods. Much of the value added is attributable to the cost of wages and salaries, given the highly labor-intensive character of the industry. However, the share of value added is even higher in the agricultural sector, where over 70 percent of the gross output is value added.

The construction sector serves as an important market for other economic sectors and its direct role in investment can be calculated from the input-output table. The construction sector's principal contribution to the rest of the economy, through deliveries in terms of satisfaction of final demand for investment goods, is substantial. For example, Table 7-1 shows that the construction sector satisfied 50 percent of gross fixed investment in 1976. In 1977, that figure had increased to 61 percent, and by 1979 it was 68 percent (see section 7.5 for further analysis).

7.3 Employment and Transfer of Egyptian Construction Workers[4]

It is difficult to say with any degree of certainty how many construction workers are employed in the Arab world. The International Labour Office estimates the size of the construction labor force in 1979 to be 448,500. This represented 4.7 percent of the country's total employment, a relatively high proportion compared to the other countries of the world. Evidence suggests the construction sector constrains Egypt's economic expansion, due to the outflow of construction workers. The increase in domestic wages for construction workers shot up by 52.1 percent between 1974 and 1978, in comparison with 19.8 percent for services and 12.7 percent for mining and industry. Only

TABLE 7-1

Social Accounting Matrix for Egypt, 1976

(millions LE)

(Σ1–12)

SECTORS RECEIVING / DELIVERING SECTORS	1. STAPLE FOOD	2. NON-STAPLE FOOD	3. COTTON	4. OTHER AGRICULTURE	5. FOOD PROCESSING INDUSTRY	6. TEXTILE INDUSTRY	7. OTHER INDUSTRIES	8. CONSTRUCTION	9. CRUDE OIL & PRODUCTS	10. TRANSPORT & COMMUNICATION	11. HOUSING	12. OTHER SERVICES	13. TOTAL INTERMEDIATE
1. Staple Food	46.6722	–	–	–	179.6283	–	–	–	–	1.3611	–	10.18230	238
2. Non-Staple Food	1.67613	37.25629	0.47093	5.91269	350.7248	1.05422	0.38918	–	–	0.61618	–	17.61671	416
3. Cotton	–	–	0.40303	–	1.53937	73.09589	0.00489	–	–	–	–	–	75
4. Other Agriculture	54.58846	232.05030	9.92237	2.13755	5.95716	34.46799	1.85421	–	–	0.61798	·	0.27845	392
5. Food Processing Ind.	–	30.82283	–	–	141.30160	3.77228	9.60896	–	–	2.17375	0.00846	93.21643	290
6. Textile Industry	1.83642	0.05167	3.29803	0.02107	1.41447	310.59280	1.30919	1.11537	0.22304	0.26195	0.02569	53.05054	373
7. Other Industries	9.35269	0.16335	2.91491	0.21883	1.54634	13.57468	164.4493	11.28970	9.00784	8.51700	0.16177	70.89040	292
8. Construction	–	1.17015	0.13579	–	0.57014	1.77580	0.99110	0.57402	2.42426	9.24410	5.66571	14.45822	37
9. Crude Oil & Products	12.73104	30.53438	3.91501	2.00618	3.41795	12.06315	11.03780	30.66330	132.4586	35.36494	–	80.81433	355
10. Transport & Comm.	0.20957	0.40542	0.21384	0.02967	0.54438	2.08350	0.68208	2.16599	0.71176	2.10867	0.00697	31.34770	40
11. Housing	0.03204	0.01099	0.01148	0.00192	1.00936	0.65231	0.40390	0.79597	0.41906	0.35143	–	6.31325	10
12. Other Services	2.90146	16.47459	7.71460	0.67209	31.34575	33.86751	10.25930	335.3957	12.25550	26.38286	2.13139	489.83130	968
13. Total Inputs Σ 1–12	130	408	29	11	719	487	201	382	167	87	8	867	3486
14. VALUE ADDED	317	806	202	438	164	330	569	254	324	454	134	2049	6041
15. U. Lowest 60%	0.0	0.0	0.0	0.0	40.566	94.863	86.788	36.260	0.928	52.356	34.076	631.429	
16. U. Middle 30%	0.0	0.0	0.0	0.0	45.179	89.870	89.106	35.473	28.425	61.263	40.122	646.964	
17. U. Top 10%	0.0	0.0	0.0	0.0	64.255	92.267	98.106	98.267	45.648	79.381	50.801	683.607	
18. R. Lowest 60%	135.140	289.890	90.212	180.294	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
19. R. Middle 30%	87.207	240.066	56.509	128.291	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
20. R. Top 10%	79.652	225.044	53.179	129.415	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
21. HOUSEHOLD VALUE ADDED	302	755	202	438	150	277	274	170	75	193	125	1962	4923
22. Gov. & Pub VALUE ADDED	15	61	–	–	14	53	295	84	249	261	9	87	1118
23. Gov. Conventional													
24. Gov. Trade					25								25
25. Gov. Trade Imports	12	37	10	8	391							94	552
26. Other Imports	7	22	4	15	9	47	435		66	51			656
27. TOTAL IMPORTS	19	59	14	23	425	47	435		66	51		94	1208
28. Imp. Tariffs	1	5			166	12	100		42				326
29. IND. TAXES					205	65	35		15			20	340
30. Subsidies (–)	–12	–10	–10	–8	–182	86	–3		–8	–15		–12	–346
31. Gov. Transfers													
32. Dir. Taxes					26	30	66		13			100	223
33. Σ 28–30													
34. Priv. Savings													
35. Gov. & Pub. Savings													
36. Gov. Curr. Deficit													
37. Gov. Trade Deficit													
38. Foreign Exchange													
39. Change in Stocks													
40. TOTAL SAVINGS													
41. GROSS PROD.	455	1268	235	464	1522	885	1392	636	899	677	142	3118	11303
POPULATION (Mill)													
Income Shares													
Population Shares													
Per Capita Income													
Income per Earner													

TABLE 7-1 continued

14. TOTAL FINAL DEMAND	15 U LOWEST 60%	16. U MIDDLE 30%	17. U. TOP 10%	18. R. LOWEST 60%	19. R. MIDDLE 30%	20. R. TOP 10%	21. TOTAL HOUSEHOLD	22. G1 GOV. & PUB. SECTOR PURCHASES	23. G2 GOV. CONVENTIONAL	24. G3 GOV. TRADE	25. PRICE DIFF.	26. EXPORTS	27. TOTAL EXPORTS
217	22.0	13.5	5.3	22.6	7.1	4.5	75		14	95	17		17
882	179.6	186.6	110.7	114.0	65.8	53.3	710		60	28	4	49	53
180	1.6	0.3	0.4	1.6	0.6	0.5	5			100	55		55
72	14.3	16.4	11.8	7.2	4.3	2.0	56					16	16
1232	324.5	275.1	140.4	234.6	100.6	70.8	1146		60			26	26
912	79.9	97.2	66.1	38.2	30.9	25.7	[illegible]		27			109	109
1100	95.6	99.1	60.3	45.1	23.3	19.6	[illegible]		268			89	89
589	–	–	–	–	–	–	–						
254	21.9	18.4	9.4	11.8	4.7	2.8	69		35		100	49	149
637	30.0	45.4	170.8	7.8	6.3	4.7	265		100			172	172
132	16.7	39.4	56.3	4.4	3.9	8.3	128		4				
2150	208.3	223.2	152.7	78.1	63.4	76.3	802		1013	12		171	171
7817	994.4	1014.6	772.2	565.4	310.9	268.5	3926		1571	265	176	681	857
												65.1	
												89.9	
												93.0	
												25.42	
												20.46	
												16.12	
												310	310
	20.[illegible]	15.2	7.6	19.9	11.4	4.7	79			768		119	119
	50.[illegible]	45.2	31.9	44.1	29.4	14.7	216						
	15.[illegible]	30.4	89.3	11.6	19.5	18.7	125+						
							341						
							60						
	37.[illegible]	29.2	31.1	19.3	18.0	7.5	150						
	-63.[illegible]	-48.4	-23.6	-12.9	-9.8	-9.5	-168		146	368			
	78.7	94.3	123.0	–	–	–	296						
	6.2	33.7	70.7	3.7	15.1	25.6	155						
	-96.8	-98.2	202.8	69.9	143.6	172.8	394						
								1414					
									-393				
										-389			
													654
							394	1414	-393	-389			654
	1043	1126	1305	721	635	503	5233	1414	1324	1012	176	1110	1940
	[illegible]	6.399	2.13[illegible]	10.139	6.069	1.690							
	[illegible]	0.3241	0.3767	0.4099	0.3042	0.2859							
		0.668			0.442								
	[illegible]	176.965	611.814	71.112	108.644	297.833							
	[illegible]	563.10	1867.80	227.58	337.74	952.43							

TABLE 7-1 continued

28. IMPORT TARR.	29. IND. TAXES	30. SUBSID.	31. GOV. TRANS.	32. DIR. TAXES	33. Σ	34. PRIV. INVS.	35. GOV.'S PUB. INVS.	36. GOV. CON. INVS.	37. GOV. TRADE INVS.	38. FOREIGN INVS.	39. ΔS	40. TOTAL INVS.	41. ΣΣ GROSS PRODUCTION
											16	16	455
								1				1	1268
													235
													464
											10	10	1522
								3			46	49	885
								360			40	400	1392
								599				599	636
											1	1	609
													577
													142
								122				122	3118
								1085			113	1198	11303
													6647
													1043
													1126
													1305
													721
													535
													503
													5233
			296										1414
477	469			378									1324
	21												1012
													768
								391				391	1172
												391	1940
								91				91	477
													490
													–
													296
													378
													–
													394
													1414
													–393
													–389
													654
													–
													1680
477	490	–	296	378				1567			113	1680	

Source: Richard S. Eckaus, F. Desmond McCarthy, and Amr Mohie-Eldin, Multisector General Equilibrium Models for Egypt, Working Paper No. 233, Department of Economics, M.I.T., March 15, 1977, p. 31.

agricultural wages exhibited the same increases during this period. Wage increases in the agricultural sector reflect the scarcity of labor due to competition by the construction sector. Construction appears to be pulling labor away from agriculture.

This demand for Egyptian construction workers is both for internal employment and for meeting the gap created by the transfer of labor to other Arab countries. While detailed data on the employment of construction workers in other Arab states is not available, some estimates can be derived from the existing evidence. That evidence suggests that in the mid-1970s most Egyptian construction workers moved to Libya. The profile of Egyptian employment observed in the construction sector in Libya is representative of the wide range of skills possessed by the migrants (see Table 7-2).

The magnitude of migrant construction labor has been estimated by three different methods for the period 1974-76. The first relies on Egyptian government sources for emigration from 1968 to 1973, by type of skill and occupation. Making the necessary adjustments from the government's classification of skills to correspond with the construction sector and adjusting according to an assumption about this growth to 1976, we obtained an estimate of 58,600 Egyptian construction workers leaving for other Arab countries for that year.

The second method derives estimates of construction workers from the overall Egyptian movement to Libya, Saudi Arabia, and Kuwait. In 1975, 55-60 percent of all Egyptian workers went to Libya; Saudi Arabia drew 20-25 percent; Kuwait drew 8-10 percent; other countries accounted for the remainder. Utilizing data from non-Egyptian sources, we obtained estimates of the proportion of Egyptian migrants entering those nations in the construction sector. The percentages were: 50-55 percent in Kuwait, 50-70 percent in Libya, 30-35

TABLE 7-2

Egyptian Migrants to Libya in the Construction Industry

(1974 -- Private Contracts)

Occupation/Activity	Egyptian Sector	Libyan Sector	Total	Percent Total
Stonecutter	4	47	51	.19
Builder (mason)	279	1,839	2,118	7.71
Assistant Builder (mason)	10	2	12	.04
Whitewasher	960	3,336	4,296	15.65
Assistant whitewasher	45	147	192	.70
Painter	200	664	864	3.15
Assistant painter	-	2	2	.01
Reinforced concrete carpenter	994	4,282	5,276	19.22
Assistant concrete carpenter	13	40	53	.19
Reinforced concrete blacksmith	594	2,728	3,322	12.10
Assistant concrete blacksmith	2	16	18	.07
Reinforced concrete worker	5	16	21	.08
Blacksmith	6	49	55	.20
Machine worker for carpenters	-	297	297	1.08
Carpenter for doors & windows (joiner)	22	1,235	1,257	4.58
Assistant carpenter for doors & windows	-	1	1	.00
Concrete specialist	454	565	1,019	3.71
Assistant concrete specialist	-	2	2	.01
Tile fitter	218	1,490	1,708	6.22
Assistant tile fitter	-	1	1	.00
Tile maker	-	219	219	.80
Stone breaker	23	2	25	.09
Glazed tile worker	14	52	66	.24
Marble worker	13	95	108	.39
Wood cutter	120	524	644	2.35
Sanitary ware plumber	275	922	1,197	4.36
Assistant sanitary ware plumber	17	6	23	.08
Installations electrician	177	474	651	2.37
Assistant installations electrician	-	14	14	.05
Construction worker	414	2,905	3,319	12.09
Air conditioning worker	-	2	2	.01
Construction foreman	84	181	265	.97
Glass fitter	-	1	1	.00
Architect	27	34	61	.22
Civil engineer	46	149	195	.71
Specialist in concrete mixing	6	-	6	.02
Designer (draftsman)	8	7	15	.05
Floor carpenter	-	7	7	.03
Contractor	5	66	71	.25
TOTAL	5,035	22,419	27,454	100.00

Table 7-2 continued

Egyptian Migrants to Libya in the Construction Industry

(1975 -- Private Contracts)

Occupation/Activity	Egyptian Sector	Libyan Sector	Total	Percent Total
Architect	-	198	198	.90
Draftsman	21	11	32	.15
Construction foreman	54	23	77	.35
Assistant architect	50	12	62	.28
Architectural foreman	-	190	190	.86
Electrician	4	688	692	3.14
Sanitary ware plumber	5	1,122	1,127	5.12
Blacksmith	-	138	138	.63
Exterior wall decorator	-	3	3	.01
Concrete worker	1,083	675	1,758	7.98
Worker for ceiling covering	1	-	1	.00
Glass fitter	-	2	2	.01
Porter	232	2,077	2,309	10.46
Builder (mason)	499	1,297	1,796	8.16
Assistant builder (mason)	33	-	33	.15
Whitewasher	860	2,626	3,486	15.83
Assistant whitewasher	89	109	198	.90
Painter	224	678	902	4.10
Carpenter for concrete forms	1,037	2,576	3,618	16.41
Asst. carpenter for concrete forms	15	591	106	.48
Metal worker for reinforced concrete	708	1,066	2,274	10.33
Asst. metal worker, reinforced concrete	8	54	62	.28
Carpenter for doors & windows (joiner)	196	884	1,080	4.90
Tile fitter	302	1,109	1,411	6.41
Assistant tile fitter	1	42	43	.20
Tile maker	-	207	207	.94
Porcelain worker	-	33	33	.15
Marble worker	55	90	145	.66
Wood cutter	95	94	189	.86
Architectural worker	156	200	356	1.62
TOTAL	5,728	16,795	22,523	100.00

Table 7-2 continued

Egyptian Migrants to Libya in the Construction Industry

(1976 -- Private Contracts)

Occupation/Activity	Egyptian Private Sector	Libyan Private Sector	Libyan Public Sector	Total	Percent Total
Architect	22	33	6	61	.20
Electrical engineer	4	8	20	32	.11
Land surveyor	-	8	-	8	.03
Draftsman	2	-	-	2	.01
Measurer	93	20	-	113	.37
Construction foreman	109	156	2	687	.95
Assistant architect	-	19	9	28	.09
Electrician	178	916	82	1,236	4.09
Electrician for elevators	2	5	-	7	.02
Sanitary ware plumber	200	786	63	1,049	3.47
Electrician for bells and alarms	4	-	-	4	.01
Blacksmith	30	247	3	280	.93
Concrete worker	960	998	211	2,169	7.18
Glass fitter	-	45	-	45	.15
Porter	170	5,074	109	5,353	17.73
Builder (mason)	324	1,901	49	2,274	7.53
Whitewasher	1,054	3,211	150	4,415	14.52
Assistant whitewasher	16	10	-	26	.09
Painter	281	987	78	1,346	4.46
Assistant painter	-	1	-	1	.00
Carpenter for concrete forms	852	3,538	247	4,637	15.36
Assistant carpenter for concrete forms	-	6	1	7	.02
Metal worker for reinforced concrete	487	1,914	146	2,547	8.44
Assistant metal worker for reinforced concrete	-	5	-	5	.02
Carpenter for doors and windows (joiner)	47	383	18	448	1.48
Tile fitter	203	1,011	34	1,248	4.13
Assistant tile fitter	-	4	1	5	.02
Tile maker	-	9	-	9	.03
Marble worker	26	60	2	88	.29
Wood cutter	5	34	23	62	.21
Architectural worker	45	2,013	15	2,073	6.87
Insulation specialist	4	12	2	18	.06
Machine worker for carpenters	77	228	2	307	1.02
TOTAL	5,195	23,702	1,293	30,190	100.00

Source: Libyan Ministry of Labor, Department of Immigration; see Nazli Choucri, Richard S. Eckaus, and Amr Mohie-Eldin, Migration and Employment in the Construction Sector: Critical Factors in Egyptian Development (M.I.T.: Technology Adaptation Program, October 1978).

percent in Saudi Arabia, and 35-45 percent in the other Arab countries, based on Qatar and the United Arab Emirates. Applying these percentages back to the total number of Egyptian laboring in other countries yielded a total of Egyptian construction workers transferred each year in the range of 228,000 to 402,000.

The third method is based on information available for Libya which disaggregates labor movements in the construction sector, by type of skill, between 1974 and 1976. Data on masons and carpenters, electricians, and painters as a share of total construction workers going to Libya yielded an estimate of workers ranging from 126,000 to 583,000. This wide range is due to the numbers involved in each of the job categories and assumptions about the expected increase from 1973 to 1976.

The most robust median estimate is 200,000 to 250,000 construction workers transferred to other Arab countries in 1976. It is the most plausible, given all existing sources of data. While Table 7-2 shows a wide range of construction skills among the migrants, it also shows that roughly half are among the more skilled construction workers. (It is rational for the receiving countries to employ workers with higher level skills from Egypt and supply the lower level skills through transfers from lower wage areas such as North Yemen.) Domestic employment in construction in Egypt has grown substantially since 1973, but its growth has occurred by adding workers not previously employed in construction. Many of these workers have had to acquire the higher level skills lost through transfers. The overall effects upon Egypt are thus understated by simply comparing the number of workers who have migrated with the total labor force in the construction sector. Until new skilled workers can be trained, productivity will suffer even though there may be enough workers actually employed.

A summary view of these trends can be revealed by three additional statistics: about 9-10 percent of Egypt's labor force was abroad during this period; about 53 percent of all emigration was in construction activities; and the stock of Egyptians employed in construction externally can be estimated as equivalent to over 90 percent of the domestic construction labor force in 1978. This rather amazing figure indicates the extent of migration of construction workers during this period of time. Clearly many of these workers have to be formerly from the agricultural sector. It is the only economic sector large enough to supply close to half a million laborers without decimating its own ranks.

7.4 Consequences of Emigration of Construction Workers[5]

The migration of workers has been a major source of increased costs in Egypt's construction sector. While equipment prices and material inputs have not fully adjusted to increases in domestic demand because of the rationing of material inputs, wages in construction have adjusted to both domestic and foreign demands. The emigration of construction workers, with the shortage of skills that it creates, increases the average wage rate and extends the length of the time it takes to build a facility. The increased costs of construction have discouraged both domestic and foreign private investment. Public investment, on the other hand, seems to be only slightly responsive to the direct effects of increased costs in the construction sector.

Although the number of workers in the construction sector has absolutely increased despite the emigration, that increase has been accomplished only by dramatically raising wages. The higher wages induced the transfer of employed labor from other sectors as well as pulling unemployed or underemployed labor

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into the construction sector. To the extent that the replacement labor had been productive, there must have been some reduction in real output in other sectors. Although this may have been offset by an increase in the use of other types of factors, there has nevertheless been a real cost to that adjustment.

The higher costs of construction mean that the real value of investment, fixed in nominal terms, has decreased. The higher costs of investment are an especially important social cost in an economy placing heavy stress on accelerating its economic growth, in large part through increasing the rate of investment.

At the same time, the temporary nature of this movement reinforces the development of skills. The return movement is regular and frequent. The returnees often often come back with new skills, new financial resources, and new patterns of consumption.

There has undoubtedly been a redistribution of income to workers in the construction sector, in large part due to emigration. This is an aspect of the high wages in construction, but that redistribution does not work uniformly through the economy due to the imperfections and rigidities in the Egyptian labor market.

Clearly, the economy pays a price for the loss of labor whose training costs have been borne publicly. However, training costs may, to a considerable extent, be borne by the workers themselves. For example, in Pakistan it is apparent that most skilled and semi-skilled construction workers are trained on an informal basis. Table 7-3 presents estimates of the trade-wise costs of this kind of training.

The imperfect interconnections among labor markets and the extensive price controls in goods markets moderate the effects of construction migra-

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TABLE 7-3

Trade-Wise Unit Cost with Regard to the Training of Skilled and Semi-Skilled Workers

	Recurrent Cost	Depreciation Cost		Total Annual Trainee Cost Col.2 + Col.3
		Building	Equipment	
1. Mechanist/Fitter	2439	1222.06	1500	2722.06
2. Turner	2439	1214.52	4000	5214.52
3. Welding	2439	1301.27	5000	6301.27
4. Electrician	2439	1184.345	2000	3184.35
5. Radio/T.V. Mechanic	2439	1169.25	2000	3169.25
6. Auto-Diesel Mechanic	2439	1384.25	2500	3884.25
7. Carpenter	2439	1501.18	6000	7501.18
8. Plumbing Pipe Fitting	2439	1380.48	1100	2[illegible]0.48
9. Textile Machine Maintenance Mechanic	2439	2036.77	3100	5136.77
10. Weaving	2439	1357.85	2000	3357.85
11. Air-Conditioning	2439	1380.48	2000	3380.48
12. Sheet Metal Work	2439	1316.27	1000	2316.27
13. Civil Draughtsman	2439	1056.105	100	2056.11
14. Painting and Denting	2439	1301.25	1500	2801.25
15. Farm Mechanic	2439	1471.00	6000	7471
16. Leather Work	2439	1184.35	1500	2684.35
17. Foundry	2439	1801.27	2000	2801.27

Source: Ijaz Gilani, Pakistani Emigration to the Middle East: A Cost-Benefit Analysis (Pakistan Institute of Development Economics, 1981), p. 82, Table 7.

tion on the remainder of the Egyptian economy. Employment in public enterprises and government agencies, where wages are fixed, attracts labor because it provides a high degree of job security. Labor does not readily move out of these sectors -- unless the economic incentives to do so are strong.

7.5 The Future of Construction in Egypt[6]

In the course of this analysis we have updated the 1976 social accounting matrix (referred to in section 7.2 above) and adjusted it for 1977. In addition, we restructured the Ministry of Planning's 1977 and 1979 input-output tables to permit a comparison of the role of the construction sector between 1977 and 1979.

With respect to interindustry responses, Table 7-4 contrasts the construction sector's expenses for the two years. Clearly, by 1979 intermediate inputs in construction from the rest of the economy had declined. The figures in the table also show that the technical coefficients from almost all the sectors declined substantially.

Table 7-5 shows the percentage distribution of the total revenue of the construction sector, according to the different sources. Although the ratio between intermediate and final sales remained more or less stable between the two years, the composition of intermediate sales to the different sectors of the economy from the construction sector changed to a large extent. Sales of construction-related activities to oil production and oil refining grew between the two years, indicating both the expansion of these two sectors and the increased contribution of construction to them. The percentage share of intermediate sales to the oil extraction sector increased by almost eight times and that of the oil refining sector almost tripled.

Comparisons further indicate that the imports into the construction sector more than doubled from 13 percent of all construction inputs to 30 percent, as evident from Table 7-4. Finally, we note from Table 7-5 that the construction sector's disposition of gross output in terms of investment sector and the government sector declined slightly, whereas revenues received from the construction of private housing increased.

A subsequent chapter of this study -- in Volume II -- presents a short run macro-model of the Egyptian economy, based on the 1977 social accounting matrix, to examine the role of the construction sector, its impact on the economy, and the effects of alternative investment policies. This model is also utilized to examine the effects of workers' remittances and the macro-economic implications of such resource flows. The macro-model is designed to capture the essential characteristics of the Egyptian economy, with all its rigidities, distortions, and institutional idiosyncracies.

Over the longer run we expect an expansion in the role of construction in the Egyptian economy, at least well into the next decade. This assessment is based on the government's own plan for the construction of new cities and the reconstruction of the Suez, Port Said, and Ismailia areas. The latest development plan, covering the period 1982/83-1986/87, allocates one half of total investments to construction.[7] Labor will continue to be a major bottleneck unless problems of recruitment into the labor force and into the construction sector are resolved. Since the amount of construction activity in many Gulf countries is declining, the migration of construction workers to other Arab countries has undoubtedly leveled off and possibly even declined. The reduced demand and the influx of returnees will provide an expanded labor pool for construction. The remainder of this decade will require yet another major readjustment in the labor force toward a new equilibrium.

TABLE 7-4

Total Inputs to the Construction Sector

(percentage)

	1977	1979
1. Agriculture	0.0	0.0
2. Construction	.97	.29
3. Heavy Industry	7.04	4.05
4. Light Industry	9.83	5.47
5. Transportation	.37	.13
6. Rest of Economy	15.77	8.57
7. Suez	0.0	
8. Oil Extraction	1.33	.42
9. Oil Refining	.71	.29
10. Other Energy	.15	.02
Total Intermediate Inputs	36.17	19.24
Value Added Imports	50.85 12.98	50.63 30.13
Total Primary Inputs	63.83	80.76
Gross Input - * Gross Output	1366.54	1991.00

*The 1977 gross output is in current 1977 prices (in million LE); the 1979 gross output is in current 1979 prices (in million LE).

Source: Egyptian Ministry of Planning Input-Output Tables.

TABLE 7-5

Total Sales of the Construction Sector

(percentage)

	Agriculture	Construction	Heavy Industry	Light Industry	Transportation	Rest of Economy	Suez Canal	Oil Extraction	Oil Refining	Other Energy	Total Intermediate Sales	Household Consumption	Government Expenditure	Investments	Change in Stocks	Exports	Total Final Sales	Gross Output - *
1977 Construction	.06	.97	.12	.32	.76	.98	0.0	.04	.17	.03	3.45	11.47	5.55	79.53	0.0	0.0	96.55	1366.54
1979 Construction	.04	.29	.13	.38	1.26	2.45	0.0	.32	.42	.03	5.32	14.92	3.77	75.99			94.68	1991.00

*The gross output figures of 1977 and 1979 are in their respective current year prices measured (in million L.E.)

Source: Egyptian Ministry of Planning Intput-Output Tables.

CHAPTER 8

MIGRATION IN THE EDUCATION SECTOR AND IN THE MEDICAL PROFESSION

This chapter examines migration of skilled labor, specifically among professionals. Within the area of professional manpower three groups deserve specific attention given their propensity to migrate: university academic staff, school teachers, and members of the medical profession.[1] Temporary emigration of these professionals is similar in the relatively long training they must receive and in the impact of their departure on the quality of education and medicine within Egypt. One indicator of quality is the changing student/teacher and patient/doctor ratios over time. Clearly, such ratios are weak indicators, but they do yield a view of the load on the system. Examining trends in the medical profession in conjunction with those in education is warranted by similarities in the processes at hand.

The migration of education staff and administrators is especially important today because it represents a drain upon Egypt's own education resources while contributing little to their enhancement. Further, there is evidence of fundamental changes in styles and patterns in the migration of educators -- in response to changing economic conditions both in Egypt and in recipient countries -- that may shed light on future trends in other sectors of the economy.

8.1 The Emigration of University Academic Staff

An initial description of the temporary emigration of university academic staff provides an overview of the scope of migration and its institutional basis. This overview is presented here in terms of the structure of the

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flows, the causes and consequences of emigration, and governmental policy responses to this situation, will assist in placing the issues in context.

The temporary emigration of university academic staff, through a mechanism known as secondment, is the traditional pattern of movement. It dates back to the 1940s, although the pace has increased tremendously in the 1970s with the establishment of new universities in Arab oil producing countries. Secondment is essentially a system of officially loaning educators to other countries as part of their career development. There are rules governing this process and a fairly rigid procedure for its regulation. The demand for Egyptian university staff has increased among North African Arab countries like Algeria, Morocco, and Tunisia, particularly in response to the tendency to make Arabic the teaching language in their universities.

Educators constitute one of Egypt's most scarce resources.[2] It is conventionally believed that the costs to the economy as a whole as a result of this emigration may be extensive, especially when compared to other occupations. The logic is as follows: there is a relatively large amount of educational expenditure involved and a long gestation period needed to create a single member of the university academic staff. Whereas a skilled construction worker might be trained in one year, the matriculation of a Ph.D. will take twenty. In such a situation the emigration of a university staff member means more than the loss of a very scarce resource. The losses include the investment needed to replace the educator and the teaching which would have occurred had the teacher stayed home. Such arguments aside, the more pressing issue is that the migration of educators may strongly influence the nature of education in Egypt, the evolution of the system, and the creation of added scarcities.

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No one has demonstrated the full impact of this migration. It is especially difficult to untangle those effects due to migration from those due to the internal structure of the system itself and the pressures of growing numbers at all levels of education. We now see the conjunction of the effects of the 1952 revolution's social policies, of rapid population growth, and of the political commitment to assist other Arab states with their own education processes. Market forces -- the pull of higher wages elsewhere -- operate to exacerbate these joint effects.

8.1.1 Structure and Flow

Total migration from the three major universities, Cairo University, Ein Shams, and Alexandria, which in 1975 represented 80.6 percent of all university academic staff, were measured over a five year period (1970-1975). Migration in relation to the academic staff for these three universities is presented in Table 8-1. Staff members in the social or human sciences group show a higher propensity to migrate than those in the physical sciences group. In human sciences the number of staff members increased by 24 percent between 1970 and 1975, while emigration increased by 76 percent. In the physical sciences the staff increased by 29 percent during the same period, and emigration increased by 48 percent. Within this group the highest ratio of emigration was among the veterinary and agricultural sciences' academic staff, while the lowest ratio was among the medical and pharmaceutical staff. Professors of medicine are less likely to migrate because they are the highest earning group within the university, supplementing their salaries with private practice. In addition, there are no medical schools in most Arab universities.

TABLE 8-1

Academic Staff and Emigration of the Three Major Universities

(1970-1975 average)

Field of Specialization	Academic Staff			Emigration			Emig. / Acad. Staff %
	Avg.	%	var.	Avg.	%	var.	
Literature & Human Studies	328	9.16	756	74	14.70	385	22.56
Legal Studies	125	3.49	26	32	6.36	19	25.60
Commercial Studies	86	2.40	9	21	4.17	39	24.42
Economics and Statistics	52	1.45	101	16	3.18	3	30.76
Basic Sciences	464	12.96	2591	73	14.51	345	15.73
Medical Sciences	1097	30.65	11552	66	13.12	26	6.02
Pharmaceutical Sciences	134	3.74	410	9	1.79	2	6.72
Veterinary Sciences	94	2.63	88	14	2.78	35	14.89
Engineering Sciences	495	13.84	4105	86	17.10	444	17.37
Agricultural Sciences	480	13.42	3112	66	13.13	402	13.75
Educational Sciences	224	6.26	720	46	9.15	188	20.54
TOTAL	3579	100.00		503	100.00		14.05

Source: Calculated from Table 2 of the Statistical Appendix to Amr Mohie-Eldin and Ahmed Omar, The Emigration of Universities' Academic Staff, Cairo University, July 1978.

8.1.2 Determinants of Emigration by University Staff

Teachers migrate in order to earn higher wages, seize an opportunity for rapid and decisive economic improvement, and thus gain access to material goods. Wage differentials appear to be the single most important determinant of the willingness to move. Indeed, for most academic fields secondment is a much coveted opportunity. The government regulates such opportunities by a rotation system which specifies that educators return to Egypt for a period of time equal to their time abroad before seeking a second term abroad.

The evidence on motivation for seeking employment in Arab countries is admittedly slim. The data base is small and can serve only as the roughest of approximations for the issues at hand. It is a survey of 50 seconded members of the university staff carried out in July, 1977, during their summer visit to Egypt from their country of employment. They were working mainly in Saudi Arabia, Kuwait, the UAE, Iraq, Algeria, and Morocco. Before leaving, they were among the top 10 percent income class and possessed most of the consumer durables considered necessary for a comfortable life. Clearly such a sample is an unsatisfactory basis upon which to draw solid inferences and even worse with respect to generalizing to other occupations, but it does give some clues as to what might be going on.

The group represented about 10 percent of the total number of academic staff seconded to Arab countries. The average age was 41, though over 52 percent were in the 30-40 age group. Around 92 percent of them were married, and about 70 percent had 2-3 children. All were accompanied by their families. The mean income before leaving was L.E. 170. The average stay in the Arab country was three years.

Taking Kuwait as an example, calculations of the wage differential be-

tween Egypt and other Arab countries put the Kuwaiti salary at 11.7 to 12.5 times the Egyptian salary. This figure does not include important fringe benefits, such as free or subsidized housing. The members of the sample saved, on average, 43.5 percent of the income earned abroad. When asked for the reason behind their emigration, over 80 percent cited improving their standard of living and insuring the future.

University professors and staff are basically a fixed income group, with limited choices for alternative sources of income. As such, their real living standards are threatened by rising expectations and the continued high rate of inflation. Motivations for migration are clear: the high level of savings of income earned abroad enables them to meet future contingencies, such as buying a house or providing for death benefits.

Numerous other factors have been cited as increasing the propensity to migrate, such as escape from political problems in Egypt or a search for an alternative lifestyle, but they all appear marginal when compared with economic motives.

8.1.3 Consequences of Emigration by University Staff

Vastly increased earning power is a private benefit to the emigrant university staff member and his family. Higher salaries in Egypt are constrained by the absence of a free market for educators. They are part of the public sector where wages and patterns of movement are fixed by government rules and regulations. Furthermore, the shortages created by their emigration cannot be replaced, in the short or medium term, through the movement of labor from other sectors of the economy. This situation is different from the case of construction workers, where entry and exit respond almost exclusively to market conditions. University staff members also possess highly specialized

skills which preclude their being easily replaced by workers in other occupations. Thus, this emigration and the attendant higher income do not carry over to other sectors of the economy as does construction migration. Nevertheless, university staff migration does have its effects and there is some evidence suggesting the nature of both costs and benefits.

The most important potential social benefit is the savings of the emigrants. They are part of the net factor income from abroad and add directly to the national income of Egypt. Unfortunately, the migrants' actual savings have not necessarily resulted in social benefits. When the sample group, in the survey noted above, was asked its preferences for investing savings, they gave top priorities to housing, time deposits, and future expenditures. Since private housing is more or less dictated by a competitive market, the increased demand in face of constrained supply is reflected in rising prices for housing. The importance given to time deposits and to meeting future expenditures means that emigrants desire to preserve the high patterns of consumption acquired during their stay abroad. Since the level of income earned at home can no longer support their lifestyle, migrants spend their savings and then seek to work abroad once more. Further, a strong demonstration effect tends to raise the propensity for others to emigrate. In sum, the high demand for housing fuels inflation and exacerbates shortages while the consumption pattern harms the balance of payments because it supports importation of luxury goods without increasing Egypt's productive capacity. The desired social benefits have not appeared.

The most important direct cost of university staff emigration has been on the educational process within the university system. During the period 1965-1975 there appeared to be a significant difference between the rates of growth

of university staff members and of university students. Whereas the actual number of teachers and staff increased from 2500 in 1965 to 3900 in 1975 (56 percent), the total number of students grew from 103,000 to 235,000 (128 percent) over the same ten years.[3] As a result, the student/professor ratio deteriorated from 41:1 to 60:1. The faster rising student population has been balanced by an even greater rise in lecturer/instructor members to compensate for relatively fewer professors. This compromise has met with moderate quantitative, if not qualitative, success. The increase in the ratio of students to staff, as a result of emigration, reflects the burden that the educational system in Egypt bears in satisfying the requirements of other Arab countries while at the same time coping with increased student enrollment within Egypt.

8.2 Emigration of School Teachers

The emigration of school teachers goes back to the 1920s. Educational missions were first sent to the Sudan, then extended to other Arab countries long before oil became important. This form of migration has increased tremendously during the last decade and its overall nature has changed as well.

As with university staff, emigration of teachers takes three forms: missions, secondments, and private contracts. For missions, the Egyptian government pays all costs, including salaries; for secondments and private contracts, the receiving country defrays the expense. The Ministry of Education organizes and regulates missions and secondments, which currently last for a period of four years and sometimes extend to six. Their volume is determined both by the demands of Arab countries and by the needs of the educational system in Egypt. When supply does not meet demand, as is frequently the case, the foreign country recruits privately, outside the educational system. This free market includes public sector employees (from other

than from Ministry of Education) and new university graduates.

8.2.1 Recent Trends

Between 1967/68 and 1977/78 the total number of teachers increased by 53 percent, from 142,744 to 218,264 (see Table 8-2). During the same period, the number of teachers on secondment and mission to Arab countries increased by 543 percent, from 3140 to 20,639. The proportion of migrants increased from 2.2 percent of the total to 9.3 percent. The large increase occurred in 1971/72 when the flow increased by 76 percent over the previous year with the migration proportion rising from 3.7 to 6.3 percent.[4] After 1976/77 the flows declined because of a sharp cutback in the number going to Libya. Actual emigration exceeds these figures by as much as 30 percent, due to the migration of those spouses of secondary teachers who themselves are teachers.

The share of missions in the total annual flow of teachers has been dropping rapidly (70 percent of the total in 1967, 33 percent in 1971, 5.6 percent in 1974, 2.8 percent in 1977, rising to 7.7 percent in 1978). This decline is associated with the tremendous increase in emigration in the form of secondments. Missions are now limited to a few countries, such as Somalia, the Sudan, and the two Yemens.

The emigration of teachers by country of destination is presented in Table 8-3. It is clear that Saudi Arabia shows the greatest increase. Total emigration to that country rose from under one thousand in 1967 to 5042 in 1974 to 7700 in 1977, or a 37 percent share of the total in 1977. The number of teachers in Oman increased from 92 to 1450, in percentage terms from 2.9 percent in 1967 to 7 percent in 1977. Libya's share also increased during the period, from 17.2 to 31.1 percent in 1976, before dropping to 19.4 percent in

TABLE 8-2

The Number of Egyptian Teachers, 1967-1978

1967/68	142,744
1968/69	142,014
1969/70	153,923
1970/71	158,132
1971/72	160,987
1972/73	163,308
1973/74	169,265
1974/75	183,080
1975/76	194,247
1976/77	211,877
1977/78	218,264

Source: Ministry of Education, Government of Egypt, files obtained from Cairo University/M.I.T. Technology Planning Program, Labor Migration Project.

TABLE 8-3

Emigration of Teachers on Secondment and Mission by Country of Destination

	1967/68	1970/71	1974/75	1977/78
Saudi Arabia	1	355	5042	7700
Libya	539	1422	6157	3996
Kuwait	532	1214	1057	2035
United Arab Emirates	-	17	445	458
Oman	92	234	861	1450
Qatar	44	104	128	242
Bahrain	25	86	185	309
Algeria	599	1626	1989	1656
Sudan	590	630	734	1145
North Yemen	137	53	681	1353
Other Arab Countries	581	377	268	295
Total for Arab Countries	3140	6118	17547	20639
Other Countries	123	127	138	141
Total	3263	6245	17685	20780

Source: Ministry of Education, Government of Egypt, files obtained from Cairo University/M.I.T. Technology Planning Program, Labor Migration Project.

1977. Despite the increase in the annual flow to Kuwait, its share declined from 17 to about 10 percent. The same is true for Algeria, whose share fell from 19 to 8 percent. In 1967 all teachers in Algeria were on mission; in 1977 the entire stream of migrants went on secondment.

Teachers emigrate disproportionately from certain Egyptian governorates. Table 8-4 shows that Cairo, Alexandria, Damietta, and border governorates have a higher than average emigration ratio. In 1977 this ranged from about 14 percent in Alexandria and Cairo to as low as 6 percent in Buhaira. There is no evidence on whether the governorates differ in terms of shortages or surpluses.

The impact of emigration on the educational structure varies by subject. Nearly one-fifth of the stock of Arabic and English language teachers has migrated even though they are in short supply within Egypt. Other subjects for which there are domestic shortages, such as the social sciences, are also drained by significant emigration. The emigration ratio reaches as high as 49 percent in 1977 for teachers of handicapped children.

While teacher migration affects Egypt's school system, its impact on the education systems of the host countries is even greater. Taking Kuwait as an example, Tables 8-5 and 8-6 show that the dependence of the Kuwaiti system on Egyptian teachers has increased over time. Moving from primary to preparatory to secondary education, the degree of dependence also increases. The ratio of Egyptian teachers in certain subjects, such as French language, exceeds 80 percent. Kuwait has tried to diversify its teacher workforce and also employs Palestinians, Jordanians, and Syrians. One would expect the dependency on Egyptian teachers to be greater in countries like Saudi Arabia, Libya, and Oman.

TABLE 8-4

Emigration of Teachers on Secondment and Mission by Governorate of Origin and the Percentage of Each Governorate's Teachers Abroad

	1967/68	Percentage Abroad	1977/78	Percentage Abroad
Cairo and Main Office	768	3.11	4699	14.34
Alexandria	408	3.95	2026	13.42
Buhaira	103	1.39	807	6.38
Gharbia	197	1.96	1321	9.02
Kafr El-Sheikh	49	1.12	548	7.30
Manufia	252	3.08	1075	9.29
Kalioubia	125	2.02	835	7.86
Dakhalia	216	1.84	1515	9.68
Damietta	40	1.42	518	11.46
Sharkia	193	1.90	1273	8.26
Port Said	143	6.14	327	8.66
Ismailia	40	25.81	214	7.80
Suez	37	?	102	6.79
Giza	208	5.15	1111	?

Source: Ministry of Education, Government of Egypt, files obtained from Cairo University/M.I.T. Technology Planning Program, Labor Migration Project.

TABLE 8-5

Ratio of Egyptian Teachers in Kuwait to the Total Number of Teachers in Kuwait for Each Stage of Education

	Primary		Preparatory		Secondary		Total	
	Egyptian	Total	Egyptian	Total	Egyptian	Total	Egyptian	Total
1972/73	567	4725	1318	3661	2079	3198	3964	11584
Ratio	12%	100%	36%	100%	65%	100%	34.2%	100%
1975/76	1075	6323	1758	4508	2773	4266	5606	15097
Ratio	17%	100%	39%	100%	65%	100%	37.1%	100%
1978/79	1893	8230	3160	6449	4066	6068	9119	20747
Ratio	23%	100%	49%	100%	67%	100%	44.0%	100%

Source: Kuwait Ministry of Education, government files, obtained from Cairo University/M.I.T. Technology Planning Program, Labor Migration Project, and validated from source at Arab Institute for Planning, Kuwait.

TABLE 8-6

Percentage Ratio of Egyptian Teachers to All Teachers in Kuwait According to Subject of Specialization

	1974-75	1975-76	1976-77	1977-78	1978-79
General Subjects	10	12	16	18	17
Arabic	37	39	43	44	48
English	41	43	46	48	51
French	90	90	90	83	83
Social Subjects	24	24	26	27	28
Mathematics	53	56	58	59	62
Science	54	56	58	59	57
Arts	43	48	56	60	63
Sports	41	51	58	61	63
Domestic Sciences	82	83	86	86	86
Music	63	70	75	78	80
Psychology	71	68	64	66	66
Educational Means	60	60	60	60	60
Social Services	67	67	67	67	67
TOTAL	34	37	41	43	44

Source: Ministry of Education, Government of Egypt, files obtained from Cairo University/M.I.T. Technology Planning Program, Labor Migration Project.

Only 24 percent of the Egyptian teachers in Kuwait are seconded by the Ministry of Education; Kuwait recruits the rest from outside the educational system, in the free market. As Table 8-7 indicates, many of the other importers also recruit heavily for teachers on private contract. Of interest is when and how this recruiting became important. As noted earlier, the greatest expansion of secondments and missions occurred in the early 1970s. Growth continued after 1971/72, but the rate of increase slowed. This indicates the Ministry of Education approached the limit of how many teachers it would allow to migrate even before the real expansion of the labor importers' school systems began. Teachers on private contract clearly staffed that expansion, which is unfortunate for us because so little is known about that group. About all we do know is that wages paid to the latter group are lower, free housing is not provided, and most of them are university graduates with no real training or experience as teachers.

8.2.2 Determinants and Consequences of Teacher Emigration

Teachers tend to migrate for the same reasons that were cited in the discussion of university staff. Emigrant teachers receive from 7 to 16 times more than they would have earned in Egypt, including free housing. This income differential ensures a supply of teachers willing to be seconded, but the volume actually going abroad is determined by demand in the recipient country and the policy of the Ministry of Education. As we saw in the case of Libya for 1977/78, the foreign policy of both sending and receiving countries can affect the flows.

As with university staff, the costs include the expense and time to train those who emigrate. Although the loss is temporary, the shortage of teachers for certain subjects within Egypt is made more acute by the outflow. The same

TABLE 8-7

Percentage of Egyptian Teachers Abroad on Secondment and Official Missions as Opposed to the Total Stock of Egyptian Teachers Abroad (by Country)

	Secondment and Missions	Total Stock	Percent
Libya			
1974	6157	6165	100
1975	6822	6822	100
1976	6858	6859	100
Kuwait			
1972/73	1179	3964	30
1974/75	1057	4883	22
1975	1522	5953	26
1975/76	1522	5606	27
1976/77	1794	7400 (est.)	24
1977/78	2035	8500 (est.)	24
Qatar			
1975/76	192	553	35
1976/77	213	553	39
Oman			
1972/73	476	215	221 (?)
1973/74	495	477	104 (?)
1974/75	861	1168	74
1975/76	933	1302	72

TABLE 8-7 continued

	Secondment and Missions	Total Stock	Percent
Bahrain			
1975/76	197	699	28
United Arab Emirates			
1974/75	508	1530	33
Saudi Arabia			
1975	6603	15000	44

Sources:

1. Secondment and mission data come from a dataset compiled at Cairo University, based upon Ministry of Education files.

2. Egyptian teachers to Libya on private contracts which were added to those on secondment and mission to get the total stock come from "Statistical Report for Egyptian Workers with Personal Contracts to work in Libya for the year[s] 1974" [1975, 1976].

3. Kuwait 1975, Qatar 1975/76, United Arab Emirates 1974/75, Bahrain 1975/76, and Saudi Arabia 1975 total stock figures come from Birks and Sinclair, "International Migration Project Country Case Study: Arab Republic of Egypt," March 1978, p. 57.

4. Oman total stock figures come from Birks and Sinclair, "International Migration Project Country Case Study: The Sultanate of Oman (Part 1)," July 1977, Table 31.

5. Kuwait 1972/73, 1974/75, 1975/76, 1976/77, and 1977/78 total stock figures come from the Kuwait Ministry of Education.

6. Qatar 1976/77 total stock figure from J.S. Birks and C.A. Sinclair, Nature and Process of Labour Importing: The Arabian Gulf States of Kuwait, Bahrain, Qatar, and the United Arab Emirates (Geneva: International Labor Office), Table 11, p. 51.

problem of nonproductive use of savings as described for university staff applies to teachers as well. Social costs also come from declining efficiency in the educational system resulting from the rotation of teachers because of migration, expanding enrollments, and teachers concentrating their efforts on giving private lessons.

As with university staff, there is clear private benefit to the emigrants in increasing their income and savings. Their remitted savings also add directly to the national income of Egypt. Further, the country gains the net difference between the scarcity value of foreign exchange and the exchange rate at which emigrants transfer their savings into Egyptian currency. In a broader national context, one should not lose sight of the political and cultural returns: the emigration of teachers can be regarded as a special form of technical assistance and a means of extending Egyptian culture to the Arab world.

8.3 Some Observations on Emigration of the Members of the Medical Profession

It is important to distinguish between members of the medical profession proper (graduates of the faculty of medicine, dentistry, and pharmacology), on the one hand, and assistants to the medical profession (nurses, midwives, laboratory technicians), on the other. Information is available only for secondments of these two groups. Members of the medical profession who work in the private sector and move to Arab countries on private contract are not included. Table 8-8 presents the annual flow of seconded migrants from 1967 to 1978. Again, these figures only hint at the total volume.

Secondments of members of the medical profession from the Ministry of Health increased from 28 to 2,152 between 1967 and 1977. The big increase

TABLE 8-8

Annual Flow of Emigrants from the Medical Profession, 1967-1978

Year	Medical Profession	Assistant to Medical Profession	Total
1967	28	2	30
1968	79	8	87
1969	166	70	236
1970	615	404	1019
1971	1208	1322	2530
1972	1516	1814	3330
1973	1854	2584	4438
1974	2216	2951	5167
1975	1977	2867	4844
1976	1681	2681	4362
1977	2152	4107	6259
1978	1838	2533	4371

Source: Information collected from the files of the Ministry of Health, obtained from Cairo University/M.I.T. Technology Planning Program, Labor Migration Project.

began in 1971. It nearly doubled the previous year's increase and was over 10 times that of 1969. The increase peaked in 1977 (2,152), then began to decline (1,838 in 1978). But the decline was temporary: the figure for 1980 exceeded 2000, including 1546 physicians.[5] Secondments of assistants increased from 2 in 1967 to 4,107 in 1977. Once again the upward trend started in 1971 and continued until 1977, before falling in 1978 by 48 percent.

