FOREIGN INVESTMENT IN THE BUILDING INDUSTRY IN KUWAIT: A SYSTEM DYNAMICS APPROACH

by

Anwar N. Diab

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ABSTRACT

Kuwait is a small country with enormous wealth relative to its size that stems from a single non renewable source: oil, and an unstable demographic structure. These internal factors when coupled with a geographical location amid a region rich in turmoil render the market for foreign investment rather economically attractive, yet at the same time politically questionable.

The government controls the disposal of oil and all related activities. Consequently, while the aggregate economy is almost totally dependent on the oil industry, the economy outside the oil sector is heavily dependent on the government. The major economical issue facing the country is how to satisfy simultaneously the social contents of development, a future infrastructure capable of sustaining the economy, independently of oil, and political criteria.

The demographic structure displays a rapid growth, which presently is running at an estimated 6.1%. According to April, 1980 census, the total population is 1,355,000, 36.5% up from 1975 total of 995,000. The indigenous segment of the population plays less of a role than it would normally be expected. First, its share is a low 41.5%. Second, it is dominated by young, economically unproductive population. On every level, the country depends heavily on non-Kuwaiti labor and expertise.

The rapid increase in population generated a housing shortage crisis, which combined with capital surplus resulted in an increased activity in the building industry. Main features of the industry include: a growing source of demand for material and know-how, a nascent manufacturer, the development of Kuwait as a regional warehouse, and a pacesetter in styles and trends in the region.

Through a System Dynamics approach which draws on library research and personal contact with the environment, the thesis focuses on examining the impact of the sociopolitical factors with respect to the feasibility of the market for foreign

investment in the building industry; and the apparent trends and implications. A simple System Dynamics model which consists of two subsystems relating to population and construction is developed. Through the interaction between the various factors and the outside environment, the model basically serves the purpose of highlighting the trends and implications.

The result of the study indicates a further appreciable activity in the building industry. By taking population growth with the relevant technical, political and administrative factors, but with no financial constraints, the model depicts cyclic continuities of both housing shortage, and a sizeable number of housing units under construction. Another source of demand resides in the concurrent need for suitable utilities and social services networks, as well as efficient management systems. Hence, the conclusion that, at least in terms of size alone, a reasonably large market for foreign investment does exist. Moreover, considering the export oriented industrial trends, the market size is in reality larger than what it would initially be assessed.

Given Kuwait's economic vitality, its market economy system, and the social progress achieved so far, the market should additionally prove attractive. As long as the foreign investor conducts his affairs in a reasonably good manner, possesses rational understanding of the local environment, and his activities are not portrayed as mainly serving the political objectives of his home state, financial risks, other than those normally associated with business are not to be expected.

However, there still remains another factor to consider. Specifically, this is limited to the political risks detrimental to all business activities in the area and not only to foreign enterprise. As such, it is not a function of the country per se; rather, it is a function of the regional stability which in turn is a function of international factors. An important aspect in this respect is correct assessment of both Arab and Kuwait nationalistic feelings, and their broadly congruent political perspectives, regardless of whether or not the perspective is agreed with.

Within the above context success of a foreign investment venture in Kuwait ends up in being basically a function of the operating strategy. The local environment could be treated as information available through search or exploration and in all cases the local managers are to act as both filters and facilitators of information.

Thesis Supervisor: Edward B. Roberts
Title: David Sarnoff Professor of The Management of Technology

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CHAPTER I

INTRODUCTION

> "Without an organizing structure, knowledge is a mere collection of observations, practices, and conflicting incidents".
>
> J.W. Forrester

Preface

Kuwait is a small Arab country at the head of the Arabian peninsula. While a decade or so ago, this country was virtually unknown to millions, dramatic changes since World War II have thrust it into the elite club of nations with high per capita incomes (more than the U.S.). Endowed with large oil resources and a self-reliant population, Kuwait had been making remarkable economic and social progress. In turn, a reasonably wide range of profitable investment opportunities has been generated. Nevertheless, foreign investment in Kuwait is rather a controversial issue. On the one hand, the market is economically attractive, yet on the other, it is politically questionable.

These days, it has become a reality that multinational corporations (MNCS) must keep well informed on the overall economic, social and political factors that influence the business climate in the countries where they operate.

Important factors triggering actions affecting foreign investment are embedded within the socio-political structure of the host country. A foreign investor's exposure is determined to an appreciable extent, through the degree of pressure these factors can exert on the government to act in a manner adverse to his interest. Consequently, a rational approach to a foreign investment decision demands that these factors be identified as well as their interactions examined.

In a broad sense, this thesis aims at studying the foreign investment market in the building industry in Kuwait. However, it is believed that a comprehensive examination of the issue necessitates a study beyond the scope and time horizon of the thesis. In retrospect the effort is confined to certain aspects only. Adopting a System Dynamics approach of investigation, which draws on library research as well as personal contact with the local environment, the main focus is the impact of the socio-political factors with respect to: the feasibility of the market in the housing segment of the building industry, and the apparent trends and implications.

A rather simple System Dynamics model is developed. The model basically serves to indicate the trends and highlight the implications. For it to serve wider purposes, it has to incorporate elements which extend beyond the scope of the thesis, as defined. As such, it intrinsically has a

limited number of components and a simple structure. While certainly not perpetrating to degrade the importance of the other aspects of the issue, and the validity of a different methodology, it is hoped that this effort will shed a useful light.

As a general background, the role of the socio-political environment and the System Dynamics approach are introduced in Chapter I. A rather concentrated overview of Kuwait is given in Chapter II. In Chapter III the model is detailed. For each of the two subsystems that the model is composed of, the relevant information, the structure, and the control policy are explained. Based on assumptions stated, the computerized simulation of the model is investigated in Chapter IV. Chapter V examines the major trends and implication. Finally, within the context of a summary, conclusions are discussed in Chapter VI. Tables and illustrative diagrams are included, and references and sources are mentioned where applicable. Three appendices are attached dealing with: basic model's equations, definitions and computer runs; computer runs of model changes; and a concise overview of Arab's political perspective.

Role of the Socio-Political Environment

C.R. Christensen et al. identify four continuous sub-activities required for business strategy determination:

1) Examination of the environment for opportunity

and risk,

2) Systematic assessment of corporate strengths and weaknesses,

3) Identification of personal values, and

4) Clarification of social responsibility.(1)*

While these activities remain required whether the subsidiary was operating in the home country or in another country, they take such different dimensions in the latter case, that unless they are well defined, and the perspective is clearly understood, the whole process might go astray. With respect to Kuwait, consider, for example:

- The dominant role the non market (i.e., socio-political) environment plays,

- The added scope of competing on a global level, which requires that the firms and their home governments be regarded together in the competitor analysis, and

- The conflict in the ethical values, and perceptions of social responsibility, between the Western and Arab mentalities.

Those in headquarters face, therefore, a difficult task in formulating appropriate strategies for their foreign (Kuwaiti) subsidiaries. For one thing, each strategy has to rest on its own philosophical foundation which, more than often, is different from that which guides the activities in the home country. Consequently, the proposed strategy is not easily understood and accepted. For another, at some point,

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*Numbers refer to references at the end of each chapter.

a compromise tolerable to all major actors and in line with an ongoing process must be struck. The tradeoffs and priorities are basically a function of the perceived information about the local environment. While the economical aspects can be more readily assessed, factors in the non-market environment are not so tangible.

In a study of how relatively large U.S. International firms assess non-economic environments, and how the resulting evaluations are integrated into decision making and/or planning, S.J. Kobrin et al. report the following preliminary results:

> "Assessment and evaluation of non-market environments tend to be reactive rather than active. Assessments are typically motivated by either the need to support an investment recommendation or strategic plan or some reasonably dramatic environmental event. We found relatively few instances of environmental analysis being routinely conducted and updated. The primary source of environmental information is clearly corporate managers in the field and at headquarters."(2)

While agreeing that the network of home country managers, who are often local nationals (in Kuwait, they include, in most cases, resident foreigners), is a primary source of comparative advantage to the international firm, the study suggests that independent assessments are necessary. Two reasons are given. First, subsidiary managers are usually members of the local elite. Their very position makes it difficult to maintain communication with and even to understand the positions and potential strengths of the opposition groups. Second, these managers are rewarded for aggressive

management of the business. It, thus, may not be reasonable to expect objective and unbiased analysis of social and political factors. Furthermore, the process is typically "bottom up" in nature and lacks the strategic direction from top management.(3)

The critical problem which emerges is two fold: 1) a managerial process, rather than access to information, and 2) a systematic and objective monitoring of the environment.