Throughout the period (1967 to 1978) for which relatively good data are available, Saudi Arabia, Libya, and Kuwait absorbed about 90 percent of the movement of both groups. Libya reached its maximum in 1973. Flows then fell through the end of the period to a level below that of 1970. The number of medical professionals moving to Saudi Arabia took off in 1971. For assistants the increase began a year earlier. The flow of both groups peaked in 1977, when it reached about 60 percent of the entire flow for the year. The flow to Kuwait increased from 18 in 1968 to 158 in 1977; Kuwait's share of migrants reached 9 percent that year.

Data on wages and salaries for members of the medical profession are not available. Nevertheless, since those seconded are part of the fixed income group and only some of them have private practices, one would expect the income differential to be the most important factor behind their desire to emigrate. Their supply to Arab countries is constrained by the secondment policy followed by the Ministry of Health.

The benefits of emigration for university academic staff and teachers apply to the medical profession as well: private acquisition of income and savings, remittances added to the Egyptian GNP, and the net benefit from the difference between the true scarcity value of foreign exchange (the black market rate) and the actual exchange rate at which emigrants transfer their returns. In addition there is a clearly visible effect of the emigration of

physicians to Arab countries: it raises the level of health and contributes to the improvement of welfare in the importing countries. There exists no assessment to date regarding the benefits forgone by Egypt associated with this type of migration.

The costs are comparable as well. In addition to the non-productive use of savings, the public pays a high price to educate members of the medical profession and their assistants. Doctors are not easily replaced and they are costly to import. Entrance to the profession is restricted; there are prerequisites and a long training period. There may be other costs related to the efficiency of the health system. Since the secondments are for at least four years, those who left in 1975-1978 would still be living abroad. One can only speculate about the potential effects of this situation in terms of depriving the Egyptian population of qualified physicians and support staff.

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CHAPTER 9

ASSESSMENT OF COSTS AND BENEFITS[1]

This chapter focuses on some of the costs and benefits associated with migration for the Egyptian case. They are assessed in terms of their social, economic, and political dimensions. We will return to this evaluation in Volume II, where we reassess the effects of migration and remittance policy for Egypt in the context of a short-run macro-economic model.

9.1 Benefits to Egypt

Evaluating the benefits of migration is not an easy task. There is uncertainty about the total numbers involved. Similarly, it is difficult to determine the relationship among the social, political, and economic gains because they are neither clearly additive nor multiplicative. The functional relations among various benefits are an area of marked uncertainty. Nonetheless, an enumeration of the types of benefits that accrue from migration is one step towards clarity. Such an evaluation is a prerequisite to calculating costs and benefits.

9.1.1 Socio-Political Benefits

First is the consideration that increased migration of both skilled and unskilled workers may decrease demands for employment. The governments traditionally respond to these demands by expanding employment opportunities in the public sector. Most of the time the additional employees do not contribute to

production or services, making them an inefficient albeit politically expedient use of labor. Eliminating some of the need for job creation can only help the government budget.

Second is the likelihood that migration reduces the level of social discontent and thus the possibility of mobilized political opposition to the government. The current intelligentsia, shaped by the revolutionary government's commitment to expanding education opportunities, serves as a reservoir of potential political opposition. Organized labor has intermittently objected to government employment and wage policies, but the laws against strikes constrain the effective mobilization of workers. By providing an avenue for advancement, or at least a higher standard of living, migration defuses pent-up demand among these groups. Allowing and even encouraging migration of the relatively unskilled also serves to reduce the potential domestic base from which a political opposition might potentially evolve. Since both university graduates and unskilled labor tend towards an ethos of radical fundamentalism, the domestic political effects of the migration of potentially dissatisfied elements might have greater than proportional benefits for domestic stability.

Third are the benefits associated with the diffusion of Egyptians in other Arab lands might serve to reduce perennial suspicion of Egyptian political motives, create a common labor force, and enhance inter-Arab communication. This effect is related to the cultural consequences of migration.

9.1.2 Socio-Cultural Benefits

The cultural benefits of migration are difficult to measure. Furthermore, these intangibles are largely inferential. For example, increased migration may increase Egypt's cultural influence over the Arab world, which may in turn enhance the desirability of and provide an added rationale for

importing Egyptians rather than other nationals.

9.1.3 Economic Benefits

Four sets of economic benefits stand out. First are the remittances of Egyptians working in other Arab countries. Their actual effects will depend on the extent to which migrants remit their savings and the extent to which the Egyptian government captures these remittances. Remittances grew to almost $2.7 billion by 1980, compared with $29 million in 1970. In 1980 remittances amounted to 11.1 percent of Egypt's GDP, making them a potentially enormous resource.

Second is expansion of the banking sector. The establishment of Arab banks in Egypt and the growth of Egyptian banking services enable nationals to hold accounts in foreign currencies and may encourage remittances by enticing those migrants who wish to hold their wealth in some other, supposedly more secure currency.

Third are the benefits to individual workers (despite the costs to the economy as a whole). Increased migration of skilled and unskilled labor have led to shortages of domestic manpower. Wages have risen due to the scarcity of labor, thus directly affecting the individual, even those who have not migrated. Clearly, however, such individual benefits also have social costs, as noted below.

Finally, there are the intangible benefits associated with the strengthening of public confidence in the government which may lead to increased remittances and domestic investment in Egypt. While it would initially affect only small businesses and small-scale industries, it could considerably improve the broad political atmosphere related to economic issues.

9.2 Costs to Egypt

The costs of migration can be viewed in economic and sociopolitical terms. Some are quantifiable, others are notably vague.

9.2.1 Economic Cost

With respect to the more tangible economic costs, nine sets of burdens are identifiable. First, the migration of educated and skilled manpower represents a loss for the country. It deprives society of both the gains associated with the use of the workers at home and of the returns from investment in their education. This is the direct cost of the brain drain for Egypt. Naturally, the loss is most pronounced in sectors such as medicine and higher education.

Second, in some sectors migration creates critical scarcities. Migration of educators and related staff exacerbates the pressures on the education system and contributes to the deterioration of education quality. In the construction sector migration creates shortages of skilled labor, leading to increased costs of construction output.

Third, the cost of educating the labor force may increase if migration creates incentives to acquire skills which are in high demand abroad. Similarly, the cost of training unskilled labor will increase because of incentives which encourage workers to migrate after obtaining vocational training or on-the-job experience in Egypt. To offset the loss due to migration, more unskilled workers must be trained.

Fourth, since the government seeks to capture remittances, increased migration will entail greater costs for the establishment of machinery to capture remittances and to monitor its effectiveness.

Fifth, sustained wide differentials between Egypt's and the labor importers' wage scales, increased use of the own exchange system, and increased remittances through official and unofficial channels may adversely affect the distribution of income in Egypt. Our evidence places average wages in the labor importing countries at 8-12 times their Egyptian equivalent. Emigration thus creates a class earning substantially above the average Egyptian income.

Sixth is the likelihood that uncaptured remittances that go to consumption can create socially visible evidence of accentuated income inequalities. Through the demonstration effect they place added burdens on government economic policies by creating an added interest group that demands imports of luxury goods and other consumer durables. These interests may be translated into a social cost by preventing the government from pursuing economic policies that may restrain the expansion of consumption habits. This assessment must be placed in the context of the fact that by the mid-1970s there already existed a strong interest group demanding luxury goods. The "open door" policy initially assured its development. Migrant workers simply reinforce and consolidate further an apparently strong set of interests.

Seventh, since remittances are not subject to Egyptian taxes, the government earns considerably less tax revenue as compared to the taxes that would have been paid had the migrants remained at home. However, efforts to tax remittances would only keep them out of Egypt or else entered illegally. This factor, in conjunction with the goals of the own exchange system, constrains government efforts to control both the flow of remittances and their use.

The eighth cost derives from above, in that the combined effect of the foregoing is to extend existing consumption patterns and activate new habits, thereby diverting that fraction of savings from income earned abroad that

could potentially go into investments in Egypt.

Then, ninth, is the fact that migration may erode the comparative advantage of Egypt's key institutions such as the education system relative to other Arab countries. Declines in the quality of education, for instance, will, at some point, reduce the attractiveness of Egypt as a source of educators for other Arab nations.

9.2.2 Socio-Political Costs

Despite their vagueness, socio-political costs are nonetheless important. For example, the migration of professional and skilled workers may reduce that fraction of the educated population that has an effective stake in the development of the domestic political process. In a country where education is at once a status symbol and a resource, the interests of the educated are critical to domestic political calculations.

Second, increased migration to Arab countries has mobilized nationalist reactions in the communities of destination. Officially the Arab countries are striving for an eventual replacement of migrant workers even though some may have to increase their immediate dependence on imported labor. The result has been much greater immigration control by the labor importers, which has placed an effective cap on how many Egyptians can get jobs there. Such a nationalist reaction could also be manifested in charges of Egyptian interference in the internal affairs of other countries. Any allegations of this sort would have detrimental effects on relations with Egypt.

Less immediate, but plausible, is the possibility that Egypt's political credit with the other Arab governments may be so damaged by the existence of a large and potentially activist Egyptian migrant population as to affect other issues and other dimensions of inter-Arab politics. If migration does not

directly create the damage, it may accentuate prevailing tensions. Should such development occur, the advances made in Arab integration since the 1973 war could be effectively eradicated, and with them possibly the new conciliatory posture on regional issues.

* * *

This review of gains and losses only enumerates the types of consequences associated with migration. Although it differentiates between political and economic effects, it does not address the possibilities of trade-offs among them. In addition, what might be viewed as gains (or losses) in the short-term may result in losses (or gains) in the longer run. An essential difficulty persists in aggregating across such fundamentally different types of costs and benefits. The clear, quantifiable economic factors represent only one aspect of a complex situation. As we note in Volume II, the economic effects, tangible and quantifiable as they are, constitute only one dimension and mask full effects of the factors reviewed in this chapter.

The concluding Part of Volume I focuses on policy issues, namely the evolution of Egyptian orientation toward migration and the types of policies that have developed in other Arab states in response to the flow of labor. An assessment of critical issues and prospects for the future is presented in the last chapter of this volume.

PART III

THE POLICY CONTEXT

CHAPTER 10

THE EVOLUTION OF MIGRATION POLICIES IN EGYPT

10.1 Regulation and Control Policies[1]

Since 1952 the Egyptian government has fashioned its migration policy in a piecemeal, pragmatic, and eclectic manner, despite a long tradition of sending educators and advisors to assist the governments of other Arab countries. As far back as the 1940s the government adopted and then expanded a policy of "lending" health and educational professionals to other Arab countries. Initially this "lending" was financed by the Egyptian government. However, over time these missions were almost completely replaced by government secondments financed by recipient governments. Nonetheless, Egypt continues to support missions to those countries whose governments cannot finance outside personnel, such as North Yemen.

Over the past decades, migration policy has varied from prohibition to regulation to encouragement. Two conventional views have been dominant: one advocates emigration as a solution to the population explosion and manpower surplus, the other emphasizes the negative consequences of stealing the country's strength embodied in its most productive elements. Counteracting those Egyptian planners who view emigration as a useful policy variable to reduce observable unemployment and potentially to influence the rate of population growth are the dissenters who argue that at least 250,000 Egyptians would have to emigrate annually in order to reduce the rate of population growth significantly. Some planners also argue that emigration will create shortages of skilled workers rather than ameliorate unemployment.

Migration policies have also developed in the wider context of "development strategy" and the ideological orientation of society. With the shift from socialist planning to a more free-market oriented economy, there have been corresponding changes in migration policies. Even today, however, there is a notable absence of formal migration policy, although the 1980-84 development plan mentions efforts to provide workers with skills in demand in the labor importing countries. Migration policy remains in the making.

Since the initial manpower lending policies of the early 1940s there have been three phases in the development of migration policies in Egypt. The first phase extended from the mid-fifties to around 1967 and was marked by its prohibitive nature. Before 1960 neither government officials nor the mass media made reference to migration. Emigrants included members of the long-established communities of foreign nationals in Cairo and Alexandria, as well as Egyptian Jews, who fled after 1956. In the early sixties the government began promoting the idea of emigration. Most of the writings on this subject had an encouraging tone. A ministerial committee for manpower was established in 1964. In 1967 it issued recommendations for broadly liberalized migration policies. However, a number of constraints made emigration difficult. The government specified a number of professions and "productive" groups which were barred from emigrating.[2] There was an active policy of containing manpower within the country which bordered on harassment. Moreover, there were various laws concerning civilian conscription. Given the revolutionary aura of the early sixties with the emphasis on socialist development and self-reliance, there was little room for migration issues.

The second phase in the development of migration policy extends from 1967 to around 1973. It was characterized by ambivalence and indecision. Signs encouraging emigration appeared, including the establishment of an emigration

department in the Ministry of Foreign Affairs (1969) and the establishment of a committee to promote emigration (1969), presided over by the Ministry of Labor. Yet constraints on emigration were still on the books. The advocation of restrictions came principally from those ministries connected with development and health services on the grounds that Egypt needed its skilled manpower and the country should reserve the right to protect the public from impending shortages if workers were allowed to migrate. The issue was widely discussed in the mass media between 1968 and 1970.

In 1969 the number of applicants for migration reached a peak of 28,000 compared to some 15,000 in the preceding six years. The rush to emigrate caused alarm in some quarters, and a new debate arose. Permission to emigrate was suspended, pending further study of the situation. In 1970 the government opted for regulating emigration. Laws were designed to encourage migration except in critical areas, where quotas were assigned.[3] These included the fields of medicine, engineering, architecture, statistics, and high school teachers of language, geography, and history.[4] As for Egyptians with graduate degrees, their applications were to be reviewed individually by the ministerial committee for manpower.

The third phase began in the early 1970s. Following the death of President Nasser in September 1970, and the Sadat-Sabri rift in May 1971, Egypt expressed a new set of socioeconomic preferences, including a more liberal emigration policy. The 1971 Constitution established permanent or temporary emigration as a right of citizenship. In the same year a law was passed granting emigrants the right to reclaim their former government positions within one year of their resignation. The following year the Council of Ministers eased certain regulations and simplified procedures.

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After the war of 1973 the Sadat regime proclaimed an "open door" policy for foreign investment in Egypt and Egyptian migration abroad. Exit visas, which had been very difficult to obtain since 1962, were replaced by casually granted travel permits in 1974. Passports, previously issued under the strict central control of the Ministry of the Interior, are currently available at local police stations within 24 hours of application. A comprehensive bill of 1975 allows for dual nationality. Regulations concerning the civil conscription of new graduates in engineering, medicine, and other disciplines have been eased in terms of the number of years of service required. (During the period of conscription, however, an employee cannot resign or emigrate.)

In 1975 the People's Assembly ratified the treaty for manpower movement between Arab countries. Members of the Arab League signed the treaty in an effort to encourage manpower movement between Arab states. In the following year a presidential decree established the Higher Council of Manpower and Training, headed by the Prime Minister. The decree defined the three objectives of manpower policy: first, the satisfaction of economic and social development requirements; second, the fulfillment of the needs of Arab and friendly states; and third, the fight against all forms of open or disguised unemployment. Thus by 1976 the export of labor became an officially recognized policy objective.

Some aspects of current migration policy appear in the Plan of 1980-1984. Authorities formally expect that the number of migrants will increase from the official figure of 600,000 (6.1 percent of the labor force) to 975,000 in 1986. (As noted earlier, our estimates place the actual figures significantly higher.) No attempts will be made to stop this flow. Rather, the plan includes a commitment to create centers of vocational training and technical education, with the aim of training graduates to work abroad in African and

Arab countries.

Egypt has concluded a number of agreements with recipient countries: Libya (1971),[6] Bulgaria (1972),[7] and Qatar (1974). There have been similar negotiations with Greece, which by the mid-1970s had some 25,000 Egyptian workers; however, disagreement over insurance issues has prevented the signing of any agreement.[8] These agreements cover such issues as entry facilities, social insurance, and the resolution of legal disputes.

Egypt has opened labor offices attached to its embassies in Iraq, Greece, Libya, and Qatar. In Saudi Arabia there are two offices, one in Jedda and the other in Riyadh.[9] These offices study the labor market and oversee Egyptians working in the country. They also seek to establish contacts with the labor movement of the host country.[10] Furthermore, private recruiting agencies may have direct government support.

The government engaged in surveying the Arab countries' requirements for manpower and "matching" these from Egyptian sources.[11] Recent talk of developing vocational programs aimed at Arab markets is indicative of this new orientation. Brokerage agencies have been created for mobilizing and channelling Egyptian migrant outflows.[12] These agencies operate not only as facilitators for migration but as active agents for influencing individual decisions to migrate. Although these firms are largely private, the government has recently started activities in this area.

The government has taken steps to protect its citizens from exploitation abroad. A bill proposing regulations on travel by Egyptian workers was requested by the Cabinet early in 1982. It was to make travel permits by workers subject to prior contracts specifying the job and the salary.[13] A modified ruling by the Ministry of Manpower and Vocational Training decreed

that by the end of 1982 Egyptian workers could apply for jobs abroad only through authorized employment agencies. An office was opened at the Egyptian embassy at the UAE, adding to the countries officially open to Egyptian migrants.[14] The ruling -- if it can be enforced -- would enable authorities to effect some selection of migrants according to national needs, as well as represent the interests of Egyptian citizens abroad.

10.2 Policies Affecting Consumption and Remittances

The Egyptian government, in its efforts to encourage emigration, has removed or relaxed controls that ensured that a portion of money earned abroad would be remitted and that such remittances would not be spent on imports. In 1975 it abolished a law that made it mandatory for married Egyptian workers to remit 10 percent and unmarried workers 25 percent of their earnings.

In 1974 it also formulated the "own exchange" system, which permits emigrants to use their foreign exchange earnings from abroad to import consumption and capital goods without requiring any import licenses, provided the items cost less than LE 5000. But while the own exchange system encourages remittances, it also allows non-productive use of them. To tempoer that happening, however, all imports under that system are taxed at high rates as luxury goods. At one point the duty on automobiles was 100 percent of purchase price. To encourage savings, the Economy Ministry allows remittances that have been deposited in local banks as Egyptian pounds to earn interest equivalent to dollar deposits.[15] The Egyptian government has established banks in the United Arab Emirates and plans to establish one in Kuwait, to which Egyptian workers in Kuwait will contribute 45 percent of the $20 million capital. The expansion of banking facilities and increased usage of financial instruments seems to suggest that the government views emigration as more than

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a temporary phenomenon. There are also schemes to channel the savings of professional Egyptians earning high salaries in the Arabian Peninsula into productive investments through the issue of bonds on advantageous terms. (project, announced by the governor of Ismailia in 1980, was to raise $14.5 million from Egyptian workers in other countries to pay for a 3360-hectare agro-industrial complex.[16]

Two other measures have contributed to foreign savings and to remittar rather than expenditures on luxury goods. The devaluation of the Egyptian pound in May 1976 has meant that Egyptians could legally remit income at a rate much closer to the black market rate. The anticipated effect of this measure, together with the difficulties of enforcing previous legislation, probably explains the abolition in 1975 of mandatory remittances. Optimism was nonetheless tempered by the fact that remittances in hard currency for financial year 1981 were down 37.6 percent from 1980 (from $1215 million in 1980 to $758 million in 1981). Among the reasons cited for the unanticipat shortfall were the tighter controls in Egyptian banks and the premium excha rates still prevailing on the black market.[17] As noted earlier, by early 1 the government announced a figure of $2.7 for remitted earnings.

Government efforts to control the flow and utilization of remittances constrained not only by the own exchange system, but also by the fact that Egyptian taxes are not levied on remittances. The opportunity cost of fore gone revenue from taxable earnings on work in Egypt is a price paid by the government for the remittances. In Volume II we examine the real economic costs and benefits of remittances, in the context of a short-term macro-economic model.

All of these measures encourage emigration by providing emigrants with greater freedom to use their foreign earnings as they choose, yet they do not ensure that money will in fact be remitted or used productively. Nonetheless, there is considerable evidence that government measures plus the "open door" policy have succeeded in encouraging capital inflows. The most recent government figures indicate that 67 percent of resources flowing through the banking system under the "open door" measures are by Egyptian nationals, in contrast to a mere 2 percent of resources controlled by U.S. nationals.[18]

10.4 Policy Measures in Education[19]

The increasing scale of secondments to other Arab countries puts pressure on Egyptian authorities to organize this process. Two laws deal with secondments, one passed in 1958 and the other in 1972. A comparison of the two laws shows an increasing attempt to safeguard the quality of the Egyptian system in spite of the drain caused by temporary emigration. The law of 1958 tried to constrain secondment by requiring that the occupation to which the staff member was seconded be commensurate with his ability, verified by his employer. The state introduced a new limitation in 1972. It decreed that secondments should not in any way affect or disturb the efficiency of the department, college, or institute concerned. As a guarantee, a certain ratio for secondments had to be established. By consensus, the universities set the ratio at 25 percent of the members of any department. While the first law did not limit the period of secondment, the second law specified a maximum period of four years extendable to six years in cases of national interest. However, under no circumstances would the secondments exceed ten years during the working life of the staff member. The new law decentralized decision-making on secondments -- previously a privilege of the Minister of Higher Education

-- by giving autonomy to the universities.

The attempt to regulate the secondment process illustrates the very real dilemmas confronting the government. The desire to continue to help Arab countries in their educational development coincides with the individual benefits to the educators. Together these factors may run contrary to Egypt's own interests in protecting the quality of education for its citizens and encouraging teachers to remain with the Egyptian system and develop a commitment to it. The opportunity to work abroad and still retain one's professional affiliation at home deprives Egypt of its best teachers -- since secondment is often granted as a reward for good services. These laws are designed to meet multiple objectives without further burdening the system. On balance, however, it appears that migration-related policies in the education field benefit individual educators and administrators who gain from migration, rather than benefiting the entire education system in Egypt.

10.5 Ministry for Immigrant Affairs

The establishment of the Ministry of Immigrant Affairs in early 1983 represents the government's strongest formal recognition of the political importance of migrants. The scale of migration had become such that a separate agency was deemed necessary. Its first Minister, Albert Barsoum Salama, serves in the People's Assembly in a designated seat. The decision to establish the Ministry reflects an acknowledgment that migrant workers were becoming a potential political force, and that a mechanism for articulating their interests was required. The Ministry's mission at present is mainly as a forum for addressing the concerns of migrants. It is not empowered with discretionary power, nor is it endowed with a large budget. Nonetheless, this

move represents an important step and a departure from the posture of the previous decade.

CHAPTER 11

POLICY CONTEXT OF THE EGYPTIAN CASE

This chapter places migration of Egyptians in a broader context of the region's political economy. The migration of Egyptians is shaped by political conditions, economic incentives, and individual preferences. This chapter seeks to tie the influences of these three sets of factors and highlights the broad policy orientations available to Egypt.

11.1 Economic Incentives and Individual Responses

Given the evidence and information from three groups -- educators, the medical profession, and construction workers -- and evidence in the chapters of Volume I, it becomes clear that migration in Egypt responds to four economic factors -- perhaps even in the following order of importance:

First are wage differentials: differences between wages in Egypt and those in other countries constitute the major initial condition for migration. While necessary, it is not sufficient. Other conditions must hold.

Second is job availability: the existence and knowledge of employment opportunities is a second necessary condition for migration. The expectation of work and the availability of work are both essential for motivating migration. While instances of mobility in search of work exist, the expectation is that employment opportunities do exist.

Third are recruitment procedures: migration is most prevalent where procedures for enlisting migrants exist. The existence of mechanisms or agencies to assist, recruit, and regulate is a major facilitator of availability. It

may actuate the potential effects of the other factors.

Fourth are cost thresholds: the propensity to migrate must at a minim cross a certain cost threshold. A certain level of burden or cost must be accepted and regarded as lower than the potential gains due to wage differe tials and/or job availability.

This last factor is critical; there is evidence to suggest that under certain conditions, despite wide differentials in wages, employment opportu ties, and the existence of recruitment procedures, individuals faced with s opportunities elect not to migrate. For example, the phenomenon of refusin secondment appears to have become common among Egyptian educators. The con ventional explanation is that opportunities exist to supplement their salar in Egypt through private lessons. Although these supplements do not elimin the wage gap, they reduce it sufficiently to make migrating not worth the costs. Refusals, therefore, reflect a desire to satisfy basic economic obj tives rather than to maximize total income.

11.2 Political Factors[2]

The role of political factors and of government policies as facilitato for migration cannot be ignored. The change in government orientation in Egypt -- from opposition to migration to active support -- served to enable migrants to exercize the option of migrate. Abolishing the exit visa has h more than psychological impacts. A government that projects support for it nationals in their quest for employment abroad is one that inevitably assum greater responsibility for facilitating the process -- and capturing the benefits.

Inter-Arab cohesion has been at the forefront of Egyptian internationa policy since World War II, despite the peace with Israel. The cost of this

peace has been as much symbolic as pragmatic. Beyond the disagreements over the Camp David accord, one obvious casualty of Egyptian relations with Arab states was the economic assistance foregone. However, the country's earlier dependence on Arab grants, loans, and outright gifts to meet its foreign exchange requirements has, for a period, been replaced by income from oil sales, the Suez Canal, remittances, and tourism, in conjunction with aid from the West. Thus the practical effects of discord were greatly minimized.

When viewed in the regional context, additional issues accentuate Egypt's predicament with respect to migration policy. First is the increased flow of the citizens of other Arab countries into Egypt. Initially this flow was motivated by the October war and the rise in oil prices. Between 1973 and the Camp David agreement citizens of other Arab states came to Egypt in large numbers. This Arab migration was motivated not by economic incentives (such as prospects of higher wages), but by opportunities for more varied consumption and access to cultural, social, and other benefits. The peace with Israel dampened this movement, but the war in Lebanon served to reactivate Egypt's attraction for other Arabs.

A second issue is the fact that this inflow taxes the state's social services and available amenities; distorts prices and wages; and alters the composition of the domestic (non-migrant) labor force. There are no constraints on Arab movement to Egypt, nor on location, residence, or duration of stay. There are also benefits, of course, tied to resource flows, greater disposable income, and the like, yet critics of Arab mobility into Egypt are quick to point to the inflation generating dynamism and attendant distortion.

A third set of issues emerges from the conjunction of migration of manpower to other Arab countries and the flow of Arabs to Egypt. This two-way

flow creates an interdependence in the region which bears directly upon the question of inter-Arab cohesion. This interdependence also creates political constraints on any economic calculations of costs and benefits of migration. Indeed, politics tends to dominate other issues in shaping a government's response -- or lack thereof. The irony is that an improved political atmosphere in the early 1970s contributed to the immigration of Egyptians, yet the government is reluctant to press for further advantages vis-a-vis other Arabs. For instance, Arab universities continue to have priority on their staffing needs, and Arab students in Egyptian universities continue to pay only the most nominal of tuitions. There is a conscious policy posture on the part of Egyptian to nurture -- not criticize or threaten -- their relations with other Arab states despite the vagaries of day to day politics. Even at the height of diplomatic discord following the Camp David agreements and despite Sadat's often vitriolic rhetoric, no one was willing in fact to threaten the fabric of this interdependence.

11.3 Alternative Policy Orientations

Although Egypt's migrants represent an important resource to be exploited by the Egyptian government because of their importance to the economies of the recipient countries, there continues to be no concerted policy of utilizing this resource for national development or for exploiting diplomatic advantages. Nonetheless, there are policy options available to the Egyptian government for capturing further the benefits of its migrant labor and planning migration in a broader context of diplomacy, negotiation, and concerted interdependence. Four sets of policy options are especially noteworthy in terms of highlighting their "public goods" aspect in a broader regional context.

First are the unilateral policies such as levying taxes on individual migrant earnings. This policy has been suggested in various circles, but never seriously entertained, either in the Middle East or elsewhere. The difficulties of raising and collecting such a tax are extensive, given the problems of control, monitoring migrant earnings, and devising means of extraction. In the Middle East, any effort to tax the individual migrants will be fraught with practical difficulties and would mobilize a new interest group in opposition to government policies. A coalition of skilled and unskilled migrants would constitute a powerful obstacle to the effectiveness of such a policy.

A second set of policy orientations centers around bilateral agreements which would permit the Egyptian government to charge recipient countries for the employment of Egyptian manpower or to develop an "exchange rate" for manpower transfers. The rate would depend upon the composition of workers, their duration, the tax structure of the recipient country, and possibly the value of remittances.

A third set of policy approaches is to develop international rules and regulations for remunerating state-based contributions to manpower development on a regional basis. All participating Arab states could become involved in devising the means and procedure of exchange. The institutional basis for such an approach already exists in terms of regional organizations, such as the Arab League or the Organization of Arab Petroleum Exporting Countries.

A fourth area of policy innovation is to develop a consortium of major interests (or parties) participating in the flow of manpower by industry and occupation and devising exchange policies that would be agreed upon and implemented on a state level. The consortium could serve as a clearing house for "matching" supply and demand for labor and targeting for "optimal" use of

manpower.

Each of these policy orientations entails different operating assumptions and costs and benefits. Each will inevitably confront a set of powerful constraints. Nonetheless, these options highlight the range of possibilities involved and serve as the basis for elucidating the policy spaces for this issue.

Options two, three, and four place the migration issue in an international context and seek to employ labor movements as a focal point of an overall exchange between Egypt and the Arab states. That exchange would be designed to enable each country to capitalize on its respective advantages in the broad regional context. A key criterion for defining the nature of such an exchange, based on a state-to-state agreement, is the following: to find a procedure for channelling national resources to support services that benefit the region directly or indirectly without jeopardizing national objectives. The underlying principle is to tax human capital movement and to direct physical capital flows to affect and/or maintain human capital flows.

A state-based levy in terms of bilateral, international, or a consortium of sector interests would entail two principal features. First, an Egyptian state charge for the migration of labor (appropriately corrected for the direct economic gains to Egypt of this migration) and, second, an Arab commitment to investments in those services located in Egypt that directly benefit the citizens of other Arab states. The prospect of mutual gain should motivate the adoption of these principles. In addition, they would enable Egypt to capture some of the benefits associated with the migration of labor without effectively reducing the individual incentives to migrate. Egypt could channel investments to those internal sectors that are most directly

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affected by Arab migration and that, in turn, benefit the Arab communities most directly.

From the Egyptian point of view, the major incentive for such an exchange, as opposed to policies of either taxing the earnings of individual migrants or simply ignoring the migration, is to recover some of the costs of migration while keeping its role as a major labor exporter. Taxing the migrants would require the cooperation of the labor importers, making Egyptian workers relatively less attractive. To prevent that some larger framework for agreement is necessary.

From the perspective of the other Arab countries, the major incentive for such an exchange is the possibility of encouraging a long-term redistribution of skills in the region. Planning for technological change may be facilitated by the assurance of orderly access to regional skills.

An exchange policy based on cooperation rather than unilateral orientation entails a mind shift from independence or dependence to one of acknowledged interdependence. Arab solidarity is predicated on the premise of interdependence, which to date has been demonstrated largely in terms of bilateral dependencies: Egypt's dependence on Arab economic assistance, and Arab dependence on Egyptian manpower. Placing this dual dependence in a framework of regional exchange would substantially affect the dominant idiom of inter-Arab relations and of the perception of Egypt as an ever-present drain on Arab resources. It would provide a political and economic rationale for mutual claims on national resources, the exchange of which would result in shared benefits.

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11.4 Policy Orientation Toward Asian Migrants

Managing the Asian component is an increasingly critical challenge. At this point in time -- the fifth phase of migration in the Middle East -- policies for regulating inter-Arab labor movements cannot ignore the effects of, or impacts on, labor from Asian countries. The management of Asian flows will increasingly become an important element in manpower policy development for almost all countries of the region.

From Egypt's perspective two issues arise with respect to Asians. First is whether Asian labor will substitute for Egyptians and in what occupations. Second, whether Asian labor will enter the Egyptian labor market in any sizable numbers. The evidence presented in Chapter 3 seems to suggest that Asians are positioned (or are positioning themselves) in certain occupations which are in conflict with an Egyptian presence. Given current trends, it is unlikely that Egypt will be able to mobilize a policy posture to retain its advantage wherever it might be. But the policy issues still remain. With respect to Asian entry into the Egyptian labor force, so far it is of minor proportions -- in construction and in the services -- but it is organized and structured. The regulation appears to be made more by the Asian side than by the Egyptian. Increased visibility of Asians, however, could necessitate overt policy responses. To date there is no evidence of protectionism, but such postures can emerge on short notice.

Migration in the Middle East is shifting the bargaining power for all states involved. How that power is used will have not only national but regional implications. The extent to which Egypt shapes and maintains its bargaining power -- either by arguing that the other Arab countries will gain by contributing to the development of Egypt's manpower resources, or by

proposing to withhold its labor from other Arab states if common, mutual, and shared regional gains are not envisaged -- will, in turn, determine the broad lines of foreign policy and economic policies for the rest of the decade.

11.5 Policy Context for the Education Sector

In the education sector the institutional linkages between Arab countries suggests that two sets of policy areas must be distinguished: those pertaining to the education system per se, and those bearing on channelling benefits due to migration. This distinction is important for Egypt, whose role in the region continues to be that of the arch-educator.

It is essential for the education system in Egypt to focus on quality controls. The deterioration of the public system is aggravated by officially sanctioned teacher migration, which constitutes an added burden on the system and attendant facilities. The government may consider rewarding individual teachers in accordance with school attendance and student performance in examinations. It might also make instruction within the school system itself a vehicle for reward by reducing incentives for private lessons. Each of these possibilities is severely constrained by resource shortages, despite the large government allocations for education. The prospects are not good, however, since the teachers' income is sharply increased by private lessons.

Lowering the "norm" for the student-teacher ratio in conjunction with appropriate financial incentives might entice teachers to decide against migrating. But the proverbial bottom line is economics: finding means to channel resources for teachers emerges as an essential condition for protecting quality of education. The opportunity for migration might be recast in the guise of an opportunity for alternative service rather than a reward for good service. Thus the Ministry of Education may well reconsider selecting

its best teachers for secondment and instead provide incentives (associated with annual bonuses) for service in Egypt.

On balance, however, to be effective any policy context must recognize both individual benefits and social costs. Specific policy responses can then be devised in view of this directive. Educators must voluntarily accept changes in current secondment practices. Coercive measures will lead to teachers quitting so that they can migrate on private contracts.

11.6 Policy Context for the Construction Sector

Turning to the policy context for the emigration of construction labor, the analysis has made clear that the development processes of the Arab countries are interrelated through their common use of the Arab labor pool. This interrelationship is particularly significant with respect to the achievement of investment targets, given the large proportion of construction output in those targets and the critical role of skilled labor in construction output.

The interrelationships among development programs of Arab countries suggest opportunities for improvement through coordination. Yet to realize such an improvement the different countries require a means of balancing their relative needs. Some countries, particularly those exporting oil and importing labor, would resist any change which restricted the availability of construction labor. Political factors must be considered if coordination of development programs is to take place. The oil exporting countries have improved their political position in the region by virtue of increased wealth, not by the coordination of programs. Whether they can maintain that position without coordination remains to be seen.

It is unlikely that international coordination of development programs will be achieved in the region when areas such as Eastern Europe, where conditions appear to be more conducive to such coordination, failed to do so. Moreover, it is unlikely that, in the present political climate in Egypt, constraints could be placed on the free flow of construction labor to other Arab countries. Thus the first task of Egyptian policy-making with respect to the flow of construction worker emigrants is to capture an increasing share of the potential benefits associated with migration and to ease the domestic adjustment to emigration.

As noted earlier, a substantial part of remittances are repatriated under the system of own exchange imports. Although detailed information on the commodity composition of imports under the own exchange system is not available, it is thought to contain a relatively high proportion of consumer goods. Given the social goals within Egypt of accelerating the rate of growth and, therefore, the rate of investment, it would be preferable if more of the foreign exchange generated by remittances were available for the purchase of investment goods. In order to achieve such a redirection, it is necessary to make it more attractive for the earners of remittances to sell their foreign exchange to the Egyptian banking authorities.

To increase the total of earnings abroad by construction workers, a review of the factors leading to the successes of the Arab Contractors, though beyond the scope of this report, can be instructive. The Arab Contractors is a major construction firm in the Arab world, created by Osman Ahmad Osman, the notable Egyptian entrepreneur. That institution is in itself anomalous, in the sense that its successes emanate from the operation of the entrepreneurial capitalist system unfettered by state intervention or government regulations. Its sheer size defies control, and in effect it operates as a large-scale

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private institution of public sector proportions.

In the Arab oil exporting countries, the competition for construction contracts appears to have increased. There might be some cost advantages to integrating the recruitment of labor and its employment in the other Arab countries by Egyptian contractors, thus providing a competitive edge for the use of Egyptian labor. The labor importing countries in the region are increasingly seeking out labor from those countries which provide workers in such an organized fashion, particularly Korea and Pakistan.

To facilitate domestic adjustment to emigration, organizational devices might be established to divert labor which is underutilized in its present occupation to the construction sector. This involves attracting workers from agriculture and the public sector.

The training of construction workers is a corollary to recruitment. Previous experience with the training institutes in this sector has not been successful. The enrollment and outputs of these institutes have been too small to affect the overall supply of skilled construction labor. Nonetheless, the number of construction workers has been increasing and, presumably, the necessary skills are being generated. It would be desirable to improve our understanding of the training process to determine if there are points at which government intervention, through subsidies or by the creation of dispersed training facilities, could aid the process.

The adjustment within Egypt to the loss of a large proportion of the construction labor force, which, in turn, is such a critical part of the labor supply, has been remarkable. It is not surprising that there have been major problems; rather, it would have been surprising had this not been the case. Clearly, the most difficult of the problems are behind Egypt. Problems are

now more manageable than would have appeared several years ago, due to a greater appreciation of the scale involved and a new, conscious effort to reduce bottlenecks in construction.

11.7 Macro-Economic Context

In Volume II of this study we present a detailed analysis of migration-related issues in the context of macro-economic short run model for Egypt. To conclude this review of policy issues, we highlight some of the results. One notable result is that increased remittances *per se* do not contribute to increased inflation. The important effect is an increase in income in the hands of consumers and the surfacing of this income reveals to some extent their confidence in the economy.

11.8 The Regional Context

The broader policy context of the region as a whole must be acknowledged at this point. Interdependence in labor markets and in financial flows creates an environment where the policy orientation and responses of Arab states to their own manpower predicaments is an increasingly important input for Egyptian policy-making. Labor policies in all countries of the region have spillover effects that impact upon other countries. This "spilling over" is still at an early stage and will, in the years to come, generate policy-interdependence in the management of labor market interdependence. This may mean that the development of policies to manage one country's labor matrix and its foreign component will increasingly be taken as an input into the development of another country's policies. These inputs can become constraints in policy development. In a two-country set of interactions reducing such constraints is often difficult. Problems compound as the number of interacting

countries expands, as the structure of their labor forces intertwine, and as their policy responses become more interdependent.

In this assessment, the role of regional politics must not be ignored. The Egyptian government's apparent determination to assist Iraq in its economic and military plight lies beyond the pale of economic analysis. The large and visible Egyptian presence in a country formally requesting assistance may recur in other contexts and other situations. In the Middle East, politics is a major mover of the behavior of nations and policies are increasingly shaped by political imperatives. Economic relations simply become the arena for political interactions.

CHAPTER 12

CONCLUSION: PROSPECTS FOR THE FUTURE

12.1 New Dimension of Migration

The introductory chapter of this report highlighted the four conventional patterns of population mobility: internal migration (generally cityward movements); the brain drain phenomenon (skilled workers from developing countries to industrial economies); unskilled labor to the West (e.g. Turks to Germany); and involuntary migration due to conflict (political refugees). The decade of the 1970s heralded a fifth type of movement which is the focus of this report, namely mobility among developing countries. The oil price increases essentially pulled labor from adjacent economies into the oil exporting states.

This then-novel phenomenon served to shape the political economy of the Middle East for almost a decade. It provided the basis for new patterns of labor movements which suggest that the initial typology introduced at the onset is basically superceded by events. Two "new" dimensions of migration are now in evidence. One derives from the essentially temporary nature of migration in the Middle East and the second is shaped by new economic conditions in the region.

Central to temporary migration is the phenomenon of return. Returnees are of two kinds, those that move back permanently to be replaced by other workers, and those that return for a short period and migrate again. The period of return may be of short duration, or it may be punctuated by a period of employment in the home country. Both situations have implications for skill distribution and for the structure of the labor force in both the

country of origin and the country of destination.

Of a different nature is the massive and involuntary return migration, well illustrated by Ghaneans in Nigeria, when economic conditions no longer necessitate large-scale reliance on foreign labor. The Nigerian case is dramatic. Yet a milder slowdown in economic activity -- due to declines in world oil prices -- could in turn accentuate the slackening of labor imports in the region. The massive return, if it takes place in the Middle East, will inevitably affect the social fabric, as well as the labor force structure on all sides of the migration stream.

Temporary returnees (with or without replacement) and massive returns constitute two new phenomena in the Middle East migration and highlight yet other dimensions of migration. There are implications for the skill composition of the society, since the experience of outward mobility will serve to broaden expectations and anticipations. Insufficient evidence exists to determine whether working abroad inevitably results in skill development. It stands to reason, however, that a broadening of attitudes occurs. The content of attitudes remains to be defined further.

Yet another issue, noted only marginally in this report, is evidence of return migration in the region. For many skills migration occurs among the young, productive age group. The result may be that, at any point in time, a "shortage of youth" exists in the labor force. Replacement by itself does not neutralize this potential gap, since returnees are inevitably older.

Not unrelated is the issue of sector of origin versus sector of destination. Insufficient evidence exists regarding the employment destination of migrants upon return. Do they go back to their original occupation, or do they enter the labor force in other sectors? Related is the question of whether there is a necessary contraction of the unorganized sector of the

labor market as migrants enter the organized labor force due to their experience abroad.

To some extent, all migrants are not created equal. Workers migrating within a formal, organized structure, regulated by a well understood process (such as teachers or construction workers) may differ in their activities upon returning from those migrating on an individual basis, or those whose occupation is not specifically defined.

These queries illustrate the new constraints that emerge from the experience of the past decade. In retrospect, one can begin to pull the pieces together by highlighting the nature of both structure and process of migration.

12.2 Pieces of the Puzzle

The conventional distinction between "push" and "pull" remains useful in reviewing migration processes. In addition, the equally conventional concern with "determinants" and "consequences" continues to provide a practical guide to both structure and process.

12.2.1 Determinants

For sending countries, there are a variety of "determinant" variables, some serving as structural conditions (unemployment) and others as incentives (wage differentials). Both scholarly literature and analyses of migration situations have revealed the basic elements that are structural determinants and those that are basically incentives. Of interest is the apparent possibility that the interaction of incentives and structural conditions may serve to shape the latter and transform the perceived utility of the former. For

example, in the Egyptian case the structural condition (employment in a public sector enterprise or in the education system under unfavorable financial conditions) will lead to migration since the incentives are high (large wage differentials), but opportunities to increase income domestically (through second jobs or private teaching) will lead to change in the initial structural condition and a reassessment of the "pull" of the incentives.

The process of migration -- the actual mechanism through which workers "flow" to other labor markets -- itself of course shapes the flows. In the education sphere, for example, the process is threefold: secondment, missions, individual contracts. In the construction sector, contracting firms are major recruiters. The type and nature of the process differs according to occupation and nationality. As noted earlier, East Asian workers migrate in a more structured fashion than Arab workers.

Migration as such, though responding to economic incentives, is strongly influenced by barriers. Barriers can be legal, cultural, institutional, or structural. In Gulf countries mobility of labor is strongly circumscribed by regulations of the importing countries. There is no free flow across national boundaries. The competitive market place is illusionary at best. Institutional barriers operate at both ends of the migration stream; workers may encounter regulating agents on their way out of the exporting country and on their way into the importing labor market. Cultural factors, though undoubtedly important, may well be residual when compared to other barriers.

From the perspective of receiving countries, a similar structuration of migration prevails. The processes of importing labor are increasingly formalized: there are structured group recruitment processes and recruitment through individual contracts. Determinants of inmigration are tied to investment in the economy, expansion of job availability, expansion of demand for a

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variety of skills, and the like. These factors are the structural determinants. The incentives then are monetary, or they may be related to job security, working conditions, or associated benefits. Possibilities of increasing savings are an incentive as an important aspect of initial financial reward.

But there are other factors that operate in the receiving country that, under certain circumstances, may shape the migrant's decision to migrate, return, or rotate. The broad "quality of life," the social status of migrants, and migrants' location in the community of destination are all "soft" variables that nonetheless can be influential. For example, Egyptians, recognizing the enormous financial benefits of migration, nonetheless appear to minimize the duration of their stay. There is little evidence that Egyptians, if unhampered by barriers, would seek to remain permanently in their community of destination.

12.2.2 Consequences: The Migration Mosaic

For sending and receiving countries the consequences of migration are invariably threefold in nature: macro-economic, political, and social.

The economic consequences for sending countries entail increased remittances, increased disposable income, increased savings, and increased potential for investments domestically. There may be inflation-producing dynamics associated with increased remittances (through either formal or informal channels) but the evidence in this regard is not conclusive. For receiving countries, the consequences of migration include reducing bottlenecks, relaxing constraints due to later shortages, and accelerating implementation of investment programs or developmental projects (including education). For both

sending and receiving countries, the economic consequences of migration involve a series of adjustments to the initial migration flows. There are invariably economy-wide repercussions as the labor force adjusts to new entrants or as bottlenecks are relaxed.

The political consequences of migration appear more pronounced for receiving countries than for senders. The initial necessity of regulating the inflows gradually is supplemented by the need to regulate the presence and existance of foreign enclaves. Regulating mechanisms are set in place and the migrant labor process activities are contained and circumscribed. In some states, such as Kuwait, the composition of the migrants is perceived to pose a potential problem for the leadership; in others, such as Saudi Arabia, the mere presence of foreigners is regarded as threatening to social cohesion, traditional values, and by extension, the political stability of the regime. The migrants themselves may begin to express dissatisfaction, fueling further perceptions of them as potentially destabilizing elements. For sending countries, the political consequences are less readily apparent. Some observers believe that encouraging political migration deprives domestic opposition of potential allies. Others believe that the outflow of labor reduces political congestion in terms of demands on the political systems for services, opportunities, and even political participation.

The social impacts on migration are pronounced on both sides of migration stream. For senders and recipients alike migration contributes to rapid social change. For sending countries labor mobility contributes to structural differentiation as economic opportunities are made available to some segment of the labor force (or sector, or socio-economic status) creating cleavages and further visible distinctions. In the recipient countries migration leads to three discernible effects: fragmentation of the social system, segregation

of citizens and migrants (and segregation among migrants), and structural job differentiation with little opportunity for either upward or lateral mobility. The complicating factor, of course, is that the migration process changes further the macro-economic and social consequences and social structure. The adjustments (or maladjustments) may be reinforced, or they may be transformed. Social effects are seldom stationary. Social stagnation and labor migration are contradictory terms.

The image that is most consistent with migration in the Middle East is that of a "vertical mosaic." The melting pot is an inappropriate metaphor, for there appears to be little social cohesion or assimilation in the recipient countries. The novel element for theories of migration and models of development is that labor mobility has resulted in a structuring and layering of the national labor markets as well as greater interdependence among the labor markets. The migration mosaic is one of nationality, skills, and duration. The political systems in place and the attendant regulatory mechanisms reinforce the mosaic. And it is this fact that will shape the labor markets in the remainder of the decade.

12.2.3 Migration and Technological Change

A relatively unexamined aspect of migration to date pertains to effects for technological change. Two discernible aspects of this relationship emerge: migration as an agent of technological change versus migration necessitating technological change. In the first case migrants embody skills that are transmitted or transferred to the recipient countries by virtue of their migration and their participation in the labor force. For example, a recent UNIDO study shows Egyptian firms transforming technology throughout the

region, partly through designs and partly through mobility of labor.[1] Technological change necessitated by migration is most apparent in Gulf states where shortages of nationals will entail longterm dependence on foreign labor, thereby reinforcing a rationale for capital-intensive technology and for investments in technological change to reduce labor inputs into productive (or service) processes.

These observations are clearly inferential since there is no empirical analysis of technological change as related to labor composition or labor migration. Labor productivity analyses of the countries of the region are usually based on national labor markets and the migration factor is invariably ignored.

12.3 Changing Structure of Demand

Volume I of this report showed the evolution of migration in the region through several distinct phases, each with different characteristic features and different consequences. These phases all bear upon the upswell of migration due to expansion of demand which, in turn, is shaped by investment programs. This entire process, triggered by the oil price increases of 1973, was expansionary in nature. Changes in the oil market readily apparent over the past ten years are creating contractionary effects whose impacts on investments and hence on demand for labor are now emerging. This process of contraction is different from the contraction due to saturation of labor needs or to change sin the composition of demand. Sooner or later, of course, the role of migration would slow down. But the timing, nature, and composition of this contraction depends on such underlying causal dynamics.

Five trends shape the current phase of migration in the Middle East and provide a shapr contrast to the migration of the early to mid 1970s.

First, the regional movement of labor continues, but at a slower pace, as the basic infrastructural projects in the oil exporting countries near completion and as investment programs are influenced by declining oil prices (thereby affecting revenues).

Second, the migration process is becoming more organized on both the sending and receiving ends. Dislocations caused by the frenetic growth of migration in the early and mid 1970s, as well as a desire on the labor exporters' part to offer an attractive labor "package," led to efforts to bring migration under tighter control.

Third, the national composition of migrants is becoming more diverse, as Pakistanis, Indians, Koreans, Thais and others respond to the demand for labor in Arab countries. The new flows are partly a response to market conditions and partly fueled by political concerns as importing countries express preferences for recruiting certain nationalities for certain occupations.

Fourth, labor issues in the 1980s will be shaped not only by the magnitude of demand, but more directly by the structure and composition of that demand. Transformations in the economies of the importing countries generate demand for new mixes of skills, and responses to this demand will inevitably influence labor force composition of sending countries.

Fifth, the search for a viable exchange policy may become more salient to sender and receiving countries as the contractionary effects begin to take shape. The structure of demand is no longer as simple as in the early phases, where migrants responded to the "pull." There is now the uncomfortable possibility that "push" factors may dominate: squeezing potential migrants out of their national labor markets while preventing entry in adjacent economies due to the emergence of contractionary economic forces.

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12.4 Changing Structure of Supply

Among the most important dimensions of the supply side is the nationality composition of the migrants. The increased role of Asians -- their dominance in certain Gulf countries -- augurs well for their future participation in the labor market of the region. Asians have made great strides. Indeed, comparing the demographic map of the region for 1975 and 1980, one notes a dramatic change -- in flows, composition, and distribution of workers.

On the Arab side, at least three factors appear prominent.

First is the apparent shortages of workers in all countries of the region. Almost every state suffers from imbalances and shortages in select occupations or sectors. Almost uniformly there is a shortage of skilled workers and a shortage of professionals. The labor markets are not "pulling" manpower into the labor force, thereby contributing to a dual phenomenon: unemployment, underemployment, or disguised unemployment, in conjunction with market shortages of labor.

Second is the enduring lack of appreciation by Arabs of the potential competition with Asians in those sectors or occupations where substitution possibilities can be easily made. Arab labor migrating to other countries in the region still view their own position as predominant. There is a singular lack of awareness of the dramatic changes in the nationality matrix.

Third is the fact that Arab migration is still relatively unorganized -- certaintly chaotic in comparison with Asian migration. Although states intervene as strong regulators, it is individual migration that is the subject of this regulation.

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These three factors, together, suggest that the next few years may augur new problems for Arab migrants due in part to the Asian role but more significantly to the absence of attention to protecting their own position or to preventing an erosion of their initial advantage.

12.5 The Balancing Equations

None of the foregoing should be interpreted as suggesting that, left to market mechanisms and the invisible hand, supply will respond to demand and the labor imbalances in the region will be resolved. For the Gulf countries dependence on foreign workers is a reality which will be modulated only by declining investments or oil revenue costs. The initial issue for them is the extent of the dependence and whether a national skilled labor force can develop so substantially as to reduce the predominance of foreigners. For the sending countries, the immediate problems are threefold: how to adjust to prospective returnees (if not massive returns); how to alleviate prevailing labor shortages and sectoral imbalances; and how to increase labor force participation. The basic manpower issue for sending countries, especially critical for the case of Egypt, is to identify policies for increasing labor supply and labor productivity. For labor importing countries, the first of these issues is more critical, dominated by a concern for expanding their national labor force.

A regional accounting remains to be done: the balancing equations must be identified. The initial effort by the ILO and the World Bank, based on 1975 data, was the first step in this direction. But the data have changed significantly and a new regional accounting remains to be worked out. The adjusting mechanism will increasingly be subject to government policies as states acknowledge the criticality of the regional context for their own labor

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markets.

12.6 Implications for Egyptian Migration

In sum, investment strategies in neighboring states will in large part determine the demand for Egyptians. Clearly, the demand will be tempered by the extent to which non-Arabs are recruited for work in Arab economies. There are some economic activities for which Asians can easily substitute for Arabs and particularly for Egyptians; there are other activities, such as education or teaching the Arabic language, in which Asians cannot easily replace Egyptians or other Arab nationals. In such cases, it is not the competitiveness of Egyptians that will determine their presence as much as the overall demand set by investments and planning in the recipient countries. Overall, however, for highly skilled occupations, Egyptians may be the last to leave: economic contraction will affect other nationalities before it "hits" Egyptians.

In this context, two trends in Egyptian migration appear on the immediate horizon. One is more reverse migration as workers choose to return to Egypt and not to reapply for employment in other countries. The second is a greater diversification in the composition of those who choose to migrate. The first trend reflects the equalization of income, a rise in income of Egyptians due to greater employment possibilities within Egypt, such as we have seen with respect to educators. For those migrants the incidence of refusing to migrate or choosing not to accept the opportunity should the choice arise appears to be increasing. The second trend reflects a growing willingness among the least mobile segments of the workforce to accept the risks of seeking employment in other countries. Exposure to return migrants and to talk of the migration experience might sensitize those who may otherwise not have been

receptive to such opportunities.

It is too early to tell whether these two trends will have countervailing effects and what the net outcomes might be. But it seems certain that economic activity in receiving countries will be a fundamental determinant of the scale of Egyptian migration in other than highly skilled occupations. In the latter categories, demand for Egyptians may remain in the foreseeable future. Education and scientific activities are two cases in point, as are most government jobs where Arabic is essential. While other Arab nationals, of course, can substitute for Egyptians, the latter have the comparative advantage of experience, reliability, and relative consistency in performance. Traditions built over a period of fifty years die hard, and the role of Egyptians in the education systems of other Arab countries cannot be changed overnight. Some observers have argued that the Egyptian labor force is capable of sending a much larger number of workers and that the real problem facing the government is one of active recruitment. Our investigations suggest that considerable adjustments to the current trend must still be made within Egypt. There are notable shortages of labor in some sectors, of course, but the overall Egyptian labor force has not reached its migration limits in the depletion sense. The economy suffers from distortions in the labor force and in employment patterns, not from numerical scarcities in manpower. Further analysis of the local labor force and attendant employment patterns is required before reaching a firm conclusion about Egypt's potential for additional migration.

Future trends in the mobility of Egyptians will affect the overall structure of employment for the country. In the past, migration has contributed to increase the skills of the workers and to make them more productive. It may

well be that the longstanding effect of the migration experience is the enhancement of the individual worker's productivity.

12.7 Implications for Receiving Countries

Anticipating demand in the receiving countries -- Libya and the Gulf states -- entails assessments and forecasts of their economic activity, a task beyond the scope of this project. However, there are some uses for which Egyptian workers are invaluable and can be replaced only at high costs, if at all.

The composition of demand for workers in other Arab countries has changed and even greater changes are anticipated. The movement will shift from individual workers to employees of companies having contracts in the labor importing countries. Already other Third World companies are extending services to various sectors of the Gulf economy. For example, Indian, Pakistani, and Greek contractors are active in the Gulf, as are management consultants and engineering firms. The entry of Egyptian companies into such markets may grow as the liberalization policy takes hold in Egypt. Entrepreneurial skills which are flourishing within Egypt could expand into other Arab countries. A recent survey of Egyptian firms in Arab countries, conducted by UNIDO, highlights the very real potentials for economic interactions, technological change, and transfer of technology. Some Egyptian contracting firms have a good record of external activity. While few firms have been able to emulate the model of Osman Ahmed Osman, given its sheer scope and the support provided by the state, the model exists nonetheless and the capabilities within Egypt are expanding in the construction sector, albeit in modest proportions. This is a trend that will almost surely continue and one which represents a new migration experience for Egyptians in the 1980s tied to broader corporate

relations and even potential linkages with the state. It remains for the Egyptian government to facilitate if not assist this expansion, for it will afford new opportunities for Egyptian labor.

12.8 Interdependent Development

Clearly, the Arab labor market is becoming increasingly interdependent, with extensive linkages both among policy issues and among countries. The parameters of change in Arab states will necessitate greater economic planning at the national level and greater cognizance of transnational influences. One country's economic planning will inevitably have to take into account resources from another. For example, realization of investments in Saudi Arabia or other Gulf states is intimately tied to manpower availability in the region as a whole. By the same token, investments in the sending country, Egypt or Jordan, for instance, will be affected by the demand for labor in Saudi Arabia. The result is a close interconnection among labor forces: demographic structures will become even more highly intertwined. These limits will inevitably be shaped by political factors, thus reinforcing the role of governments in Middle East migration and the inherently political nature of economic response.

Changes in the world oil market and declining prices of oil have already affected investment patterns. Contractionary effects are already visible and impacts on economic activity will invariably affect the demand for labor. The construction sector has already been hard hit in the labor importing countries but it is difficult to untangle the effects of saturation in that sector from those of investment cuts. As noted, by contrast, over 50 percent of total investment in Egypt's latest Five Year Plan is allocated to construction

activities. Thus the demand for labor in this sector will grow rather than decline.

Recognition of economic interdependence is manifested in two new institutional forms in the Middle East: the Gulf Cooperation Council (GCC) and the new integration plan for Egypt and Sudan. The GCC established in 1981 among six Gulf states and Saudi Arabia, appears as a concerted response to common social, political, economic, and strategic conditions. The approach is functional and issue specific. In the context of Middle East politics the GCC strategy emphasizes pragmatic interactions and only secondarily focuses on the ideological dimension. Commonality of political orientation may explain the relatively low articulation of ideological postures. The new integration between Egypt and the Sudan is the latest phase in a long history of integration in the Nile Valley which represents these two countries' periodic efforts to coordinate regional development and, more important, to reduce sources of strains in their relationships.

12.8.1 Gulf Interdependence: Low Politics

The Cooperation Council of the Arab Gulf States (GEC) was established in Abu Dhabi, 25-26 May 1981, by the inaugurating summer meeting of the foreign members of Arab Gulf states.[2] The Gulf states had shown increased concern for the questions of security and stability in the region in a period marked by regional and international etension. Although defense of the Gulf (especially its oil resources) was a critical factor in the establishment of the GCC, the Council is remarkably devoid of rhetoric and ideological debate. Clearly Soviet invasion of Afghanistan, the Iranian revolution, and the Iran-Iraq War all contributed to the sense of urgency. The Gulf region has also become a potential focal point of renewed superpower rivalry. Defense issues dominated

the summit of 1981 but the statutes of the Council made no mention of cooperation in this area, possibly indicating a concern for reducing the overtly political salience of defense matters.

The emphasis in the GCC continues to be on coordinating integration of cooperation in economic, financial, trade, customs, transport, education, culture, health, tourism, judicial, and administrative fields. The heads of the six states (Saudi Arabia, Bahrain, Kuwait, Oman, Qatar, and the UAE) agreed to locate the Council's headquarters in Riyadh. The Supreme Council, made up of the rulers of the six countries, would meet twice yearly in May and November. The Ministerial Council (made up of the six foreign ministers) would meet every three months. A general secretariat would be the administrative organ of the council with a Kuwaiti, Mr. Abdullah Yaccas Bishara, appointed the first secretary general (renewable three year terms). Five working committees were established to deal with (1) economic and social planning, (2) financial, economic, and trade issues, (3) industrial cooperation, (4) oil, and (5) social and cultural matters. A key issue was the commitment to abolishing trade and customs barriers, as well as the establishment of a joint investment fund.

By the second summit session (10-11 November 1981) the Council arranged for the defense ministers to meet and discuss joint security policy. This meeting took place in Riyadh 25-27 January 1982. No statement was issued, but newspapers reported that the ministers agreed to a joint air defense system relying on the Saudi Awacs, the establishment of a Gulf arms industry, and the creation of a Gulf rapid deployment force. This occurred during a time of heightened tension in the Iran-Iraq War. By February the council agreed to sign a comprehensive joint security agreement. Subsequent meetings continued

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in this vein, yet by the third summit (9-11 November 1982) no formal agreement had emerged. The November 1982 summit achieved greater success on the economic front. The heads of state endorsed the GCC finance committee's package of measures as the first phase in the implementation of the unified economic agreement signed at the November 1981 summit.

The following measures came into effect on 1 March 1983:

- all customs duties were lifted on products originating in the GCC states (a national product is defined as one in which the value added by a member state equals at least 40 percent of the final cost, as well as being produced by a firm in which GCC nationals own at least 51 percent of the equity);
- all members' goods in transit between GCC countries are exempt from taxes;
- free access to ports in any member states;
- a GCC national may drive a vehicle registered in any Gulf state in any GCC state without having to obtain permits or pay taxes;
- professionals are free to operate in any GCC state as long as they meet local standards;
- GCC nationals may establish companies in any GCC state subject to two restrictions: (1) their share of capital does not exceed 75 percent of total capital and (2) at least 25 percent of the shares are purchased by nationals in the country where the company is established.[3]

These measures show a promising but still cautious start to meeting the original pledge of full integration. Fulfilling this pledge is less important than approaching the goal through pragmatic policies, rather than ideological postures. The careful emphasis on economic issues serves to mask the salience of defense concerns. The latter are undoubtedly dominant, and the GCC

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strategy seems to focus on building consensus on issues of low salience, with the intent of "spilling over" into agreement on defnse issues. This strategy represents a "new" approach to integration by Arab states.

12.8.2 The Nile Valley: High Politics

The more traditional approach to integration in the region is manifested by the periodic efforts of Egypt and Sudan.[4] Two competing sets of forces play a role in the ongoing attempts at effecting some kind of Egyptian-Sudanese integration. On the one hand an economic logic argues for the desirability of such a union -- in terms of geographic continuity, the overarchcing role that the Nile River plays in the material fortunes of both states; in complementarity of resources; in desirable economies of scale, labor, and goods markets; and the like. On the other hand, political pressures have tended to weaken the economic logic. First are numerous Egyptian attempts to influence Nile Valley development and Sudanese policies; second are internal politics in each of the two countries. For Sudan factional competition and regional conflicts threaten to erupt periodically. For Egypt frequent Arab regional politics which often distract both Egypt and Sudan. Finally there are the effects of great power influence, even intervention, in the region.

The relative rankings of political factors vary across different periods. In general, Sudanese political factions have demonstrated an ability to make use of Egypt and Egyptian resources while withholding a commitment to effective integration. Every regime in post-independence Sudan has come to power on a platform that stresses the integration issue, but each has subsequently tended to grow cool if not openly hostile to any practical attempts at implementing unity. The Nimeiri regime has already experienced one such cycle of

relations, namely the aborted attempt at federation with Egypt and Libya as first announced in the Tripoli Charter Agreement of 27 December 1969 (the Federation was officially formed on 13 April 1971 with the Sudan declaring that it would not join).

The latest attempt at integration suggests that it is a somewhat more pragmatic undertaking stressing respect for state sovereignty. To the extent that Egyptians and Sudanese stress the indissoluable historical and cultural bonds between them, in concrete terms historically it has meant an expression of cultural and political influence of Egypt in the Nile Valley.

The modern period in Nile Valley history begins with Muhamad Ali's conquering of the south in the 1820s in search of conscripts. The Mahdist revolt is put down finally by the British and results in the Anglo-Egyptian condominium. Egyptian nationalism makes the terms of the condominium a constant issue with the WAFD constantly stressing Egypt's sovereignty over the Sudan. The nationalist movement, the Egyptian-British conflict, and the growth of the Southern bureaucracy have unintended consequences in that they strengthen political factions within the system. The Revolution of 1952 unilaterally abrogates the condominium agreement as renegotiated the previous year. Political dynamics lead to Egyptian support for Sudanese self-determination. Naser proposes a defense pact with Sudan and Ethiopia in 1956 (following independence). This proposal collapses in the regional struggles of the cold war, pan Arab nationalist years. The Nile waters negotiations of November 1959, with the exception of some limited commercial agreements, fail to see any progress towards the coordination of economic, cultural, and military policy and a unified cotton policy, as originally intended.

The post October War period marks a reapproachment of seemingly longer, more stable duration. By 12 February 1974 the two states are back to pledging

to work for greater political, cultural, and economic integration. Three years later the Joint People's Assembly Conference held its first meeting in Cairo. A joint military council was also established as proposed in the 1974 negotiaations. Subsequent agreements in areas such as education and agriculture were seen as furthering the cause of integration. This gradual expansion of the areas of cooperation led to the signing of the charter of integration between Sudan and Egypt on 12 October 1982. The document outlines the principles, institutions, and procedure meant to consolidate military, economic, political, and cultural ties between the two countries and reaffirms the common defense of security strategy. Its aims include coordination of policies and projects in industry, transportation, communication, irrigation, and agriculture; the lifting of restrictions on movements of people and goods; and affirms the citizens' rights to work, reside, and invest in each country.

The charter proposed the creation of three institutions meant to facilitate the integration process: (1) the Supreme Council of Integration, to be chaired by each president in rotation and to meet semi-annually; (2) the Nile Valley Parliament, including representatives from each state's national and regional assemblies; and (3) an integration fund, assured of fiscal and administrative autonomy, to finance investment projects. The first session of the Supreme Integration Council in March 1983 proposed to formally abolish customs duties between the two states. In April 1983 protocols were signed to establish joint ventures in agriculture and fish production, set up trade centers in each capital, and replace import licensing requirements with new, streamined procedures.

12.8.3 Implications for Migration

These two examples illustrate potentially important political changes in the Middle East that could result in more formal, structural manifestations. In neither case does the mobility of labor play a critical role, nor is migration a salient feature of the relationship, but in both cases labor issues could become important. In the Nile Valley, skilled Egyptians constitute an important component of the Sudanese labor force, particularly in highly skilled occupations. In the Gulf region, economic retrenchment will render foreign nationalities increasingly visible, possibly leading the GCC to formalize coordinated manpower policies. In both cases pragmatism seems to be the order of the day. Even in the Nile Valley a more incremental and cautious posture appears in the offing. Finally, both experiments illustrate interdependent development that will increasingly characterize the political economy of the region.

12.9 The Imperatives of Politics

In the Middle East, perhaps more than any other region of the world, politics dominates interactions among states. And, to complicate matters further, regional politics are strongly shaped by international conflict tensions. The six distinct systems of conflict prevailing in the region characterize the political hostilities and confrontations. These systems are only indirectly related to migration processes.[5] But, insofar as they influence broader political relations, they will continue, invariably, to shape the political economy of the region and, by extension, the next phases in regional migration.

These conflict systems, briefly, can be characterized as follows:

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First, the conflict between Arabs and Israelis, which despite periodic lulls persists with violent eruptions.

Second, the increasingly bilateral Palestinian-Israeli confrontation.

Third, the periodic conflicts between Arab states -- over political beliefs, priorities, and visions of a better future.

Fourth, the Cold War conflict between the superpowers which continues to threaten peace in the region.

Fifth, the complex ethnic differences which often manifest themselves in violent guises both within and between states.

Sixth, the now largely diplomatic disagreements between producers and consumers of petroleum about "just" prices and "appropriate" production.

Each of these conflict systems has a dynamic of its own; each has on occasion "spilled into" the other, aggravating regional tensions when hostilities mounted. The manpower element receded in importance when pitted against these systems of high politics. Yet mobility of labor appears to be one of the most robust and persistent characteristics of the political economy of the region.

The new element in regional politics is pragmatism and the search for practical resolution of political or economic problems. The two new integration efforts -- the GCC and the Nile Valley -- may well illustrate the style of the 1980s. In each case, the mobility of labor plays an important role.

NOTES

CHAPTER 1

1. This section is an excerpt from Nazli Choucri, Labor Transfers in the Arab World: Growing Interdependence in the Construction Sector (Cambridge, Mass.: M.I.T. Technology Adaptation Program, 1979), pp. 1-2.
2. The literature of migration in the Middle East is almost uniformly descriptive, atheoretical, and tied to discussion of numbers rather than to their socio-economic or political implications. Better than average among them are the International Labor Office and World Bank-sponsored studies cited below. Their importance lies largely in having been the first large-scale study of this phenomenon and having tried to establish a comprehensive base-line data profile of stocks of migrant workers.
3. Nazli Choucri, Migration Processes among Developing Countries: The Middle East (Cambridge, Mass.: M.I.T. Center for International Studies, 1978).
4. The following three paragraphs are adapted from Ijaz Gilani, "From Khartoum to Rabat: The Development of Pragmatic Arabism in Inter-Arab Relations (1967-1974)." M.I.T., January 1977, pp. 57-74.
5. The remainder of this section is an excerpt from Nazli Choucri, "The Arab World in the 1980s: Macro-Politics and Economic Change," Journal of Arab Affairs, vol. 1, no. 1 (April 1982), pp. 167-187.
6. For a detailed analysis of Pakistani migration see Ijaz Gilani, Pakistani Emigration to the Middle East: A Cost-Benefit Analysis (Islamabad:

Pakistan Institute of Development Studies, April 1981).

CHAPTER 2

1. This judgment is based on works included in Robert Berrier and Thomas Wolf, Internal Migration: A Selected Bibliography (Cambridge, Mass.: M. I. T. Center for International Studies, Migration and Development Study Group Monograph, 1975) and on a search for entries on migration in the NASIC computerized library retrieval system, which includes the data base of the Smithsonian Science Information Exchange, prepublication information, and worldwide journal coverage in social science and humanities subjects. This search was undertaken at M. I. T., then cross-checked with the library of the Carolina Population Center, University of North Carolina.

2. An excellent review of migration patterns and related analyses was prepared by the United Nations Department of Economic and Social Affairs, The Determinants and Consequences of Population Trends: New Summary of Findings on Interaction of Demographic, Economic, and Social Factors (New York: United Nations, 1973), esp. vol. 1.

3. Joan M. Nelson, Migrants, Urban Poverty, and Instability in Developing Nations (Cambridge, Mass.: Center for International Affairs, Harvard University, 1969); Joan M. Nelson, Temporary versus Permanent Cityward Migration: Causes and Consequences (Cambridge, Mass.: M. I. T. Center for International Studies, Migration and Development Study Group Monograph, 1976); Wayne A. Cornelius, Jr., "The Political Sociology of Cityward Migration in Latin America: Toward Empirical Theory," in Francine F. Rabinovitz and Felicity M. Trueblood (eds.), Latin America Urban

Research, vol. 1 (Beverly Hills, Calif.: Sage Publications, 1971), pp. 95-147; Wayne A. Cornelius, Jr., "The Cityward Movement: Some Political Implications," in Douglas A. Chalmers (ed.), Changing Latin America: New Interpretations of its Politics and Society, Proceedings of the Academy of Political Science, vol. 30 (1972), pp. 27-41; among others.

4. For example, see P. J. Imperato, "Nomads of the Niger," Natural History, vol. 81 (1972), pp. 60-69, 78-79.

5. Wayne A. Cornelius, Jr., Illegal Mexican Migration to the United States: Recent Research Findings, Policy Implications, and Research Priorities (Cambridge, Mass.: M. I. T. Center for International Studies, Migration and Development Study Group Monograph, 1977).

6. Nermin Abadan-Unat (ed.), Turkish Migration (Leiden, the Netherlands: E. J. Brill, 1974); P. Kliner, "The Theoretical Models for Empirical Sociological Research of International Migration: Some Yugoslav Papers," presented at the 8th World Congress of the International Sociological Association, Lubljana, 1974; Ursala Mehrlander, "Friction and Conflict Resulting from the 'Human Resource' Problem in Europe" (Boston: contribution to the Conference on Conflict and the Emerging International System, May 4-6, 1977); Suzanne Paine, Exporting Workers: The Turkish Case (Cambridge: Cambridge University Press, 1974); Oli Hawrlyshyn, Is Ethnicity a Barrier to Migration? The Yugoslav Experience (Cambridge, Mass.: M. I. T. Center for International Studies, Migration and Development Study Group Monograph, 1976).

7. Stephen Adler, Migration and International Relations: The Case of France and Algeria (Cambridge, Mass.: M. I. T. Center for International Studies, Migration and Development Study Group Monograph, 1977).

8. Jagdish N. Bhagwati and Martin Partington (eds.), Taxing the Brain Drain: A Proposal (Amsterdam: North Holland Publishing Company, 1976); and Walter Adams (ed.), The Brain Drain (New York: MacMillan, 1970).

9. See, for example, Table 8-6, entitled "Refugee Population of the World by Area of Asylum and Origin, 1965-66," in William Petersen, Population, 2nd ed. (London: MacMillan, 1969), pp. 284-285; H. Barakat, "Palestinian Refugees -- Uprooted Community Seeking Repatriation," International Migration Review, vol. 7 (1973), pp. 147-161.

10. Yugoslav and Portuguese migration is a notable exception. Thus these generalizations.

11. Population movement is seldom, if ever, treated in texts on political development or on economic development. The Department of Political Science at M. I. T. offers a graduate specialization in Political Demography as part of the regular degree program. In that context students are exposed to research and analysis of population movements. This is an unusual option, however, in graduate programs in Political Science.

12. This objective is central to virtually all theories of migration.

13. For more on this see Aristide R. Zolberg, "International Migrations in Political Perspective," in Mary M. Kritz, Charles B. Keely, and Silvano M. Tomasi (eds.), Global Trends in Migration: Theory and Research on International Population Movements (New York: Center for Migration Studies, 1981), p. 3.

14. Op. cit., p. 4.

15. Zafer C. Ecevit, "International Labor Migration in the Middle East and North Africa: Trends, Effects, and Policies," in Kritz, Keely, and Tomasi (eds.), Global Trends in Migration, 1981, p. 264.

16. Michael P. Todaro, "A Model of Labor Migration and Urban Unemployment in Less Developed Countries," American Economic Review, vol. 59 (1969), pp. 138-148.

17. Anecdotal information indicates this is occurring, but no hard evidence is yet available.

CHAPTER 3

1. Joan Clarke, "Jordan: A Labor Receiver -- A Labor Supplier," paper prepared for the AID/Near East Bureau Seminar on Labor Migration in the Middle East, Washington, D.C., 20 September 1977.

2. Sections 3.2.2-3.2.5 are excerpts from Choucri, Labor Transfers in the Arab World, 1979, p. 4-22.

3. These are our best estimates of the labor movements. In some instances they are considerably higher than those used by individuals working for the World Bank or ILO, however, we use these numbers because we believe those projects, using data from the labor importers, undercount the number of migrant workers. Data from the labor exporters give much higher figures than those from the labor importers. We believe the correct figures to be somewhere in between.

4. See also Amr Mohie-Eldin and Ahmed Omar, "Emigratiton of Egyptian Academic Staff" (Cairo University/M.I.T.: Technology Adaptation Program, July 1978).

5. J.S. Birks and C.A. Sinclair, International Migration Project Country Case Study: The Sultanate of Oman, Part One (Durham, England: University of Durham), July 1977, p. 60.

6. Joan Clarke, "Yemen: A Profile," paper prepared for the AID/Near East Bureau, Seminar on Labor Migration in the Middle East, Washington, D.C., 20 September 1977.

7. Lee Ann Ross, "Yemen Migration -- Blessing and Dilemma," paper presented for the AID Seminar on Near East Labor Flows, Washington, D.C., 20 September 1977.

8. Joan Clarke, "Jordan: A Labor Receiver -- A Labor Supplier," paper prepared for the AID/Near East Bureau Seminar on Labor Migration in the Middle East, Washington, D.C., 20 September 1977.

9. Quarterly Economic Review of Syria, Jordan: Annual Supplement 1982, 1982, p. 26.

10. J.S. Birks and C.A. Sinclair, International Migration Project Country Case Study: The Sultanate of Oman, Part One.

11. This is our assessment based on Fred Halliday, "Migration and the Labour Force in the Oil Producing States of the Middle East," Development and Change, vol. 8 (1977), pp. 263-291.

12. Numerous articles appearing in the Middle East Economic Digest in recent years report these changes.

13. Zafer Ecevit and K.C. Zachariah, "International Labour Migration," Finance and Development, vol. 15 (1978), pp. 32-37.

14. Zafer Ecevit, "International Labor Migration in the Middle East and North Africa: Trends, Effects, and Policies," in Kritz, Keely, and Tomasi (eds.), Global Trends in Migration, 1981, pp. 259-275; and Ismail Serageldin, James Socknat, Stace Birks, Bob Li, and Clive Sinclair, Manpower and International Labor Migration in the Middle East and North Africa (Washington, D.C.: The World Bank), June 30, 1981, p. 69.

15. Halliday, "Migration and the Labour Force," 1977.

16. J.S. Birks and C.A. Sinclair, Nature and Process of Labour Importing: The Arabian Gulf States of Kuwait, Bahrain, Qatar, and the United Arab Emirates (Geneva: International Labor Office), August 1978.

17. Serageldin, et. al., Manpower and International Labor Migration in the Middle East and North Africa, 1981, pp. 51, 69; and J.S. Birks and C.A. Sinclair, International Migration and Development in the Arab Region (Geneva: International Labor Office), 1980.

18. Birks and Sinclair, International Migration Project Country Case Study: The Sultanate of Oman, Part One, 1977, p. 66.

19. Serageldin, et al., Manpower and International Labor Migration in the Middle East and North Africa, 1981, p. 69.

20. Libya Ministry of Labor, Department of Immigration, "The Statistical Report for Egyptian Workers with Personal Contracts to Work in Libya for the Year 1976," 1977.

21. Kuwait Statistical Office, Ministry of Planning, Annual Statistical Abstract, 1977, Edition XIV.

22. "More Than One and a Half Million Egyptian Workers," Al-Ahram, September 18, 1978.

23. Remittance figures for Egypt, North Yemen, and Pakistan come from Balance of Payments Statistics, vol. 32, Yearbook Part 1, 1981. The figure for India comes from Myron Weiner, "International Migration and Development: Indians in the Persian Gulf," Population and Development Review, vol. 8 (1982), p. 4. The value of remittances to each country was as follows:

Egypt	$2.2 billion
North Yemen	$1.2 billion
Pakistan	$1.5 billion
India	$1.6 billion

24. Leslie C. Schmida, "The Local Level Effects of Labor Out-Migration in the Labor Exporting Countries of the Middle East," USAID, 1 April 1982, p. 13; and Kingdom of Saudi Arabia Statistical Yearbook, 1980.

25. Annual Report of Utilization Activity and Principal Characteristics put out by the Kuwait government.

26. Kingdom of Saudi Arabia Statistical Indicators, 1981.

27. The information presented in this section comes from materials made available at a seminar on foreign labor in the Gulf held in Kuwait in January 1983. We thank the organizers of this seminar, the Arab Planning Institute, and the Center for Arab Unity Studies for enabling us to get this data, which is the most detailed recent information available.

28. See James F. Clarity, "Luggage in Hand, They Stream from Nigeria," New York Times, February 2, 1983; and Alan Cowell, "A Docile and Somber Exodus," New York Times, February 3, 1983.

29. The Economist, July 9, 1983, p. 32.

CHAPTER 4

1. Serageldin, et al., Manpower and International Labor Migration in the Middle East and North Africa, 1981.

2. Much of the materials for this section come from Charles B. Keely, Asian Worker Migration to the Middle East, Center for Policy Studies, The Population Council, December 1979, and Lily H. M. Ling, Change in the

International System: East Asian Emigration to the Middle East, M.S. Thesis, Department of Political Science, Massachusetts Institute of Technology, March 1982.

CHAPTER 5

1. This section is adapted from Norma Kriger, "A Comparative Description of Population Policies: North Africa and the Middle East" (unpublished manuscript, M.I.T., January 1979), pp. 427; and Elizabeth Leeds, "Migration Policies of Middle Eastern Sending Countries" (unpublished manuscript, M.I.T., 26 October 1981). An early draft of this chapter was written by Diane Beth Hyman.
2. "Chinese Manpower Offers Contract Labor," Middle East Economic Digest, vol. 25 (November 27, 1981), pp. 72-74.
3. Hanna Papanek and Barbara Ibrahim, "Economic Participation of Egyptian Women" (unpublished paper, Boston University/American University Cairo, May 1982), p. 26.
4. "Migrant Labor Warning Given," Middle East Economic Digest, vol. 24 (September 26, 1980), p. 18.
5. Stephen Adler, Migration and International Relations: The Case of France and Algeria (Cambridge, Mass.: M.I.T. Center for International Studies, 1977); "Foreign Workers: A Current Inventory," The OECD Observer, no. 97 (March 1979), p. 33.
6. Abderrahmane Remili, "Employment and Planned Development of the Algerian Economy," in Manpower and Employment in Arab Countries: Some Critical Issues (Geneva: International Labour Office, 1976), p. 202.
7. Middle East Economic Digest, vol. 24 (January 11, 1980), p. 22; Middle

East Economic Digest, vol. 24 (January 25, 1980), p. 13.

8. Middle East Economic Digest, vol. 24 (September 26, 1980), pp. 22-23.

9. Middle East Economic Digest, vol. 24 (July 25, 1980), p. 11.

10. Joan Clarke, Jordan: A Labor Receiver -- A Labor Supplier, p. 4.

11. Mostyn Trevor, "Jordan's Brain Drain -- Regaining for Retraining," Middle East Economic Digest, vol. 26 (June 4, 1982), p. 18.

12. William Lee, "Jordan's Five Year Plan Cuts Back on Industrial Development," Middle East Economic Digest, vol. 24 (August 22, 1980), pp. 4-5.

13. Lee Ann Ross, "Yemen Migration," pp. 6, 9, 12; Donald H. McClelland, "Yemen: The Relation of Worker Emigration and Remittances to the Yemen Economy" (unpublished manuscript, June 1978), p. 4; Joan Clarke, "Yemen: A Profile," 1977, p. 18.

14. L. J. Beroriti, "Introduction," in Manpower and Employment in Arab Countries (Geneva: I.L.O., 1975), p. 13; K. Hameed, "Manpower and Employment Planning in Iraq and the Syrian Arab Republic," in Manpower and Employment in Arab Countries, 1976, p. 150.

15. Halliday, "Migration and the Labour Force," 1977, p. 276.

16. Middle East Economic Digest, vol. 24 (February 15, 1980), p. 33; Jonathan Crusoe, "Iraq Symposium Highlights Labor Shortage," Middle East Economic Digest, vol. 25 (July 10, 1981), p. 16; Jonathan Crusoe, "Iraq's Spending Slowdown Disappoints Contractors," Middle East Economic Digest, vol. 26 (February 19, 1982), p. 10.

17. Halliday, "Migration and the Labour Force," 1977, pp. 277, 282.

18. Libya is omitted from discussion because of lack of information.

19. Emile A. Nakhleh, "Labour Markets and Citizenship in Bakrayn and Qatar," Midle East Journal, vol. 31 (1977), pp. 146-149.

20. Nazli Choucri, "The New Migration in the Middle East: A Problem for Whom?" International Migration Review, vol. 11 (1977), p. 439.

21. Middle East Economic Digest, vol. 26 (June 4, 1982), p. 29; Michael Petrie-Ritchie, "Kuwait Thrives on the Home Front," Middle East Economic Digest, vol. 25 (July 3, 1981), pp. 20-22.

22. Middle East Economic Digest, vol. 24 (October 10, 1980), p. 38; Middle East Economic Digest, vol. 24 (September 26, 1980), pp. 32-33.

23. Middle East Economic Digest, vol. 24 (August 14, 1981), p. 26.

24. Middle East Economic Digest, vol. 25 (August 21, 1981), p. 19.

25. Edmund O'Sullivan, "Saudi Arabia -- Bridging the Labor Gap," Middle East Economic Digest, vol. 25 (May 22, 1981), p. 53.

26. Middle East Economic Digest, vol. 26 (June 18, 1982), p. 49.

27. United States Department of Labor, Labor Law and Practice in the Kingdom of Saudi Arabia, Bureau of Labor Statistics Report 407 (Washington, D.C.: Government Printing Office, 1972/73), p. 64.

28. Quarterly Economic Review of Saudi Arabia, 3rd Quarter, 1978 (London: Economic Intelligence Unit), p. 15.

29. Middle East Economic Digest, vol. 25 (July 17, 1981), p. 44.

30. As quoted in Middle East Economic Digest, vol. 25 (May 29, 1981), p. 34.

31. Middle East Economic Digest, vol. 24 (September 5, 1980), pp. 37-38. Exceptions to the law include professors, teachers, certain medical staff, farmers and insecticide specialists, and managers of companies that employ at least 100 people with capital and turnover of at least $300,000.

32. Middle East Economic Digest, vol. 24 (March 1, 1980), p. 40.

33. "Saudi Arabia -- The Manpower Controversy," Middle East Economic Digest, vol. 25 (April 24, 1981), pp. 40-41.

34. Middle East Economic Digest, vol. 25 (June 12, 1981), p. 48.

35. Middle East Economic Digest, vol. 26 (June 25, 1982), p. 33.

36. Middle East Economic Digest, vol. 24 (May 9, 1980), p. 16.

37. Norma Kriger, "Migration Policies in the Labor Importing Countries of the Middle East" (unpublished paper, M.I.T., 1981), p. 36.

38. John Whelan, "Yanbu New Town Outpaces the Old," Middle East Economic Digest, vol. 24 (July 11, 1980), pp. 6-8; David Shirreff, "Manpwer Problems for Jubail and Yanbu?" Middle East Economic Digest, vol. 24 (June 27, 1980), p. 17.

39. Middle East Economic Digest, vol. 25 (December 4, 1981), p. 39.

40. Middle East Economic Digest, vol. 25 (December 11, 1981), pp. 44, 48.

41. United States Department of Labor, Labor Law and Practice in the Kingdom of Saudi Arabia, pp. 50-51.

42. Middle East Economic Digest, Special Report (July 1, 1983), p. 26.

CHAPTER 6

1. The following section is an excerpt from Choucri, "The New Migration in the Middle East," International Migration Review, vol. 11, no. 4 (Winter 1977), pp. 422-425.

2. The following section is adapted from Amr Mohie-Eldin, "External Migration of Egyptian Labor," International Labor Organization Strategic Employment Mission to Egypt, 1980, pp. 18-55.

3. Information about the duration of migrants' stay abroad is both scarce and highly variable due to differences by occupation and nature of employment. These estimates come from Table A-15 in Appendix A. Sketchy recent information indicates the average duration has declined since the

mid-1970s, because the importers want to insure the migrants remain temporary.

4. Section 6.4 is excerpted from Peter Brecke, "A Look at the Factors Underlying Internal Migration in Egypt," unpublished manuscript, M.I.T., 1981.

5. This number was calculated from Table 7 of "Research of Internal Migration," Central Bureau of Accounting and Statistics, No. 01-215, 1971.

6. See Table 9, General Mobilization and Statistics, General Statistics and Analytical Studies, Central Agency for General Mobilization and Statistics, Cairo, Issue 93.

7. See Table 2 of General Mobilization and Statistics.

8. See Table 1 of General Mobilization and Statistics.

9. The following comments draw upon Jerry Theodorou, "The Arab Republic of Egypt and New Towns" (Massachusetts Institute of Technology, internal memorandum, May 1983).

CHAPTER 7

1. For more detailed analysis of migration in Middle East construction, see Choucri et al., Employment and Migration in the Construction Sector: Critical Factors in Egyptian Development, 1978.

2. Section 7.1 is an excerpt from Choucri, Labor Transfers in the Arab World, 1979, pp. 2, 24-27.

3. This section is adapted from Amr Mohie-Eldine, "External Migration of Egyptian Labor," pp. 103-109.

4. Section 7.3 is taken from Choucri, Labor Transfers in the Arab World, 1979, pp. 27-33.

5. The following section is adapted from Choucri et al., Migration and Employment in the Construction Sector, 1978, pp. 113-127.

6. This section is based on an internal memorandum prepared by Supriya Lahiri for the Cairo University/M.I.T. Technology Adaptation Program.

7. Arab Republic of Egypt, Ministry of Planning, The Detailed Frame of the Five Year Plan for Economic and Social Development, 1982/83-1986-87, December 1982.

CHAPTER 8

1. Chapter 8 is adapted from Mohie-Eldin, "External Migration of Egyptian Labor," 1980, pp. 149-228 (except as noted).

2. This paragraph is an edited excerpt from Amr Mohie-Eldin and Ahmed Omar, "The Emigration of Universities' Academic Staff," (Cairo University/ M.I.T. Technology Adaptation Program, 1978, reprint, January 1980), p. 1.

3. The difference between registered staff members and actual staff members is that the registered figure represents all staff, including those on secondment or missions, while the actual figure does not.

4. The data include emigration (secondments and missions) of teachers only. The secondments of administrative personnel from the Ministry of Education are excluded. These reached about 300 in 1977/78.

5. Middle East Economic Digest, vol. 25 (June 5, 1981), p. 8.

CHAPTER 9

1. Chapter 9 is adapted from Choucri, "The New Migration in the Middle East," 1977, pp. 431-436.

CHAPTER 10

1. The following section is an edited excerpt from Ali E. Hillal Dessouki, "Development of Egypt's Migration Policy (1952-1978)," Cairo University/ M.I.T. Technology Adaptation Program, December 1978, pp. 4-28.
2. See examples in Al-Ahram, 23 June 1964; 17 and 31 October 1967; 7 December 1976.
3. Al-Iqtisadi, no. 375, 1 April 1971, pp. 24-25.
4. Al-Iqtisadi, no. 349, 1 March 1970, pp. 6-7.
5. Al-Ahram, 18 March 1970.
6. Al-Iqtisadi, no. 377, 1 May 1971.
7. Law by Decree no. 395 of 1972.
8. Al-Ahram, 25 and 29 April 1978; al-Gomhouria, 19 September 1978.
9. The second office was opened in August 1978. Al-Ahram, 18 August 1978.
10. Egypt has a tradition of sending labor attaches in its embassies abroad. In 1960 Egypt had labor offices in Washington, London, Paris, Bonn, Prague, Accra, Kuwait, and New Delhi. As a part of the austerity program of Ali Sabri's cabinet of 1964, these offices were closed.
11. This paragraph is excerpted from Choucri, "The New Migration in the Middle East," 1977, p. 428.
12. There is little systematic information on the nature of these agencies, although presumably it would not be difficult to obtain some rudimentary data.
13. Middle East News Economic Weekly, vol. 21 (January 29, 1982), p. 27.
14. Middle East Economic Digest, vol. 26 (October 19, 1982), p. 22.
15. Middle East Economic Digest, vol. 25 (May 22, 1982), p. 19.
16. Middle East Economic Digest, vol. 24 (October 10, 1980), p. 30.

17. Middle East Economic Digest, vol. 26 (September 17, 1982), pp. 19, 27.

18. Middle East Economic Survey, vol. 26 (March 14, 1983), p. B3.

19. Based on discussions with Ahmed Omar and Amr Mohie Eldin, Cairo University/M.I.T. Technology Planning Program, Labor Migration Project.

20. This section adapted from Norma Kriger, "Education in the Middle East," unpublished paper, Massachusetts Institute of Technology, 1979, pp. 28-30.

CHAPTER 11

1. This section excerpted from Nazli Choucri, "Political Economy of the Middle East: Dynamics of Migration," paper prepared for the 1982 Annual Meeting of the American Political Science Association, September 1982, pp. 22-23.

2. This section excerpted from Choucri, "The New Migration in the Middle East," 1977, pp. 20-25.

3. See Amr Mohie Eldin, "External Migration of Egyptian Lab : A Paper Submitted to the ILO Strategic Employment Mission to Egypt," September 1980, pp. 147-168. The total number of respondants is less than 100, the sample is not drawn in accordance with appropriate principles of sampling. These results must be viewed with utmost caution.

4. Discussion with Dr. Mostafa Said, Minister of Economics, in Cairo, April 1983.

CHAPTER 12

1. Tagi Sagerfi-nejad, Technology Exports from Developing Countries: The Case of Egypt (United Nations Industrial Development Organization, December 1982).
2. Based on an internal memorandum prepared by Robert Vitalis, M.I.T.
3. Middle East Economic Digest, vol. 26, (March 7, 1983), p. A8.
4. Based on an internal memorandum prepared by Robert Vitalis, M.I.T.
5. Nazli Choucri, "Power and Politics in World Oil," Technology Review, vol. 85 (October 1982), pp. 24-26.

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MIGRATION IN THE MIDDLE EAST:
TRANSFORMATIONS, POLICIES, AND PROCESSES

by

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with the collaboration of

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VOLUME II

Technology Adaptation Program
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PREFACE

The second volume of this report is devoted to analytical and methodological issues and to the data and results of these inquiries. In essence it focuses on the technical and quantitative analysis undertaken in this project and is designed to unravel some of the causal processes in migration and some of the quantifiable consequences.

Continuing the sequence of Volume I, Chapter 13 focuses on the analytical issues central to efforts at modelling migration. These issues highlight the state of the art in the migration field and provide a point of departure for the Middle East context and for the Egyptian case in particular.

Migration models -- and results -- for the Egyptian case are presented in Chapters 14 and 15. In Chapter 14, the overall process is delineated, and a simulation model of migration in the region with a focus on the movement of Egyptian teachers. It provides one of the first dynamic models of mobility in this region tied to a particular occupation. As the migration of teachers and educators is such a critical component of the broader migration flows, this simulation model, entitled EMIG, is a useful device for understanding the interconnections and interdependence in this segment of the labor force.

The macro economic consequences of labor migration are identified in Chapter 15 in the context of a structural model of the Egyptian economy, based on a recent social accounting matrix for Egypt. Specifically, the purpose of this analysis is to determine the range of costs and benefits to the economy due to remittances. It is a ten sector macro economic model, with closure rules reflecting the peculiar characteristics of the Egyptian economy. The

impact of various levels of remittances are identified in this context.

The appendices to this report are devoted almost exclusively to data issues. Materials supporting the analysis in Volumes I and II are presented, along with an assessment of data requirements for policy analysis of migration in the region. A list of papers and reports prepared in the context of the Migration and Development Research Program is presented in Appendix D.

The contributions of Peter Brecke, Supriya Lahiri, and Warren Van Wicklin are gratefully acknowledged.

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CHAPTER 13

MODELLING MIGRATION:

MIGRATION MODELS AND MANPOWER PLANNING MODELS

The first chapter of Volume II reviews the major approaches to the modelling of migration processes by way of placing the analysis undertaken in this project in proper context. So far, much of what has been written about the Middle East migration phenomenon is descriptive in nature, and there have been few efforts to develop internally consistent models or analytical structures useful for policy purposes. Further, the data base upon which such models are developed (or, in some cases, even tested) is often inconsistent and flawed in many ways. Chapter 13 focuses on two types of issues: first, the nature of migration models and their relevance for elucidating the underlying realities, and, second, the relevance of manpower planning models for policy-making.

13.1 Models of Migration

In recent years models of migration have been developed in the effort to formalize some of the theories described in Volume I. Numerous models of migration have appeared in the literature, ranging from simple diagrams to complex simulation programs which require large-scale computation. Basically all models are conceptual in that some organized observations of the migration phenomenon are made and then described in words or a diagram. In some cases analysts attempt to depict migration, either comparing it with real world data or else logically testing the consequences of alternative hypotheses or assumptions. In other cases analysts go even further and use their model to

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simulate what is likely to happen under different circumstances. In practice, these simulation models also often serve as analytical models. This is done by testing the effect of different hypothesis and assumptions on the dynamic behavior of the model.

Simulation models differ from analytical models in two basic respects. First, their emphasis is on the dynamics of the model; agreement with known data, while important, is of secondary importance. Second, these models tend to be much more complex in overall computational structure and sequence than are analytical models, hence their solutions are not tractable in any formal sense. Their contribution consists largely in aiding interpretation of a phenomenon's behavior by experimentation with a set of alternative situations.

13.1.1 Conceptual Models

Strictly conceptual models are not very useful for policy planning purposes. For example, Lee's model of migration, while clearly a correct description of the phenomenon, lacks the detail and precision needed to apply it to any specific situation or to assist the policy-maker to assess the effects of certain interventions.[1] Knowing that migration can be represented as an origin with certain factors "pushing" people to migrate, a destination with factors "pulling" people in, and intervening obstacles to individuals migrating tells one little about how many migrant workers are likely to be abroad in five years and what that might mean for the economies of the countries in question. Similarly, Akerman and Ellemer's pyramid of the factors leading to a decision to migrate distinguishes between macro and micro-level factors, and thus is a contribution to understanding the process, but again the generality of the model, as well as its inability to connect the levels in any specific way, reduces its overall usefulness.[2]

13.1.2 Analytical Models

Most migration models are analytic in nature and can be distinguished in terms of five categories: (a) single equation regression; (b) simultaneous equations regression; (c) "pure" analytical; (d) time series; and (e) semi-Markov models. This fivefold typology represents in large part the evolution of migration models toward increasing complexity as analysts sought to increase their usefulness for understanding the phenomenon.

Single equation regression or regression-type models such as log-linear are the simplest type of analytical models. They are specified to relate migration flows or rates to (usually) several explanatory factors such as wages or unemployment rates. An application of this technique to Egyptian internal migration is Greenwood,[3] whose analysis revealed in-migration to a governorate to be most closely related to its degree of urbanness, the distance between it and an origin governorate, and the wage differential between it and an origin governorate. Another illustration is the United States analysis by Cebula and Schaffer, who found net migration to be a function of per capita income, unemployment rates, average welfare payments, air pollution, and the amount of cold weather.[4] Related analysis revealed the influence of sunshine and medical care as additional factors bearing on the decision to migrate.[5]

There are obvious problems with single equation regression, be it regular multiple regression or log-linear: The technique is too simplistic and straightforward in its conceptual basis, inquiring whether the explanatory variable strongly relates to the variable of interest or not. The only issue at hand is to add variables for which data are available and see how strongly

related they are to the dependent variable. But all too easily the theoretical importance of the explanatory variables dissipates as everything but the proverbial kitchen sink is incorporated. Knowing that migration is related to degree of sunshine amuses more than it informs. The absence of strong theoretical direction in the selection of explanatory variables often results in a naive if not irrelevant set of results.