Why a System Dynamics Approach?

Management science represents a platform from which we can reach toward better understanding of the different systems by the exercise of managerial intelligence and judgment. This platform is more than mere acquisition and recording of human experience.(4) Rather, it embodies an orderly scientific base without which the experiences remain special cases of limited dimensions. System Dynamics is an approach that aims at providing the necessary scientific base for studying managerial problems. The methodology employed is a powerful tool for linking structure with policy and integrating the different functional areas of management into one unified framework. "Without a structure to interrelate facts and observations, it is difficult to use the past to educate for the future."(5)

"System Dynamics is the study of information feedback characteristics of a system to show how its structure,

amplifications (in policies), and time delays (in decisions and actions) interact to influence the success of the enterprise."(6) Through the use of simulation models and the computer, the time behavior of the principal components of the system is investigated. Experiments are conducted to answer specific questions about the system represented by the model. The model is thus a detailed description that tells how the conditions at one point in time lead to subsequent conditions at later points in time.* The model is not, as is sometimes assumed, a perfect representation of reality that can be trusted to make accurate forecasts. Rather, "it is an account of the total set of forces that are believed to have caused and to sustain some problematic state of affairs. Like the informal mental model, it is derived from a variety of data sources including facts, theories and educated guesses."(7)

Two factors render this experimental approach more applicable than others in studying aspects of the Kuwaiti issue. First, the difficulty of representing the complex web of interdependent factors by other types of models. On the one hand, the interrelationships of the various components extend beyond the ability of the human mind to grasp their significance in a mental model. On the other hand, if a pure mathematical analysis is employed, the model becomes

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*For a discussion of the concept of information-feedback system see J.W. Forrester, Industrial Dynamics, The MIT Press, Cambridge, Massachusetts, 1980, Chapter I.

so complicated that its practical usefulness is seriously impaired.

Second, accurate information about Kuwait is not available. The exact number of foreigners in Kuwait, the extent of the housing shortage, and the pattern of wealth distribution are but a few of many areas of inadequate information. The lack of reasonably accurate statistics makes it rather difficult to resort to other types of planning and analysis models, such as econometric models.

A System Dynamics model overcomes this difficulty. The model starts with a structure that fairly fits our descriptive knowledge of the system. Assumptions about the structure are made before data are collected. The next step is assigning plausible numerical values to coefficients which represent identifiable and describable characteristics of the real system. For all the numerical values that we have been forced to estimate arbitrarily, there is some range within which we are reasonably certain that the "true" value must fall. When the vulnerability of an error in a numerical value is demonstrated, or the interactions between some factors appear to be lacking in certain respects, the model can be readily altered to accomodate the new developments.(8) Furthermore, the model is inherently expandable. That is to say, all factors that emerge in the future can be incorporated in the existing model. For example, in studying the housing shortage issue, the validity of the model is not impaired if the

initial assumption about the volume of houses under construction is not correct, so long as the major factors in the system are identified and their interaction is well correlated. Certainly, the correctness of the results generated is a function of the initial assumptions. However, it is only a matter of seconds of computer time to arrive at correct results as and when the initial assumptions are checked and their values altered accordingly. Disagreement is thus eliminated, and an acceptable level of performance is achieved.*

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*For a further discussion of the advantages of computer models to the managerial policymaking group see Edward B. Roberts, Managerial Applications of System Dynamics, The MIT Press, Cambridge, Massachusetts and London, England, 1978 pp. 6-7.

Chapter I - References

(1) Christensen, C. Roland, Kenneth R. Andrews, and Joseph L. Bower, Business Policy, Text and Cases; Richard D. Irwin, Inc., Homewood Illinois, Fourth Edition, 1978, p. 531.

(2) Kobrin, Stephen J., John Baskek, Stephen Blank and Joseph La Palombara, "The Assessment and Evaluation of Non-Economic Environments by American Firms", Journal of International Business Studies, Spring-Summer, 1980, p. 43.

(3) Ibid., pp. 43-44.

(4) Forrester, Jay W., Industrial Dynamics, The MIT Press, Cambridge, Massachusetts, 1980, pp. 1-2.

(5) Forrester, Jay W., Principles of Systems, The MIT Press, Cambridge, Massachusetts and London, England, Preliminary Second Edition, 1980, pp. 1-3.