Simply adding variables to a regression equation soon lost favor as a way of explaining migration. In addition to scepticism about the dubious importance of certain factors, the modelers realized that the relationship between migration and the explanatory variables may be more complex than simply direct and additive. Explanatory variables may be affected by each other or in turn be affected by other variables which pertain to the migration phenomenon itself. For example, one may hypothesize that there is a chain of effects on migration and seek to separate them in order to focus analysis on some particular variable. If the model relies on time series data, feedback effects may create real problems because they bias the apparent strength of the relationships. Over time migration may affect those factors that are supposed to explain it, and the "pure" effect of the explanatory variable will be obscured.

One example of this type of modelling is analysis of internal migration in Tunisia by Hay in an attempt to separate the various links and their relative strength.[6] The particular focus of this model is the effects on rural income of age, schooling, skill level, and size of farm worked on, under the hypothesis that the higher the urban-rural income differential perceived by a migrant, the greater the probability of migrating. A significant inverse relationship was found between the level of rural incomes and the probability of migrating. In turn, the responsiveness of an individual to the rural

income level depended upon age and education. Older and uneducated individuals would not migrate while the younger and well-educated ones would migrate almost regardless of rural income changes. For those in the intermediate category, income would make a big difference. With this level of detail this migration model has some policy relevance. It clarifies the trade-offs involving migration, education, and job-creation programs. Efforts to retain people in the rural areas (if that is the goal) must focus on creating jobs for those at intermediate education levels: the well-educated are likely to move anyway.

Pure analytical models, while often estimated through regression techniques, differ from those reviewed above because the equations alone describe various characteristics of the phenomenon being modelled (hence the label "pure" analytical). This difference is fundamental: rather than hypothesizing a set of variables to be related and using data to determine the causal structure, the model builder specifies a particular mathematical structure for the variables first and then determines whether data support that structure. In practice, equations for this kind of model are considerably more complicated than standard regression equations. However, the models themselves are usually fairly simple, thus both formally and empirically tractable.

The most well-known pure analytical migration model is that of Todaro who questioned why rural-urban migration persisted in the face of high urban unemployment.[7] The question was specified in the context of a model which represented individual migrants as if they calculated what they would earn in the city times the probability of actually getting a job, and compared the result to what they would earn in the community of origin. The difference between these two estimates was interpreted as explaining why people decide to

migrate.

Other pure analytic models of migration include those of Lianos, Feder, and Fabricant. Lianos specified a simple model driven by earnings differentials between the community of origin and the community of destination, taking into account lags in response time, information lags, and a changing earnings differential.[8] Feder's model enabled a potential migrant to choose from alternative destinations on the basis of wages and moving costs.[9] By contrast, Fabricant's model instead is driven by an expected labor demand gap (rather than by wage or income differentials) tempered by a barrier function consisting of factors such as distance and friends and relatives at the destination.[10] These examples illustrate the type of relationships that are expected to explain migration.

In some ways time series models are almost the inverse of the "pure" analytical models. Instead of specifying a relational structure, then seeing whether the data support it, analysts begin with data and work "backward" towards a structure. For example, Krishnan developed two such models of migration into Canada from 1952 to 1972.[11] The first involved fitting a curve to the data and revealed that a cubic polynomial gave the best fit. The second involved finding the parameters in which one obtained a good estimate for the migration in one year by looking at the migration of the previous two years, revealing a robust second order linear auto-regressive model.

These models can be used to make forecasts if it is assumed that the nature of the phenomenon will change at most only marginally. For short-term forecasts this assumption is reasonable and time series models can be particularly useful for policy planning. Unfortunately there exists too little data on migration in the Middle East to make such models useful for policy making at this time. Further, the phenomenon itself is changing rapidly, creating

problems for analysis.

Of the analytical models surveyed so far, regression based and time series models tend toward aggregation at the national or regional levels. Some of the "pure" analytical models examine migration at a much more micro level. An example is Todaro's model of the kind of calculations migrants seem to be making. Semi-Markov models are even more micro-level and detailed in nature. That is, these models move some object (migrants in this case) through a chain or series of situations according to the probability (specified elsewhere) that the object will move to the next situation given that it is in some specific situation. This conception applies well to migration because of the problem of threshold effects on the decision to move. Different individuals will be differentially inclined to move based on their life cycle position (age, marital status, dependence relations, and so forth), occupational constraints on moving, and past migration experience.

Recent innovations in modelling migration include Morrison's suggestion of linking a semi-Markov model to a regression model which ascertains the most favorable destination for a migrant.[12] Ginsberg went farther by allowing the choice of alternative destinations to be determined by both a destination's attractiveness and the costs of moving to it.[13] Evaluating the extent to which these factors can be represented empirically is exceedingly difficult because of the enormous amount of data and work needed to calculate the transition probabilities. One flaw, of course, is that the processes are modelled as moving in only one direction, thereby negating or ignoring the operation of feedback effects.

13.1.3 Simulation Models

There are very few simulation models of migration. The World Bank's forecasting model is among the most relevant for policy purposes, but it serves primarily as a detailed manpower planning model rather than a migration model.[14] The migration of workers is derived from the model's calculations of the labor importers' need for workers to meet economic growth targets less the number of workers that can be supplied from their domestic workforce. The World Bank model simulates the phenomenon of migration by assuming the following structure of the process and sequence of computation:

The point of departure is calculating the manpower requirements for each nation based on their economic growth targets. Then economic output by sector is converted through productivity coefficients into total employment per sector. Then the model disaggregates the employment in each sector by occupation category. The specific nature and evolution of labor requirements are determined by this threefold process. The next step is to allocate how positions will be filled by workers already in the labor force plus graduates from the educational system. Labor shortages in the oil-rich countries will be filled by migrant workers. Through the use of linear programming algorithms, the model calculates the exact skills needed and whence they will be obtained. The final step entails altering the chain of steps simulating the education system in order to produce more graduates with the desired skills.

While the World Bank model is a plausible representation of at least some of the processes involved in worker migration, it is flawed in two serious ways. First, demand for labor alone drives the model; supply is assumed to be completely and easily satisfied. This assumption is surely incorrect given ample evidence of supply-related constraints in labor-exporting states.

Second, and more importantly, the model cannot incorporate possible responses of the countries involved to the consequences of the worker migration. Concepts like feedback and adaptation appear only with respect to changing the skill mix of those graduating from school. They are singularly absent in relating the policies of the sender countries to those of the recipients and to the changing conditions at each end of the process as a result of migration itself. Changing the nationality mix of migrant workers or placing greater emphasis on improving the participation rates of the local citizenry cannot be examined without adequate attention to feedback effects. An attempt to address this failing will be discussed later.

This selective illustration of the types of migration models is designed to reveal only the range of choices available and to highlight advantages and disadvantages. Other specific modelling efforts of the Middle East situation are presented below by way of placing the most recent additions to this slim repertoire in appropriate context.

13.2 Relevance of Migration Models for the Middle East Case: A Select Review

As demonstrated so far, most models of migration are rather simple in structure, following specification of the process in the literature on migration, which is overwhelmingly descriptive in nature. Migration as a process remains to be modelled appropriately. This modelling is necessary in order to identify appropriate policy responses. To date there have been relatively few efforts to model the movement of population as a process.[15] Most migration models are piecemeal, focusing on a single aspect, and do not provide a framework for understanding the interdependence between sending and receiving communities. This section reviews ten studies which represent efforts to model some aspect of migration. Our purpose is to draw appropriate lessons

for modelling migration in the Middle East region and to take into account the characteristics of both donors and recipients.

Each of the studies reviewed here yielded specific insights into the nature of migration processes. They are all analyses of cityward movements because so little systematic work has been done on interstate migration. Clearly, models of rural-urban migration are only partly relevant to migration among developing countries, but they yield important information regarding the generic process of population movement.

1. The point of departure for this review is a survey by Greenwood of research on internal migration in the United States which reviews the evidence regarding the determinants and consequences of cityward movement.[16] Greenwood differentiates between gross and net migration and synthesizes empirical findings with respect to the effects of distance, income, psychological costs of migration, information, and individual characteristics that bear on the decision to migrate. In the review of consequences, Greenwood notes the ambiguities associated with externalities and the efficiency of market mechanisms in redistributing labor resources.

2. While most efforts to identify the determinants and consequences of migration are in terms of single equation estimates, there is a simultaneity in the process that remains not fully explicated. This issue is raised more centrally in an article by Greenwood in which he criticizes the assumption of many migration models that, although there are variables which influence migration, migration does not have an effect upon these variables.[17] Empirical analysis of quantitative differences in the parameter estimates of five different models revealed the effects of migration on specific socioeconomic and demographic variables. Although he raises the simultaneity issue as a

central concern, the estimation procedure employed is ordinary least squares. This procedure generates biased parameter estimates when simultaneities are known to exist and when there are lagged endogenous variables. Greenwood does not employ such variables, yet does seek to untangle the effects of built-in simultaneities. Recognizing the bias in these types of estimates is an important contribution to the development of generic migration models.

3. A related study of significance in reflecting upon the analytical structure of the migration process is by Lianos, who proposed a stocks and flows approach to migration.[18] He argued that in modelling migration the effort should take into account not only the determinants of the flows but also the determinants of the stocks from which the flows are generated. That perspective assumes the existence of time lags in the labor market which cause the stocks to accumulate before any movement takes place. Lianos posited two types of lags: response lags and information lags. The former is a stock depleting lag, the latter a stock formation lag. The effort is essentially an econometric approach to a dynamic system formulation.

4. The distinction between stocks and flows is somewhat different from the distinction between movers and nonmovers posited by Morrison, who used a Markov specification for modelling movement, based on the concept that individuals have different thresholds concerning the decision to migrate.[19] Lianos, on the other hand, assumed implicitly that the entire stock could eventually be depleted and did not recognize differences in the threshold to move.

5. In a different vein is study by Drettakis that sought to explain changes in the employment of migrant workers in West Germany from 1961 to 1972. The Drettakis analysis tried to explain migration solely as a function of job vacancies. While limited in its scope, it draws attention to the role of employment opportunity (and related variables) in determining migration.[20]

6. Bhagwati and Partington's analysis of the brain drain issues reviewed much of the literature and empirical studies that bear directly on such drains. More general studies of international movements are not emphasized in their survey.[21] Their contribution lies in attempting to develop guidelines for evaluating migration (and monetarizing its value).

7. A broader-based attempt to explain migration, proposed by Wilkinson to explain labor migration from Europe to the United States, 1870-1914, focused on the economic output level of the United States and of the sending country, as well as real wage differences between them. Two models were specified, one in which the dependent variable was the equilibrium flow of labor to the United States from the country of origin, and the second in which the dependent variable was normalized with respect to the population of the sending country. These variations have direct relevance to migration in the Middle East since the population levels of the sending countries are substantially different.[22]

8. The human capital perspective, adopted by Comay, focused on migration of professionals, specifically the migration of engineers and scientists to Canada from the United States.[23] The model focused on the individual decisions to migrate. Migration itself was modelled as an investment which the individual seeks to maximize in the country of origin. The core of the specification comprised expected costs, expected benefits, the discount rate, and the lifetime earning span foreseen at each age. That specification was then reformulated in two forms. One was a simple additive function. In the second, the probability of migrating was a function of employment opportunity in the United States, salary differentials, expected U.S. salary, other composite factors, and a random error term. This study drew upon earlier work

which indicated that among professionals only destination employment opportunities are significant.

9. The distinction between the supply of and the demand for migrants proposed by Fabricant used wage rates as the adjustment mechanism. This mechanism in essence serves to regulate the flow of labor.

10. Finally, the obstacles to migration formulated in terms of a barrier function are an important contribution of these models. Fabricant initially drew attention to the importance of these barriers. As many of the obstacles to migration are related to the rules and regulations that governments impose, this conception of "barrier" may be a useful way of formally representing the role of government.[24]

This review of migration models is not exhaustive by any means. It focuses explicitly on those studies that are directly relevant to the development of a generic model of population movement among developing countries. These studies provide important clues for modelling both the structure and the process of migration. The clues are building blocks for an analytical specification of labor movements across national boundaries. Since the referrent world to be considered, the Middle East, is a natural laboratory of differences in demographic, economic, and social characteristics, it will be possible to investigate the effects of different factors cited in the literature and their significance as determinants (or consequences) of migration.

13.3 Manpower Planning Models

Increasingly, development planning in the Middle East has assumed the guise of a quasi-science. Many governments in the region have begun to pay attention to the need for systematic inputs for economic planning. This trend

necessitates a careful look at manpower models with potential uses for migration analysis. Thus, to determine the usefulness of existing major models in the development field bearing on migration issues and forecasting of manpower composition, a systematic survey of a broad literature was undertaken.[25] In the course of the survey it became clear that despite the wide variety of methodologies and techniques, the great majority of manpower studies for development analysis followed one of three broad approaches: (1) models of manpower requirements, (2) cost-benefit analyses, and (3) models for policy analysis.

13.3.1 Essential Characteristics

Manpower planning models are often tied to assessments of education requirements. Two of the three approaches to manpower planning, namely models of manpower requirements and cost-benefit analyses, essentially constitute demand-driven models. Requirements of manpower demand are estimated, and then supply is modified to meet this demand. The manpower requirements model seeks to determine specific labor requirements and the demand for education given a specified output (such as economic production). The basic objective of cost-benefit models is not only to determine the necessary manpower, but also to determine the least-cost method of producing that labor supply. Evaluating the rates of return of various levels of education is typical of cost-benefit models.[26]

The third approach, the policy model analysis, is basically a supply side model, with social or cultural targets defining the demand for labor.[27] This approach posits that non-economic motives help determine the demand for education. Educational expansion should be geared to individual households' demand for education. Both demand and supply are treated as policy variables and

thus intervention can take place on either side of the manpower equation. One objective is to achieve an optimal tradeoff between growth and employment objectives, while acting on resource endowments to reduce the necessity for trade-offs in the long run.

Demand for labor in the manpower requirements models is most often derived from the structure of output. Occupational requirements are a product of industry output, the inverse of labor productivity in that industry, and the occupational structure of that industry.

Users of cost-benefit models have criticized the manpower requirements approach for not posing alternative combinations for supplying the requisite manpower. Cost-benefit models approach the demand problems in two different ways. The first estimates the returns to education and then limits total expenditure to some population/GDP coefficient. There are broad budgetary limitations to the resources that can be devoted to education: approximately 7-8 percent of GNP or 20-25 percent of the budget is generally regarded as a practical upper limit. The second method of establishing manpower demands in cost-benefit models employs linear programming with overall systems constraints. It is common practice to optimize output subject to cost minimization and an overall supply constraint.

The social demands models estimate collective demand by analyzing the implications of social and cultural objectives, such as the elimination of illiteracy or the adoption of universal secondary education. In such models, the demand side is much more consumption-determined than output-oriented. Social demands models are also much more supply determined, or at least the supply and demand sides are more interactive in other types of manpower planning models. Developing countries are often faced with the problem of absorb-

ing manpower surpluses, as well as filling high level vacancies. Therefore the supply of labor strongly influences educational demand.

The three general approaches to manpower modelling differ more fundamentally in their conceptions than in their specifications of labor supply. Manpower requirements models assume that the manpower demanded will be supplied, that there are essentially no supply effects on demand, and that there is no substitution among occupations. Overall, it is a rigid conception of labor sufficient to meet manpower needs. Cost benefit models, on the other hand, acknowledge overall supply constraints and recognize the possibility of alternative means of supplying the requisite manpower. Nevertheless, these models are also relatively narrow in their conceptions of supply, since labor supply is brought forth by expected returns on education investments, a method which ignores many non-economic factors affecting manpower supply. Social demands models are often the most comprehensive, with their inclusion of demographic, structural, political, and socioeconomic variables.

There is as wide a range of research needs as there is of problems in manpower planning. Many technical weaknesses of the various approaches can be cited: supply effects on demand, projection of dynamic change in productivity and technical coefficients of the output structure, the absorptive capacity of an economy, non-economic contributions of education, and alternative manpower configurations, combinations of inputs, and paths to qualification.

13.3.2 Relevance for Policy Analysis

The literature on migration models and manpower planning models provides useful lessons for development planning. The most important is that a holistic approach is necessary to generate results of use to policy analysts. Such an approach would view the migration process comprehensively and seek to tie

it more closely to planning. As a tool for policy analysis, a holistic approach to modelling migration should meet the following requirements:

1. These models should represent generic processes revolving around the labor system: to include, but extend beyond, the narrow economic definition of a market and incorporate the demographic, household income, and labor market subsystems.
2. These models should be interactive: specify feedback loops and other methods of including variables that are commonly excluded or treated in isolation.
3. Supply and demand should not be treated independently, but rather interactively: they influence each other, and, in combination with wages, allocate manpower resources.
4. Demographic variables and other structural factors of population growth affecting labor supply must include: cultural factors defining social demand.
5. Specifying international interdependence must be made in terms of transnational labor markets: where the laws of supply and demand extend across borders and policy responses of one party affect policy responses of another.

Migration and/or manpower plans are not devoid of economic significance. They also involve political interests and concerns. Therefore, whenever feasible, political variables should be made explicit and specified endogenously. Thus, the role of governments must be explicitly incorporated in such models to capture transnational, socio-cultural, and political aspects of manpower supply and demand. Manpower planning has become a fact of life for

many developing countries, and as such the government sector cannot be ignored: it must be accorded equal analytical stature with supply and demand as a balancing force in manpower systems.

Finally, perhaps the most important and, up to now, underemployed requirement for migration and for manpower models is specification of the institutional interactions. Modelling migration and manpower planning must become a process of continuous information flow and exchange between planning technicians and the political and economic institutions that interpret social utility functions and translate optimal strategies into policy decisions. The academic community has provided initial guidelines for modelling these processes, but unless these guidelines are "tested" and utilized in a policy context, their usefulness for policy planning cannot be adequately delineated. The following section and chapters are addressed to migration models for the Egyptian case.

13.4 Migration Models for the Egyptian Case

Existing approaches to migration and manpower planning are not directly useful for the Egyptian case or to any other situation in the Arab world. In the Middle East region any assumption of self-contained economies and labor force structure for economic analysis or planning is not valid. For this reason we have developed a set of models directly applicable to the Egyptian case, based on Egyptian data and parameters, and reflecting Egypt's interactions with the Arab world.

13.4.1 Modelling Migration: Toward a Generic Representation

The purpose of developing a quantifiable model of population movement among developing countries is to provide a framework in which to incorporate

those economic, demographic, and policy variables critical in shaping both the individual decision to migrate and the macro-societal adjustments to such decisions. It is clear from the realities of the Middle East that such models must also allow for a representation of the attendant interdependence between donor and recipient countries.

Modelling migration is, in this context, an important requisite of policy analysis for four reasons:

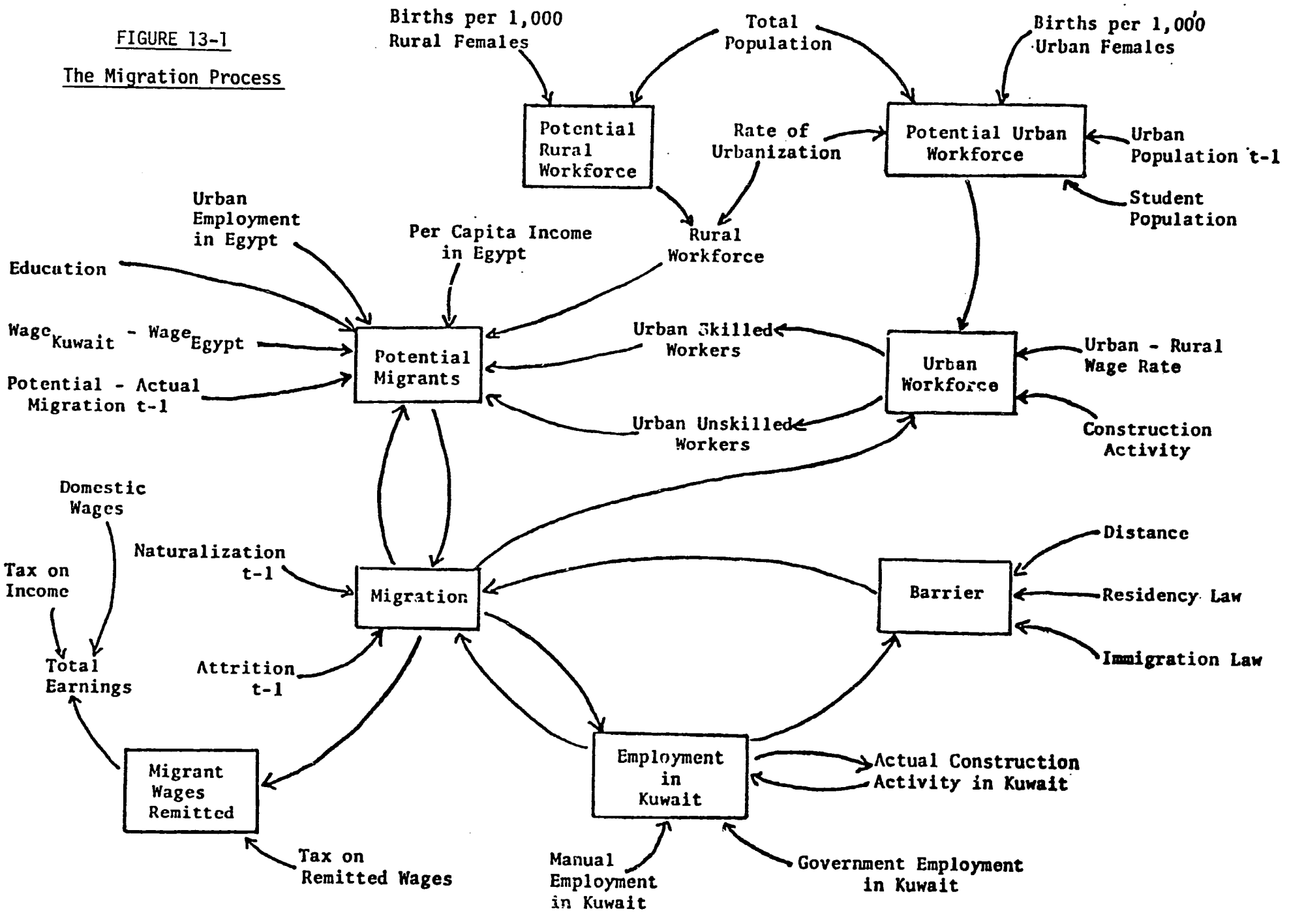
1. to understand the characteristic features of population movement among developing countries;
2. to identify where policy interventions might be appropriate;
3. to delineate what interventions are most relevant to obtain desired outcomes;
4. to determine the structure of political and economic interdependence between sending and receiving countries.

The more complex that interdependence, the greater the need for conceptual assistance in clarifying its critical features.

Figure 13-1 incorporates a set of relationships that have served as guiding hypotheses about the process of migration among developing countries from rural and and urban areas to foreign destinations. The figure was developed in early stages of this study to depict generic processes and specify linkages among variables that can be examined against empirical data. It is based on the lessons gleaned from our review of migration models and seeks to incorporate some of the directives noted above. This figure incorporates the major relationships provided by the ten models reviewed -- determinants and consequences of movements, stocks and flows, simultaneity and attendant interdependence, wage differentials, employment opportunities, human capital,

FIGURE 13-1

The Migration Process



adjustment mechanisms, and various barriers to migration -- and relates them in an overall framework.

For illustrative purposes the hypotheses depicted in Figure 13-1 draw upon movements between Egypt and Kuwait to highlight the most significant features of migration among countries of the Middle East. The nature and extent of labor migration between these two countries dramatizes its importance for both donor and recipient.

The contribution of Figure 13-1 is that it specifies within the same framework both the major determinants and the consequences of migration. This formulation enables us to trace the role and characteristics of both donor and recipient. The basic research hypothesis is that the characteristics of the donor country contribute to determining the potential migrants, the stock variable, while the characteristics of the recipient cocuntry shape the flow of labor. At the same time a barrier function is incorporated to reflect the possibility that actual migration will be tempered and controlled by governmental interventions. Since governments played a major role in shaping some specific migration streams, it is necessary to make explicit provision for the role of policy interventions.

The inclusion of both rural and urban sources of migrants is designed to capture the empirical observation that migration in the Middle East is, in some cases, a two-step flow -- from rural to urban areas and then from urban areas to foreign destinations. However, since Egyptian fellahin have been observed in the labor markets of Libya and the Sudan, the hypothesis that flows may exist between rural areas and foreign locations is plausible. There is also evidence of direct migration from rural areas, as illustrated by the migration of construction workers recruited directly from villages. Thus, examining the relative strength of various sources and paths of migration may

clarify the issues at hand. The inclusion of the rural work force as a possible determinant of the stock of potential migrants is designed to enable examination of the impact of the rural-foreign flow that is important in some sending countries, most notably Egypt.

13.4.2 A Broad Context

Figure 13-1 provided a research agenda to assist in identifying the interconnections among determinants of migration and other consequences. The jointly dependent variables are noted in boxes, while the independent and exogenous variables are listed at the tail of the arrows. The figure illustrates the characteristics of a migration model appropriate for the Middle East which evaluates the gains and losses to the donor and recipient of the movement of labor across national boundaries. The structure of the framework, suggested by a synthesis of the relevant literature, is directly applicable to the Middle East. Each link is predicated on an underlying empirical or theoretical rationale.

There are some basic conceptual and empirical difficulties that necessarily arise in the course of estimating the parameters of such a model. No one has as yet satisfactorily defined the "potential" migrants (or as is more commonly the case, the stock). Since in actuality it is not the entire labor force that is disposed to move at any point in time but a subset thereof, defining that subset is, in itself, an important conceptual and methodological problem. We propose to proceed by elimination, that is, isolating those characteristics of the labor force that will predispose individuals not to migrate. Age is one such attribute. Members of the labor force who are either too old or too young will not move. In traditional Moslem societies

older sons will not move, nor will an only child. But beyond this simplistic distinction the delineation of potential migrants from the entire stock of available labor is a problem of no small consequence.

The following chapters briefiv describe the nature and structure of the models developed for simulating (1) migration in the education sector and (2) the macro-economic effects of remittances in the Egyptian economy. The migration of Egyptians affects both the domestic labor market and the labor markets of other Arab countries. Further, the process of migration transforms the employment and production structure of the sector from which people migrate. Thus, for modelling purposes, it is not only the process of migration that much be represented but its consequences as well.

CHAPTER 14

DYNAMIC EFFECTS OF TEACHER MIGRATION: SIMULATION MODEL OF THE MIGRATION PROCESS IN THE EDUCATION SECTOR

Trends in the migration of Egyptians to other Arab countries reveal some regularities as migrants systematically respond to specific stimuli. To summarize and represent the process of migration -- given the information available -- we have developed two simulation models relevant to migration, specifically in the education sector.

The first model simulates the flow of students through the education system in Egypt; the second model represents the movement of teachers in and out of the country in response to both domestic and external conditions. These models are designed as complementary components to represent the entire process of migration in the education sector. Since a relatively large amount of information exists on this type of migration, it is hoped that these models will provide insights into other types of labor movement and contribute to our understanding of current trends and projections of future tendencies.

14.1 A Model of Student Flows in the Education System: TEACHFOR[1]

As part of an attempt to ascertain the effects of teacher migration on the Egyptian education system and to project the nature of the migration and its effects into the future, we have constructed a dynamic computer simulation which represents and reproduces the flow of students through the Egyptian school system, labelled TEACHFOR (TEACHer FORecasting). This simulation can also be considered a model of Egypt's primary, preparatory, and secondary

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schools. The role of the model is to generate estimates of the number of teachers needed to satisfy domestic demand. These estimates are then used as inputs for the teacher migration model. But even though TEACHFOR is meant to complement the teacher migration model, it is self-contained and can be used for other purposes, such as testing the implications of different expansion paths for Egypt's schools.

14.1.1 Operation

TEACHFOR determines the domestic need or demand for teachers by multiplying the number of students by desired student-teacher ratios. For example, if there were 1.5 million students in preparatory schools and the desired teacher-student ratio were 1:30, the demand for preparatory school teachers would be 50,000. That is rather trivial. More difficult is the calculation of the number of students for whom we want the teachers. TEACHFOR makes these calculations by operating on each youth cohort as it enters and moves through primary, preparatory, and secondary school. The size of the cohorts reaching school age between 1980 and 2000, TEACHFOR's currently configured operating period, was calculated separately using the most recent data on live births and infant survival to school age and making some reasonable extrapolations. TEACHFOR is designed so that a user can input his or her own estimates of the number of children reaching school age each year (a cohort) to check alternative estimates or to experiment with different scenarios.

TEACHFOR's operations on cohorts involve multiplying each by a coefficient corresponding to the average attrition experienced by that cohort as it moves up through the grades. For example, if we started out with a cohort of 1 million children at the age of school entry, we can expect -- using current coefficients -- that about 810,000 would actually enter first grade, about

520,000 would receive their primary certificates, about 440,000 would get their preparatory certificates, and about 310,000 would graduate from secondary school. There are several more operations performed on the cohort size than these four figures suggest. The basic notion is that we reduce the cohort size to simulate the attrition which occurs at each stage in the education process.

With the operations just described we calculate the class sizes for each year. TEACHFOR also disaggregates the secondary school enrollments for the five types of secondary schools, allocating them either according to the current breakdown or to some other allocation the user may want to investigate. To determine the total number of students in each type of school (primary, preparatory, commercial secondary, etc.), TEACHFOR sums the enrollment in each grade of that school system each year. From these figures the desired number of teachers for each kind of school for each year is then calculated.

TEACHFOR has the capability to change easily most of the coefficients in order to test different scenarios of development and effectiveness of the different kinds of schools. Furthermore, some of the coefficients can incorporate growth rates specified to simulate changes in performance over time.

14.1.2 Uses

TEACHFOR was conceived and implemented as a flexible tool for calculating student enrollments and the resulting demand for teachers, given a variety of assumptions about the performance of the schools and policy decisions about which school system should be emphasized. An example of testing a performance assumption would be to see the effect on demand for teachers of changing the

coefficients relating to the proportion of students entering primary school who get their primary certificates. Clearly the effect will ripple through the entire school system. As an example of a policy-related change one might test the effect of emphasizing growth in the technical secondary schools. And, as indicated earlier, TEACHFOR can allow the user to test the consequences of different fertility levels for the Egyptian population. Finally, TEACHFOR's output can be used as a crucial stream of input data for the teacher migration model. The interested reader can see Appendix A for a demonstration of TEACHFOR and related programs STEACHFO and HISTEACH's capabilities and output from a few scenario runs.

14.2 Simulation Model of Teachers' Migration: TEAMIG[2]

To forecast the need for Egyptian teachers to the year 2000, it is essential to incorporate the two distinct sources that generate the demand for Egyptian teachers. The first, domestic demand, is modelled and provided by TEACHFOR. The second source, foreign demand, is also modelled using a computer simulation program, but given the different nature of that demand, the approach adopted is different. In TEACHFOR we sought to keep track of student cohorts and calculate teacher demand from them. The TEAMIG (TEAcher MIGration) model is less concerned with keeping track of particular groups (i.e., migrant teachers) than with factors which affect the movement of teachers. Unlike TEACHFOR, in which the dominant force was inexorable population growth, TEAMIG's behavior, while ultimately driven by population growth, is shaped by relatively volatile economic and political decisions of individuals and governments. As a result, TEAMIG is a more sophisticated model, simulating a much more complicated phenomenon.

14.2.1 Purpose and Scope

This section introduces the structure and general behavior of a simulation model of temporary international worker migration. The terms simulation, temporary, and international indicate what makes this model unique. Only a small subset of the published migration models concerns international migration. Even fewer focus on temporary migration; those that do fail to address that which makes the migration temporary, namely the return migration.[3] Of the handful of simulation models dealing with migration, only one attempts to represent the structure and processes involved in temporary international migration.[4]

14.2.2 Focus

A major characteristic of this model is tied to its purpose. Theoretically, our objective is to examine the role of government intervention in temporary international worker migration, particularly how governments influence the size and nationality of their migrant workforces. Geographers, demographers, and regional economists have not seriously addressed this issue in their analyses because government involvement with internal migration is usually negligible or very indirect. But since governments intervene directly in temporary international migration, the neglect of this factor is a serious shortcoming.

More specifically, the objective is to determine how government intervention both affects and is affected by the supply of and demand for migrant workers. While market forces certainly operate here, they are only part of the picture. Consequently, one major goal of this modelling is to illuminate the government-market interaction.

TEAMIG is a system dynamics computer simulation model of one small but important type of temporary international worker migration, the flow of Egyptian teachers to other Arab countries, such as Kuwait and Saudi Arabia. We use the model to try to forecast these flows, thereby generating additional information with which to make recommendations regarding responses to problems created by teacher migration. This more practical purpose complements the theoretical concern because both center on points of policy leverage. Experimenting with alternative decision rules to determine the effect on model behavior differs little from finding policies which satisfactorily direct the migration. Both involve changing the rules in some way and examining the resulting scenario (by "running" the computer model).

Like TEACHFOR, described earlier, TEAMIG is ultimately driven by the number of students moving through the education systems in the teacher importing nations. But while the expanding student enrollment in those countries may be the underlying driving force, it is not a fundamental component of the model and certainly is not critical to its behavior over time. This seeming contradiction results from the nature of student enrollments themselves -- a relatively stable growth phenomenon. A migration model dominated by such a growth process would exhibit stable, uninformative results, for migration changes in more complicated ways than by simply growing. Teacher migration involves governments, markets, and individuals responding to what is happening to and around them. By incorporating these additional factors the model provides a revealing and more realistic simulation and explanation of the migration process than is created by the models in the existing literature.

To simulate responsiveness and adaptation, TEAMIG includes five sets of variables which have a direct behavioral orientation. The two most important are (1) the teacher importing nations' policies towards training their own

teachers rather than importing them, and (2) decisions regarding how many teachers the importing nations wish to import from alternative sources. Less critical, but nonetheless important, are (3) the propensity to hire teachers on private contract as opposed to obtaining them through the secondment procedures, (4) wages and the resulting individual teachers' decisions regarding whether to migrate or not and, if so, whether to renew their secondment or contract or not, and (5) the demand for private lessons by students within Egypt. The following section describes the role and importance of these five sets of variables.

14.2.3 Model Description

(1) Teacher Importers Sector

Keeping in mind the five sets of important variables, we trace through the model to describe its structure and operation. At the right center of Figure 14-1 the stock of teachers in the importing countries is given. At this time all of the countries are aggregated; future developments of the model will disaggregate four: Saudi Arabia, Libya, Kuwait, and "other" teacher-importing nations. A fraction of the stock, 2.5 percent, retires or abandons teaching every year and is subtracted from the overall stock. The process by which new teachers are added is more complex, as follows:

Expected student enrollments and the desired student-teacher ratio combine to form the desired number of teachers -- one of the "ultimate drivers" mentioned earlier. The desired number of teachers less the actual number results in the demand for additional teachers. The difference between this demand and the number of new teachers which can be provided internally is the demand for migrant teachers. The rate at which the teacher importer attempts

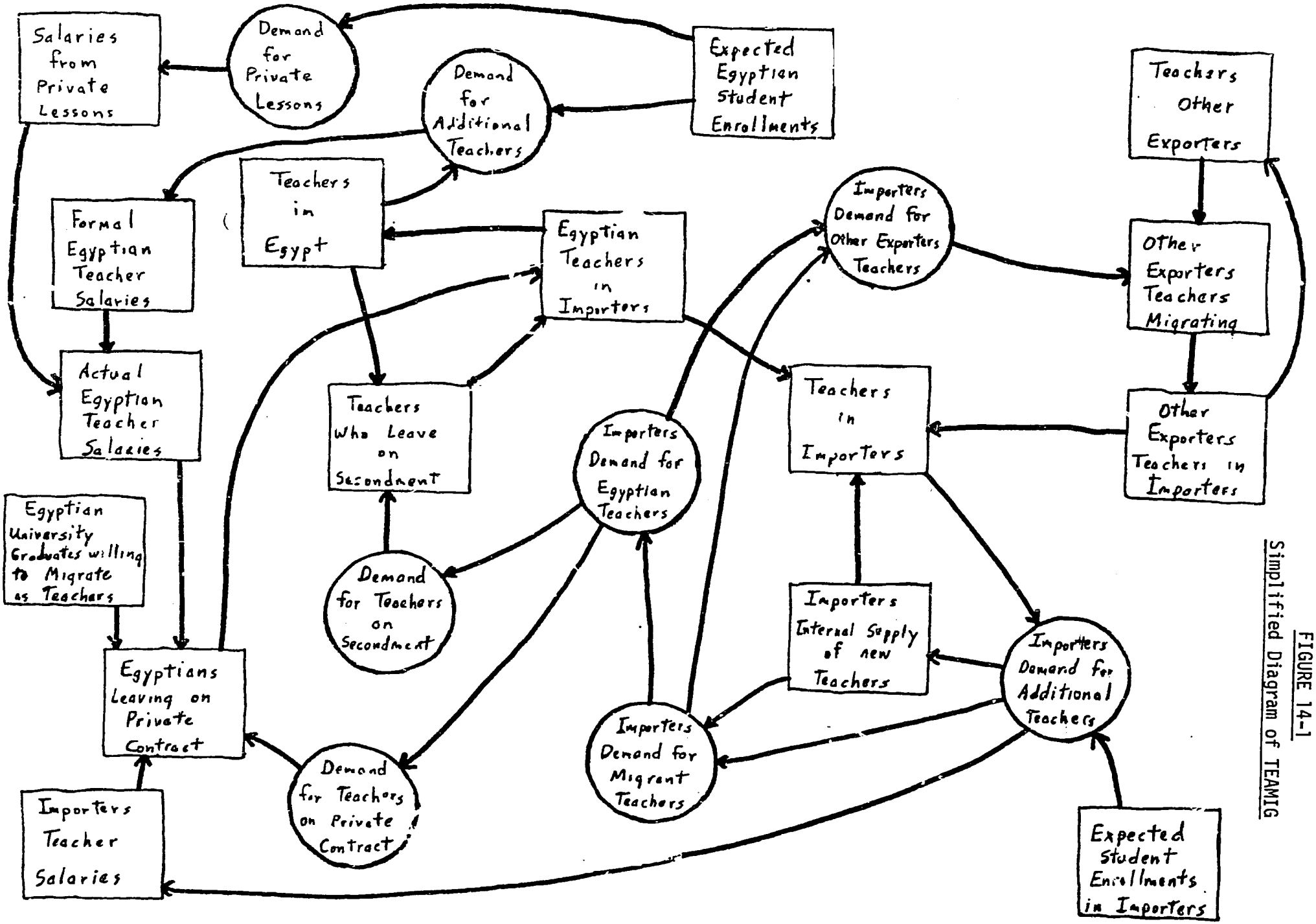


FIGURE 14-1
Simplified Diagram of TEAMIG

to supply teachers internally changes in response to the proportion of migrant teachers in the importer's teacher workforce. A high proportion leads to increased efforts to provide teachers internally, but additional teachers do not appear until five years later because it takes that period of time to train them.

Given that the teacher-importer country wishes to import teachers, it must decide from which countries it wants to obtain them. This model contains two sources, Egypt and other teacher-exporting nations. We will describe later how the importer country decides the number of teachers it wants from Egypt, as opposed to other sources. For the moment we will concentrate on the mechanism by which teachers are drawn from the other exporting nations.

(2) Other Teacher-Exporting Nations Sector

This sector of the model exists as a residual source of teachers. The current version of TEAMIG has a rather simple "other exporting nations" sector. First, it ignores the student enrollments in those countries, using the simplifying assumption that there will be no changes significant enough to affect model behavior. Second, both teacher retirements and new teachers are set at a fixed proportion of the stock of teachers in these countries. This simplification is used because the third simplification (below) cushions the effect on training new teachers caused by migration. Third, the demand for teachers from other countries is assumed to be satisfied up to an upper bound set at some fraction of their own teacher workforce, on the grounds that a teacher-exporting country facing a massive drain of its teachers is likely to stop the outflow.

As can be seen from Figure 14-1, the demand for migrant teachers leads to a demand for other teachers as well as a demand for Egyptian teachers. The

demand results in a flow of teachers to the importers. This flow drains the workforce of teachers in the other exporting countries and expands the stock of other countries' teachers abroad. After a contract period averaging three years, the teachers return home, which registers appropriate changes in the teacher stocks.

(3) The Process of Egyptian Teacher Migration Sector

This sector begins with the demand for Egyptian teachers. It consists of two parts, a demand for teachers on private contract and a demand for teachers on secondment. Unfortunately, it is unknown whether the importing nations try to fill their needs by first going into the open market or whether they first negotiate with the Egyptian Ministry of Education for teachers. Because of this ambiguity, two versions of TEAMIG have been constructed. The first assumes that the teacher importers try to hire Egyptian university graduates on private contracts before they request the Egyptian government to second teachers from the school system. To represent this, the model structure specifies that the demand for teachers on private contract equals the demand for Egyptian teachers multiplied by a coefficient. This coefficient simulates the complication that arises when the importers cannot attract all of the teachers they want in specialized fields, such as agricultural economics, and must go to the Egyptian government to obtain them on secondment. While our data is fragmentary, the teacher importers apparently attempt to hire about 70-80 percent of their teachers through private contracts.

Unlike the situation in the other exporting nations, the number of Egyptians who leave with private contracts is less than the demand. The precise amount is determined by the difference in salary between the importing nations

and Egypt (a differential to be explained later). The greater the difference, the greater the proportion that will leave. After a delay corresponding to the contract tenure, the teachers return to Egypt. The numbers who leave and return appear as subtractions and additions to the appropriate teacher stocks.

The first version of the model assumes that the demand for teachers on secondment is determined by the difference between the demand for Egyptian teachers and those who leave on private contract. The number of teachers who actually leave on secondment is assumed to be equal to the demand, subject to the constraint that it not be more than some percentage (currently 20 percent) larger than the number who went the previous year. Like those who leave on private contract, those who leave on secondment are added to the stock of teachers in the importing country and subtracted from the Egyptian teacher workforce. After one year (represented by a delay), those who left on secondment have the option of renewing it. It is specified that the number who decide <u>not</u> to renew is a function of the salary differential because it reflects (albeit imperfectly) the size of the migrants' savings. The migrants appear to set savings targets and return home upon their goal.[5] The higher the salary the more likely they are to reach that target and return after a given number of years.

The renewal process occurs three times. At the end of the fourth year the remaining teachers in the cohort return to Egypt, again being appropriately added and subtracted from the relevant teacher workforces.

The alternate specification for the manner in which Egyptian teachers are hired assumes that importers first try to hire trained and experienced teachers via secondment before they recruit inexperienced university graduates. However, since many of the teaching positions do not require specialized skills (because they are for the primary and preparatory stages), only a

fraction of the demand is for teachers on secondment. This version of TEAMIG specifies that fraction to be 30 percent. The number of teachers who actually leave on secondment is set equal to the demand up to a ceiling currently set at 4.5 percent of the Egyptian teacher workforce. The remaining demand, if any, is added to the demand for teachers on private contract. The difference between the two versions of TEAMIG is small, yet under a situation of high demand for Egyptian teachers or a declining salary differential between Egypt and the importers, the relative proportion of teachers leaving on secondment will vary.

Variables like "returnees," "teachers who leave on," and "teachers renewing," among others, are flow variables because they indicate changes in what teachers are doing in a given year. To get the total number of Egyptian teachers abroad in a given year, the model contains a stock variable which is the sum of the number of teachers who left on either secondment or contract and the number who renewed either.

From the stock of migrant teachers emerges a potentially important feedback loop. No nation's government accepts complete dependence on one source for teachers. The model, therefore, contains a mechanism to limit demand for Egyptian teachers, reflecting the desire to limit a country's dependence on Egypt. Its operation is simple: the stock (total number of Egyptians abroad) is subjected to a delay which simulates the time needed for the governments to accumulate statistics regarding how many teachers renewed their contract or secondment, how many returned to Egypt, and how many new teachers arrived. That number is divided by the total number of teachers in the importing countries and then transformed so that a variable named "importers' desire for more Egyptians" declines as the proportion of Egyptian to total teachers in

the importing nations rises. Finally, the "desire" variable helps determine what proportion of the importing nation's demand for teachers becomes a demand for Egyptian teachers.

(4) Egyptian Educatian System Sector

This sector begins with the stock of teachers in Egypt.[6] A certain proportion, 2.5 percent, retires each year. The procedure by which the teacher workforce is replenished and expanded compares the stock of teachers with the desired number of teachers, which is calculated from the expected number of students and the desired student-teacher ratios. The difference is the Egyptian demand for new or additional teachers, which is at the top center of Figure 14-2. The teacher training schools satisfy that demand up to the number of students graduating that year. Any residual demand for new teachers becomes a demand for university graduates. The current specification is to have that demand automatically and completely satisfied.

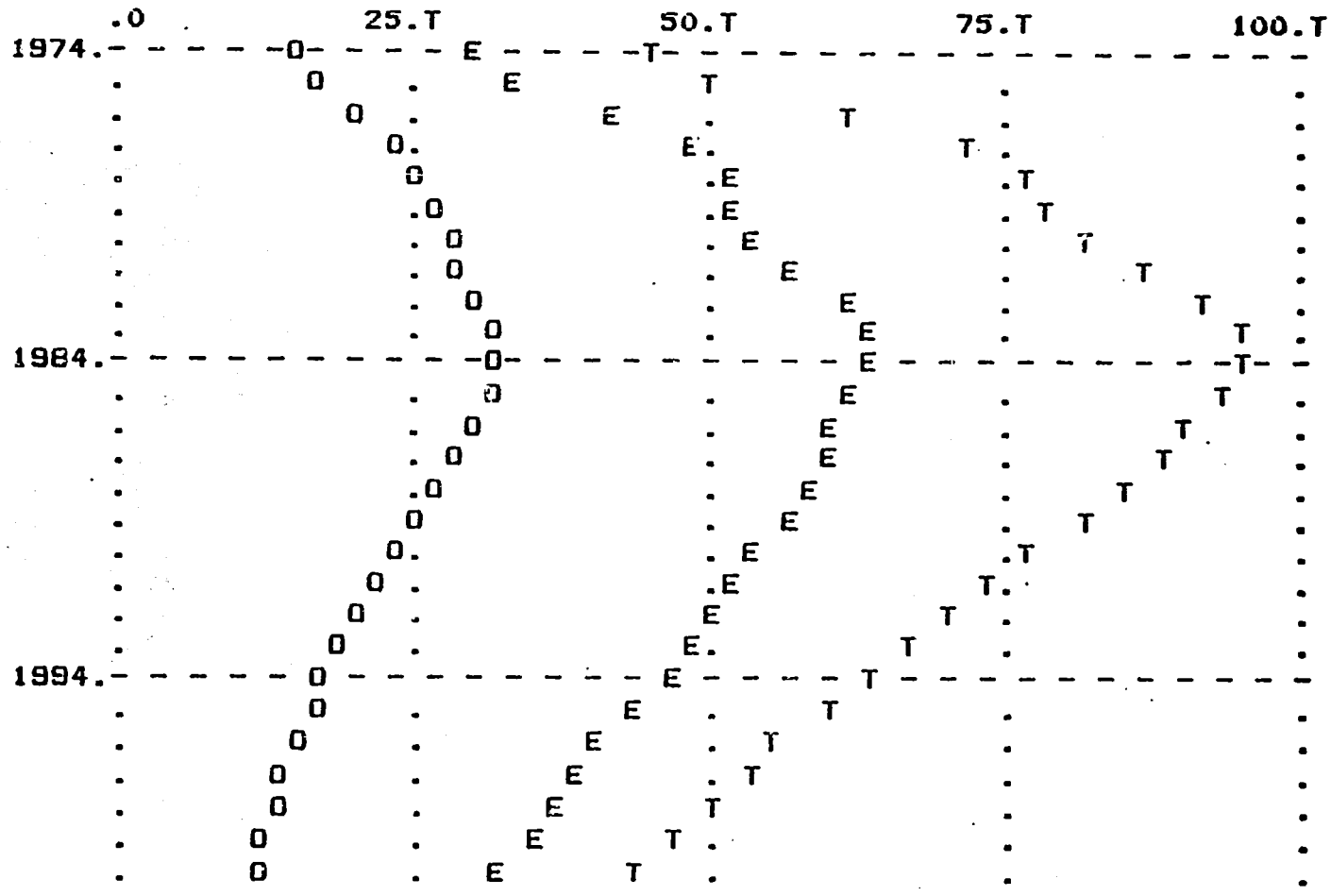
Both the demand for teachers on private contract and the residual demand for Egyptian teachers are directed toward underemployed university graduates. TEAMIG includes this source of teachers through a variable named "Egyptian university graduates willing to migrate." The size of this group is rather arbitrarily set at 100,000 and specified to grow by 5000 per year. Perhaps the most interesting aspect of this variable is the effect the two demands have upon it. The degree to which it drops corresponds to an amelioration of political pressure to find gainful employment for these people.

(5) Teacher Salaries Sector

Changes in the importers' teacher salary start from the importers' demand gap. The changes are specified to be proportional to the size of that demand

FIGURE 14-2

Simulating the Stock of Migrant Workers in the Middle East



T = Total Stock
E = Egyptians
O = Other Exporters' Teachers

gap, but the precise nature of the relationship is unknown. The hypothesis used is that the relationship is non-linear: if the demand gap is small, the salary will be pushed up only slightly from some base level while a large gap will push up the salary significantly.

On the Egyptian side, salaries are also a function of the demand for additional teachers, but there is a complication because the formal salary does not reflect the teacher's true income. Many teachers also give private lessons. Over the past several years concern over getting into the next stage of education has become increasingly intense for students, despite expansion of both the preparatory and the secondary school systems. A decline in the quality of the schools and teaching is often cited as a reason for this heightened concern over passing the certification examinations at the end of each stage. And as the quality is perceived to decline, the parents' demand for private lessons in order to increase their children's chances of passing the examinations rises.

The additional salary from private lessons amounted to 40 percent or more of the formal, official teacher salary in 1977.[7] Anecdotal evidence from Egypt indicates that this is sufficient to increase the incidence of Egyptian teachers opting not to migrate. Therefore, the salary from private lessons is added to the formal teacher salary to give an actual salary, which is then used to calculate the salary differentials. As noted earlier, TEAMIG's behavior varies according to the salary differentials. The ratio of the importers' to Egypt's teacher salary influences the decisions of individual migrants to leave and renew their tenure abroad, as mentioned in the section on the process of Egyptian teacher migration. The left side of Figure 14-1 traces through the relationships connected to the teacher salaries.

(6) Stock of Migrant Teachers Sector

This final sector consists of two stocks, the number of Egyptian teachers and the number of teachers from other exporting nations teaching in the importers. As noted earlier, their values change in response to the migration flows. They in turn affect the importers' desire for more Egyptian teachers.

14.3 Conclusion

As a simulation model, TEAMIG has strengths and weaknesses. Because of the three problems mentioned above, particularly the lack of data, it cannot be considered a reliable forecasting tool. Nevertheless, because of its detailed representation of both the structure and processes of teacher migration, TEAMIG can serve as a vehicle for assessing how reactions by different actors will affect worker migration.

Operation of TEAMIG provides the user in either tabular or graphic form tthe time paths of any of the model variables from 1974 to 2000. The facility allows both comparisons with available historical data and projections into the future. For this paper results of the reference run as well as a few alternative scenarios will be presented. Other alternative runs appear elsewhere.

Inadequate data plagues attempts to verify TEAMIG's accuracy in representing the teacher migration phenomenon. All available information has been utilized to make TEAMIG as accurate a representation as possible, but too many of the model's parameters, initial values, and behavioral relationships are based on informed assessments alone to make it a reliable forecasting tool. This drawback can actually be viewed as an advantage for TEAMIG in comparison with other migration models, however. In situations where very little is

known about the phenomenon being modelled, running scenarios will add to our knowledge of how the phenomenon operates as well as giving us "what if" projections of the future. If there are indications of basic model validity, the user can figure out what must have happened in order to get the values found in the little information which exists. Thus, in the following description of alternative scenario runs, part of the emphasis will be on discerning actual processes and part will be on projections based on different hypotheses of how the various actors in the migration process might act.

Perhaps the most important output from TEAMIG is its calculations of the number of migrant teachers working in the labor-importing countries. After making the decision to use their new oil wealth to modernize their economies, the importing countries began crash programs to expand and modernize their education systems. Having too few people qualified to staff the new schools, the importers opted for hiring a large number of teachers from other countries rather than waiting for self-sufficiency through training their own teachers. This was a natural expansion of the habit, well-established over many years, of using migrant teachers.

Thus, starting in 1974 the number of migrant teachers jumped. According to TEAMIG, this group expands from 45,000 in 1974 to a peak of about 96,000 ten years later. At that point the importers' internal supply catches up to the expanding demand, reducing the need for foreign teachers. Figure 14-2 presents the stocks of migrant teachers from the year 1974 projected to 2000. The total number of migrant teachers, as well as a breakdown of the two components, Egyptians and teachers from other countries, is presented.

Both groups contribute to the first surge of migrants. However, Egyptians figure more prominently in the early 1980s because a large teacher

workforce and a relatively well-established education system enable Egypt to supply additional teachers more easily than the other teacher exporters. This result emerges from a constraint in TEAMIG limiting the number of teachers that a teacher exporter's government will allow to migrate per year to 5 percent of the teacher workforce. Five percent is admittedly a rather arbitrary figure, but it is not unrealistic, for we know both the Egyptian and the Jordanian governments restricted teacher migration to prevent excessive losses from their education systems.

There is very little available data on the number of migrant teachers with which to compare TEAMIG's results. Only Kuwait provides a reasonably recent time series, and even that only goes up to 1978-79. However, the Kuwaiti data presented in Table 14-1 indicates a growth in Egyptian migrant teachers consonant with the growth calculated by TEAMIG, confirming, in part, the accuracy of the model.

Development plans for the teacher importers, particularly Saudi Arabia, stress efforts to supply their own teachers. Yet the Saudi Plan for 1976/80 acknowledges that the number of students enrolled in teacher training programs has been less than expected. This shortfall is not surprising given that teaching is not a prestigious or high paying occupation and that there are numerous lucrative opportunities in commerce, industry, and highly skilled professions. TEAMIG is designed to enable experiments consisting of different assumtions about the effectiveness of attempts to attract teachers internally.

If the proportion of those in the labor-importing countries who elect to become teachers at relatively low salary levels is significantly lowered while the proportion is kept high for high salaries, the migration pattern changes less than would be expected. The stock of migrant teachers rises higher than in the reference run, but only by 8 percent. Teacher salaries in the teacher

TABLE 14-1

Growth of the Number of Egyptian Teachers in Kuwait Compared to the Growth of TEAMIG's Calculations of the Number of Egyptian Migrant Teachers in the Middle East

	Teachers on Secondment and Mission	Seconded Teachers as a Proportion of all Teachers	Total Number of Egyptian Teachers	Growth Rate in Percent	TEAMIG's Calculations	Growth Rate in Percent
1974-75	1057	22	4883		30,000	
1975-76	1522	27	5606	15	33,263	11
1976-77	1794	24	7400*	32	41,547	25
1977-78	2035	24	8500*	15	48,368	16
1978-79			9119	7	50,978	5

*Numbers calculated from the first two columns and rounded.

The average growth rate for Egyptian teachers in Kuwait is 17%.

The average growth rate for TEAMIG's calculations is 14%.

Sources: Secondment and mission data from a dataset compiled at Cairo University
Total number of teachers and Proportion data from the Kuwait Ministry of Education

importers, however, skyrocket as the governments attempt to lure their own citizens into teaching through financial incentives. Since high salaries are specified to be effective, the governments succeed in attracting teacners domestically, and the need for foreign teachers declines in the same way as in the reference run. In order to "nativize" their teacher workforces, the governments simply must spend much more money.

Higher salaries may not suffice as long as a stigma of low prestige is attached to being a teacher, which seems to be a real problem in the middle East. TEAMIG can incorporate this factor. Instead of a rapid increase in the proportion of natives choosing teaching as salaries increase, the proportion rises slowly, never reaching the high levels of the earlier scenarios. Interestingly, even this scenario does not radically alter the migration trends. The stock of migrant teachers rises higher and peaks later than before, 111,000 in 1986 compared to 95,700 in 1984 in the reference run. Yet, as in the previous scenario, importer countries' teacher salaries quickly rise very high, attracting sufficient new teachers to lessen the need for migrants.

These two scenarios assume the governments are willing to pay enormous salaries for teachers. This is not necessarily true. The governments may decide that having domestic teachers is worth only so much. Thus we can envision the situation where people are reluctant to become teachers and governments are not willing to pay exorbitant salaries to get them. Under these assumptions the migration process takes on a different character. A scenario of this nature was run with a salary ceiling to 1000 Egyptian pounds, which is about double the salary in 1974. Instead of rising to a peak of 95,700 in 1984 and then withering away, the teacher migration grows at a faster rate, peaks later, and declines more slowly. In this scenario teacher

migration is not a stop-gap measure to hasten the expansion and modernization of the importers' school systems. It is the primary means by which these schools are and will be staffed. Figure 14-3 shows the extended reliance on migrant teachers

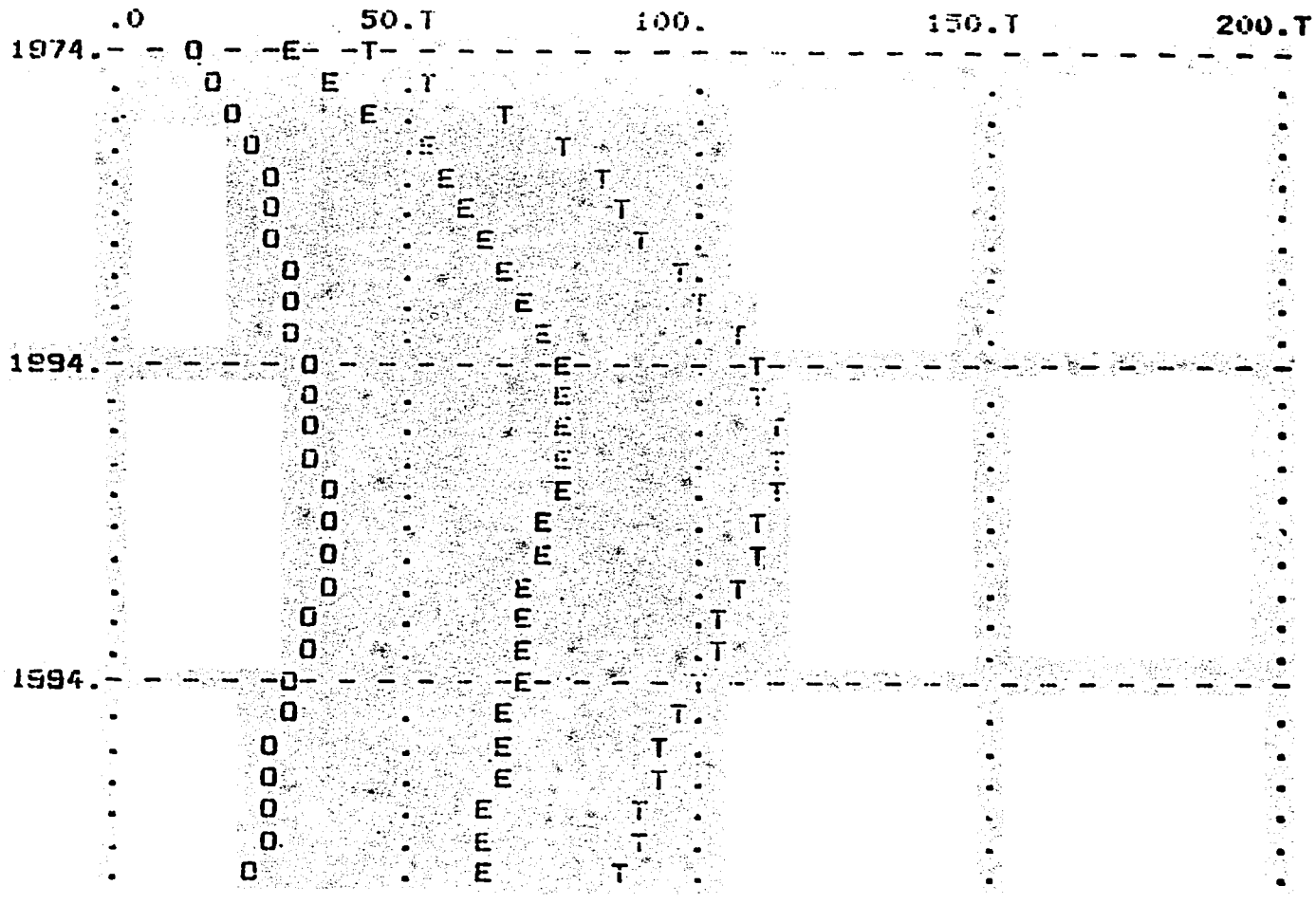
Figures 14-2 and 14-3 depict the stock of migrant teachers. Figure 14-4 presents the flow of Egyptian teachers. This flow is also separated into its constituent parts: teachers who leave on secondment and others who leave on private contracts. The flow of teachers has approximately the same characteristics as the stock of Egyptian teachers except that changes appear earlier and are more pronounced. There is a sharp rise from 1974 to 1976 followed by a decline through 1978. The flow then increases to over 21,000 per year in 1981 and 1982 followed by a general decline from then to the end of the run.

The number of Egyptians leaving on secondment can be compared with actual data for the years 1974 to 1977. TEAMIG underestimates the actual flows but correctly tracks the direction of the changes. The parameter in TEAMIG which determines how many teachers are sought for secondment is based on sparse data indicating that about 30 percent of the Egyptian teachers in the importers are there on secondment. An alternative scenario which assumes the proportion to be 40 percent comes closer to the actual figures, but still falls short.

The data in Table 14-2 indicates what has happened. In order to get the initial value of the number of teachers who leave on secondment to correspond to the actual value, given the apparent total demand for Egyptian teachers, the proportion of the demand directed towards the Ministry of Education must have been about 30 percent. But for succeeding years TEAMIG's calculations come out too low. If the proportion is raised to 40 percent, TEAMIG's calculations come much closer to the actual values, although there are still problems. For example, TEAMIG's value for 1977 of 6740 is considerably higher

FIGURE 14-3

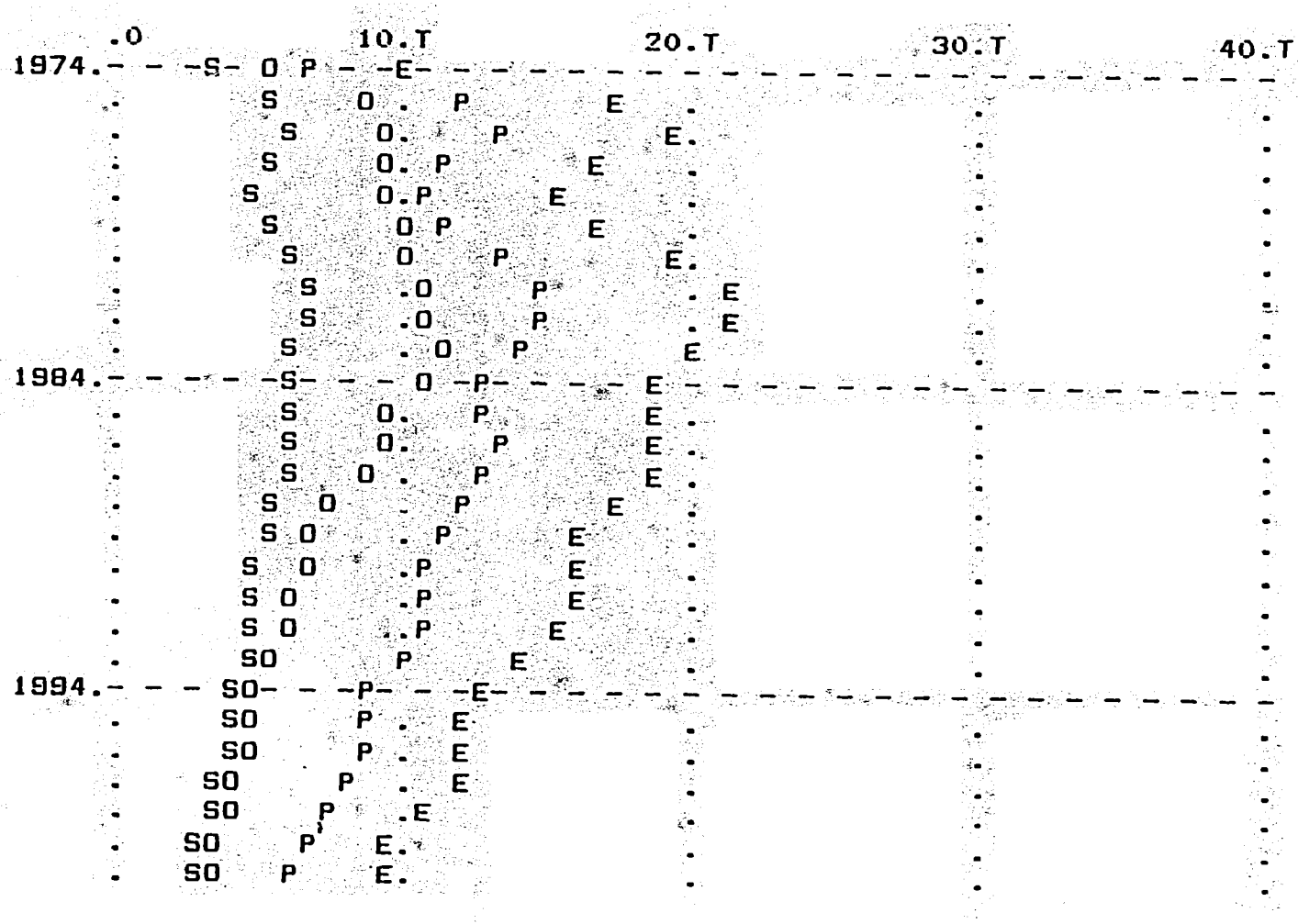
Simulating the Stock of Migrant Teachers in the Middle East when the Importers Are Having Trouble Recruiting Their Own People to Teach and Have Placed a Ceiling on the Salaries They Are Willing to Pay



T = Total
E = Egyptian
O = Other Exporters' Teachers

FIGURE 14-4

Simulating the Flow of Migrant Teachers in the Middle East



E = Egyptians
S = Egyptians on Secondment
P = Egyptians on Private Contract
O = Other Exporters' Teachers

than the actual flow of 5243. This can be partially explained by the fact that secondments to Libya essentially ceased in 1977. The decline in the number of those seconded to Libya was 2755. Subtracting this number from the 1976 total of seconded teachers (8881) results in 6126, meaning additional declines elsewhere totalled to 883. TEAMIG calculated a decline of 1193, which is a reasonable but not close approximation.

Since the proportion of trained teachers demanded apparently starts at about 30 percent but then rises to over 40 percent, one of two things must have happened. Either the proportion indeed rose, or, more likely, the demand for Egyptian teachers rose more quickly than in TEAMIG's calculations. Two pieces of information support the second hypothesis. The first is that TEAMIG gives a low estimate of the number of teachers in the importing countries for the last years of available data, 1978 and 1979. The second is that the studento/teacher ratio in these countries declined between the years 1974 and 1979. The resulting story is that the teacher importers' ministries of education sought and obtained lower student-teacher ratios over the six-year period, a feat accomplished by importing more teachers than if the student-teacher ratio had remained unchanged. Since the standard version of TEAMIG has a fixed coefficient for the student-teacher ratio, it could not pick up that change and, as a result, underestimated the number of Egyptian teachers sought and the number of teachers in the importers. Consequently, the proportion of secondment teachers demanded probably started and remained at 30 percent rather than having changed over time. Given the rapidly increasing demand for teachers, it is not plausible that the proportion could have risen.

A modified version of TEAMIG was run to test whether the preceding explanation could withstand the most basic test of fitting the data. The student-

teacher ratio was hypothesized to drop from 16:1 to 14:1 in four years and then stay at 14:1. As the last column in Table 14-2 indicates, this version of TEAMIG, while still flawed, simulates the rapid increase in seconded teachers better than the other two scenarios. Clearly, more is involved in teacher migration than TEAMIG can capture, but given the state of our knowledge of that migration, greater model detail is not the solution. We need more information and data. Until such information becomes available, however, TEAMIG can and will serve as a tool for understanding the nature of the Middle East teacher migration.

Perhaps the most fundamental unknown is the procedures or priorities of the teacher importers for hiring Egyptian teacners. While the data and model runs indicate that about one-third of those recruited come from the education system via secondment, we do not know whether the importers try to satisfy their needs by going first to the Ministry of Education or by going first to the open market for college graduates willing to teach abroad. About all we do know is that teacher hired on secondment receive higher salaries than those hired on private contracts.

Experiments with two versions of TEAMIG containing different representations of the hiring process suggest that the importers first try to hire teachers on secondment. With the high salary differentials (about 10 to 1) existing in the mid-1970s, only the version with Ministry of Education teachers hired first could generate the rapid increase of teacher secondment found in the data. Knowledge of how much lower private contract salaries are may help determine the actual hiring sequence, however, because it makes possible a scenario of university graduates unwilling to migrate because the salary differential is not high enough, leading to a higher demand for school system teachers. Although answers to rather simple questions like hiring procedures

TABLE 14-2

Comparison of Actual Secondment 1974-1977 to Three Scenarios from TEAMIG

	Actual Secondment[1]	Proportion of Teachers Sought through Secondment set at .3	Proportion set at .4	Proportion set at .3; student-teacher ratio declining
1974	2964	3017	4023	3181
1975	7377	5295	7058	6345
1976	8881	5766	7663	7226
1977	5243	4928	6470	6632

[1] From a dataset compiled at Cairo University.

remain unavailable, TEAMIG's can at least provide indirect information which may help answer them.

TEAMIG also allows exploration of alternative futures, the more conventional role of dynamic simulation models. One question regarding teacher migration is: are the importers concerned with limiting their dependence on any one nation, particularly Egypt, for their teachers? At least in the early years of the simulation runs, migrant teachers comprise over half of the importers' teacher workforce. Roughly two-thirds of that group is Egyptian. Will a country's leaders be concerned about one-third of their teachers being Egyptian? The standard runs hypothesize that there is some concern, and that as the proportion of Egyptian teachers in the workforce rises, the importers will seek to reduce their import of additional Egyptians and attempt to hire other nationalities. This remains intuitive, however, because there is no information regarding adjustments in the nationalities of migrant teachers. There have been adjustments in the nationality composition of migrant workers in general, but the trends in these shifts cannot be applied to teachers. Unlike workers in other occupations, teachers almost have to be Arab, and Egypt is a dominant supplier.

Because of this uncertainty TEAMIG was also run with the reaction capability disabled. The proportion of Egyptians sought remains at the 1974 level. Table 14-3 displays the differences in the flow of Egyptian and other teachers to the importers. Quite obviously there is little difference. Since this year's hiring is based on last year's proportion of Egyptians, only one year separates a response from a changing proportion. With such rapid feedback no large variations in hiring can result.

TABLE 14-3

Changes in the Flow of Teachers if the Importers Are Assumed not to Care about the Teachers' Nationality

	Egyptians		Other Nationalities	
	Care about Nationality	Do Not Care	Care about Nationality	Do Not Care
1974	10056	10169	5121	5009
1975	17608	18020	8979	8875
1976	19028	20224	9105	9103
1977	16138	17077	9272	8411
1978	15320	15449	9493	7609
1979	16945	17624	9758	8680
1980	19673	21481	10049	10181
1981	21495	23069	10357	10438
1982	21278	21639	10678	10658
1983	19883	19376	11009	9543
1984	18759	18926	10428	9322
1985	18497	20394	9531	10045
1986	18854	20735	9095	10213
1987	18479	18360	8502	9043
1988	17237	15763	7573	7764
1989	16030	15271	6751	7522
1990	15741	16265	6398	8011

TEAMIG's inability to simulate major swings in the nationality composition of migrant teachers as well as events such as the ending of Egyptian secondment to Libya indicate limitations to this approach. There are three major problems. First is the lack of data. While testing alternative scenarios can partially offset inadequate data, models at TEAMIG's level of detail should be based on more information than we could gather. The second problem is an inability to incorporate the impact of external events. The decision to end secondment to Libya lies outside of and is based on considerations much larger than can be incorporated in TEAMIG. The only options are to build a more inclusive model or to hope for no dramatic changes.

The first two problems lie outside of TEAMIG: (1) its detail creates the need for data, and (2) any model builder must place a boundary somewhere between the phenomenon of interest and the outside world. The third problem lies in the fundamental nature of TEAMIG. While it allows us to ask more interesting questions than other migration models, such as what happens if young people in the importing countries will teach only at very high salaries, a system dynamics model like TEAMIG is still ill-suited for decision-making types of behaviors such as changing the procedure for hiring teachers or choosing which country to use as a source of teachers. When making detailed models of situations as prone to policy changes by decision-makers as teacher migration, the assumption of unchanging relationships over several years will almost certainly be wrong. TEAMIG is bound to an essentially fixed structure. The reader must therefore approach the model and its results realizing that even incorporating foreseeable major changes is beyond the model's capabilities. A new generation of simulation models able to embody structural change is needed.

14.4 Conclusion

As a simulation model, TEAMIG has strengths and weaknesses. Because of the three problems mentioned above, particularly the lack of data, it cannot be considered a reliable forecasting tool. Nevertheless, because of its detailed representation of both the structure and the processes of teacher migration, TEAMIG can serve as a vehicle for assessing how reactions by different actors will affect worker migration.

TEAMIG is designed to serve as a forecasting device to aid policy-making with regard to teacher migration. The usefulness of TEAMIG must be realized through scenario analysis, whereby the user can test the effect of changes in various parameters such as salaries and concentration thresholds. TEAMIG can aid research on migration theory and its role in interdependent development and now serves as a prototype for a model of general worker migration, not just teacher migration.

CHAPTER 15

STRUCTURAL MODEL OF THE EGYPTIAN ECONOMY: MACRO-ECONOMIC EFFECTS OF REMITTANCES

15.1 Macro-Economic Context[1]

The decade of the 1970s produced important political and economic changes in Egypt, many of which have their origins in the economic liberalization policy and the "open door" posture. In particular, five principal factors are responsible for increasing both the level of economic activity and foreign exchange earnings of the country. The factors may be enumerated as follows: (1) the large inflow of worker remittances due to increasing migration and apparent growth of confidence in the Egyptian economy; (2) the expansion of oil production and natural gas resources, in conjunction with the rapid increases in the world price of oil throughout the 1970s; (3) the liberalization policies designed to encourage inflows of foreign capital; (4) the reopening of the Suez canal; and (5) the increase in tourism. Together, these five factors evolved throughout the 1970s, shaping the country's economy and attendant social and political adjustments. By the end of the decade these factors had set in motion a set of economic interactions that substantially transformed the country's economy throughout the 1980s. They are leading to important structural changes in the economy in terms of changes in the structure of demand, role of foreign trade, and allocation of resources. These five sources of foreign earnings -- the favorable factors for the economy -- cannot continue indefinitely into the future.

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Recent developments suggest that the Egyptian economy has entered a transitional phase in its growth process undergoing a period of transformation towards a new equilibrium. Processes of adjustment and adaptation are inevitable in being characteristic transitional phases as distinct from the steady state phenomenon which is consistent with and observed in long-run equilibrium. Therefore, it is important to understand the shortrun adjustment mechanism of the interdependent economic system which would provide reasonable guidelines for appropriate policy measures. There are many countervailing forces in the Egyptian economy, and these five factors differ in their impacts and their overall contribution to growth.

Clearly, a significant contribution to the recent economic upsurge has been provided by remittances of migrant workers whose contribution to the Egyptian economy is increasing strongly. Table 1-1, presented earlier in Volume I, shows the size of Egyptian remittances in absolute terms and relative to GDP and to Exports and imports. It serves to place the remittances in perspective: the government has announced expansion of remitted earnings for 1982 to US $2.7 billion, a figure that is considerably higher than previously noted.[2]

To date there have been three distinct efforts to model to macro-economic behavior of the Egyptian economy and adjustments to alternative conditions, policies, or interventions. One, supported by the M.I.T.-Cairo University Technology Adaptation Program, is a general equilibrium model along neo-classical lines, around the 1976 social accounting matrix, with 32 sectors.[3] The second, developed at the World Bank, is also a general equilibrium model, with greater specification of the trade and balance of payments relations.[4] The third, undertaken in the context of this migration analysis, has updated the 1976 social accounting matrix, reorganized the 32 sectors to 10 sectors

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more readily useful for policy analysis, and decomposed the value-added components. This social accounting matrix then provides the basis for a structural macro-model of the Egyptian economy utilized in this chapter. This model has been utilized for exploring a range of policy issues in Egypt.[5]

This chapter examines the macro-economic effects of remittances in the Egyptian economy at both the aggregate level and with respect to sectoral impacts. In companion studies the impacts of the other sources of expanded foreign exchange are examined. Here we note only the remittance factor and its economy-wide effects.

15.2 A Structural Model of the Egyptian Economy

Despite rapid changes in the Egyptian economy, several features continue to stand out. These include a dominant agricultural sector, a growing construction sector, an expanding industrial base, large flows of remittances, and a dramatic growth in the petroleum sector. Domestic economic policies -- inherited from the revolution of 1952 -- include extensive subsidies for industrial inputs, energy prices, and foodstuffs. In agriculture, imports serve to clear the market. Only in construction are prices allowed to adjust. In all other sectors quantities adjust to demand. The traditional dualism in the economy -- agriculture vs. the rest of the economy -- may well be supplanted by a trilateral structure; agriculture, rest of the economy, and a strong energy sector. With these distinctive features in mind, we have developed a short-run, 10-sector, macro-economic model of the Egyptian economy to examine its critical adjustment problems.

15.2.1 Theoretical Structure

The theoretical structure of this model is specified in accordance with the computable general equilibrium models formulated by Taylor (1983)[6] and Taylor and Lysy (1980)[7], emphasizing the particular structural characteristics of developing countries. Such models are based around the identities of a social accounting matrix (SAM) and incorporate additional technical and behavioral relationships to make the model determinate and represent the distinctive aspects of the specific economy being analyzed. The closure rules behind these models are based on a combination of different schools of thought inspired by Keynes, Kalecki and the different adherents of the Cambridge school. The model focuses attention on the particular variables that need to adjust to bring about the overall macro balance i.e. saving equal to investment. Different models can be constructed around the different accommodating variables that would adjust to satisfy the basic macro identity in the economy. Aggregate demand determined markets of the Keynesian type are included where chronic excess capacities are the essential features of the sectors and price clearing markets are assumed where bottlenecks and shortages are present. Generalized models of development are not useful for analyzing particular cases. Different structural characteristics are important in case of different countries and the appropriate adjusting variables need to be emphasized accordingly.

The Egyptian macro-economic model is built around a social accounting matrix (SAM) for the Egyptian economy in the national accounts year of 1977. The model incorporates a complex set of general equilibrium interactions in the price and quantity clearing sectors in the commodity market. The model, however, is of a short-run nature and does not incorporate the dynamics of the

system. It is designed specifically around a base year to assist in understanding immediate responses to policy changes. Investment has been modelled merely as a component of aggregate demand and the capital accumulation process of investment has not been considered. It has been specifically designed to explore the short-run adjustment mechanism of the system.

The ten sectors along which the model is built are the following: (1) agriculture; (2) construction and housing; (3) heavy industry; (4) light industry; (5) transportation; (6) sectors in the rest of the economy; (7) Suez; (8) oil extraction; (9) oil refining; and (10) other energy, namely electricity and a nascent natural gas component.

The overall macro balance in this structural model is decomposed sectorally. The mechanisms through which excess demand in each sector adjust to zero are the following:

i) The agricultural sector is assumed to have an adjusting "competitive import" level. Both prices and supply are assumed to be fixed in the short-run.

ii) The construction sector's stability mechanism is built around an adjusting price. Prices are assumed to vary freely to bring about equilibrium because capacity in the construction sector is fully utilized in the short-run.

iii) For all the other sectors in the economy adjusting outputs occur due to the prevalence of chronic excess capacities.

Prices in all the quantity clearing sectors are determined by fixed producers' mark-up over variable costs as opposed to the neoclassical cost function. The wage rates are assumed to have been determined institutionally (which correspond to the Keynesian assumption of short-run predetermined nominal wages) and the coeffecients of production are fixed. The model draws

upon the well known linear expenditure system of demand equations to arrive at the sectoral consumption level. Given the different behavioral assumptions and the different identities built around the social accounting matrix, the solution is determined through several adjustment mechanisms, namely Keynesian output response in the quantity-clearing sectors, a "forced saving" mechanism via the rise in the prices of output relative to wage, adjustments in the trade deficit and the surplus available in the government current account.

15.2.2 Relevance for the Egyptian Case

Models of the above general equilibrium nature in a multisectoral framework may provide highly useful insights and guidelines for investigating macro policy issues. They are especially relevant in the Egyptian case, where the government is actively engaged in bringing about economic changes through direct policy measures. Such models are different from the earlier computable general equilibrium models, popularly known as GEM models, which were applied in the case of Pakistan by McCarthy and Taylor (1978)[8] and in the case of Egypt by Eckaus, McCarthy and Mohie-Eldin (1979).[9]

Earlier views of the Egyptian economy specified in the GEM models incorporated the general equilibrium links between production structure, income of different groups and patterns of demand through flexible prices. Thus. a market clearing mechanism provided the interaction between demand, production and factor use. These models are essentially neo-classical in spirit and follow the general equilibrium notion that goes back to Walras. The GEM models assume Cobb Douglas production functions which allow for smooth substitution, constant return to scale and constant factor shares. Moreover, perfect competition is usually assumed in the factor markets for arriving at the

dual cost function. Thus the obvious disadvantage of the GEM models are the highly neo-classical nature of the models which are clearly suspect in the framework of developing countries like Egypt.

Clearly, the important assumption of price responsiveness, smooth substitutability between the different primary inputs, perfectly competetive nature of factor markets do not hold in developing economies where institutional features and structural rigidities result in behavior far removed from the neo-classical assumptions. This is especially the case in Egypt where institutional factors established since the 1952 Revolution have introduced large-scale rigidities which blatantly violate neo-classical assumptions. Such notions impose serious distortions in analysis and for identifying policy adjustments. In short, neo-classical, general equilibrium analytical structures are singularly inappropriate in the Egyptian case, where public policy -- social and economic programs -- is clearly in violation of the most cherished neo-classical assumptions.

15.3 Social Accounting Matrix, Model Equations, and Parameterization

The macro data framework is based upon a simple social accounting matix (SAM) for Egypt for 1977, a year chosen specifically for its use as a "base" for analysis. The main sources of data for the 1977 SAM are the following:

- a 1977 ten sector input-output table prepared at MIT which was aggregated from a 32 sector input-output table[10];
- the 1977 eleven sector social accounting matrix prepared through collaborative efforts between MIT and Cairo University; and
- the Egyptian National Accounts (U.N. Yearbook of 1979)

The purpose of the 1977 matrix is to produce a clear view of the economy without too much detail so that it could be easily read and understood by

TABLE 15-1

Social Accounting Matrix of Egypt, 1977

(in million LE)

		1 Agriculture	2 Construction	3 Heavy Industry	4 Light Industry
1.	Agriculture	474.22	0.0	3.39	1039.70
2.	Construction	.60	13.21	1.63	4.36
3.	Heavy Industry	14.34	96.20	157.83	91.59
4.	Light Industry	7.31	134.21	19.74	592.39
5.	Transportation	2.51	5.00	6.11	23.16
6.	Rest of Economy	24.66	215.39	36.86	152.50
7.	Suez	0.0	0.0	0.0	0.0
8.	Oil Extraction	.17	18.11	11.26	8.28
9.	Oil Refining	9.72	9.66	39.32	20.95
10.	Other Energy	.16	2.07	20.65	16.39
11.	$\sum$(1-10)	533.69	493.85	296.79	1949.32
12.	H.H. Wage Income		405.74	124.87	581.53
13.	H.H. Profit Income		295.89	32.76	259.03
14.	Agricultural Income	1581.48			
15.	Total Private Income $\sum$(12-14)	1581.48	701.63	157.63	840.56
16.	Government Income	142.20	78.65	139.67	481.09
17.	Gross Savings				
18.	Imports	83.25	91.66	114.42	427.69
19.	Producer/ Consumer Subsidy	-46.03			-299.24
20.	Indirect Taxes			77.18	257.28
21.	Direct Taxes				
22.	Total Gross Output	2294.59	1365.79	785.69	3656.70

TABLE 15-1 continued

		5 Transportation	6 Rest of Economy	7 Suez	8 Oil Extraction
1.	Agriculture	8.71	86.72	0.0	0.0
2.	Construction	10.39	13.32	0.0	.54
3.	Heavy Industry	1.61	86.38	.64	5.27
4.	Light Industry	20.26	214.35	4.06	6.36
5.	Transportation	5.34	163.04	.39	.71
6.	Rest of Economy	43.87	216.04	2.44	4.63
7.	Suez	0.0	7.53	0.0	0.0
8.	Oil Extraction	0.0	.67	0.0	.23
9.	Oil Refining	22.0	69.48	1.68	4.55
10.	Other Energy	5.67	20.27	.36	.68
11.	$\sum(1\text{-}10)$	117.85	877.80	9.57	22.97
12.	H.H. Wage Income	123.24	1384.25	17.59	10.09
13.	H.H. Profit Income	13.14	812.09	0.0	34.53
14.	Agricultural Income				
15.	Total Private Income $\sum(12\text{-}14)$	136.38	2196.34	17.59	44.62
16.	Government Income	205.94	110.74	158.24	157.26
17.	Gross Savings				
18.	Imports	49.51	327.04	0.0	7.24
19.	Producer/ Consumer Subsidy	-15.35	-15.35		
20.	Indirect Taxes		463.11		34.30
21.	Direct Taxes				
22.	Total Gross Output	494.33	3959.68	185.40	266.39

TABLE 15-1 continued

		9 Oil Refining	10 Other Energy	11 ∑(1-10)	12 Private Consumption
1.	Agriculture	0.0	0.0	1612.74	933.89
2.	Construction	2.06	.35	46.46	156.77
3.	Heavy Industry	2.86	.14	456.86	128.84
4.	Light Industry	2.22	.73	1001.63	1874.08
5.	Transportation	.21	21.11	208.58	186.51
6.	Rest of Economy	23.32	3.10	722.81	1133.01
7.	Suez	0.0	0.0	7.53	0.0
8.	Oil Extraction	102.94	0.0	141.66	0.0
9.	Oil Refining	12.94	8.97	199.27	53.61
10.	Other Energy	1.09	0.0	67.34	38.29
11.	∑(1-10)	147.64	15.40	4464.88	4505.00
12.	H.H. Wage Income	10.88	21.59	2679.78	
13.	H.H. Profit Income	11.10	11.65	1470.19	
14.	Agricultural Income			1581.48	
15.	Total Private Income ∑(12-14)	21.98	33.24	5731.45	
16.	Government Income	50.53	49.77	1574.09	
17.	Gross Savings				1469.41
18.	Imports	58.38	8.41	1167.60	
19.	Producer/ Consumer Subsidy	-7.67		-383.64	-188.96
20.	Indirect Taxes	17.15	8.58	857.60	
21.	Direct Taxes				246.00
22.	Total Gross Output	288.01	115.40	13411.98	6031.45

TABLE 15-1 continued

		13	14	15	16
		Government Expenditures	Gross Fixed Investment	Stock Changes	Total Exports
1.	Agriculture	58.63	.18	18.97	238.88
2.	Construction	75.80	1086.76	0.0	0.0
3.	Heavy Industry	38.61	74.49	39.12	47.77
4.	Light Industry	144.83	288.77	172.23	217.56
5.	Transportation	28.53	0.0	0.0	70.71
6.	Rest of Economy	1195.40	319.20	43.6	545.66
7.	Suez	0.0	0.0	0.0	177.87
8.	Oil Extraction	0.0	0.0	5.22	119.51
9.	Oil Refining	24.43	0.0	1.46	52.04
10.	Other Energy	9.77	0.0	0.0	0.0
11.	$\sum(1\text{-}10)$	1576.00	1769.40	280.60	1470.00
12.	H.H. Wage Income				300.00
13.	H.H. Profit Income				
14.	Agricultural Income				
15.	Total Private Income $\sum(12\text{-}14)$				
16.	Government Income				
17.	Gross Savings	529.09			490.00
18.	Imports		438.50		
19.	Producer/ Consumer Subsidy	572.60			
20.	Indirect Taxes				
21.	Direct Taxes				
22.	Total Gross Output	2677.69	2207.90	280.60	2260.00
			2488.50		

TABLE 15-1 continued

		17	18	19	20
		Competitive Imports	Indirect Taxes	Direct Taxes	Total Gross Output
1.	Agriculture	-568.70			2294.59
2.	Construction	0.0			1365.79
3.	Heavy Industry	0.0			785.69
4.	Light Industry	-42.4			3656.70
5.	Transportation	0.0			494.33
6.	Rest of Economy	0.0			3959.68
7.	Suez	0.0			185.40
8.	Oil Extraction	0.0			266.39
9.	Oil Refining	-42.8			288.01
10.	Other Energy				115.40
11.	$\sum(1\text{-}10)$	-653.90			13411.98
12.	H.H. Wage Income				2979.78
13.	H.H. Profit Income				1470.19
14.	Agricultural Income				1581.48
15.	Total Private Income $\sum(12\text{-}14)$				6031.45
16.	Government Income		857.60	246.00	2677.69
17.	Gross Savings				2488.50
18.	Imports	653.90			2260.00
19.	Producer/ Consumer Subsidy				0.0
20.	Indirect Taxes				857.60
21.	Direct Taxes				246.00
22.	Total Gross Output	0.0	857.60	246.00	27973.22

analysts for policy purposes. It is designed to highlight the salient features of the economy without overwhelming policy makers and analysts with suffocating detail.

The 22 x 20 Social Accounting Matrix for Egypt for the national year of 1977 is presented in Table 15-1. This is a snapshot matrix representation of the national income accounts which states that receipts must equal expenditure for all sectors of the economy. All matrix identities are represented in value terms (i.e. money flows) in 1977 domestic prices in Egypt (in units of million L.E.).

As noted earlier, the formulation of the structural equations for this model are closely related to the model formulation made by Taylor (1983) for India. In this model remittances explicitly enter the wage income and balance of payments equations and enable us to capture the macro-economic interactions. Model equations are presented as an appendix to this chapter.

The input-output coefficients are obtained directly from the 1977 SAM by taking the ratio of intermediate purchases from different sectors to the level of gross output in the purchasing sector.

The parameters of the LES have been estimated by using the family budget survey data of Egypt for 1974-75. The values of the parameters are depicted in Table 15-2. The wage-output ratios (b_i), have been obtained by dividing the total wage income by the level of gross output. The mark-up rates, the unit variable costs, the indirect tax rate, the production subsidies have been calculated directly from the SAM. All sectoral level of prices have been scaled to unity for the base solution. The savings ratio for the household and the initial values of all of the relevant variables are directly read from the SAM.

TABLE 15-2

Parameters of the Linear Expenditure System of Demand Equations

	Income Elasticity	Own Price Elasticity	Marginal Propensity to Consume (Ratio)	Subsistence Level of Consumption (in million LE)
Sector 1	.58	-.38	.12023	663.136
Sector 2	.97	-.50	.03363	81.09
Sector 3	1.12	-.57	.03203	56.763
Sector 4	.96	-.69	.40012	973.08
Sector 5	1.9	-.95	.07866	9.4605
Sector 6	1.26	-.75	.31689	418.965
Sector 9	.75	-.38	.00892	33.337
Sector 10	1.12	-.56	.00952	18.02

The models in the appendix are of a highly non-linear nature and are currently being solved on the TROLL system (operating on the IBM VM/370) by making use of a Newton-Raphson non-linear equation algorithm. In general terms the solution algorithm follows the following procedure.

The entire system of equations can be substituted and rearranged to a set of sectoral excess demand equations. Then one starts with a set of initial values for the adjusting variables, namely competitive imports for sector 1, a price level for sector 2, and an initial set of quantities for all other sectors, and calculates the excess demands, and then revises the initial set of values for the adjusting variables till equilibrium is reached, i.e. excess demand in all sectors are approximately close to zero. Different algorithms use different methods for revising the values of the adjusting variables between iteratives.

Given the values of the different parameters and exogenous variables, a convergent solution of the model in the base run would generate the 1977 SAM for Egypt represented in Table 15-1.

15.4 Macro Responses in the Egyptian Economy with Respect to Remittances

The major macro-economic consequences of remitted earnings that may be evaluated through the model may be classified in the following categories:

i) effects on sectoral output: Since the industrial sectors are characterized by excess capacities, the short-run macro adjustment takes place in terms of changes in output (i.e. capacity utilization);

ii) effects on sectoral prices: The changes in relative prices play a key role in the short-run adjustment process and help us to evaluate the inflationary impacts of policy changes;

iii) impacts on income shares in terms of wages, profits and government income: Value added is disaggregated into four categories, namely agricultural income, wages, government profits and private sector profits. The assumption of fixed wages and mark-up pricing enables us to arrive at different functional distributions of income (i.e. through the "forced savings mechanism").

iv) impacts on balance of payments: The effects on balance of payments are evaluated in terms of changes in the level of competetive and non-competetive imports.

An initial set of simulation runs due to worker remittances was performed to examine the major macro-economic adjustments:

- o increased remittances of migrant workers to Egypt
- o an increase in the level of aggregate investment demand (presuming that an increase in remittances leads to an increase in the demand for investment goods).

15.5 Effect of Increased Remittances

In this section we shall present and analyze the results of the macro-economic impacts of increased remittances of migrant workers on the Egyptian economy.[11] Clearly, the immediate impact of an increase in remittances from .3 billion to .6 billion for the year 1977 will lead to a proportional increase in income in the hands of the consumers. This will lead to an increase in the demand for commodities due to the positive income effect. The results are shown in column B of Table 15-3. The increase in the amount of consumption demand is directly related to the income elasticities of the goods in the different sectors that have been used in determining the parameters of the linear expenditure system of demand equations.

TABLE 15-3

Empirical Results of Different Simulation Runs

Sectors	Prices	A	B	C	D
Construction and Housing	P2	1.0	1.153	.983	.996
Heavy Industry	P3	1.0	1.002	1.067	1.068
Light Industry	P4	1.0	1.000	1.01	1.01
Transportation	P5	1.0	1.006	1.047	1.048
Rest of the Economy	P6	1.0	1.002	1.023	1.023
Suez	P7	1.0	1.000	1.04	1.041
Oil Extraction	P8	1.0	1.003	1.076	1.077
Oil Refining	P9	1.0	1.003	1.535	1.536
Other Energy	P10	1.0	1.002	1.11	1.11
	Gross Output (in million LE)				
Heavy Industry	X3	785.619	794.737	774.598	785.915
Light Industry	X4	3655.81	3722.97	3609.49	3664.79
Transportation	X5	494.243	505.975	478.732	492.358
Rest of the Economy	X6	3958.58	4007.50	3914.80	4042.32

A = Base Case
B = Increased Investment Demand (10 Percent)
C = Increased Petroleum Markup (200 Percent)*
D = Increased Fiscal Expenditure Policy (8 Percent)

*The markup rate in the petroleum sector has been increased three times to simulate the modest oil price rise scenario.

A threefold increase in the markup of the petroleum sector leads to an increase of approximately 54 percent in the price of petroleum (P9 = 1.535).

TABLE 15-3 continued

Sectors	Gross Output (in million LE)	A	B	C	D
Suez	X7	185.40	185.492	185.316	185.558
Oil Extraction	X8	266.333	267.936	262.311	265.006
Oil Refining	X9	287.956	291.522	277.368	284.039
Other Energy	X10	116.538	118.665	112.893	115.689
	Competitive Imports (in million LE)				
Agriculture	M1	568.198	604.188	545.68	578.022
	Consumption (in million LE)				
Agriculture	C1	933.667	949.244	925.598	934.449
Construction and Housing	C2	156.763	150.514	155.752	157.29
Heavy Industry	C3	128.834	132.871	122.267	124.467
Light Industry	C4	1873.40	1924.72	1837.63	1866.74
Transportation	C5	186.453	195.502	173.377	178.82
Rest of the Economy	C6	1132.80	1171.92	1094.96	1117.67
Oil Refining	C9	53.4077	54.4938	46.0192	46.44
Other Energy	C10	39.4407	40.6239	36.7453	37.373
	Sources of Saving (in million LE)				
Government Savings	GSAV	1574.54	1653.44	1603.01	1524.64
Household Savings	HHSAV	1469.07	1515.85	1461.07	1485.46
Trade Deficit	DEF	-555.144	-459.769	-568.972	-514.969

TABLE 15-3 continued

Sectors	Sources of Income (in million LE)	A	B	C	D
Agricultural Income of Households	HYA	1581.48	1581.48	1575.09	1575.07
Profit Income of Household	YHP	1469.05	1649.45	1472.11	1518.86
Wage Income of Household	YW	2979.43	3012.2	2949.91	3009.37
Government Profit Income		1575.3	1640.64	1699.47	1729.4
	Aggregate Price Index	1.00	1.05	1.028	1.030
	Real Value Added (in million LE)	7605.22	7754.724	7485.17	7607.3
	Nominal Value Added (in million LE)	7605.22	7883.575	7696.56	7832.7

An increase in demand for commodities will lead to a real increase in output in the sector where there is excess capacity (i.e., the quantity clearing sectors). In terms of our Egyptian model, real output in all quantity clearing sectors will rise, as is evident from Table 15-3. The increase in real output is mainly concentrated in sectors 4 and 6, owing to the high income elasticity of demand in these sectors. This increase in output will also lead to an increase in the share of wage income. The wage income will increase from 2979.43 to 3355.8 owing to the expansionary impact of remittances on the economy.

Prices in the construction sector will rise by 1.6 percent. The rise in the price of the construction sector is brought about by a rise in demand where, output being fixed, price is the adjusting variable. This rise in price does not given incentive to costpush inflationary pressure in the economy owing to the poor linkage of the construction sector to the other sectors of the economy in terms of intermediate costs. The results are evident from the price figures in Table 15-3. However, this rise in price leads to a rise in profit income of the construction sector and adds to the expansionary impact of a rise in aggregate demand. Competitive imports in the agricultural sector also increases to close the gap between domestic demand and domestic supply. Prices and output have both been assumed constant for the sector.

The effect on the balance of payments will also be of a positive nature owing to increased remittances. This, however, is partly offset by the rise in non-competitive imports led by an increase in output in the different sectors of the economy.

The aggregate price level will increase by .17 percent. This would imply an increase in real value added in the economy of 6 percent. On the whole,

the analysis shows that the net effect of a rise in remittances in the Egyptian economy will be expansionary in real terms.

15.6 Effect of Remittances on Aggregate Price Level and Real Output

Given the assumptions of our model the total effects of increased remittances will include an increase in the real output of goods in almost all the sectors of the economy and a rise in the prices of goods in the construction sector alone. We find that prices of the construction sector increase by 1.6 percent. This, however, does not give incentive to costpush inflationary pressure in the economy owing to the limited linkage of the construction sector to the other sectors of the economy in terms of intermediate costs. The results are evident from the price figures in Table 15-3. As a result, the aggregate price level (which measures inflation) increases by .17 percent. Given the increase in real output in the different sectors, this implies an increase in real value added in the economy by 6 percent. Therefore, it may be reasonable to sum up and say that the net effect of a rise in remittances in the Egyptian economy will be expansionary.

The above conclusion might be contrary to the popular belief that the effects of increased remittances in Egypt are inflationary. This could be explained along the following lines: (i) the assumption of bottlenecks in supplies in certain sectors might not have been incorporated correctly, i.e. the assumption of excess capacity in the different sectors might need to be modified; and (ii) the absence of the specification of an investment function mechanism which would trace the effects of increased remittances in terms of an increase in final demand for investment goods in the short-run. An increase in the demand for investment goods is mainly geared to the construction sector because it primarily satisfies the demand for investment goods. Given

the assumption of our model that the construction sector is primarily "price clearing," this would have added incentive to the inflationary pressures in the economy in the short-run. Over time, however, these investments would result in a larger physical stock of capital and counteract the inflationary tendencies by increasing the aggregate supply of goods.

The effect of remittances on portfolio shifts between domestic and foreign assets and hence their effect on inflation and growth have also not been considered in the model.

15.7 Effects of Increased Investment Demand

In the initial experiment the total aggregate level of investment demand (in nominal terms) is increased by 10 percent (i.e. LE 221.69 million). Our main interest is to examine the responses of the accommodating variables which would give us an improved understanding of the structure of the model.

It is evident from Table 15-1 that the largest component of investment demand is met by goods from the construction sector. As a result the variation in the demand for investment goods is mainly reflected in terms of a rise in the aggregate demand for construction sector products. Since the construction sector has fixed capacity in the short-run the increase in aggregate demand will lead to an increase in prices by 15 percent. This, however, will not lead to much of a costpush inflation in the other sectors of the economy owing to limited sales of intermediate inputs by the construction sector to the other sectors of the economy.

The aggregate level of prices in the economy will increase by 5 percent. The price index of investment goods will increase by a much larger extent (by

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9 percent). This increase will result in a net increase of demand for investment goods in real terms by LE 53.135 million (as against a nominal increase of LE 221.69 million). An increase in prices in the construction sector will lead to a proportionate increase in income generated by the construction sector which will put upward pressure on demand for all commodities.

An increase in aggregate demand for investment goods (in real terms) will also result in an expansion of output and income in the other sectors of the economy. All this will lead to an increase in real value added by LE 149.504 million. The results of this experiment are summarized in column B of Table 15-3.

The familiar multiplier and centered arc elasticity measures with respect to shifts in real investment demand are shown in Table 15-4. The values of the elasticities show that all of the accommodating variables will respond positively to a change in the real aggregate demand for investment goods in the economy. The high elasticity measure of the construction sector prices (6.24) reveals the sensitive nature of this sector to a change in the economy's level of real investment demand. The sensitivity measure of the competitive level of imports in the agricultural sector is also high (2.59) because of the high demand pressures that are generated for the goods in this sector. The elasticity measure of the real value added of .82 reveals the limited expansionary impact in real terms of an increase in aggregate investment demand.

A fall in the share of wage income and a rise in the share of profit income resulting from a change in prices brought about by the construction sector is observable. The saving shares also adjust to bring about the new investment saving equality. The government's share in savings falls from .6327 to .6102 and that of the households from .5904 to .5595.

TABLE 15-4

Multiplier and Elasticity Measures of Accommodating Variables with Respect to Changes in Real Investment

Sectors		Multiplier	Elasticity
	Gross Output		
Heavy Industry	X3	.17	.48
Light Industry	X4	1.26	.77
Transportation	X5	.22	.98
Rest of the Economy	X6	.92	.52
Suez	X7	.0017	.02
Oil Extraction	X8	.03	.25
Oil Refining	X9	.07	.54
Other Energy	X10	.04	.76
	Competitive Imports		
Agriculture	M1	.68	2.59
	Prices		
Construction and Housing	P2	.003	6.24
	Real Value Added	2.81	.82
	Total Value Added	5.24	1.51

The main burden of adjustment falls in the trade sector (from -.2231 to -.1696) because of the rise in the level of competitive imports in the agricultural sector and non-competitive imports in the other sectors resulting from an expansion in output.

Static general equilibrium models provide one period solutions. They cannot generate a view of alternative futures nor the paths to such alternatives. As policy instruments, therefore, they are limited. For policy purposes, outcomes of interventions as well as time paths to outcomes are essential. Thus, developing a dynamic version is an essential next step.

15.8 Future Extensions

In addition, the model may be modified along the following lines to analyze the issues of migration and remittances more effectively. An introduction of the labor market may help to assess the impacts of migration on the availability of manpower at different occupational levels and dits effect on output in the different sectors. For example, one could assess whether migration is creating bottlenecks in the labor supply of highly skilled workers or if it is alleviating pressures on the limited absorptive capacity of the agricultural sector.

Second, more realistic assumptions regarding saving propensities for the recipient of remittances can also be made. The savings ratio from income generated from remittances is usually higher than that of wage earners. It would also be revealing to specify an investment function mechanism which would trace the short-run effects of increased remittances in terms of an increase in final demand for investment goods and over time these investments would result in a larger physical stock of capital which would increase the aggregate supply of goods as well.

Third, modelling the effects of remittances on financial markets is also of importance.

These suggestions pertain to analysis of the initial, first order effects of remittances. But there are other effects that require more detailed, in depth analysis. The initial thrust of migration began in 1973. Ten years later the Egyptian economy's adjustments to the first "shocks" of migration have been made. The economy is now entering its second decade, with attendant adjustment and effects. This next phase requires its own analysis, with careful delineation of assumptions and initial conditions.

Appendix to Chapter 15

1. Model Equations

Detailed symbolic representations of the equations of the model along with the definitions of endogenous and exogenous variables and parameters are presented in Tables 15A-1 and 15A-2.

In this section, we shall describe the model equations contained in Table 15A-1, adopting a convention of sequential description. Equations 1 to 10 represent the famous material balance equations which represent the basic demand-supply balance in the social accounting framework. The model is based on the notion that the agricultural sector is import-clearing, i.e. the levels of competetive imports will adjust to bring about the demand-supply balances. This sector has an administered system of prices and output is fixed in the short-run. The construction sector is price-clearing because of the fixed capacity assumption in the short-run. All of the other sectors in the economy are quantity clearing because of the presence of unutilized capacities.

Equation 1 represents the supply of gross output in sector 1 (X1). The available supply equals the amount of intermediate sales between sectors (for instance $a_{1j}X_1$ represents intermediate sales of agricultural products to the other sectors), the demand for consumption goods (C_1), demand for investment goods (I_1) and changes in stock (S_1), government expenditure on goods and services (G_1) minus the level of competetive imports (M_1). All of the other material balance equations can be interpreted in a similar fashion.

Equations 11 to 15 represent demand for investment goods in real terms. Demand for investment goods has been converted into real terms by deflating

TABLE 15A-1: Equations for the Structural Macro-Economic Model of Egypt

I. Demand-Supply Balance by Sector

$$X_1 = \sum_{\substack{j=1 \\ j\neq 2}}^{6} a_{1j}X_j + C_1 + G_1 + I_1 + S_1 + E_1 - M_1 \tag{1}$$

$$X_2 = \sum_{\substack{j=1 \\ j\neq 7}}^{10} a_{2j}X_j + C_2 + G_2 + I_2 \tag{2}$$

$$X_3 = \sum_{j=1}^{10} a_{3j}X_j + C_3 + G_3 + I_3 + S_3 + E_3 \tag{3}$$

$$X_4 = \sum_{j=1}^{10} a_{4j}X_j + C_4 + G_4 + I_4 + S_4 + E_4 - M_4 \tag{4}$$

$$X_5 = \sum_{j=1}^{10} a_{5j}X_j + C_5 + G_5 + E_5 \tag{5}$$

$$X_6 = \sum_{j=1}^{10} a_{6j}X_j + C_6 + G_6 + I_6 + S_6 + E_6 \tag{6}$$

$$X_7 = a_{76} + E_7 \tag{7}$$

$$X_8 = \sum_{\substack{j=1 \\ j\neq 5,7}}^{9} a_{\varepsilon j}X_j + S_8 + E_8 \tag{8}$$

$$X_9 = \sum_{j=1}^{10} a_{9j}X_j + C_9 + G_9 + S_9 + E_9 - M_9 \tag{9}$$

$$X_{10} = \sum_{j=1}^{9} a_{10j}X_j + C_{10} + G_{10} \tag{10}$$

II. Investment Demand

$$I_i = IN_i/PI \qquad i = 1 \text{ to } 4,\ 6 \tag{11 to 15}$$

$$PI = \sum_{i=1}^{6} ww_i P_i \tag{16}$$

III. Generation of Income in the Agricultural Sector

$$Y_1 = P_1X_1 - (\sum_{\substack{i=1 \\ i \neq 7}}^{10} a_{i1}P_i + a_{01}P_{01})X_1 + SUB1\ P_1\ X_1 \tag{17}$$

$$GA_1 = \rho_1 Y_1 \tag{18}$$

$$HYA = Y_1 - \rho_1 Y_1 \tag{19}$$

IV. Generation of Income in the Construction Sector

$$Y_2 = P_2X_2 - (\sum_{\substack{i=1 \\ i \neq 7}}^{10} a_{i2}P_i + a_{02}P_{02})X_2 - w_2X_2 \tag{20}$$

$$GC_2 = \rho_2 Y_2 \tag{21}$$

$$HPC = Y_2 - \rho_2 Y_2 \tag{22}$$

V. Price Equations for Quantity Clearing Sectors

$$tt_i = KS_i(X_i/k_i)^{\eta_i} \qquad \text{for } i = 3 \text{ to } 6, 8 \text{ and } 9 \tag{23 to 29}$$

$$P_i = \frac{(1 + t_i)(1 + tt_i)}{1 - (1 + t_i)(1 + tt_i)a_{ii}(1 - sub_i)} \left[\sum_{\substack{i=1 \\ i \neq j}}^{10} a_{ji}P_i + w_i + a_{0i}P_{0i} \right]$$

$$\text{for } i = 3, \ldots, 10 \tag{30 to 37}$$

VI. Variable Cost Equations

$$VC_i = \sum_{j=1}^{10} a_{ji}P_i + w_i b_i + a_{0i}P_{0i} - sub_i P_i a_{ii} \tag{38 to 45}$$

$$\text{for } i = 3, \ldots, 10$$

VII. Government Share of Profits

$$GR_i = \rho_i tt_i VC_i X_i \tag{46 to 53}$$

VIII. Wage Income

$$Y_w = \sum_{1=2}^{10} w_i X_i + R \tag{54}$$

IX. Household Profit Income

$$YHP = \sum_{i=3}^{10} tt_i VC_i X_i - \sum_{i=3}^{10} GR_i + HPC \tag{55}$$

$$Y = YHP + Y_w + HYA \tag{56}$$

$$D_h = (1 - S_h)((1 - dt)Y_w + (1 - t_z)YHP + HYA + CSUB) \tag{57}$$

$$\hat{D}_h = \sum_{\substack{i=1 \\ i \neq 7,8}}^{10} \theta_i P_i \tag{58}$$

X. Sectoral Consumption Functions

$$C_i = \theta_i + \frac{MP_i}{P_i}(D_h - \hat{D}_h) \qquad i = 1 \text{ to } 6 \text{ and } 9 \text{ to } 10 \tag{59 to 66}$$

XI. Closure Rules

$$X_i - \bar{X}_i = 0 \qquad i = 1 \text{ and } 2 \tag{67 to 68}$$

XII. Government Revenue and Expenditures

$$T^{ind} = \sum_{\substack{i=3 \\ i \neq 5,7}}^{10} t_i(1 + tt_i)VC_i X_i \tag{69}$$

$$T^d = dt \cdot Y_w \tag{70}$$

$$GREV = tzYHP + T^{ind} + T^{d} + GA_1 + GC_2 + \sum_{i=2}^{10} GR_i + \sum_{\substack{i=1 \\ i\neq 2}}^{9} (PE_i - P_i)E_i \tag{71}$$

$$GEXP = \sum_{\substack{i=1 \\ i\neq 7,8}}^{10} P_i G_i + \sum_{\substack{i=1 \\ i\neq 2,3 \\ 7,8}}^{9} P_i SUB_i X_i \tag{72}$$

XIII. Trade Deficit

$$DEF = P_1M_1 + P_4M_4 + P_9M_9 + P_{0i}\ IN_m + \sum_{\substack{i=1 \\ i\neq 7}}^{10} a_{0i}X_i - \sum_{\substack{i=1 \\ i\neq 2}}^{9} PE_i\ E_i \tag{73}$$

XIV. Saving-Investment Balance

$$DEF + (GREV - GEXP) + S_h((1 - dt)Y_w + (1 - t_z)\ YHP + HYA + CSUB) =$$

$$= \sum_{i=1}^{6} P_i I_i + P_{0i} IN_m + \sum_{\substack{i=1 \\ i\neq 2,5,7}}^{9} P_i S_i \tag{74}$$

TABLE 15A-2: Symbol Definitions for the Structural Macro-Economic Model of Egypt

Symbol	Definition
Endogenous	
C_i	Consumption level in sector i, i = 1 to 6, 9
DEF	Trade deficit
D_h	Consumption spending from household income
$\hat{D}_h$	Subsistence level of consumption
GA_1	Government income from the agricultural sector (sector 1)
GC_2	Government profit income from the construction sector (sector 2)
HPC	Households profit income from the construction sector
HYA	Households income from the agricultural sector (sector 1)
INV	Total investment demand in nominal terms
I_i	Investment demand in real terms for sector i, i = 1 to 4, 6
M_1	Competitive level of imports in sector 1
PI	Aggregate level of prices for investment goods
P_i	Price level in sector i, i = 2 to 10
SAV	Total savings in the economy
T^d	Direct taxes paid from wage income
TIND	Total indirect taxes
TT_i	Mark-up rate in sector i, i = 3 to 10
VC_i	Variable cost per unit of output in sector i, i = 3 to 10
X_i	Gross output level in sector i, i = 2 to 10
Y_w	Total wage income
Y_1	Total income generated in the agricultural sector (sector 1)
Y_2	Total income generated in the construction sector (sector 2)

Exogenous

X_i	Fixed output level in sector i, i = 1, 2
CSUB	Total consumer subsidies
dt	Rate of taxes on wages
E_i	Level of exports in sector i, i = 1, 3 to 9
G_i	Government demand for commodities in sector i, i = 1 to 6, 9, 10
IN_m	Investment demand for imports
IN_i	Investment demand in nominal terms in sector i, i = 1 to 4, 6
K_i	Capital stock in sector i, i = 3 to 6, 8 to 10
M_i	Level of competitive imports in sector i, i = 4, 9
PE_i	World price of exports in sector i, i = 1, 3 to 9
P_{0i}	World price of IN_m
R	Remittances
SUB_i	Rate of production subsidies in sector i, i = 1, 4, 5, 6, 9
S_i	Changes in stocks in sector i, i = 1, 3, 4, 5, 6, 8, 9
TT_7	Mark-up rate in sector 7
T_z	Rate of taxes on profit income
w_i	Wage/output ratio in sector i, i = 2 to 10

Parameters

a_{ij}	Sectoral input-output coefficient, i,j = 1 to 10
a_{0i}	Import coefficient in sector i, i = 1 to 6, 8 to 10
kS_i	Constant used in supply response function, i = 3 to 6 and 8 to 10
MP_i	Marginal propensity to consume in sector i, i = 1 to 6, 8 to 10
ρ_i	Share of government in public sector enterprises in sector i, i = 1 to 10
S_h	Savings ratio

η_i Elasticity in the supply response function in sector i, i = 3 to 6, 8 to 10

θ_i Subsistence level of consumption in sector i, i = 1 to 6, 8 to 10

ww_i Weights in the investment price index in sector i, i = 1 to 4, 6

the quantity of nominal investment (IN_i) by an appropriate weighted price index PI. The investment price index is represented by PI in equation 16. Thus real investment falls if prices go up and helps to bring about equilibrium by reducing excess demand.

Equation 17 represents agricultural income Y_1 which consists of value-added in that sector plus a production subsidy on the amount of output produced in that sector. Profit income in the construction sector is denoted by Y_2 in equation 20 which consists of sectoral value-added minus wage income accruing in that sector. GA_1 and GC_2, represented by equations 18 and 21, give the shares of the government in the agricultural and construction sectors respectively.

The mark-up rate (which is the amount added to the "cost price" to determine the "selling price") is taken as a function of the output capital ratio in some of the quantity clearing sectors. The functions relating the mark-up rate to the output capital ratios are represented in equations 23 to 29. Alternative values of the elasticity of the mark-up with respect to the degree of capacity utilization determine the precise nature of the relationship between the level of output and the price level. For convenience the assumption of zero elasticity has been used in the base runs implying fixed mark-up rates in the different sectors.

Equations 30 to 37 give the price equations for all the quantity clearing sectors with prices being determined on the basis of mark-up and indirect taxes over variable costs per unit of output. Variable costs per unit of output are represented in terms of equations 38 to 45. They include costs of intermediate inputs, wage costs and import costs less production subsidies.

Government share of profits are represented in equations 46 to 53. The fraction (ρ) gives the proportion of the government's share in public sector

enterprises. Total wage income is defined by 54, which consists of wage earnings plus remittances.

Equation 55 (YHP) gives the aggregate level of private profit income which is the sum of mark-up over variable c sts less the share of government profit income obtained from public sector enterprises. Y defined in equation 56 gives the total aggregate level of private profit income, wage income plus income generated in the agricultural sector.

Consumer behavior in the model has been formulated on the basis of the linear expenditure system of equations (LES) contained in equations 57 to 66 for determining the levels of sectoral consumption. D_h in 5 gives the total private consumption spending which is obtained by deducting savings, profit taxes, wage taxes and adding consumption subsidies (which effectively increase consumer income). The two important sets of parameters in the LES are the subsistence level of consumption (θ) and the marginal propensity to consume (MP_i). These two sets of parameters have been obtained from the family budget data of Egypt (1973-74). The procedures for estimation of these parameters are illustrated in Taylor (1979)[1]. The price and income responsiveness of the sectoral levels of consumption are determined by the MP_i parameters across the different sectors.

Equations 67 and 68 set the levels of output in the import and price clearing agricultural and construction sectors at predetermined levels (X_1 and X_2) which are needed to make the system determinate.

T^{ind} in equation 69 represents the total indirect taxes obtained by the government. GREV in equation 71 gives the government revenue which consists of profit taxes, indirect taxes, direct taxes (i.e. T^d computed in equation 70) and the share of government profits from the public sector enterprises

plus the revenues generated from the differential between domestic and foreign prices of exports.[2] The level of government expenditure is given by equation 72 which is determined by the predetermined levels of government demand for commodities G (across sectors) and the level of expenditure incurred on the production and consumption subsidies.

Equation 73 (DEF) represents trade deficit which consists of payments for competitive and noncompetitive imports less earnings from exports (valued at world prices) and remittances.

Finally the savings and investment equations are introduced. Total savings in the model are generated from three sources namely, the trade deficit, surplus in the government account, and savings generated in the household sector. Total investment in the system are determined by the level of capital formation and stock changes. Since the savings investment equality is a derived relationship in the model, it provides a good check for the numerical solution.

NOTES

CHAPTER 13

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concepts and attendant formalizations that owe a debt to Samuel Stouffer. See Samuel A. Stouffer, "Intervening Opportunities: A Theory Relating Mobility to Distance," American Sociological Review, vol. 5 (1940), pp. 845-867; for a review of these concepts see W. H. Hutt, "Immigration Under Economic Freedom," Economic Issues in Immigration, Institute of Economic Affairs, Readings in Political Economy, No. 5 (1970), pp. 17-44.

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21. See Jagdish N. Bhagwati and Martin Partington (eds.), Taxing the Brain Drain, I: A Proposal (Amsterdam: North Holland Publishing Company, 1976).

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23. Yochanan Comay, "Migration of Professionals: An Empirical Analysis," Canadian Journal of Economics, vol. 5 (1972), pp. 419-429.

24. Ruth A. Fabricant, "An Experimental Model of Migration," Journal of Regional Science, vol. 10 (1970), pp. 13-24.

25. This section is adopted from Warren A. Van Wicklin III, "Manpower Planning for Developing Countries: A Comparison of Theoretical Approaches Used in Fourteen Models" (M.I.T.: August 1980); and Van Wicklin, "Manpower Planning Models: Theory and Practices" (M.I.T.: March 1980).

26. Examples of such cost-benefit models include J. A. Smythe and N. L. Bennett (Uganda, 1967), M. Deveauvais (Latin America, 1967), H. Thias and M. Curnoy (Kenya, 1972), L. Anderson (Tanzania, 1975), and S. Bowles (Nigeria, 1967). For further discussion see Van Wicklin, "Manpower Planning for Developing Countries," 1980, Table I.

27. For more on this see S. C. Kelley, Thomas N. Chirikos, and Michael G. Finn, Manpower Forecasting in the United States: An Evolution of the State of the Art (Colombus: Ohio State University Center for Human Resource Research, 1975), pp. 11-13.

CHAPTER 14

1. For a more complete description see Peter Brecke, "TEACHFOR: A Computer Simulation to Forecast the Need for Teachers in Egypt's Primary, Preparatory, and Secondary Schools," (M.I.T. Technology Adaptation Program, 1980).

2. A more complete description of TEAMIG can be found in Peter Brecke, Modeling Political and Economic Processes: Migration and Interdependent Development in the Middle East, Ph.D. dissertation, Department of Political Science, Massachusetts Institute of Technology (expected completion 1984).

3. Examples of international migration models include: Yochanan Comay, "The Migration of Professionals: An Empirical Analysis," Canadian Journal of Economics, vol. 5 (1972), pp. 419-429; P. Krishnan, "Towards a Prediction of Third World Immigrants into Canada, 1973-1985," International Migration, vol. 18 (1980), pp. 34-39; and Allen C. Kelly, "International Migration and Economic Growth: Australia, 1865-1935," The Journal of Economic History, vol. 25 (1965), pp. 333-353. Two models of temporary international migration are: E. G. Drettakis, "The Employment of Migrant Workers in West Germany 1961-1972: An Econometric Analysis," Applied Economics, vol. 8 (1976), pp. 11-18; and Ahmad A. Hammouda, "Jordanian Emigration: An Analysis of Migration Data," International Migration Review, vol. 14 91980), pp. 357-382.

4. Ismail Serageldin, James Socknat, Stacy Birks, Bob Li, and Clive Sinclair, Manpower and International Labor Migration in the Middle East and North Africa, Washington, D. C.: The World Bank, June 30, 1981.

5. Unlike the situation with internal migration or permanent international migration, wherein the migrants seem to maximizing expected lifetime earnings, workers migrating in the Middle East appear to have savings targets and return home upon their attainment. See Michael P. Todaro, "A Model of Labor Migration and Urban Unemployment in Less Developed Countries," American Economic Review, vol. 59 (March 1969), pp. 138-148, for an early treatment of the importance of expected earnings and Ijaz Gilani, Pakistan, Emigration to the Middle East: A Cost-Benefit Analysis, Pakistan Institute of Development Studies, April 1981, for evidence on the savings target rationale.

6. It should be noted that the term "teachers in Egypt" is here defined somewhat more broadly than just those teachers hired by the Ministry of

Education. It refers to all those employable as teachers on conventional school subjects. Some of the teachers migrating on private contract are those who quit their job with the Ministry of Education because they could not get seconded and others are college graduates willing to teach even though they have not been to teacher training school.

7. Suzanne A. Messiha, Export of Egyptian School Teachers, Cairo Papers in Social Science, American University in Cairo, April 1980, p. 52.

CHAPTER 15

1. This chapter is based on Nazli Choucri and Supriya Lahiri, Short-Run Energy-Economy Interactions in Egypt, TAP Report No. 83-7 (M.I.T. Technology Adaptation Program, May 1983) and presented as an earlier draft in Nazli Choucri and Supriya Lahiri, Macro-Economic Impacts of Remittances in Egypt: An Exploratory Analysis (M.I.T. Technology Adaptation Program, 1983).

2. The Egyptian Gazette, May 8, 1983.

3. For a description of the model see Richard S. Eckaus, F. Desmond McCarthy, and Amr Mohie-Eldin, Multisector General Equilibrium Models for Egypt, Working Paper for the Department of Economics, M.I.T., 1979. This model was developed as part of the Macroeconomic Project of the Technology Adaptation Program. The authors have utilized the structure of the GEM model to analyze the consequences of migration in the construction sector. It should be noted that the model is calibrated to 1976 data and therefore is singularly time-bound.

4. World Bank.

5. Nazli Choucri and Supriya Lahiri, Short-Run Energy-Economy Interactions in Egypt, TAP Report No. 83-7 (M.I.T. Technology Adaptation Program, May 1983); Nazli Choucri and Supriya Lahiri, Macro-Economic Impacts of Remittances in Egypt: An Exploratory Analysis (M.I.T. Technology Adaptation Program, 1983).

6. Lance Taylor, Structuralist Macroeconomics: Applicable Models for the Third World (New York: Basic Books, 1983).

7. Lance Taylor, Edmar L. Bacha, Eliana A. Cardoso, and Frank L. Lysy, Models of Growth and Distribution for Brazil (New York: Oxford University Press, 1982).

8. F. Desmond McCarthy and Lance Taylor, "Macro Food Policy Planning: A General Equilibrium Model for Pakistan," Review Of Economics and Statistics (1978).

9. Richard S. Eckaus, F. Desmond McCarthy, and Amr Mohie-Eldin, "Multi-Sector General Equilibrium Models for Egypt," Monograph No. 233, Cairo University/Massachusetts Institute of Technology Technological Planning Program (1979).

10. For the composition of the 10 sectors from the 32 sector classification see Table 3-1 in Nazli Choucri and Zaki Shafei, "Resource Development and Policy in Egypt: Petroleum and Natural Gas: Summary and Conclusion," TAP Report 83-3 (January 1983).

11. Sections 15.5 to 15.8 are based on Nazli Choucri and Supriya Lahiri, Macro-Economic Impacts of Remittances in Egypt: An Exploratory Analysis (M.I.T. Technology Adaptation Program, 1983).

Appendix to Chapter 15

1. See Appendix B in Lance Taylor, Macro Models for Developing Countries (New York: McGraw-Hill Book Company, 1979).
2. The world prices of agricultural goods, crude oil, and petroleum products have been taken to be three times, four times, and five times as much as the domestic prices of the respective products.

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APPENDIX A: RESULTS FROM THE TEACHFOR SIMULATION PROGRAMS

Output of Programs Compared to Historical Data

In comparing the behavior of our simulation model with the actual trends, in order to check for plausibility, we modified TEACHFOR slightly to make it simulate the period 1960 to 1978. This modified program is known as HISTEACH.

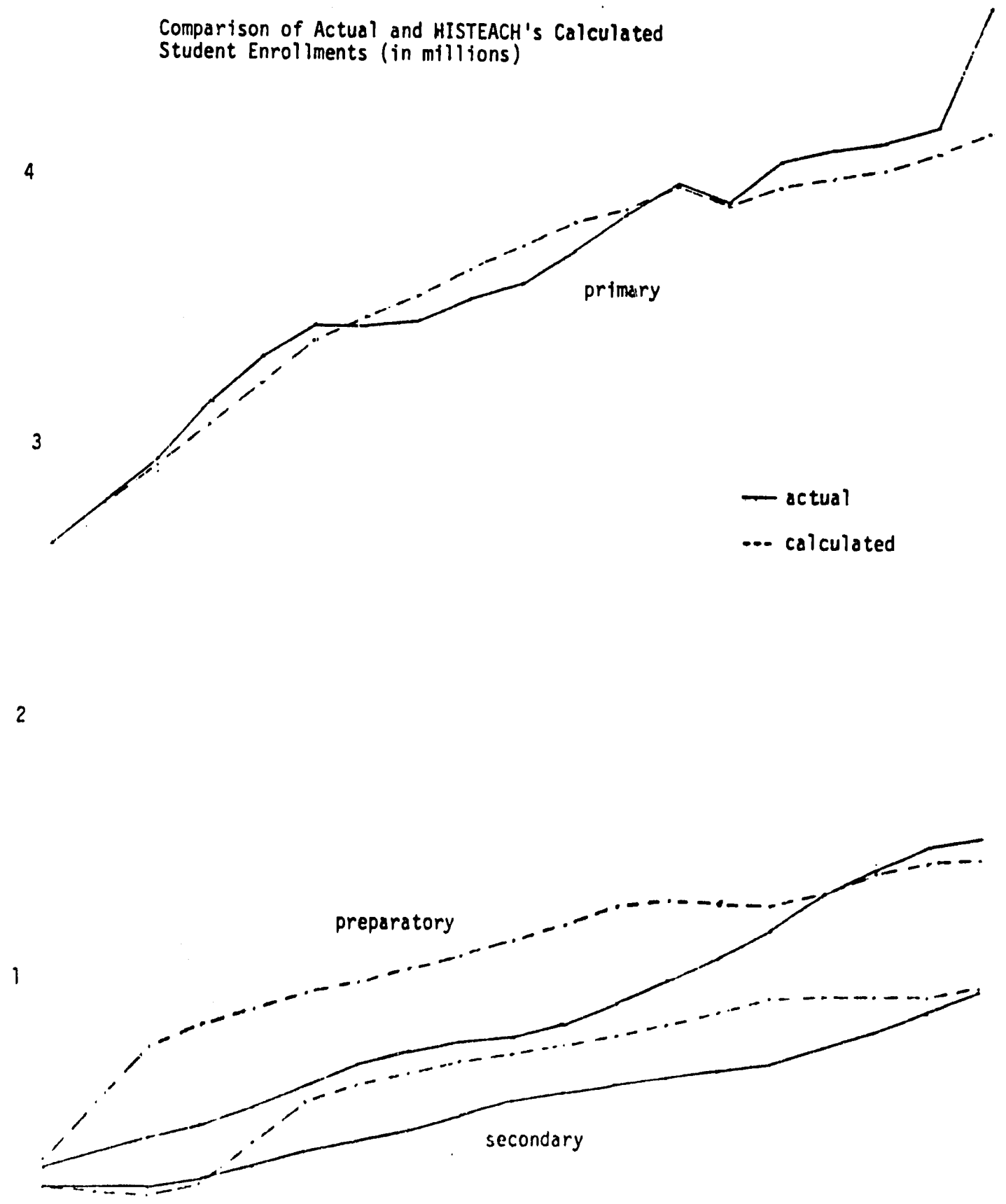
The historical trend of student enrollments and the trend based on the HISTEACH simulation are depicted in Figure A-1. The results are rather disappointing at first glance. Primary school enrollments track very well until reaching the end of the period (though the jump in enrollment between 1977 and 1978 is so large as to put the data in question). Even more serious, however, is the gross overestimation of preparatory and secondary school enrollments for the first twelve years, followed by apparently consistent underestimation.

Closer examination gives reason for optimism. The errant behavior of the secondary school enrollments follows that of preparatory schools by three years. The problem, therefore, is probably with the coefficients pertaining to preparatory school. The coefficients used were those calculated from mid-1970s data. The proportion of students receiving primary certificates who go on to preparatory school appears to have changed significantly over time. The proportion equalled 93 percent in 1976. Evidently the proportion was lower in the early sixties and has since been growing. This means that the Egyptian government has made a major -- and successful -- effort to increase the opportunity for children to get an education beyond the primary grades.

HISTEACH (as well as TEACHFOR and STEACHFO) is designed to verify whether this proportion has actually grown. By changing the parameter in question to

FIGURE A-1

Comparison of Actual and HISTEACH's Calculated Student Enrollments (in millions)



a lower value and specifying an appropriate growth rate, we can simulate the changing relationship. Figure A-2 depicts the results when the parameter is specified to start at 57 percent and grow at 3 percent per year. (Fifty-seven percent was used because at a 3 percent growth rate it will be very close to 93 percent in 1976, which is the figure from the data.) Comparing Figures A-1 and A-2 shows the dramatic improvement in fit simply by changing the one parameter.

A closer fit could be achieved for preparatory school by lowering the starting value and increasing the growth rate, but that would yield too low an estimate of secondary school enrollments for approximately the first ten years. There are two ways to remedy such an error: by slightly decreasing either the percentage of students passing the preparatory exam or the percentage of preparatory school graduates entering secondary programs. Such adjustments, however, would be unduly speculative. The program as is can give a reasonable simulation of the flow of students through the Egyptian education system. We further note two auxiliary findings:

1. The preparatory level has expanded tremendously. In 1960 only half of all primary school graduates advanced to the preparatory level. Now virtually all graduates receive the additional schooling.

2. Growth at the secondary level has not quite matched the expansion at the preparatory level (a result we present only tentatively).

Projections to the Year 2000

Some observations are offered on the need for teachers within Egypt to the end of this century.

FIGURE A-2

Comparison of Actual and a Modified HISTEACH's Calculated Student Enrollments (in millions)

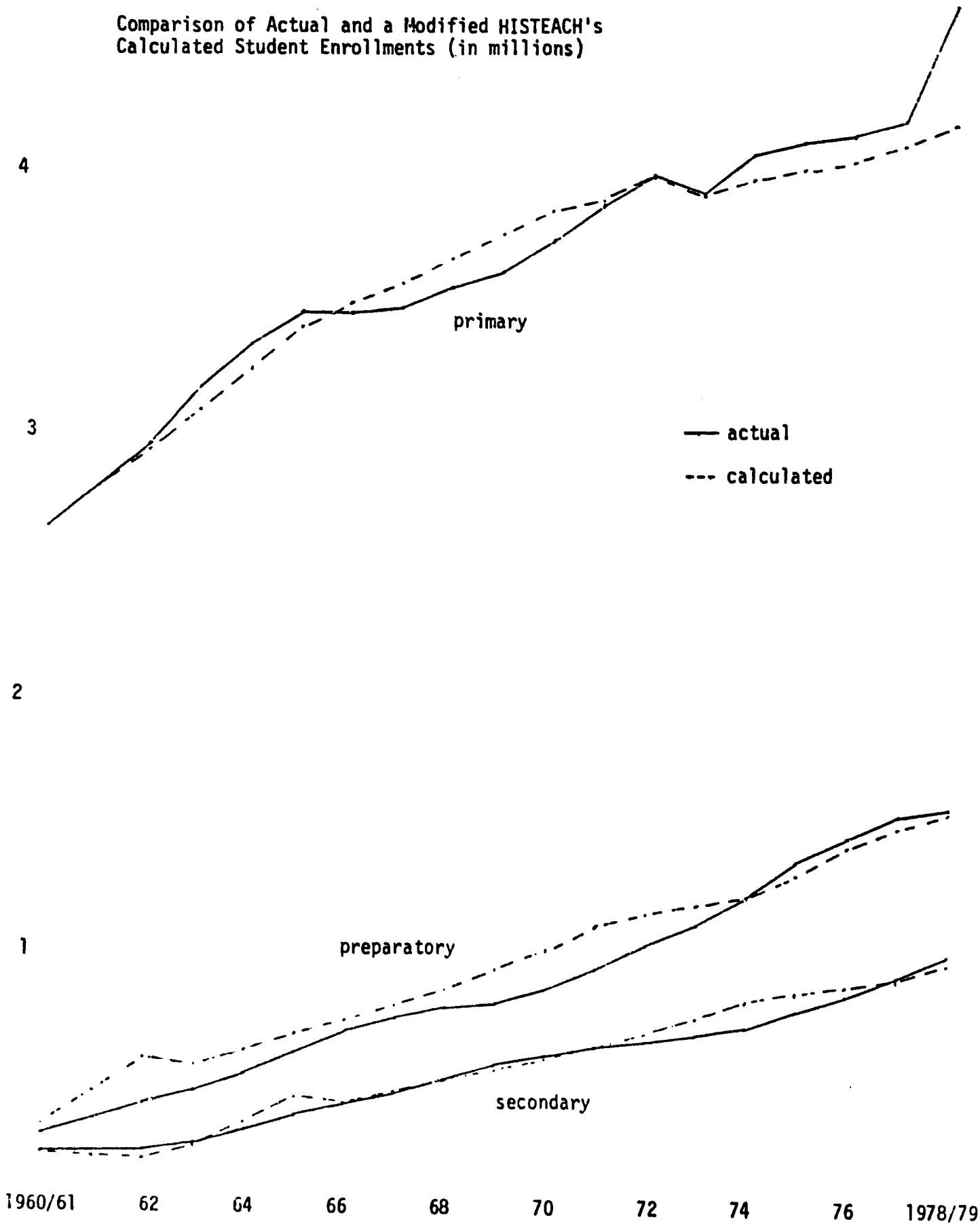


Figure A-3 presents both the historical enrollments from 1960 to 1978 and STEACHPO's projections for 1980 to 2000. Since the projections are based on a continuation of the relationships existing in the mid-1970s, they should be considered only as a reference point. As the historical comparison shows, the relationships embodied in these programs are not necessarily stable. Those relationships and the coefficients used in the reference run are presented in Table A-1.

While we assume that the values chosen for the reference run will not equal the real figures for enrollments of students in the future, it is very difficult to determine more than a possible range in which the actual figures will fall. Consequently, we have run the first STEACHPO simulation using a starting value of 81 percent for the proportion of children of school age who enter first grade and adjusted that figure at the rate of 0.5 percent per year. The second run assumes instead a growth rate of 1.0 percent per year. By using this alternative values we can show the capabilities of the computer simulations and perhaps obtain a more realistic forecast of student enrollments and the need for teachers.

Such a proportional increase is likely, given the government's avowed aim to expand enrollment. We question, however, the education ministry's ability to guarantee enrollment of all eligible children in primary school as early as they predict. If we assume a 0.5 percent growth rate the proportion will rise from 81 percent in 1980 to about 90 percent in 2000 -- a mildly pessimistic scenario. With a 1.0 percent growth rate, the proportion reaches 98 percent by 2000, virtually full enrollment -- a mildly optimistic scenario, especially when examined against Figures A-4 and A-5. The figures depict the alternate student enrollments using the reference run and employing the different growth rates. The Egyptian government would have to allocate massive investment

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FIGURE A-3: Historical Enrollments and STEACHFO's Reference Run Projections (in millions)

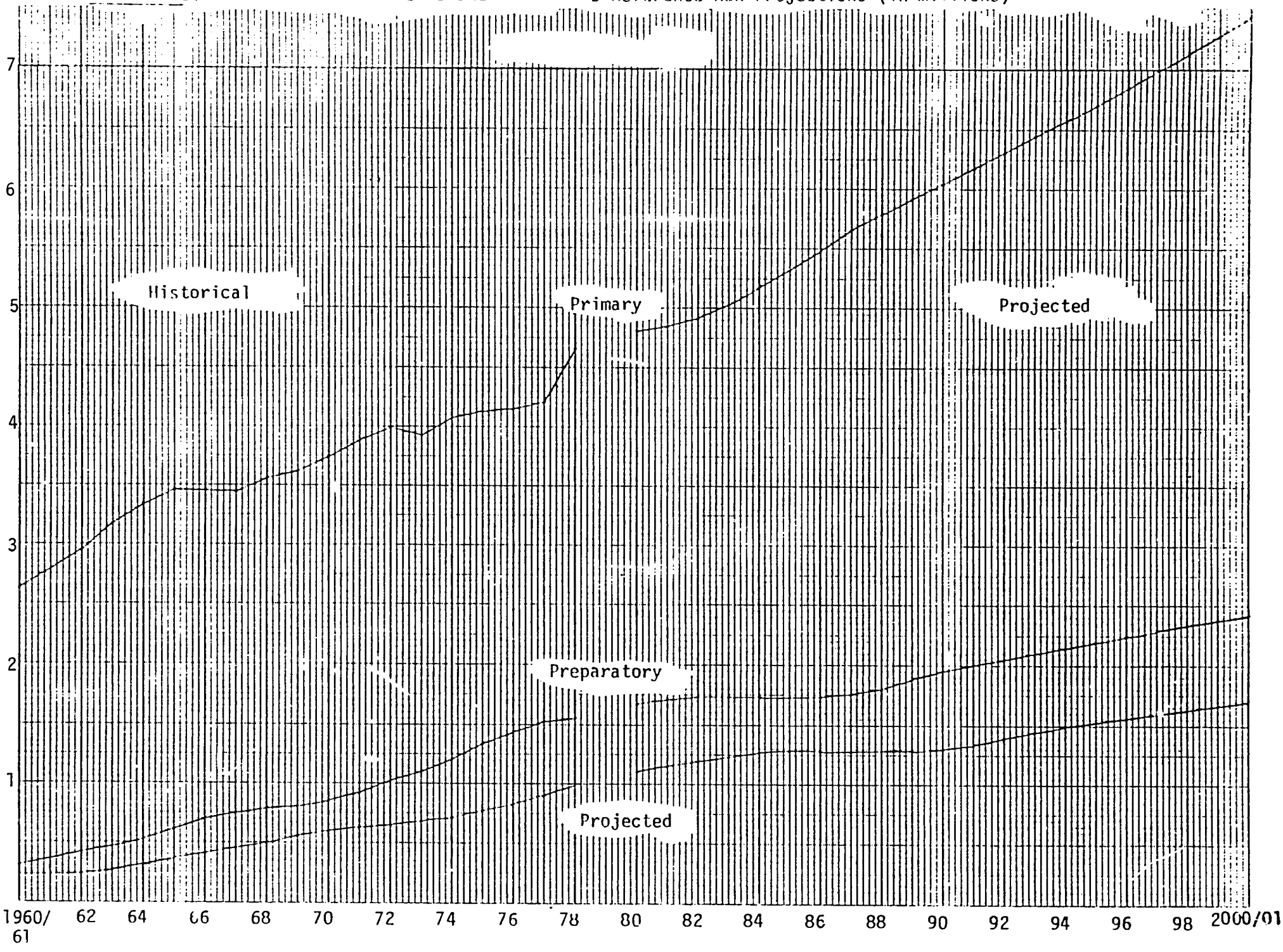


TABLE A-1

Relationships and Coefficients Used in Reference Run of STEACHFO

Proportion of six year olds entering primary school	81%
Proportion of student cohort entering primary school later enrolled in sixth grade	88%
Proportion of students in sixth grade receiving primary certificate	73%
Proportion of students receiving primary certificate who enter preparatory school	93%
Proportion of a student cohort entering preparatory school which is the actual ninth grade enrollment two years later	135%
Proportion of students in ninth grade receiving prepartory certificate	68%
Proportion of students receiving preparatory certificate who enter secondary school	79%
Proportion of a student cohort entering secondary school which is the actual twelfth grade enrollment two years later	140%

FIGURE A-4: Historical and Alternate Projected Enrollments for Primary School (in millions)

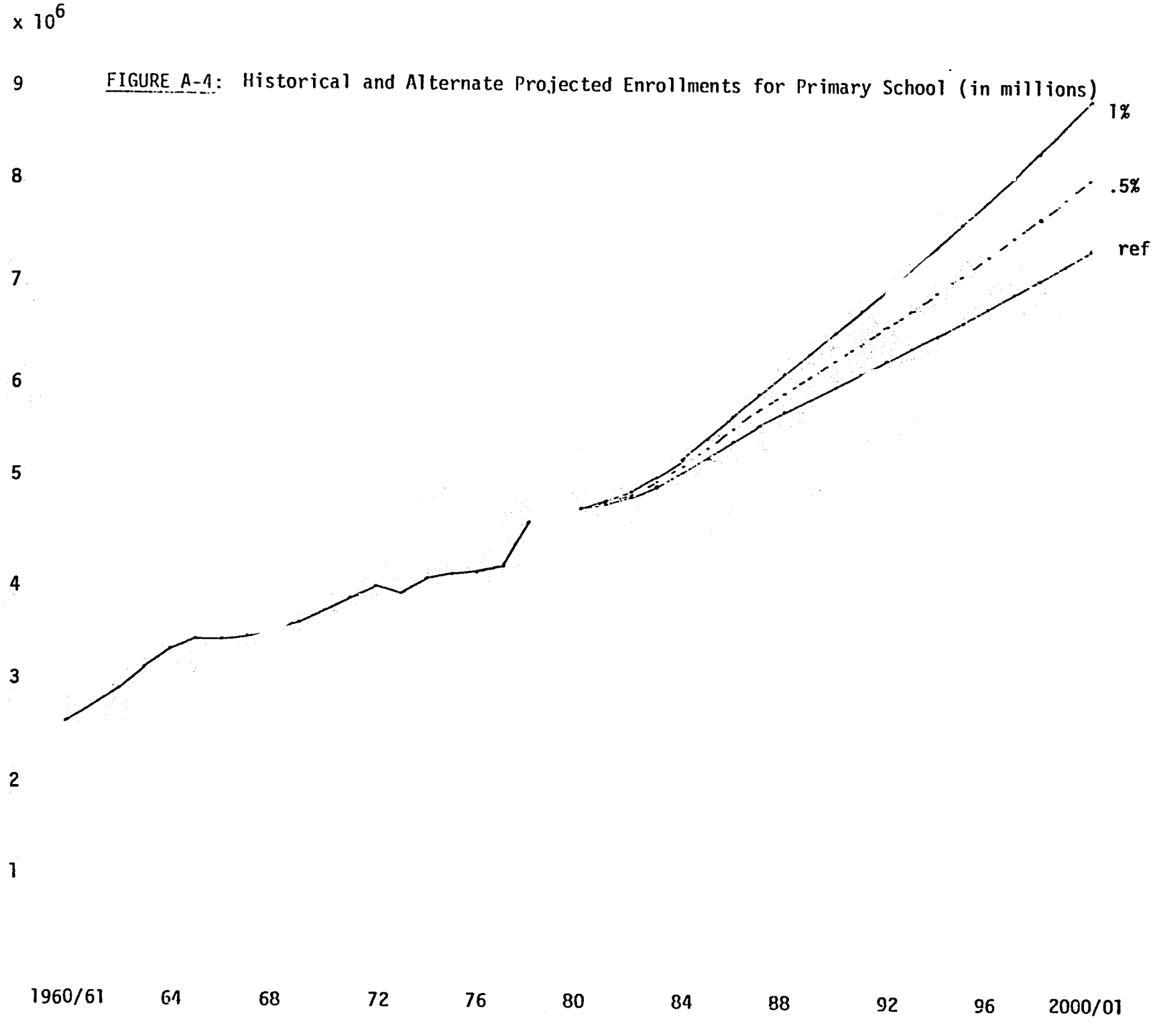
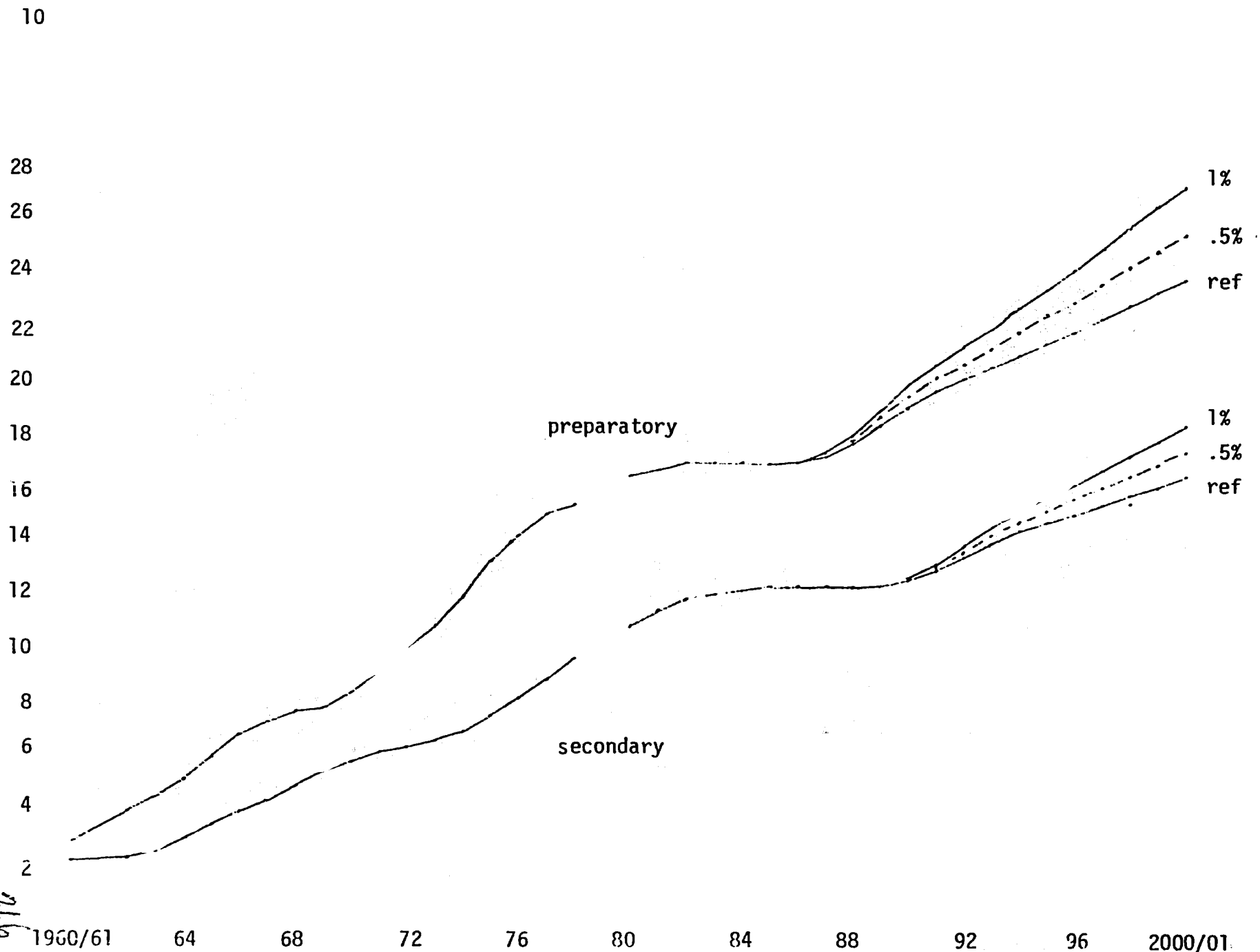


FIGURE A-5: Historical and Alternate Projected Enrollments for Preparatory and Secondary Schools (times 100,000)



funds in order to provide the schools and teachers required by the 1 percent growth scenario.

Table A-2 shows the need for primary, preparatory, and secondary school teachers for the years 1980 to 2000 for each of the scenarios. Comparing these numbers to the actual number of teachers in 1976, the difference between the scenarios in terms of government investment in education becomes even more apparent.

In the reference case the desired number of teachers increases to a level 78 percent above the actual number of teachers in 1976-77 -- a considerable rate of growth. But the second scenario requires an even greater increase of 92 percent and the third scenario evidences a still higher growth rate, presenting an even more formidable obstacle. The number of teachers grows to more than twice the 1976-77 totals (a 107 percent increase). Assuming that the actual number of students will be somewhere between the numbers generated in the second and third scenarios, Egypt will require approximately double the number of teachers presently employed.

Significant as this may be, even more growth is needed if the government seeks to lower present student-teacher ratics (s/t). Our forecasts assume desired s/t equal to existing (mid-1970s) ratios: 33:1 (primary), 41:1 (preparatory), and 19:1 (secondary). We repeated the alternate runs using the STEACHFO simulation, lowering the s/t for the primary and preparatory levels to 30:1. The results indicated a markedly higher need for preparatory teachers as well as a significant increase in the need for primary teachers. Table A-3 displays the results from both scenarios.

Under these assumptions, the Egyptian government would have to double the number of secondary school teachers, more than double the number of primary

TABLE A-2(a)

The Desired Number of Teachers for Primary, Preparatory and Secondary Schools for the Years 1980 to 2000: reference run

	primary	preparatory	secondary
1980	145,602	40,670	57,860
1981	146,747	41,177	61,361
1982	149,063	41,826	63,115
1983	152,529	41,808	64,256
1984	156,503	41,812	65,047
1985	161,176	41,789	66,097
1986	166,314	41,819	66,066
1987	171,153	42,364	65,073
1988	175,407	43,542	66,038
1989	179,259	45,403	66,064
1990	183,183	47,104	66,931
1991	187,311	48,504	68,769
1992	191,202	49,600	71,707
1993	195,170	50,723	74,401
1994	199,123	51,859	76,627
1995	203,130	52,979	78,358
1996	207,388	54,074	80,129
1997	211,582	55,313	81,927
1998	215,962	56,445	83,698
1999	220,398	57,629	85,426
2000	224,830	58,640	87,362
actual 1976	127,429	34,965	45,878

TABLE A-2(b)

The Desired Number of Teachers Assuming a .5% Growth Rate in the Proportion of Six Year Olds Entering Primary School

	primary	preparatory	secondary
1980	145,603	40,670	57,860
1981	146,876	41,177	61,361
1982	149,477	41,826	63,115
1983	153,375	41,808	64,256
1984	158,014	41,812	65,047
1985	163,345	41,789	66,097
1986	169,383	41,819	66,066
1987	175,172	42,429	66,073
1988	180,415	43,743	66,038
1989	185,297	45,841	66,084
1990	190,298	47,795	67,032
1991	195,562	49,460	69,083
1992	200,618	50,830	72,394
1993	205,807	52,241	75,487
1994	211,022	53,677	78,131
1995	216,343	55,111	80,296
1996	221,982	56,532	82,522
1997	227,607	58,116	84,794
1998	233,482	59,601	87,060
1999	239,469	61,155	89,302
2000	245,501	62,540	91,804
actual 1976	127,429	34,965	45,878

TABLE A-2(c)

The Desired Number of Teachers Assuming a 1% Growth Rate in the Proportion of Six Year Olds Entering Primary School

	primary	preparatory	secondary
1980	145,602	40,670	57,860
1981	147,011	41,177	61,361
1982	149,893	41,826	63,115
1983	154,228	41,808	64,256
1984	159,460	41,812	65,047
1985	165,545	41,789	66,097
1986	172,506	41,819	66,066
1987	179,278	42,494	66,073
1988	185,555	43,945	66,038
1989	191,524	46,283	66,084
1990	197,670	48,493	67,133
1991	204,149	50,430	69,398
1992	210,467	52,085	73,086
1993	216,984	53,798	76,505
1994	223,506	55,551	79,659
1995	230,362	57,318	82,273
1996	237,545	59,089	84,976
1997	244,780	61,047	87,749
1998	252,346	62,918	90,542
1999	260,106	64,880	93,330
2000	267,979	66,679	96,428
actual 1976	127,429	34,965	45,878

TABLE A-3(a)

The Desired Number of Teachers Assuming a .5% Growth Rate in the Proportion of Six Year Olds Entering Primary School and a Student-Teacher Ratio of 30 to 1 in Primary and Preparatory Schools

	primary	preparatory	secondary
1980	160,018	55,278	57,860
1981	161,418	55,966	61,361
1982	164,277	56,850	63,115
1983	168,561	56,825	64,256
1984	173,659	56,830	65,047
1985	179,518	56,799	66,097
1986	186,153	56,840	66,066
1987	192,516	57,669	66,073
1988	198,278	59,455	66,038
1989	203,644	62,307	66,084
1990	209,139	64,962	67,032
1991	214,924	67,225	69,083
1992	220,481	69,087	72,394
1993	226,184	71,005	75,487
1994	231,915	72,958	78,131
1995	237,763	74,906	80,296
1996	243,961	76,837	82,522
1997	250,142	78,990	84,794
1998	256,598	81,008	87,060
1999	263,179	83,121	89,302
2000	269,808	85,003	91,804
actual 1976	127,429	34,965	45,878

TABLE A-3(b)

The Desired Number of Teachers Assuming a 1% Growth Rate in the Proportion of Six Year Olds Entering Primary School and a Student-Teacher Ratio of 30 to 1 in Primary and Preparatory Schools

	primary	preparatory	secondary
1980	160,018	55,278	57,860
1981	161,567	55,966	61,361
1982	164,734	56,850	63,115
1983	169,498	56,825	64,256
1984	175,248	56,830	65,047
1985	181,935	56,799	66,097
1986	189,586	56,840	66,066
1987	197,028	57,757	66,073
1988	203,927	59,730	66,038
1989	210,486	62,907	66,084
1990	217,241	65,911	67,133
1991	224,362	68,544	69,398
1992	231,305	70,794	73,086
1993	238,468	73,121	76,585
1994	245,723	75,505	79,659
1995	253,170	77,906	82,273
1996	261,065	80,313	84,976
1997	269,015	82,974	87,749
1998	277,331	85,517	90,542
1999	285,859	88,183	93,336
2000	294,511	90,629	96,428
actual 1976	127,429	34,965	45,878

school teachers, and increase the number of preparatory teachers by 2.5 times its present value, all within the next twenty years. Needless to say, if the Egyptian government wants to increase both the "quantity" and the "quality" of its education system, a large investment in education will be required.

TEACHFOR has not been used for any projections because its output breaks down the number of students and teachers in secondary school by the type of school and cannot be compactly presented. With STEACHFO we could show the programs' parameter-changing capability while minimizing the number of graphs and tables to be presented. The additional information provided by TEACHFOR can now be presented.

Simulation runs on TEACHFOR corresponding to those presented on Tables A-2(a) and A-2(c) are depicted in Table A-4. The numbers for primary and preparatory school teachers are unchanged from before and thus have not been included in this table. Comparing Tables A-4(a) and A-4(b), we find, as expected, that a change in the number of chilwdren entering primary school will not be felt in the secondary schools until 10 years later: here, in 1990. Secondly (and again, not surprisingly), the growth in the number of teachers needed for each kind of school is the same as that needed for secondary school as a whole.

To know that the demand for teachers in each of the secondary schools will grow at the same rate is not very interesting; nor is it very plausible. The allocation of students among the different schools will probably change and so, accordingly, will the desired number of teachers. In fact, it is the Ministry of Education's policy to increase the proportion of students in technical, agricultural, commercial, and teacher training schools at the expense of general secondary schools. Weiserberg states that the goal is to increase the proportion of technical, agricultural, and commercial schools

TABLE A-4(a)

The Desired Number of Teachers Assuming a .5% Growth Rate in the Proportion of Six Year Olds Entering Primary School and a Student-Teacher Ratio of 30 to 1 in Primary and Preparatory Schools

	primary	preparatory	secondary
1980	160,018	55,278	57,860
1981	161,418	55,966	61,361
1982	164,277	56,850	63,115
1983	168,561	56,825	64,256
1984	173,659	56,830	65,047
1985	179,518	56,799	66,097
1986	186,153	56,840	66,066
1987	192,516	57,669	66,073
1988	198,278	59,455	66,038
1989	203,644	62,307	66,084
1990	209,139	64,962	67,032
1991	214,924	67,225	69,083
1992	220,481	69,087	72,394
1993	226,184	71,005	75,487
1994	231,915	72,958	78,131
1995	237,763	74,906	80,296
1996	243,961	76,837	82,522
1997	250,142	78,990	84,794
1998	256,598	81,008	87,060
1999	263,179	83,121	89,302
2000	269,808	85,003	91,804
actual 1976	127,429	34,965	45,878

TABLE A-4(b)

The Desired Number of Teachers Assuming a 1% Growth Rate in the Proportion of Six Year Olds Entering Primary School and a Student-Teacher Ratio of 30 to 1 in Primary and Preparatory Schools

	primary	preparatory	secondary
1980	160,018	55,278	57,860
1981	161,567	55,966	61,361
1982	164,734	56,850	63,115
1983	169,498	56,825	64,256
1984	175,248	56,830	65,047
1985	181,935	56,799	66,097
1986	189,586	56,840	66,066
1987	197,028	57,757	66,073
1988	203,927	59,730	66,038
1989	210,486	62,907	66,084
1990	217,241	65,911	67,133
1991	224,362	68,544	69,398
1992	231,305	70,794	73,086
1993	238,468	73,121	76,585
1994	245,723	75,505	79,659
1995	253,170	77,906	82,273
1996	261,065	80,313	84,976
1997	269,015	82,974	87,749
1998	277,331	85,517	90,542
1999	285,859	88,183	93,336
2000	294,511	90,629	96,428
actual 1976	127,429	34,965	45,878

from roughly 50 percent to about 60 percent (Weiserberg, p. 106).

That shift can be simulated in TEACHFOR by changing the student allocation proportions with the allocset subroutine. For example, changing the allocations from the present:

general secondary	45
technical	13
agricultural	5
commercial	32
teacher training	5

to:

general secondary	35
technical	18
agricultural	7
commercial	34
teacher training	6

yields the results presented in Table A-5. Comparing it with Table A-4 shows that the desired number of teachers for general secondary schools does not rise significantly above late 1970s levels until the early 1990s. In contrast, the demand for technical school teachers mushrooms to the extent that the demand in 2000 is almost three times the actual number in 1976. there are smaller yet significant increases in the demand for other teachers as well. Clearly, the desire to increase the number of graduates from technical and other practically oriented secondary schools has important policy implications

TABLE A-5

The Desired Number of Teachers for the Different Secondary Schools Assuming a 1% Growth Rate in the Proportion of Six Year Olds Entering Primary School and Changing the Allocation of Students to the Different Secondary Schools

	general secondary	technical	agricultural	commercial	teacher training
1980	23478	13880	4315	13664	4315
1981	22948	16294	5106	14582	4810
1982	22055	18466	5816	15255	5225
1983	20018	21031	6606	15890	5663
1984	20259	21300	6693	16093	5737
1985	20600	21620	6788	16335	5818
1986	20590	21611	6786	16328	5816
1987	20593	21613	6786	16330	5817
1988	20582	21601	6782	16321	5813
1989	20595	21617	6787	16333	5818
1990	20912	21978	6904	16605	5918
1991	21601	22748	7153	17187	6131
1992	22748	23959	7534	18102	6458
1993	23842	25098	7890	18963	6763
1994	24807	26090	8199	19713	7028
1995	25621	26947	8468	20360	7259
1996	26461	27835	8748	21031	7498
1997	27326	28740	9032	21715	7742
1998	28197	29652	9318	22404	7987
1999	29066	30571	9607	23098	8235
2000	30028	31584	9926	23864	8508

with respect to teacher migration. Supplying general secondary school teachers may present no problem, but seconding or otherwise exporting technical teachers can only put severe constraints on the Egyptian government's achieving its goals for domestic education and training.

APPENDIX B: RESULTS FROM THE TEAMIG SIMULATION PROGRAMS

Operation of TEAMIG provides the user in either tabular or graphical form the time paths of any of the model variables from 1974 to 2000. This allows comparisons with both available historical data and projections into the future. For this chapter results of the reference run as well as a few alternative scenarios will be presented. Alternative runs appear elsewhere.[1]

A lack of complete and internally consistent data plagues attempts to verify TEAMIG's accuracy in presenting the teacher migration phenomenon. All available information has been utilized to make TEAMIG as accurate a representation as possible, but too many of the model's parameters and initial values are based only on informed assessments, which may reduce its reliability as a solid forecasting tool. This drawback can actually be viewed as an advantage for TEAMIG. In situations where very little is known about the phenomenon being modelled, running scenarios will add to our knowledge of how the phenomenon operates as well as giving us "what if" projections of the future. If there are indicators of the model's validity, the user can determine the steps necessary to get data in sights from the little informations which exists. Thus, in the following description of alternative scenario runs, part of the emphasis will be on discerning actual processes and part will be on projections based on different hypotheses of how the various actors in the migration process might act.

Perhaps the most important output from TEAMIG is its calculation of the number of migrant teachers working in the labor-importing countries. After making the decision to use their new oil wealth to modernize their economies,

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the importing countries began crash programs to expand and modernize their education systems. Having too few people qualified to staff the new schools, the importers opted for hiring a large number of teachers from other countries rather than waiting for self-sufficiency through training their own teachers. This was a natural expansion of the well-established practice over many years of using migrant teachers.

Starting in 1974 the number of migrant teachers jumped. According to TEAMIG, this group expands from 45,000 in 1974 to a peak of about 96,000 ten years later. At that point the importers' internal supply catches up to the expanding demand, reducing the need for foreign teachers. Figure B-1 presents the stocks of migrant teachers from the year 1974 projected to 2000. The total number of migrant teachers as well as a breakdown of the two components, Egyptians and teachers from other countries, are presented.

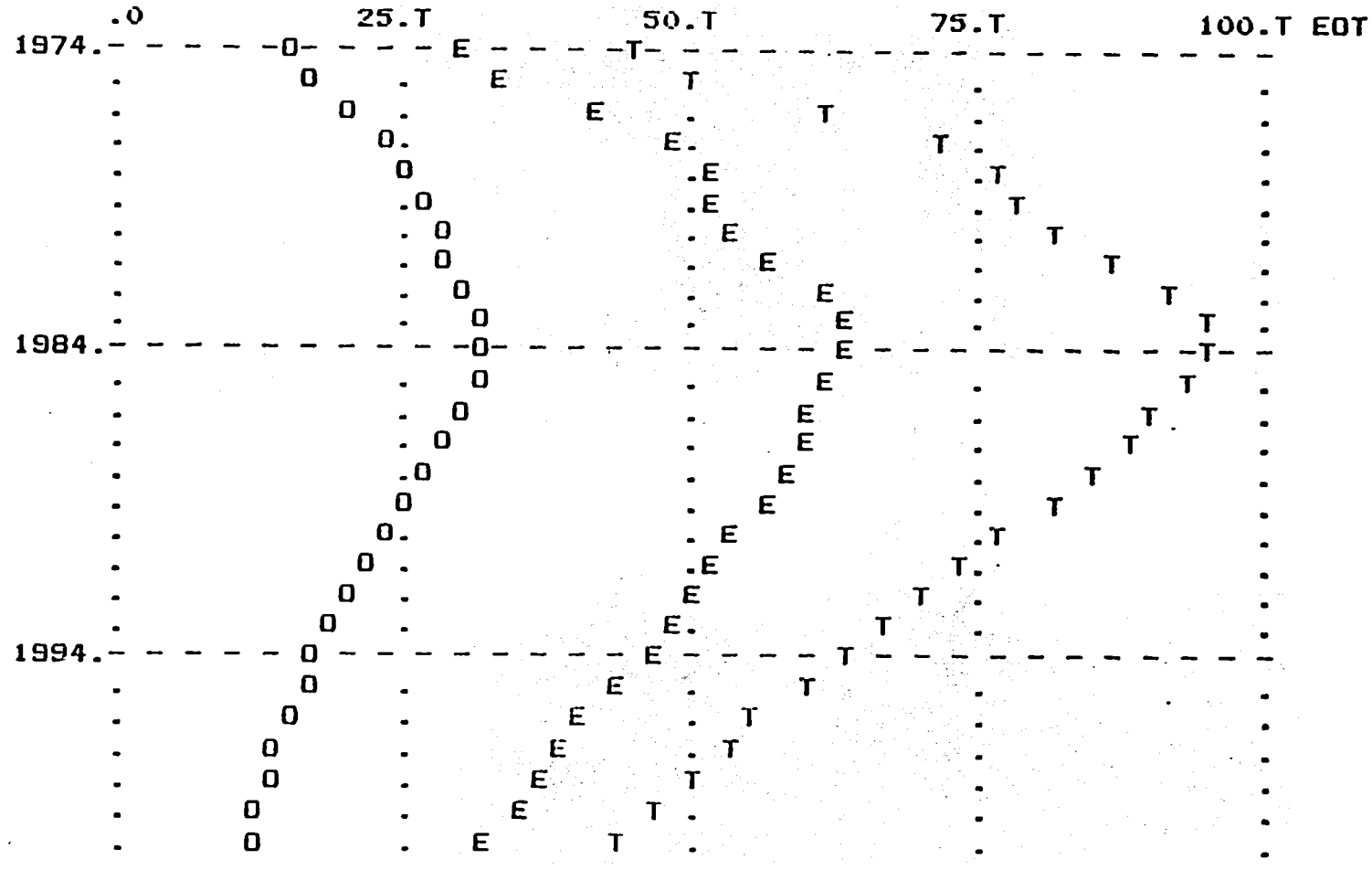
Both groups contribute to the first surge of migrants. However, Egyptians figure more prominently in the early 1980s because a large teacher workforce and a relatively well-established education system enable Egypt to supply additional teachers more easily than the other teacher exporters. This finding emerges from a constraint in TEAMIG limiting the number of teachers that a teacher exporter's government will allow to migrate to 5 percent of the teacher workforce per year. Five percent is an arbitrary figure it not unrealistic, given that both the Egyptian and Jordanian governments restricted teacher migration to prevent excessive losses from their education systems.

There is very little data available on the number of migrant teachers with which to compare TEAMIG's results. Only Kuwait provides a reasonably recent time series, and even that only goes up to 1978-79. However the Kuwaiti data presented in Table B-1 indicates a growth in migrant teachers consonant with the growth calculated by TEAMIG, confirming, in part, the

FIGURE B-1

The Stock of Migrant Workers in the Middle East

SETI=E,SOENTI=O,SMTI=T



T = Total Stock

E = Egyptians

O = Other Exporters' Teachers

TABLE B-1

Growth of the Number of Egyptian Teachers in Kuwait Compared to the Growth of TEAMIG's Calculations of the Number of Egyptian Migrant Teachers in the Middle East

	Teachers on Secondment and Mission	Seconded Teachers as a Proportion of all Teachers	Total Number of Egyptian Teachers	Growth Rate in Percent	TEAMIG's Calculations	Growth Rate in Percent
1974-75	1057	22	4883		30,000	
1975-76	1522	27	5606	15	33,263	11
1976-77	1794	24	7400*	32	41,547	25
1977-78	2035	24	8500*	15	48,368	16
1978-79			9119	7	50,978	5

*Numbers calculated from the first two columns and rounded.

The average growth rate for Egyptian teachers in Kuwait is 17%.

The average growth rate for TEAMIG's calculations is 14%.

Sources: Secondment and mission data from a dataset compiled at Cairo University
Total number of teachers and Proportion data from the Kuwait Ministry of Education

accuracy of the model.

Development plans for the teacher importers, particularly Saudi Arabia, stress efforts to supply their own teachers. Yet the Saudi Plan for 1976-1980 acknowledges that the number of students enrolled in teacher training programs has been less than expected. This shortfall is not surprising, given that teacher is not a prestigious or high-paying occupation and given the abundance of lucrative opportunities in commerce, industry, and highly skilled professions. A useful feature of TEAMIG is that it is designed to test the effectiveness of various attempts to attract internally, based on different assumptions.

If the proportion of those in the labor-importing countries who elect to become teachers at relatively low salary levels is significantly lowered, while the proportion is kept high for high salaries, the migration pattern changes less than would be expected. The stock of migrant teachers does rise, but only by 8 percent. Teacher salaries in the teacher importers, however, skyrocket as the governments attempt to lure their own citizens into teaching through financial incentives. Since high salaries are specified to be effective, the governments succeed in attracting teachers domestically and the need for foreign teachers declines in the same way as before. In order to "nativize" their teacher workforces, the governments simply must spend much more money.

Higher salaries may not suffice as long as a stigma of low prestige is attached to being a teacher, which seems to be a real problem in the Middle East. TEAMIG can incorporate this factor. Instead of a rapid increase in the proportion of natives choosing teaching as salaries increase, the proportion rises slowly, never reaching the high levels of the earlier scenarios. Even

this scenario does not radically alter the migration trends. The stock of migrant teachers rises higher and peaks later than before, 111,000 in 1968 compared to 95,700 in 1984 in the reference run. Yet, as in the previous scenario, importer countries' teacher salaries quickly rise very high, attracting sufficient new teachers to lessen the need for migrants.

The assumption is that the governments are willing to pay enormous salaries for teachers. This is not necessarily true. The governments may decide that having domestic teachers is worth only so much. Thus we can envision the situation where people are reluctant to become teachers and the governments are not willing to pay exorbitant salaries to get them. TEAMIG can accommodate this situation. Under these assumptions the migration process takes on a different character. Instead of rising to a peak of 95,700 in 1984 and then falling sharply, teacher migration grows at a faster rate, peaks later, and declines more slowly. In this scenario teacher migration is not a stop-gap measure to hasten the expansion and modernization of the importers' school systems. It is the primary means by which these schools are and will be staffed. Figure B-2 shows the extended reliance on migrant teachers.

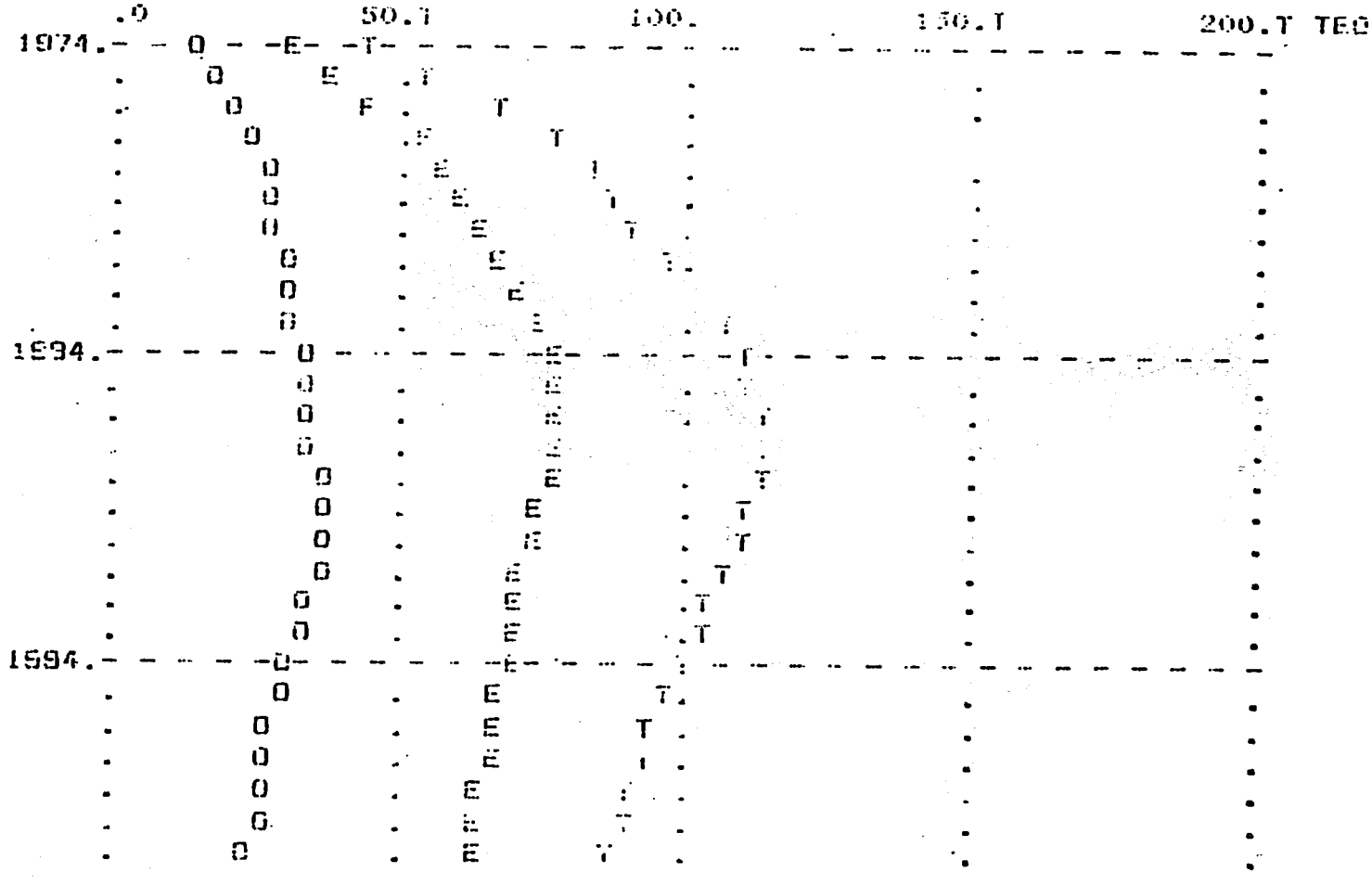
Figures B-1 and B-2 depict the stock of migrant teachers. Figure B-3 presents the flow of Egyptian teachers. This flow is also separated into its constituent parts: teachers who leave on secondment and those who leave on private contracts. The flow of teachers has approximately the same characteristics as the stock of Egyptian teachers except that changes appear earlier and are more pronounced. There is a sharp rise from 1974 to 1976 followed by a decline through 1978. The flow then increases to over 21,000 per year in 1981 and 1982, followed by a general decline from then to the end of the run.

The number of Egyptians leaving on secondment can be compared with actual data for the years 1974 to 1977. TEAMIG underestimates the actual flows but

FIGURE B-2

The Stock of Migrant Teachers in the Middle East When the Importers are Having Trouble Recruiting Their Own People to Teach and Have Placed a Ceiling on the Salaries They are Willing to Pay

SMTI=T,SETI=E,SOENTI=O

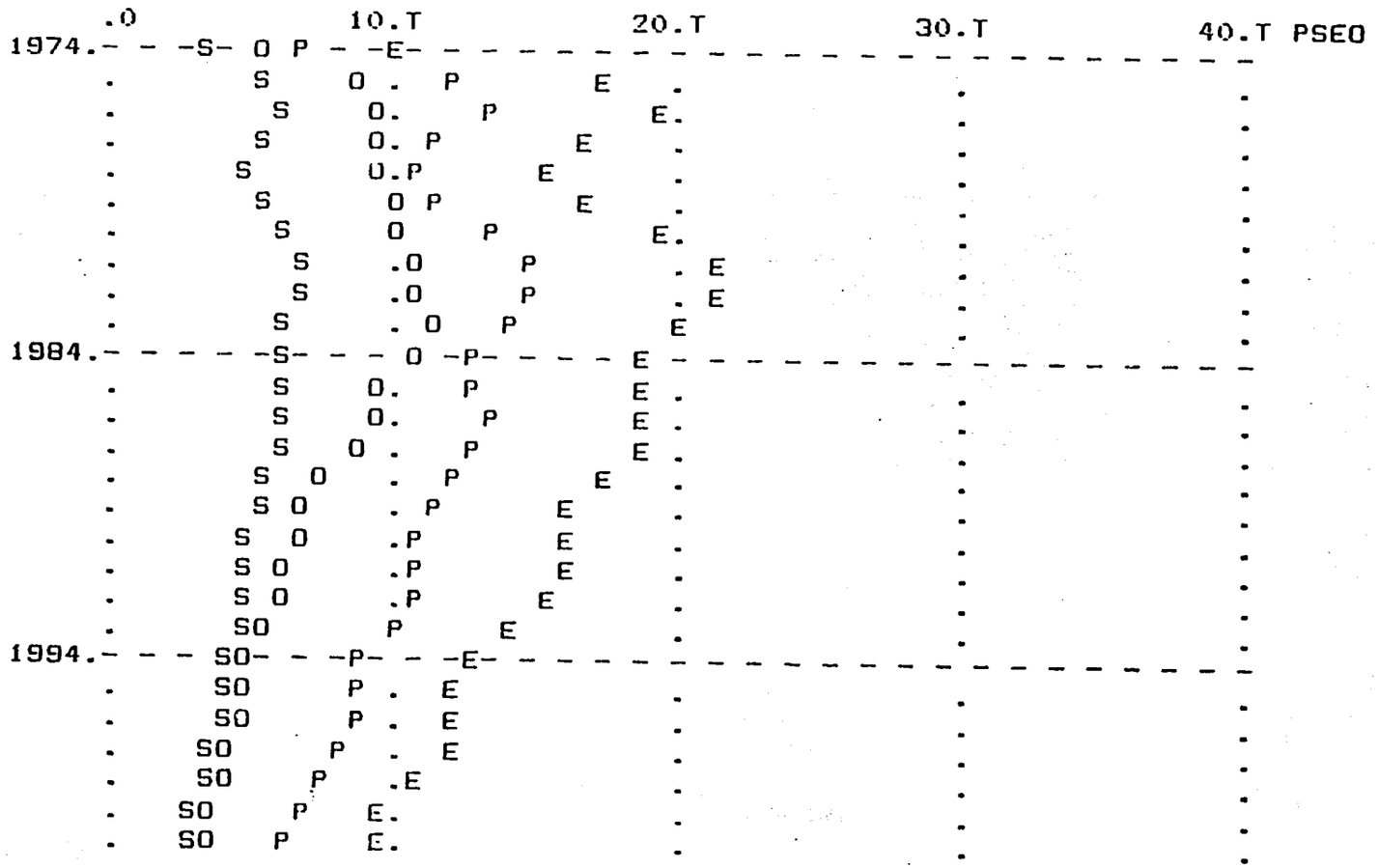


T = Total E = Egyptian O = Other Exporters' Teachers

FIGURE B-3

The Flow of Migrant Teachers in the Middle East

EWLPCI=P,TWLSI=S,ELI=E,OTETMI=O



E = Egyptians

O = Other Exporters' Teachers

S = Egyptians on Secondment

P = Egyptians on Private Contract

correctly tracks the direction of the changes. The parameter in TEAMIG that determines how many teachers are sought for secondment is based on sparse data indicating that about 30 percent of the Egyptian migrant teachers are in the importing countries on secondment. An alternative scenario that assumes the proportion to be 40 percent comes closer to the actual figures, but still falls short.

The data in Table B-2 indicate what has happened. In order to get the initial value of the number of teachers who leave on secondment to correspond to the actual value, given the apparent total demand for Egyptian teachers, the proportion of the demand directed towards the Ministry of Education must have been about 30 percent. But for succeeding years TEAMIG's calculations come out too low. If the proportion is raised to 40 percent, TEAMIG's calculations come much closer to actual values, although there are still problems. For example, TEAMIG's value for 1977 of 6740 is considerably higher than the actual flow of 5243. This can be partially explained by the fact that secondments to Libya essentially ceased in 1977. The decline in the number of those seconded to Libya was 2755. Subtracting this number from the 1976 total of seconded teachers (8881) results in 6126, meaning that additional declines elsewhere totalled 883. TEAMIG calculated a decline of 1193, which is a reasonable, if not close, approximation.

Since the proportion of trained teachers demanded apparently starts at 30 percent, then rises to over 40 percent, one of two things must have happened. Either the proportion indeed rose, or, more likely, the demand for Egyptian teachers rose more quickly than in TEAMIG's calculations. Two pieces of information support the second hypothesis. The first is that TEAMIG gives a low estimate of the number of teachers in the importing countries for the last

TABLE B-2

Comparison of Actual Secondment 1974-77 to Three Scenarios from TEAMIG

	Actual Secondment[1]	Proportion of Teachers Sought through Secondment set at .3	Proportion set at .4	Proportion set at .3; student-teacher ratio declining
1974	2964	3017	4023	3181
1975	7377	5295	7058	6345
1976	8881	5766	7663	7226
1977	5243	4928	6470	6632

[1]From a dataset compiled at Cairo University.

years of available data, 1978 and 1979. The second is that the student/teacher ratio in these countries declined between the years 1974 and 1979. In effect, the teacher importers' ministries of education sought and obtained lower student/teacher ratios over the six-year period by importing more teachers than if the student/teacher ratio had remained unchanged. Since TEAMIG has a fixed coefficient for the student/teacher ratio, it could not pick up that change and, as a result, underestimated the number of Egyptian teachers sought and the number of teachers in the importers. Consequently, the proportion of secondment teachers demanded probably started and remained at 30 percent rather than having changed over time. Given the rapidly increasing demand for teachers, it is not plausible that the proportion could have risen.

A modified version of TEAMIG was run to test whether the preceding explanation could withstand the most basic test -- whether it could fit the data. The student/teacher ratio was hypothesized to drop from 16:1 to 14:1 in four years, and then stay at 14:1. As the last column in Table B-2 indicates, this version of TEAMIG does simulates rapid increase in seconded teachers better than the other two scenarios. Clearly, more is involved in teacher migration than TEAMIG can capture because not greater detail but more information and data are needed. Until such information becomes available, however, TEAMIG can serve as a tool for understanding the nature of the Middle East teacher migration.

Perhaps the most fundamental unknown is the procedures or priorities of the teacher importers for hiring Egyptian teachers. While the data and model runs indicate that about one-third of those recruited comes from the education system via secondment, we do not know whether the importers try to satisfy their needs by going first to the Ministry of Education or by going first to the open market for college graduates willing to teach abroad. About all we

do know is the anecdotal observation that teachers hired on secondment receive higher salaries than those hired on private contracts.

Experiments with two versions of TEAMIG using different representations of the hiring process suggest that the importers first try to hire teachers on secondment. With the high salary differentials (greater than 10 to 1) existing in the mid-1970s, only the version with Ministry of Education teachers hired first could generate the rapid increase of teacher secondment found in the data. Knowledge of how much lower private contract salaries are may help determine the actual hiring sequence, as in the scenario of university graduates unwilling to migrate because the salary differential is not high enough, thereby increasing demand for school system teachers. Although answers to rather simple questions like hiring procedures are unavailable, TEAMIG can provide indirect information to help answer them.

TEAMIG also allows exploration of alternative futures, the more conventional role of dynamic simulation models. One question regarding teacher migration is: are the importers concerned with limiting their dependence on any one nation, particularly Egypt, for their teachers? At least in the early years of the simulation runs, migrant teachers comcprise over half of the importers' teacher workforce. Roughly two-thirds of that group is Egyptian. Will a country's leaders be concerned about one-third of their teachers being Egyptian? The standard runs hypothesize that there is some concern, and that as the proportion of Egyptian teachers in the workforce rises the importers will seek to reduce their import of additional Egyptians and attempt to hire other nationalities. This hypothesis remains intuitive, however, becuase there is no information regarding adjustments in the nationalities of migrant teachers. There have been adjustments in the nationality composition of

migrant workers in general, but the trends in these shifts cannot be applied to teachers. Unlike workers in other occupations, teachers almost have to be Arab and Egypt is a dominant supplier.

Because of this uncertainty TEAMIG was also run with the reaction capability disabled. The proportion of Egyptians sought remains at the 1974 level. Table B-3 displays the differences in the flow of Egyptian and other teachers to the importers. Here there is little difference. Since this year's hiring is based on last year's proportion of Egyptians, only one year separates a response from a changing proportion. With such rapid feedback no large variations in hiring can result.

TEAMIG's inability to simulate major swings in the nationality composition of migrant teachers as well as events such as the ending of Egyptian secondment to Libya indicate limitations of this approach. There are three major problems. First is the lack of data. While testing alternative scenarios can partially offset inadequate data, models at TEAMIG's level of detail should be based on more information than we could gather. The second problem is the inability to respond to a range of external events. The decision to end secondment to Libya lies outside of and is based on considerations much larger than can be incorporated in TEAMIG. The only options are to build a more inclusive model or to hope for no dramatic changes.

The first two problems relate to TEAMIG only tangentially. Its detail creates the need for data; a model builder must place a boundary somewhere between the phenomenon of interest and the outside world. But the third problem is fundamental to the nature of TEAMIG. While it allows us to ask more interesting questions than other migration models (for example, "What if young people in the importing countries will teach only for very high salaries?"), a system dynamics model like TEAMIG is still ill-suited for decision-

TABLE B-3

Changes in the Flow of Teachers if the Importers are Assumed to Not Care about the Teachers' Nationality

	Egyptians		Other Nationalities	
	Care about Nationality	Do Not Care	Care about Nationality	Do Not Care
1974	10056	10169	5121	5009
1975	17608	18020	8979	8875
1976	19028	20224	9105	9103
1977	16138	17077	9272	8411
1978	15320	15449	9493	7609
1979	16945	17624	9758	8680
1980	19673	21481	10049	10181
1981	21495	23069	10357	10438
1982	21278	21639	10678	10658
1983	19883	19376	11009	9543
1984	18759	18926	10428	9322
1985	18497	20394	9531	10045
1986	18854	20735	9095	10213
1987	18479	18360	8502	9043
1988	17237	15763	7573	7764
1989	16030	15271	6751	7522
1990	15741	16265	6398	8011

making types of behaviors, such as changing the procedure for hiring teachers or choosing which country to try as a source for teachers. TEAMIG is bound to an essentially fixed structure. In situations as low-level and prone to outside influences as teacher migration, the assumption of unchanging relationships over several years will almost certainly be wrong. The user must therefore approach the model results realizing that a maj change is beyond the model's capabilities.

In conclusion, TEAMIG has strengths and weaknesses. Because of the three problems just mentioned, particularly the lack of data and vulnerability to outside changes, it cannot be considered a reliable forecasting tool. Nevertheless, because of its detailed representation of both the structure and processes of teacher migration, TEAMIG can serve as a vehicle for assessing how reactions by different actors will affect the migration.

APPENDIX C

ASSESSING INFORMATION BASE FOR MODELLING AND POLICY ANALYSIS: THE NEEDS OF EGYPT[1]

Empirical study of the Middle East is hampered by the general lack of up-to-date, reliable, internally consistent data. Current data are not readily available on the scale and scope of Middle East Migration and its effect on the nations involved. Earlier data (six to nine years old) are of dubious relevance to the current situation. Thus, as noted in Part I, it is often difficult to untangle the effects of data-related problems from those pertaining to an actual change in the phenomenon itself. For policy analysis and for policy makers, however, data requirements can often be stringent. This appendix reviews the information base on migration in the Middle East from a policy perspective, evaluating both the requirements and the actual information available. Clearly, the needs of a policy maker are substantially different from those of a statistician, academician, or researcher. The perspective adopted in this chapter is of use for policy making in the Egyptian case. While specific numbers at hand bear on this case, the broader assessments are relevant for the Middle East as a whole.

There is a conspicuous lack of current, relevant, and publicly available data for analyzing the effects and policy implications of Middle East worker migration. Several Middle East countries took censuses in 1980 and 1981; the release of their results will help immensely. Further, there is very little survey-based information about the migrants or their characteristics. Surveys of the type conducted in Pakistan, in 1979, at the University of Islamabad,

should be taken in other countries of the region.[2] The only available survey of Egyptian migrants is exceedingly weak in structure, scope, and number of respondents.[3]

The first issue examined here is the information needed to address the migration-related concerns of the Egyptian government. A description of available data is provided as an evaluation of their usefulness. The information base described below has been essentially developed in the course of this analysis: "raw" numbers have systematically been transferred into "data."

1. Stock and Flow of Migrants

The initial requirement is to know the size and nature of migration. Different analysts disagree about the size of the migration movement of even seven or eight years ago.[4] Not only are the data old and no longer reflective of the current situation, but the range of estimates is so wide that they scarcely discuss the same implications of that migration. Policy making is severely handicapped by the problem, for scale is critical. The difference to a Pakistani policy-maker, for example, of having 2 million as opposed to 500 thousand workers abroad is not trivial, for it translates into the difference between 2.5 and 10 percent of the Pakistani workforce. Such disparities case doubt on the accuracy of any estimate.

In the course of this project, the first set of data we have compiled identifies alternative estimates of the stock and flow of Egyptian workers abroad (Tables C-1 and C-2). Table C-1 relies heavily on an International Labor Organization study on international migration by Birks and Sinclair and work done for the World Bank by Ecevit.[5] Both sets of data are for 1975 and, except for Libya, match reasonably well. Earlier, Birks and Sinclair provided

us with different (sometimes conflicting) figures of the stock of Egyptian workers abroad.[6] These are included in Table C-1 along with the other estimates.

We believe the Ecevit and Birks and Sinclair figures to be too low, on the basis of several alternative source data points. First, the 1976 Egyptian census reports 1.425 million Egyptians abroad at census time. If we apply the average participation rate given by Birks and Sinclair to that figure, we get about 1,000,000 workers abroad in 1976, a number arrived at independently by Choucri, Eckaus, and Mohie-Eldin.[7] This compares with the estimate of about 400,000 workers in 1975 by Birks and Sinclair and 330,000 by Ecevit. Second, an Egyptian Ministry of Labor and Training report appearing in Al-Ahram stated that almost 1.4 million Egyptian workers were abroad in 1978.[8] While this figure may appear outrageously high at first glance, closer examination of the numbers in Tables C-1 and C-2 indicates that it is reasonable. In the Qatar column in Table C-1, for example, the figure of 15,000 Egyptian workers in 1978 is entirely plausible, given that there were 12,200 in 1975 and over 13,000 in 1977.

The information in Table C-2 buttresses the argument. There are four countries with figures more recent that 1975 -- Qatar, UAE, Kuwait, and Saudi Arabia. The Qatar figures show considerable growth after 1975 and indicate that, unless the turnover rate was exceptionally high (which may have been the case), the estimate in Table C-1 of 15,000 Egyptian workers in 1978 may even be too low. The figures for the UAE also point to a rapidly expanding stock of Egyptians after 1975, but we cannot say anything definite about the 1978 figure in Table C-1.

Data from Kuwait and Saudi Arabia provide the most recent, complete, and revealing information. As with Qatar and the UAE, the flow of Egyptian

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workers surged after 1975, reaching a peak of 39,733 to Kuwait and 93,900 to Saudi Arabia in 1977. In 1978 the flows declined marginally to 39,326 and 93,800. How do these compare to the corresponding stock figures of 150,000 and 500,000? The stock of workers to flow of new workers ratio is 3.8:1 for Kuwait and 5.3:1 for Saudi Arabia. This means either that the migrant turnover rate is very low or that some of the numbers are simply incorrect.

One of the few available estimates of migrant turnover rates is 20 percent (see Table C-15). Turnover rate almost certainly refers to the proportion of the stock of migrant workers returning home each year. If a 20 percent turnover rate (which seems to be a fairly low estimate) is applied to the stock of workers in Kuwait and Saudi Arabia in 1975 and that figure is used as the outflow in 1976, a crude determination of the stock in 1976 can be made by adding the inflow in 1976 to the 1975 stock and subtracting the calculated outflow. By extending this procedure to 1978 a rough alternative estimate of the stocks of migrant workers in Kuwait and Saudi Arabia is possible. These estimates turn out to be significantly lower than the Al-Ahram figures: 105,000 compared to 150,000 for Kuwait and 270,000 compared to 500,000 for Saudi Arabia.

The first conclusion is that some of the numbers must be wrong. There is little question that the Al-Ahram figures, ostensibly coming from the Egyptian Ministry of Labor and Training, are somewhat inflated. There should also be grave doubts concerning the veracity of at least the Saudi Arabian figures. In particular the Saudis' own statistics on the stock of foreign workers are much lower than other estimates. It is difficult to reconcile the Saudi figure of 299,076 in 1979 with Halliday's estimate of up to 1.5 million in 1975, the IMF Survey's 1 million in 1977, and Birks and Sinclair's 1 million

in 1979, not to mention the Al-Ahram figure of 500,000 Egyptians alone in 1978.[9] Even including agricultural workers and government sector workers, the discrepancy seems too great. Perhaps the Saudis are undercounting the foreign workers to diminish the apparent extent of the migrant worker phenomenon.

But where does this leave us with respect to our assertion that the Birks and Sinclair and Ecevit figures are too low? While the additional evidence does not really verify the Al-Ahram numbers, it indicates a tremendous growth in the number of migrants after 1975 and certainly does not convincingly refute those figures.

Probably the most important information in Table C-2 is evidence that the surge in migration peaked in 1977 and 1978 and (much more tentatively) that it may actually have declined since then. Unfortunately, we do not know whether the leveling off and possible decline were only temporary or whether there has been a fundamental reversal in the flow of migrants. But if migration is linked to the income of the oil-producing (and labor-importing) nations, a plausible trend for the migrant flows would be: a levelling off period in 1977, 1978, and perhaps into 1979, with a subsequent growth period possibly ending in 1981.

2. Occupation and Economic Activity

Information on the skill level of the migrants is equally important since many possess precisely those skills most necessary for economic development. Examples include professional and technical workers, such as mechanical engineers, and skilled workers, such as welders. From the labor importers' perspective, the governments may want to concentrate job training efforts in those occupations with the highest concentrations of foreign workers.

There is only one country for which we could obtain the occupational breakdown of Egyptian workers -- Kuwait in 1975. Tables C-3 and C-4 present that breakdown according to two types of occupational categories. We have compiled data on the occupational breakdown of migrant workers in other labor importing countries, but this information fails to distinguish between Egyptians and other migrants. It is not valid to assume the occupational mix of Egyptians is the same as that of other labor exporters or the average mix. The 1975 Kuwaiti figures indicate a significantly higher proportion of Egyptians in professional and technical occupations than the average, and lower proportions in the clerical, sales, mining, production, and transport occupations. Table C-5 presents the occupational allocation of migrant workers in six labor importing nations.

Only marginally better is the breakdown of Egyptian workers by economic activity or sector. Table C-6 presents this information for Kuwait in 1977 and 1979. There is little change between 1977 and 1979, suggesting relative stability of the figures. As with occupations, we have the breakdown of migrant workers, by economic sector, in other labor importing nations (see Table C-7), but again the Kuwaiti data caution against assuming the Egyptian proportions coincide with the proportions for all nationalities represented in a country.

3. Projected Labor Supply and Demand

The occupational skill mix takes on even greater importance when compared with the difference between projected labor force requirements and the expected occupational makeup of the labor force. Depending on the degree of detail of the data, potential surpluses and shortages of qualified workers can be determined. The difference between projected need and expected workers

could be used to direct and focus job training programs geared to future economic development.

Information on projected labor force requirements by occupation in Egypt compared with the skills the education system is expected to produce is unavailable. However, it is extremely important information. The closest surrogate is Table C-8, which compares 1977-78 school output with projected annual demand for output from the different levels and specializations of the Egyptian school system. Three points stand out. First, the total output is much higher than total demand. Second, the surplus consists of those who do not complete secondary school -- individuals who are generally unskilled. Third, the education system is not producing individuals with the specific skills demanded. Egypt needs people with technical skills, while the system produces too many college graduates (and by association general secondary school graduates).

Only marginally more relevant are the data regarding the projected need for migrant workers in the labor importing nations. Table C-9 reveals that, while the information is in a useful form, it is already outdated and gives only a rough idea of demand in the 1980s. Despite this, Table C-9 facilitates analysis by indicating the differences between the labor importers, in terms of which skills they need to import. For example, Kuwait demands a disproportionate number of service workers, while the Saudis demand a more evenly distributed number of job skills, from professional to semi-skilled workers.

4. Sectoral and Occupational Distribution

Information about the location in terms of domestic economic sector or occupation of each worker enables us to highlight areas in which the

importers' dependence on migrant workers is especially acute. Table C-10 presents the proportion of migrant workers in the importers' labor forces while Tables C-11 and C-12 break down these proportions by occupation and economic activity respectively.

5. Dependence Indicators

Reasonably current data is available for these "dependence" tables, but if one compares Table C-10 with Tables C-11 and C-12, discrepancies emerge. Compared with the Birks and Sinclair figures in Table C-10, the second column of Saudi figures (Table C-12) is very high, the Libya figures (both Tables C-11 and C-12) are too low, and the Bahraini, Omani, and UAE figures (both Tables C-11 and C-12) are too high. Only the Kuwaiti figures show no major discrepancies across the tables. Bahraion, Oman, and the UAE can be explained, since the statistics in Tables C-11 and C-12 concern only workers in the private sector (except for Libya and the first column of Saudi figures which includes all workers). Since many of the public sector jobs are supposedly sinecures for citizens in return for loyalty to the regime, one could expect the inclusion of the government sector to lower the proportions. data from Oman, Bahrain, Qatar, Kuwait, and Saudi Arabia support this notion.[10] For both Oman and the UAE the figures are even less comprehensive, referring only to private sector firms with ten or more employees. We do not know what effect this has on the "dependence" figures. An added explanation for Bahrain and the UAE is that the figures are more recent, thus more likely to reflect the larger foreign workforces. Finally, the more recent UAE figures are actually for Abu Dhabi. Since it accounts for the bulk of the Emirates' oil wealth, it probably also has a higher proportion of foreign workers than the UAE as a whole.

Libya's proportion is low because the stock of migrant workers used in calculating the proportions is low. The Libyan government used 222,700 while Birks and Sinclair estimated the stock to be 332,400.[11]

Saudi Arabian data is more problematic. Table C-12 gives two columns for Saudi Arabia. The first is a sectoral breakdown of the Birks and Sinclair figure in Table C-10. The second comes from the 1979 Saudi Arabian Statistical Yearbook. The first supposedly incorporates all workers; the second does not include workers in agriculture, transportation and communications, or the government sector. Those three sectors also have the lowest proportionof foreign workers (see footnote 9 and the first Saudi column in Table C-12), which partially explains why the 1979 Saudi dependence figure is so high.

There is still the problem of the Saudi seeming to underestimate the number of migrants. Even if we combine the Saudi migrant worker figures for 1976 and Birks and Sinclair's 1975 figures for migrant workers in agriculture, transportation, and communications, then add the difference between Birks and Sinclair's and the Saudis' figures for the service sector (under the assumption that they are workers in the government sector), the Saudi figures still give a very low estimate of the number of migrant workers.[12] Adding these sectors, we get roughly 490,000 workers, which is a long way from 773,400 (to say nothing of the higher estimates). Government workers are almost certainly working in sectors other than services, but getting the numbers to match requires 475,000 migrant workers in the government sector in 1975/76 -- a staggering figure since there were only about 30,000 in 1972/73.[13]

The conclusion is that the Saudi Arabian private sector may be even more dependent on foreign workers than the Saudi figures indicate, and it is only the large, relatively migrant-free agricultural sector which keeps the Saudis'

dependence indicator relatively low.

Table C-11 reveals differences between nations in terms of occupational dependence, but two occupational categories stand out. All four nations depend heavily on migrants for professional and technical work and for production oriented jobs. In Table C-12, manufacturing and construction and, to a lesser extent, services are the sectors with the highest proportion of foreign workers. Clearly, the two tables overlap with production jobs in construction and manufacturing.

6. Participation Rates

The extent to which migrant workers bring their families is an especially salient issue. As a rule the labor importer governments prefer that families not come, in order to limit the services which the states must provide. But more importantly, the presence of family increases the chances that the ostensibly temporary migrant will become a permanent one. Feeling overwhelmed by foreigners, the native population in the importers resent that development. Exporters, too, do not necessarily urge families to migrate, but in their case the concern is the permanent loss of skilled manpower.

The data on migrant participation rates are very good in one respect, totally inadequate in another. We possess a remarkably complete set of 1975 figures for Egyptians, but we cannot address the crucial question of how the participation rate has changed over time. The 1976 figures are both too close to 1975 to reveal anything and calculated differently, which may invalidate comparisons (see Table C-13).

If we cannot compare the participation rates of Egyptians over time, we can compare them with other nationalities. Table C-14 presents that comparison by giving the participation rates of all migrants in several of the labor

importing countries. One finds greater uniformity in participation rates among the labor importers than among the labor exporters. Interestingly, Egypt demonstrates greater variation in its participation rates than the other exporters.

7. Turnover Rates

A related concern is migrant turnover rates or, an alternative measure, the average stay of a migrant. If turnover rates are declining or the average length of stay is increasing, labor importing governments fears of temporary migrants becoming permanent residents woud appear increasingly well-founded (although the evidence is not conclusive).

Determining migrant turnover rates or the median duration of their stay turns out to be inadequate as well, as Table C-15 readily shows. Egyptian migrants in Kuwait tend to stay a shorter period than other workers, an observation verified by Table C-16. With respect to changing durations of stay, Table C-15 indicates a decline, at least into the mid 1970s, but we do not know what has happened since then.

8. Socioeconomic Characteristics

Appropriate direction of the migrant process requires information about the migrants' education, income (both before migrating and while migrants), and geographical origin. Education can be used as a proxy measure of occupational skills, or, even better, as an indicator of the kinds of secondary schools and university programs to be emphasized if the labor exporting nation is to continue supplying migrant labor without forfeiting its own economic development. Knowing the migrants' geographical origin can help focus job

training and employment creation efforts to those areas where disproportionate migration may be signalling an especially urgent need for job creation.

More important than education or origin is the migrants' income. Knowing the difference between what the migrants earned in their home country and what they earned abroad helps in two ways. First, it shows the incentive structure the economy would face if it planned to restrict migration without resorting to quotas. Second, it gives estimates of the potential remittances as opposed to the officially recorded remittance flows. This obviously influences the perceived efficacy and, hence, feasibility of schemes to entice larger remittances from the migrants. The volume of remittances may be as high as can reasonably be expected. The problem then shifts to making better use of the financial resources the migrants send and bring home.

State agencies have only collected partial statistics on migrant characteristics such as education, geographical origin, and income. Figures on educational status or qualification are exceedingly dated (the most recent being nine years old). Except for the birthplace and pre-migration domicile of fifty construction workers and fifty university academics surveyed in 1977, the data on geographical origin is also at least nine years old. Table C-17 presents the 1977 survey results. A sample consisting of 100 migrants certainly leaves something to be desired, but the samples are reasonably representative. As expected, the migrants come from Cairo, Alexandria, and urban upper Egypt, probably Aswan.

9. Disposition of Remittances

Governments of labor exporting countries would like to funnel remittance money into productive investments, facilities which would employ workers and produce goods for domestic use or export. As it stands, the bulk of the

remittances goes into immediate consumption (some of it conspicuous): consumer durables, a house or land, and the purchase or setting up of a small shop. While the migrants consider these uses prized rewards for their labor, such uses are suboptimal to a government faced with insufficient capital for its own development plans. But before a government embarks on a program to mobilize remittances, either through incentives or more coercive means such as taxes, it requires information on two facets of the remittances.

Policy makers need estimates of the size of future remittances. This involves forecasting the number of workers and their income and consumption patterns. They also need knowledge about existing usage of remittances. If current use is mainly for building homes and buying consumer durables, incentives toward productive investment would have to be extremely attractive to be effective. Accumulating investment capital under these circumstances might require some kind of tax with all the attendant problems, such as capital flight or increased smuggling. If current expenditures go to luxury items, then various incentive schemes might have a greater chance of success.

The lack of alternative data on remittances forces us to rely primarily on the mini-survey. The gross remittance figures are the exception, coming from such sources as the Central Bank of Egypt and the IMF. Table C-19 shows that remittances grew rapidly between 1971 and 1980 and then declined. Comparing the migrant flow statistics with the remittance figures supports the common sense notion that the jumps in remittances lag the increases in migrant flow by one year, but this pattern is most evident only for the beginning and end of the period. The migrant flow statistics are too incomplete for a definitive statement.

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Even if the remittances fail to track the migrant flows perfectly, Table C-19 still bolsters our central tenet that the number of Egyptian migrants in the Middle East far exceeds earlier estimates. Even allowing for inflation (Table C-27 gives us some idea of its magnitude), the numbers point toward a tripling of the stock of migrants between 1975 and 1978 or 1979. The tremendous growth in remittances also implies the importance they have acquired in the Egyptian economy and balance of payments. Two billion dollars has an enormous impact on an economy with a gross domestic product of under $19 billion.

Information on the consumption and savings tendencies of Egyptian migrant workers emerges from the survey of fifty university academics -- admittedly an inadequate sample. University academic salaries are much higher than average -- between two and three times the earnings of the surveyed teachers and between four and five times the salaries of surveyed construction workers. Yet this data is the only such information available. Consumption is presented in Table C-20 while savings are in Table C-21. The average breakdown of expenditures and savings seems to be roughly 30 percent housing, 35 percent non-housing consumption, and 35 percent savings.

There is no direct information on the use of remittances. The mini-survey gives information on the planned use of savings by university academics and construction workers, but planned and actual use of savings may not correspond. Of the four intended uses most often cited, housing and general spending are obvious. A third use, saving the money, is popular among academics but not construction workers. The fourth planned use, investing in some productive enterprise, seems to reflect wishful thinking. Given the governmental concern over mobilizing more productive investments, either the proportion of migrants actually making investments is less than the roughly 30

percent indicated by the surveys or the migrants are not investing significant sums or both. Tables C-22 and C-23 contain the figures.

Tables C-24 and C-25 present the university academics' views of how to increase remittances and where to invest them. Table C-24 suggests the question: If these are the changes the migrants want, what are they currently doing with the money? It appears that they are saving or investing it outside Egypt. If so, the Egyptian government should heed the recommendations for foreign currency accounts.

Table C-25 also evidences this concern with the use of foreign currency. The migrants believe either that the exchange rate is inequitable or that inflation will affect them less if they use an outside currency. The difference between the proportion of migrants who said investing in productive enterprises would help development and the proportion planning to make such investments (to say nothing about the proportion who actually did) reinforces the point that the migrants consider the remittances a personal reward. Thus schemes to attract their funds would have to be very lucrative.

10. Income Distribution

The increased earnings as a result of migration cause a shift in income distribution. While one can surmise that the working class, as opposed to the propertied upper class, benefits the most, it does not follow that income is being distributed more evenly or justly. Many of the migrants are not on the low end of the income distribution curve before they leave. When they return they move into an even higher income bracket. The workers most sought after by the labor importers usually command relatively high salaries at home because they are skilled at some occupation. To be sure, many unskilled workers

migrate and receive higher wages abroad, but it is not clear that their increased affluence significantly improves the overall income distribution in the labor exporting country.

A detailed breakdown of the income distribution in Egypt over time would be useful to best address the income distribution question. Unfortunately, we have two essentially incompatible breakdowns for 1975 and 1976 only (see Table C-26).

11. Inflation

The remittances flows have a second consequence: they exacerbate inflation of the "demand-pull" variety. With their new influence, the migrants and their families tend to purchase previously unaffordable items, such as new refrigerators, color televisions, automobiles, and land. In an economy where these items are scarce, due either to limited production facilities or to a ceiling on what is available (land), the surge in demand resulting from the inflow of remittances forces (or pulls) prices up unusually fast.

Worker migration also generatess "cost-push" inflation, primarily through wages. As workers migrate to receive higher wages, companies in the labor exporting nations resort to paying higher wages. The companies' costs rise, and subsequently the price for their products (usually) rises as well -- the price being "pushed up" by increased costs. Information about sources and extend of both types of inflation is needed. Nevertheless, we have reasonably good figures for Egypt's inflation rate in Table C-27. But there is very little correlation with the gross remittance figures in Table C-19, implying either little connection or, more likely, that the effect is more subtle than these variables can measure.

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12. Income and Income Differentials

The data on migrant income come from samples of only fifty migrants. Table C-18 presents the median salaries for the three groups of 50 migrants -- construction workers, teachers, and university academic staff -- both before they migrated and when they were migrants, thereby giving us an unparalleled basis by which to calculate salary differentials.

An interesting pattern emerges. Kuwait and the other Gulf countries (except Saudi Arabia) wanted to attract higher level occupations, such as teachers and university professors. Saudi Arabia and Libya, in the midst of a construction boom, placed a comparatively greater emphasis on attracting construction workers. Ranking of the occupations by salary differential is also interesting. If the differences reflect the demand for individuals of a certain occupation, teachers are in greatest demand, followed by construction workers and then university academic staff. Teaching is a higher "skill" occupation than construction, hence likely to be more scarce. Moreover, the sheer number of teachers needed to fill the expanding general education systems probably creates a much higher demand than the expanding university systems. The reported salary differences in Egypt, between university professors going to Saudi Arabia and Libya and those going elsewhere, prove puzzling and inexplicable.

13. Training Costs

Finally, as a basis for determining the education costs of producing more technically trained people, education expenditures and student enrollments by level and type of school for 1973 to 1978 are given in Tables C-28 and C-29. Calculating from these, in 1978 it cost approximately 186 Egyptian pounds

($475) per year for each student in technical secondary school. Training thousands of additional students in technical skills will be a very expensive undertaking because the per student cost of technical secondary school is higher than for any other secondary education. Training additional teachers to offset the teacher migration, however, is even more expensive -- LE 266 or $680 per student per year (in 1978).

14. Conclusion

There is obviously a wide gap between available data and data required for policy purposes. Only in a very few cases, such as gross remittances and the inflation rate, are there current and relevant data. Little can be done to manage worker migration effectively until the number of workers involved and their occupations are known with some confidence. The contributions of the International Labor Organization and of the World Bank in clarifying data issues is noteworthy. But a regional information system for collecting, codifying, and monitoring both migration and its most prominent effects remains to be established. It is a major requisite for policy assessment and formation which would benefit not only Egypt but, more prominently, all the countries of the region. The second highest priority is to ascertain the disposition of the remittances. The most serious gaps in information are in these two areas.

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TABLE C-1

Stock of Egyptian Workers in Labor Importing Countries by Year

	LIBYA	SAUDI ARABIA	KUWAIT	U.A.E.	IRAQ	QATAR	BAHRAIN	OMAN	JORDAN	SUDAN	YEMEN	TOTAL
1972	44,760[1]											
1973										5,900[2]		
1974												
1975a	229,500[1]	95,000[1]	37,558[1]	12,500[1]	7,000[1]	2,850[1]	1,237[1]	4,600[1]	5,300[1]		2,000[1]	397,545[1]
1975b	175,000[3]	95,000[3]	37,600[3]	12,700[3]	2,300[3]	2,700[3]	1,200[3]	5,300[3]				332,800[3]
1975c						3,868[5]		1,500[2]				250,000[6] 1,000,000[6]
1976	153,280[1] 200-250,000[2]					12,200[2]	2-3,000[2]					500,000[2] 1,000,000[7]
1977						13,000+[1]	1,560[1]		4,500[2]			
1978	500,000[4]	500,000[4]	150,000[4]	150,000[4]	50,000[4]	15,000[4]						>1,365,000[4]

Notes on next page.

TABLE C-1

Sources

[1] J.S. Birks and C.A. Sinclair, International Migration and Development in the Arab Region (Geneva: ILO), 1980.

[2] J.S. Birks and C.A. Sinclair, Human Capital on the Nile: Development and Emigration in the Arab Republic of Egypt and the Democratic Republic of the Sudan, Working Paper, May 1978.

[3] Zafer C. Ecevit, "International Labor Migration in the Middle East and North Africa: Trends, Effects and Policies," in Mary M. Kritz, Charles B. Keely, and Silvano M. Tomasi (eds.), Global Trends in Migration: Theory and Research on International Population Movements (New York: Center for Migration Studies), 1981, pp. 259-275.

[4] "More Than One and a Half Million Egyptian Workers," Al-Ahram, September 18, 1978.

[5] Population, Patronage, and Emigration in Qatar.

[6] Fred Halliday, "Migration and the Labour Force in the Oil Producing States of the Middle East," Development and Change, Vol. 8, No. 3 (July 1977), pp. 263-291.

[7] Nazli Choucri, Richard S. Eckaus, and Amr Mohie-Eldine, Migration and Employment in the Construction Sector: Critical Factors in Egyptian Development, Cairo University/M.I.T., 1978.

TABLE C-2

Annual Flow of Egyptian Workers to Labor Importing Countries

	Bahrain	Qatar	Oman	UAE	Kuwait	Saudi Arabia	Libya	Algeria	Jordan	Sudan	Total
1972	125[1]	226[1]			4,447[1]	3,863[1]	13,538[1]	806[1]	573[1]	2,197[1]	49,637[1]
1973	423[1]	442[1]			7,199[1]	7,707[1]	59,379[1]	14,762[1]	714[1]	3,866[1]	149,357[1]
1974					12,348[2]	23,100[5]					
1975	<1,890[6]	5,800[6]	1,566[7]	8,410[6]	21,924[2]	33,509[5]					
1976		9,000[6]		18,010[6]	23,822[2]	84,238[5]					
1977		13,000[6]			39,733[3]	93,900[5]					
1978					39,326[3]	93,800[5]					
1979					23,315[4]						

Sources:
[1] CAPMAS, The Movement of Population across the Borders of the Arab Republic of Egypt, 1972 (quarterly) and 1973, Table 6.
[2] Kuwait Statistical Abstract, 1977, Tables 54 and 108.
[3] Kuwait Statistical Abstract, 1979, Tables 48 and 139.
[4] Kuwait Statistical Abstract, 1980, Tables 48 and 148.
[5] Saudi Arabia Statistical Yearbook, 1979, Table 4-51.
[6] J.S. Birks and C.A. Sinclair, International Migration and Development in the Arab Region. Geneva: ILO, 1980.
[7] J.S. Birks and C.A. Sinclair, International Migration Project Country Case Study: The Sultanate of Oman (Part One), July 1977.

TABLE C-3

Occupational Distribution of Egyptian Migrant Workers in Kuwait, 1975
(Variant A)

Occupation	Share of Egyptian Workers
Professional and Technical	29.45
Administrative and Managerial	.64
Clerical	6.28
Sales	1.97
Services	22.20
Agricultural	86
Mining, Production, and Transport	66.21
TOTAL	100

Source: Calculated from Table 78 of the 1977 Kuwait Statistical Abstract.

TABLE C-4

Occupational Distribution of Egyptian Migrant Workers in Kuwait, 1975 (Variant B)

Occupation	Share of Egyptian Workers
Professional - requires a B.Sc.	7.2
Professional - requires a B.A.	3.3
Technicians requiring post 1-3 years secondary degree	21.1
Skilled and semi-skilled office clerical occupations	7.9
Skilled and semi-skilled manual occupations	25.6
Unskilled occupations	34.9
TOTAL	100.0

Source: Kuwait Ministry of Planning, Central Department of Statistics, Kuwait Census of 1975, Table 95, p. 105; presented in Amr Mohie-Eldin, External Migration of Egyptian Labor, September 1980.

TABLE C-5

Profiles of Migrant Workers by Occupation for Various Labor-Importing Countries

	Bahrain[2] 1975	Bahrain[1] 1977	Oman[2] 1975	Saudi Arabia[3] 1973	Libya[4] 1973	Kuwait[5] 1975	Kuwait[6] 1979	U.A.E.[2] 1975
Professional and Technical	8.6	5.11	8.4	5.43	16.57	15.18	8.72	8.2
Administrative and Managerial	2.2	5.95	.5	1.05	.71	.86	1.19	1.5
Clerical	5.7	.98	7.7	6.16	3.09	9.54	10.94	9.7
Sales	5.2	5.56	.7	27.02	1.05	8.47	4.67	5.9
Services	24.3	8.01	6.9	18.26	4.63	21.47	4.64	13.8
Agricultural	4.9	.78		.49	9.42	1.80	.89	2.9
Mining, Production, and Transportation	49.1	36.03		41.60	62.96	42.69	68.95	56.7
Other		37.58			1.57			1.3

[1] 1977 Bahrain Statistical Yearbook, Table 143. Percentages are occupational breakdown of labor permits issued in 1977.

[2] Zafer C. Ecevit, "International Labor Migration in the Middle East and North Africa: Trends, Effects and Policies," in Mary M. Kritz, Charles B. Keely and Silvano M. Tomasi (eds.), Global Trends in Migration: Theory and Research on International Population Movements (New York: Center for Migration Studies), 1981, pp. 259-275.

[3] The Conditions of Work and Workers in Arabian Gulf Countries, Table 31. The data include only those in the private sector.

[4] 1979 Libyan Statistical Yearbook, Table 22.

[5] 1977 Kuwait Statistical Abstract, Table 80.

[6] 1980 Kuwait Statistical Abstract, Tables 151 and 156. The data include only those with residence permits working in the private sector.

TABLE C-6

Egyptian Workers in Kuwait by Economic Activity in the Private Sector, 1977 and 1979

Economic Activity	1977[1]	1979[2]
Agriculture	1.65	3.05
Mining and Quarrying	.22	.11
Manufacturing	14.16	13.09
Construction	50.04	47.19
Utilities	.45	---
Commerce	25.67	30.07
Trade	22.35	26.01
Insurance and Banking	3.32	4.06
Communication and Transportation	4.34	2.66
Services	3.47	3.72
TOTAL	100	100

[1]This data includes those Egyptians with work or residence permits.

[2]This data includes only those Egyptians who have received residence permits for the first time.

Sources: 1977 data from Labor Permits to Foreign Workers: Report on Employment and Other Basic Features of Foreign Workers Entering Kuwait in 1977, Ministry of Labor and Social Affairs.

1979 data from 1980 Kuwaiti Statistical Abstract, Table 153.

TABLE C-7

Profiles of Migrant Workers by Economic Activity for Various Labor-Importing Countries

	U.A.E.[1] 1975	Abu Dhabi[2] 1978	Bahrain[1] 1975	Bahrain[3] 1977	Oman[1] 1975	Saudi Arabia[1] 1975	Saudi Arabia[4] 1979	Libya[1] 1975	Kuwait[1] 1975	Kuwait[5] 1979
Agriculture	2.9	.30	4.5		2.1	14.6		7.9	1.7	1.61
Mining and Quarrying	2.4	16.81	0.1		2.5	1.5	4.19	2.5	1.5	.84
Manufacturing	6.6	11.15	12.7	11.1	1.7	4.5	21.30	6.2	10.5	12.32
Construction	36.5	46.61	21.3	48.8	78.8	32.3	30.15	52.9	14.4	48.45
Utilities	1.9		1.0		1.3	0.9	2.03	1.6	2.5	
Commerce	13.5	10.00	12.8	12.5	2.3	17.1	24.69	3.5	15.7	24.51
Insurance and Banking	7.7	8.33	1.5	1.9	0.6	2.1	4.04	0.7	2.4	3.56
Communication & Transportation	2.1	3.78	12.0	16.7	1.2	9.4		2.8	5.3	4.59
Services	25.0	3.01	33.3		9.3	17.6	13.60	13.1	45.0	3.75
Other	1.4		0.8	9.0				8.8		

Sources for Table C-7

1. Zafer H. Ecevit, "International Labor Migration in the Middle East and North Africa: Trends, Effects and Policies," in Mary M. Kritz, Charles B. Keely and Silvano M. Tomasi (eds.), Global Trends in Migration: Theory and Research on International Population Movements (New York: Center for Migration Studies), 1981, pp. 259-275.

2. 1978 Abu Dhabi Statistical Yearbook, Table 19. Data include only Arab migrant workers in establishments of 10 workers or more.

3. 1977 Bahrain Statistical Yearbook, Table 142. Data include only those in the private sector.

4. 1979 Saudi Arabian Statistical Yearbook, Table 12-3.

TABLE C-8

Egypt: Current Output vs. Forecasted Societal Demand for Education by Program

Educational Level and Program (1)	1977 - 1978 Output	1979 - 1984 Projected Annual Demand
1. Less than Secondary	624,796	313,132
2. General Secondary	47,328	10,317
3. 3- Year Technical Level	114,713	148,642
3.1. Industrial Secondary	30,804	67,291
3.1.1 Mechanical	13,962	23,585
3.1.2 Marine Industries	110	1,301
3.1.3 Electricity	5,226	6,754
3.1.4 Electronics	1,022	1,511
3.1.5 Automotive	1,968	4,244
3.1.6 Decorative Industries	3,547	2,584
3.1.7 Construction & Building Maintenance	1,979	6,032
3.1.8 Textiles	2,963	13,780
3.1.9 Transportation	54	814
3.1.10 Metals	(2)	4,190
3.1.11 Chemistry	(3)	659
3.1.12 Mining & Petroleum	(3)	1,128
3.1.13 Glass, Pottery & Porcelain	(3)	709
3.2. Agricultural Secondary	12,260	11,679
3.2.1 Horticulture	12,260	3,653
3.2.2 Agro-Industry	(2)	2,873
3.2.3 Agro-Mechanical	(2)	1,593
3.2.4 Animal Husbandry	(2)	2,248
3.2.5 Land Reclamation	(2)	656
3.2.6 Laboratory Assistants	(2)	656
3.3. Commercial Secondary	71,649	69,672
3.3.1 General Secondary	71,291	40,296
3.3.2 Legal Assistants	165	1,517
3.3.3 Commercial Practices	193	7,113
3.3.4 Hotel Services	(2)	4,854
3.3.5 Insurance	(2)	7,366
3.3.6 Purchasing & Inventory	(2)	4,026
3.3.7 Mail	(4)	407
3.3.8 Nursing	(4)	4,093

Table C-8 continued

4. 5 - Year Technical Level	5,211	44,551
4.1 Technical Industrial	2,071	27,861
4.1.1 Mechanical	144	4,117
4.1.2 Electricity	76	2,006
4.1.3 Electronics	45	955
4.1.4 Automotive	104	1,228
4.1.5 Construction	253	641
4.1.6 Textiles	(2)	1,982
4.1.7 Marine Industries	(2)	1,332
4.1.8 Agricultural Machinery	(2)	84
4.1.9 Petroleum & Petro-chemicals	(2)	233
4.1.10 Diesel & Heavy Machinery	(2)	1,361
4.1.11 Public Utilities	(2)	797
4.1.12 Cooling & Air Conditioning	(2)	552
4.1.13 Tele-communications	85	845
4.1.14 Industrial Education	(2)	929
4.1.15 Metallurgy	(3)	1,497
4.1.16 Science Technicians	(5) 1,364	6,909
4.1.17 Metal Work	(3)	1,985
4.1.18 Civil Engineering	(3)	408
4.2 Technical Agricultural	(2)	3,889
4.2.1 Food Processing	(2)	2,242
4.2.2 Agro-Mechanization	(2)	823
4.2.3 Land Reclamation	(2)	824
4.3 Technical Commercial	3,140	12,801
4.3.1 Foreign Trade	(2)	759
4.3.2 Secretarial & Managerial	(6) 2,571	3,255
4.3.3 Commercial Insurance	(2)	2,983
4.3.4 Social Insurance	(7) 569	2,865
4.3.5 Banking	(3)	2,181
4.3.6 Customs	(2)	758
5. 5 - Year Teacher Training	6,713	9,285
6. University & Higher Education	80,332 (8)	50,658
6.1 Medical Sciences	(9) 6,490	5,349
6.2 Engineering	9,965	6,942
6.3 Science & Mathematics	3,598	2,335
6.4 Agriculture	6,328	2,997
6.5 Commerce	24,502	11,010
6.6 Literature	11,097	6,893
6.7 Law	4,619	4,345
6.8 Fine Arts	2,630	803
6.9 Religious Studies	1,402	658
6.10 Teacher Training Colleges	6,884	7,427
6.11 Graduate Schools	(10) 2,817	1,899
TOTAL	879,093	576,585

Notes for Table C-8

(1) Education level 1 output includes:

Six-year olds not entering school:	225,928
Primary drop-outs:	278,924
Completed Primary, no Preparatory	53,208
Completed Preparatory, no Secondary:	66,736
	624,796

(2) Educational program newly instituted or being planned by the Ministry of Education

(3) Suggested area for new schools

(4) Program not administered by the Ministry of Education; data on graduates not available

(5) High Institute

(6) Private Post-Secondary Institute

(7) High Institute for Social Services (1977 data)

(8) All level 6 data are for 1977

(9) Includes Veterinary Science

(10) All post-baccalaureate fields are included.

Source: William B. Clatanoff, Jr., Manpower Projections for Planning Education and Training, Table V, June 1979.

TABLE C-9

Migrant Workers Needed by Occupation in the Labor-Importing Countries, 1975-1980

	Bahrain[1]	Kuwait[2]	Libya[3]	Saudi Arabia[4]	UAE, Oman and Qatar[5]
Professionals	300			7,800	
Managers		700		6,100	
Technicians and Sub-Professionals	1,600	11,700		49,900	
Clerical Workers	3,800	4,800		90,400	
Sales Workers		1,500		65,500	
Service Workers		40,300		98,100	
Operatives	5,500	18,600		26,300	
Skilled Workers		9,300		54,800	
Semi-Skilled Workers	6,000			99,700	
TOTAL	17,200	86,900	498,000	498,600	147,000

Sources:
[1] J.S. Socknat, Projections of Manpower Demand and Supply 1971-1986 for Bahrain (mimeo)
[2] Kuwait Planning Board, Estimates of Manpower Supply and Demand in 1975 and 1980 (mimeo)
[3] Libya Department of Planning, Social and Economic Transformation Plan (mimeo)
[4] Saudi Arabia Ministry of Planning, Second National Development Plan, 1975-1980 (mimeo)
[5] ECWA, The Brain Drain in the ECWA Countries, 1978

TABLE C-10

Proportion of Workforce Consisting of Foreign Workers in 1975

	A	B
Saudi Arabia	43.0	49.9 (1977)
Libya	42.5	
UAE	84.8	88.2
Kuwait	69.4	70.8
Qatar	81.1	80.0
Bahrain	39.6	
Oman	34.0	87.0 (1976)*

Source:

A: J.S. Birks and C.A. Sinclair, International Migration and Development in the Arab Region. Geneva: ILO, 1980. Table 8.

B: R. Paul Shaw, "Migration and Employment in the Arab World: Construction as a Key Policy Variable," in Population, Employment and Migration in the Arab Gulf States, papers from a seminar sponsored by the Arab Planning Institute -- Kuwait and the ILO on December 16-18, 1978, p. 456.

*This figure is so high that it must either be a mistake or else concern only some subset of the labor force such as the private sector.

TABLE C-11

Proportion of Workforce Consisting of Foreign Workers (by Occupation)*

	Bahrain[1] 1977	Libya[2] 1977	Oman[3] 1974	Kuwait[4] 1975
Professional and Technical	90.4	35.7	85.1	76.7
Administrative and Managerial	70.5	19.9	82.0	63.4
Clerical	86.0	9.4	67.4	53.0
Sales	39.6	4.0	61.5	74.3
Services	92.0	6.7	42.4	58.0
Agricultural	91.6	9.7	12.2	49.4
Mining, Production, and Transportation	78.2	38.3	77.5	84.7
Other	77.6	8.4	18.5	91.0
Total	75.0	21.8	60.4	70.9

Sources: [1]1977 Bahrain Statistical Yearbook, Table 143
[2]1979 Libyan Statistical Yearbook, Table 22
[3]The Conditions of Work and Workers in Arabian Gulf Countries, Table 36.
[4]Op. cit., Table 10.

*Except for Libya, figures concern only migrants working in the private sector.

TABLE C-12

Proportion of Workforce Consisting of Foreign Workers (by Economic Activity)*

	Abu Dhabi[1] 1978	Oman[2] 1974	Kuwait[3] 1975	Libya[4] 1975	Saudi Arabia[5] 1975	Saudi Arabia[6] 1979
Agriculture	93.0	--	47.0	13.2	9.4	--
Mining and Quarrying	87.7	28.9	63.4	31.2	43.0	44.2
Manufacturing	95.9	52.3	90.8	41.9	81.4	80.5
Utilities	--	19.4	72.0	27.7	64.6	56.2
Construction	99.6	66.6	94.6	77.3	85.0	88.7
Transportation and Communications	98.7	18.6	70.2	11.6	29.8	--
Commerce	97.9	46.0	84.0	15.9	68.5	57.4
Finance	98.0	30.8	78.9	20.8	57.4	63.7
Services	99.7	70.4	60.8	22.3	45.0	82.4
Other	--	--	--			--
Total	97.9	60.4	70.9	32.9	43.0	71.8

Source: [1]1978 Abu Dhabi Statistical Yearbook, Table 19.

[2]The Condition of Work and Workers in Arabian Gulf Countries, calculated from Table 38.

[3]Op. cit., calculated from Table 12.

[4]Birks and Sinclair, International Migration and Development in the Arab Region (Geneva: ILO), 1980, calculated from Table 56.

[5]Op. cit., calculated from Table 51.

*The figures for Abu Dhabi, Oman, Kuwait, and Saudi Arabia (1979) concern only migrants working in the private sector.

TABLE C-13

Labor Participation Rates of Egyptian Migrants

	#1 ~1975	#2 1975	#3 1976	#4 1976
Libya	65-75	70		
Saudi Arabia.	75-80	47		
Kuwait	62	62		
UAE	57	60		
Qatar	75	71		
Bahrain	57-86	37		
Oman	84	47		
Sudan	50			
Jordan	75	90		
Iraq		40		
Yemen		48		
TOTAL	68-71	61	42	70

Sources: #1: J.S. Birks and C.A. Sinclair, Human Capital on the Nile: Development and Emigration in the Arab Republic of Egypt and the Democratic Republic of the Sudan. May 1978, Table 16.

#2: J.S. Birks and C.A. Sinclair, International Migration and Development in the Arab Region. Geneva: ILO, 1980. Calculated from Tables 10, 13, and 14.

#3: Birks and Sinclair, Human Capital on the Nile, p. 12.

#4: Calculated from Nazli Choucri, Richard S. Eckaus, and Amr Mohi-Eldine, Migration and Employment in the Construction Sector: Critical Factors in Egyptian Development, October 1978, p. 76.

TABLE C-14

Participation Rates of Middle Eastern Migrants in 1975

Nationality of Migrant:	Egypt	Jordan & Palestine	North Yemen	Pakistan	India	Total
Country of Employment:						
Saudi Arabia	47	33	87	31	43	49
Libya	70	40		35		63
UAE	62	40	80	50	57	55
Kuwait	60	23	57	48	67	41
Qatar	71	35	66	57	58	55
Bahrain	37	25	56	38	52	52
Oman	47	33		50	68	53
Iraq	40	33		50	67	64
Jordan	90					
Yemen	48					
Total	61	31	86	47	58	

Source: Calculated from Tables 10, 13, and 14 of J.S. Birks and C.A. Sinclair, International Migration and Development in the Arab Region. Geneva: ILO, 1980.

TABLE C-15

The Turnover Rate or, Alternatively, the Median Duration of Stay of Migrant Workers in the Middle East

1. The median duration of stay of Omani workers in the period around 1976/77 was 9.4 months. The annual turnover rate was 80.7%.[1]
2. The average duration of stay of Yemeni migrants in Saudi Arabia was estimated to be:[2]

   1969 -- 5.6 years

   1970 -- 7.4

   1971 -- 8.1

   1972 -- 3.5

   1973 -- 2.8

   1974 -- 2.4
3. The median duration of residence of Egyptians in Kuwait in 1975 was about 3 years. The same figure for Jordanians in Kuwait in 1975 is roughly 7 years.[3]
4. The turnover rate for migrant workers in the Middle East as a group has been estimated to be 20%.[4]
5. The average stay of unskilled Yemeni workers has been estimated to be 2-4 years.[5]
6. The average stay of Omani migrant workers in Gulf countries has declined.[6]
7. Jordanian migrant workers tend to stay in their country of employment for relatively long periods.[7]

8. About 1/3 of the Jordanian workers return within two years.[8]

9. At the time of the survey 33% of the Egyptians had been there 1 year or less. The comparable figure for all migrants in Kuwait is 18%.[9]

10. The median stay of Egyptian workers in Kuwait in 1976 was 3.6 years, which was shorter than that for virtually every other nationality. The average for all groups was 5.7 years. See Table for a detailed breakdown.[10]

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[1] J.S. Birks and C.A. Sinclair, International Migration Project: Movements of Migrant Labor from Part of the North of the Sultanate of Oman, May 1977, Table XV.

[2] J.S. Birks and C.A. Sinclair, International Migration and Development in the Arab Region. Geneva: ILO, 1980, Table 28.

[3] From Table 48, page 239 of an unnamed Kuwaiti document.

[4] Synopsis of the Seminar on Labor Migration in the Middle East (September 20, 1977), May 1978, p. 2.

[5] From correspondence between David McClelland at the United States International Development Cooperation Agency and Professor Nazli Choucri, MIT.

[6] See Birks and Sinclair, Movements of Migrant Labor, p. 45.

[7] See Joan Clarke, Jordan: A Labor Receiver -- A Labor Supplier, September 20, 1977, p. 4.

[8] Birks and Sinclair, May 1979.

[9] Kuwait Annual Statistical Bulletin, 1976.

[10] M.S. Al Akhrass, The Study of Labor Force Residency, Arab Planning Institute, Kuwait, 1976.

TABLE C-16

The Median Stay of Migrant Workers in Kuwait

Nationality	Median Stay by Years
Gulf Emigrants	7.9
Saudi Arabia	7.4
Lebanon	6.9
Iraq	6.6
Pakistan	6.5
Oman	6.3
Yemen Arab Republic	5.7
Jordan and Palestine	5.7
India	5.4
United Kingdom	5.2
Syria	5.0
Iran	4.8
South Yemen	4.7
Egypt	3.6
Western European Countries	2.6
Total Arab Countries	5.8
Total Non-Arab Countries	5.3
Grand Total	5.7

Source: M.S. Al Akhrass, The Study of Labor Force Residency, The Arab Planning Institute, Kuwait 1976.

TABLE C-17(a)

Place of Birth and Place of Residence of Sampled Construction Emigrants

Area	Born in	%	Residing in	%
Cairo	9	18	19	38
Alexandria	--	--	--	--
Canal Zone	--	--	--	--
Lower Urban	8	16	--	--
Upper Urban	16	32	25	50
Lower Rural	8	16	--	--
Upper Rural	9	18	6	12
TOTAL	50	100	50	100

Source: Amr Mohie-Eldin, External Migration of Egyptian Labor, September 1980.

TABLE C-17(b)

Place of Birth and Place of Residence of University Academic Staff Emigrants

Place of Birth	No.	%	Place of Residence	No.	%
Cairo	20	40.0	Cairo	44	88.0
Alexandria	1	2.0	Alexandria	2	4.0
Canal Zone	1	2.0	Canal Zone	--	--
U. Lower Egypt	13	26.0	U. Lower Egypt	--	--
U. Upper Egypt	5	10.0	U. Upper Egypt	4	8.0
R. Lower Egypt	8	16.0	R. Lower Egypt	--	--
R. Upper Egypt	1	2.0	R. Upper Egypt	--	--
Not Indicated	1	2.0	Not Indicated	--	--
TOTAL	50	100	TOTAL	50	100

Source: Amr Mohie-Eldin, Emigration of University Academic Staff: Analysis of the Returnees, July 1980.

TABLE C-18

Estimated Average (Median) Salaries in 1977 of Egyptian Workers by Occupation and Country of Employment and Salaries the Workers Had Before Emigrating (Monthly Salaries in Egyptian Pounds)

	Abroad	in Egypt	Ratio
Construction Workers			
Saudi Arabia	132	30	4.4:1
Libya	146	32	4.6:1
Other Gulf Countries	123	35	3.5:1
Teachers			
Saudi Arabia	244	47	5.2:1
Libya	265	46	5.8:1
Kuwait and Other Gulf Countries	251	40	6.3:1
University Academic Staff			
Saudi Arabia	722	200	3.6:1
Libya	662	250	2.6:1
Kuwait	587	140	4.2:1
Iraq	535	130	4.1:1
Algeria	425	125	3.4:1

Sources: Data on salaries in other countries was calculated from Tables 35, 46, and 60 of Amr Mohie-Eldin, External Migration of Egyptian Labor, September 1980.

Conversions were from Rials and Dinars to SDR's and then to Egyptian Pounds using the conversions in the Balance of Payments Yearbook Vol. 31 and International Financial Statistics 1980 Yearbook.

Data on Egyptian salaries was calculated from Tables 32 and 59 of External Migration of Egyptian Labor and Table 9 of Amr Mohie-Eldin, Emigration of University Academic Staff: Analysis of the Returnees, July 1980.

TABLE C-19

Remittances of Egyptian Migrant Workers
(in million US $)

Year	Remittances	Percent Change from Previous Year
1968	10.2	--
1969	33.8	23.1
1970	29.0	-15.0
1971	27.1	-6.6
1972	104.2	284.5
1973	116.8	12.1
1974	268.2	129.6
1975	365.5	36.3
1976	755.0	106.6
1977	896.6	18.8
1978	1772.8	97.7
1979	2213.2	24.8
1980	2695.4	21.8

Source: 1968 figure was obtained from the Central Bank and transferred into dollars at the official rate of exchange (US $2.33) LE. 1969 is from IMF Annual Report on Egypt. 1970 through 1972 are from the IMF Balance of Payments Yearbook, vol. 28. 1973 through 1980 are from the IMF Balance of Payments Yearbook, vol. 32.

TABLE C-20

Expenditure on Items Other than Accommodation as a Percentage of Income
University Academic Staff

Percent	Iraq	S. Arabia	Kuwait	Libya	Algeria	Others	Total No.	Total %
10%	2	1	--	--	--	--	3	6.1
20%	--	4	1	2	--	1	8	16.3
30%	3	4	5	3	1	1	17	34.7
40%	3	3	4	1	3	--	14	28.6
50%	2	2	--	1	--	1	6	12.2
60%	--	--	--	--	1	--	1	2.0
Total	16	14	10	7	5	3	49	100.0
Not Indicated	--	--	--	--	--	1	1	--

Source: Amr Mohie-Eldin, Emigration of University Academic Staff: Analysis of the Returnees, July 1980.

TABLE C-21

Saving as a Percentage of Income
University Academic Staff

Saving Ratio	Iraq	Saudi Arabia	Kuwait	Libya	Algeria	Others	Total No.	Total %
20%	2	1	--	--	--	--	3	6
30%	3	4	5	1	4	1	18	36
40%	--	6	4	4	1	1	16	32
50%	4	2	1	1	--	1	9	18
60%	1	1	--	1	--	1	4	8
TOTAL	10	4	10	7	5	4	50	100

Source: Amr Mohie-Eldin, Emigration of University Academic Staff: Analysis of the Returnees, July 1980.

TABLE C-22

Sample Distribution According to the Planned Pattern of Use of Savings
University Academic Staff

Pattern of Use	Number	Percentage
Acquire new home (buying or building)	27	55.1
Time deposit	27	55.1
To meet expenditure	25	51.1
Participate in investment projects	16	32.7
Buying agricultural land	3	6.1
Marriage	1	2.0
Not indicated	1	2.0

Source: Amr Mohie-Eldin, External Migration of Egyptian Labor, September 1980.

TABLE C-23

Distribution of Preferred Use of Accumulated Savings by Emigrant Construction Workers

Pattern of Use	Number	Percentage
Building and accommodation	6	12
Buying a taxi	2	4
Buying production equipment	2	4
Buying agricultural land	2	4
Participating in an industrial project	15	30
Starting a private business	4	8
Deposit in a bank	3	6
Spending from it	39	78

Source: Amr Mohie-Eldin, External Migration of Egyptian Labor September 1980.

TABLE C-24

What Are the Best Measures to Induce Emigrants to Transfer their Savings?
University Academic Staff

Statement	Number	Percentage
Opening of current accounts in foreign currency and freedom to deposit and withdraw	38	88.6
Provision of a high premium on the exchange rate	16	37.2
Freedom to use one's foreign currency account	33	76.7
Encouraging own import system	10	23.3
Others (create investment projects)	1	2.0
Don't know	1	2.0
Not indicated	6	12.0

Source: Amr Mohie-Eldin, Emigration of University Academic Staff: Analysis of the Returnees, July 1980.

TABLE C-25

What Are the Ways Emigrants Could Contribute to Development?
University Academic Staff

Statement	Number	Percentage
Participation in new companies or industries	35	72.9
Investment in private projects	21	43.8
Buying investment securities in foreign currency	24	50.0
Buying development bonds in foreign currency	21	43.8
Depositing it in Egyptian banks	1	2.0
Don't know	1	2.0
Not indicated	1	2.0

Source: Amr Mohie-Eldin, Emigration of University Academic Staff: Analysis of the Returnees, July 1980.

TABLE C-26(a)

Distribution of Egyptian Households by Income Levels, 1975

Urban Areas

Income Classes	Number of Households	Percent
Below 200 LE	3863	20.6
200 to 599 LE	12005	63.9
600 to 999 LE	2091	11.1
1000 to 1399 LE	439	2.3
1400 LE and over	388	2.1
TOTAL	18786	100

Cairo

Below 200 LE	630	17.4
200 to 599 LE	2284	63.0
600 to 999 LE	477	13.1
1000 to 1399 LE	118	3.3
1400 LE and over	116	3.2
TOTAL	3625	100

Source: CAPMAS, Labor Force Sample Survey, May Rounds, 1975

TABLE C-26(b)

Egyptian Income Distribution in 1976

	Net per Capita Disposable Income (in Egyptian pounds)
Urban	
5% highest income	649
15% next highest income	196
30% moderate income	159
50% low income	89
Average	154
Rural	
5% highest income	280
15% next highest income	95
30% moderate income	81
50% low income	62
Average	83
AVERAGE FOR EGYPT	111

Source: World Bank Report, January 15, 1976.

TABLE C-27

Egypt's Inflation Rate

(using the wholesale price index from the IFS Yearbook; 1975 = 100)

Year	Rate
1970	75.0
1971	75.1
1972	76.1
1973	81.3
1974	93.0
1975	100
1976	107.8
1977	117.8
1978	135.2
1979	148.4
1980	180.6

Source: International Financial Statistics Yearbook 1981, pp. 170-171.

TABLE C-28

Education Expenditures in Egypt by Level and Type of School, 1973-1978
(in millions of Egyptian pounds)

	1973	1974	1975	1976	1977	1978
Primary	54,881	55,820	68,167	84,394	97,829	116,092
Preparatory	25,772	27,742	33,206	40,636	49,700	54,609
Secondary						
General	17,778	20,956	24,216	28.885	31,544	34,232
Agricultural	4,444	4,758	5,378	6,389	7,335	8,323
Commercial	4,971	5,237	6,818	7,255	8,685	9,281
Industrial	8,992	9,270	11,237	12,853	16,683	21,598
Teacher Training	5,644	5,794	6,368	7,977	8,535	9,728
Handicapped Schooling	677	629	825	790	1,086	1,216
Adult Literacy	519	647	746	890	926	1,110
Total	123,678	130,853	156,961	190,069	222,319	256,189

Source: Egyptian Ministry of Education, Department of Budget.

TABLE C-29

Student Enrollment in Egypt by Level and Type of School, 1972/73 - 1977/78

	1973	1974	1975	1976	1977	1978
Primary	3,789,407	3,719,240	3,868,422	3,922,294	3,989,652	3,997,560
Preparatory	885,317	893,799	977,211	1,052,382	1,128,922	1,232,804
Secondary						
General	250,599	254,421	267,123	278,363	299,229	320,528
Agricultural	34,137	36,119	37,891	39,518	41,745	44,882
Commercial	137,593	149,451	162,782	174,765	189,333	197,842
Industrial	85,484	93,143	96,548	102,705	107,869	116,311
Teacher Training	37,760	31,228	33,285	33,514	32,744	36,522
Handicapped Schooling					628	
Adult Literacy					250,655	

Source: Egyptian Ministry of Education, except for the numbers on handicapped schooling and adult literacy, which are from Weiserberg, Education in Egypt: A Survey Report, December 30, 1977, Tables II-4 and II-5.

APPENDIX D

List of Research Reports:

Migration and Development Research Program

Brecke, Peter. "Data Needs and Availability for Policy Analysis of International Worker Migration: The Case of Egypt." M.I.T. Technology Adaptation Program (Labor Migration Project), working paper, October 1981.

Brecke, Peter. Unpublished summary of TEACHFOR and TEAMIG. M.I.T., July 1981.

Choucri, Nazli. "The Arab World in the 1980s: Macropolitics and Economic Change." Journal of Arab Affairs, vol. 1 (April 1982), pp. 167-187.

Choucri, Nazli. Labor Transfers in the Arab World: Growing Interdependence in the Construction Sector. M.I.T.: Technology Adaptation Program, 1979.

Choucri, Nazli. Migration Processes Among Developing Countries: The Middle East. Cambridge, Mass.: M.I.T. Center for International Studies, 1978.

Choucri, Nazli. "The New Migration in the Middle East: A Problem for Whom?" International Migration Review, vol. 11, 1977.

Choucri, Nazli. Population and Conflict: New Dimensions of Population Dynamics. United Nations Fund for Population Activities (Policy Development Studies), Report No. 8, 1983.

Choucri, Nazli, Richard S. Eckaus, and Amr Mohie-Eldin. Migration and Employment in the Construction Sector: Critical Factors in Egyptian Development. Cairo University/M.I.T. Technology Adaptation Program (Labor Migration Project), 1978.

Choucri, Nazli, and Supriya Lahiri. Macro-Economic Impacts of Remittances in Egypt: An Exploratory Analysis. M.I.T. Technology Adaptation Program,

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