(6) Forrester, Jay W., Industrial Dynamics, op. cit., p. 13.

(7) Roberts, Edward B., Managerial Applications of System Dynamics, The MIT Press, Cambridge, Massachusetts and London, England, 1978, p. 6.

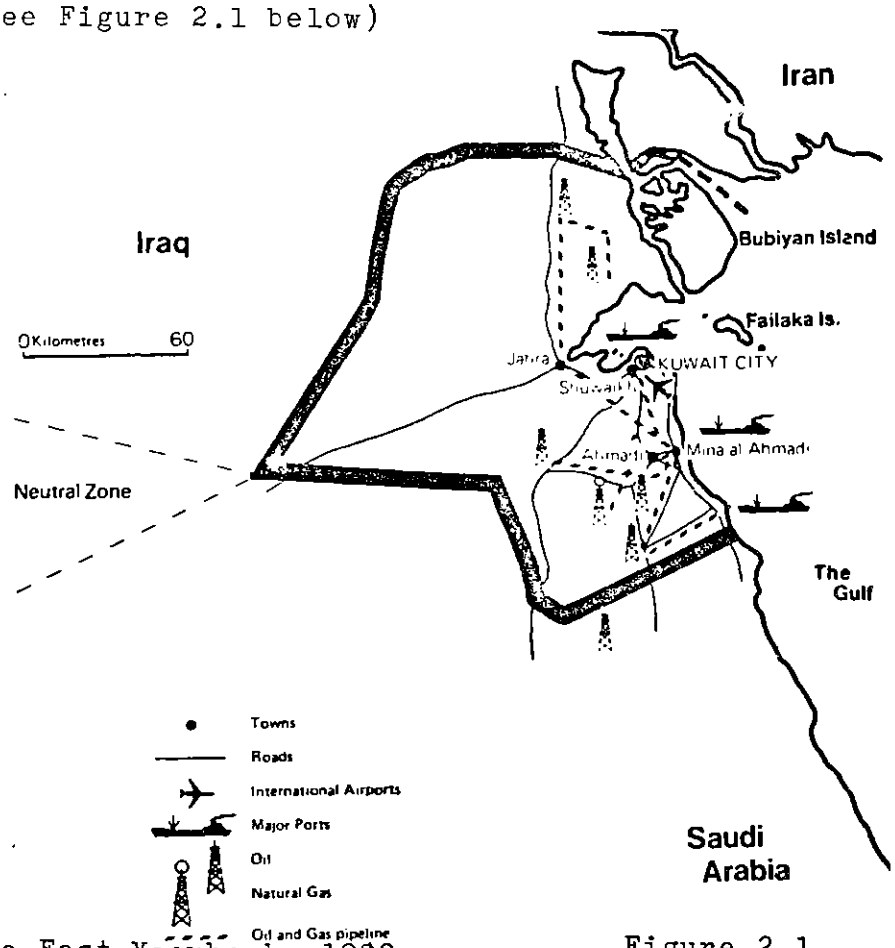
(8) Forrester, Jay W., Industrial Dynamics, op. cit., p. 58.

CHAPTER II

KUWAIT/AN OVERVIEW

"Kuwait has to discover the realities
of its existence beyond producing oil"
A Kuwaiti Planning Official

Kuwait is the name of an independent Arab country (as well as of its capital) in the northeast corner of the Arabian peninsula. It is bordered on the north and west by Iraq, on the south by Saudi Arabia, and on the east by the Arabian/Persian Gulf. (See Figure 2.1 below)



Source: Middle East Yearbook, 1980

Figure 2.1

The socio-political environment and economic structure of Kuwait reflect a unique, yet interesting, set of factors (constants and variables), most important of which are the following:

Size and Location: Very small country in the middle of a region rich with turmoil.

Wealth: Enormous, but nonetheless from a single and non renewable source.

Demography: Dynamic, characterized by imbalance in several segments.

Through their interaction, these factors pose serious issues for Kuwait. As such, their consideration is of a special interest in any foreign investment decision.

Basic Data

Area: 17,818 sq. km. including Kuwaiti partitioned part of Neutral Zone (an area shared with Saudi Arabia), and few small islands

Population: 1,355,827 (April, 1980 Census)

Religion: Islam

Language: Arabic English widely spoken

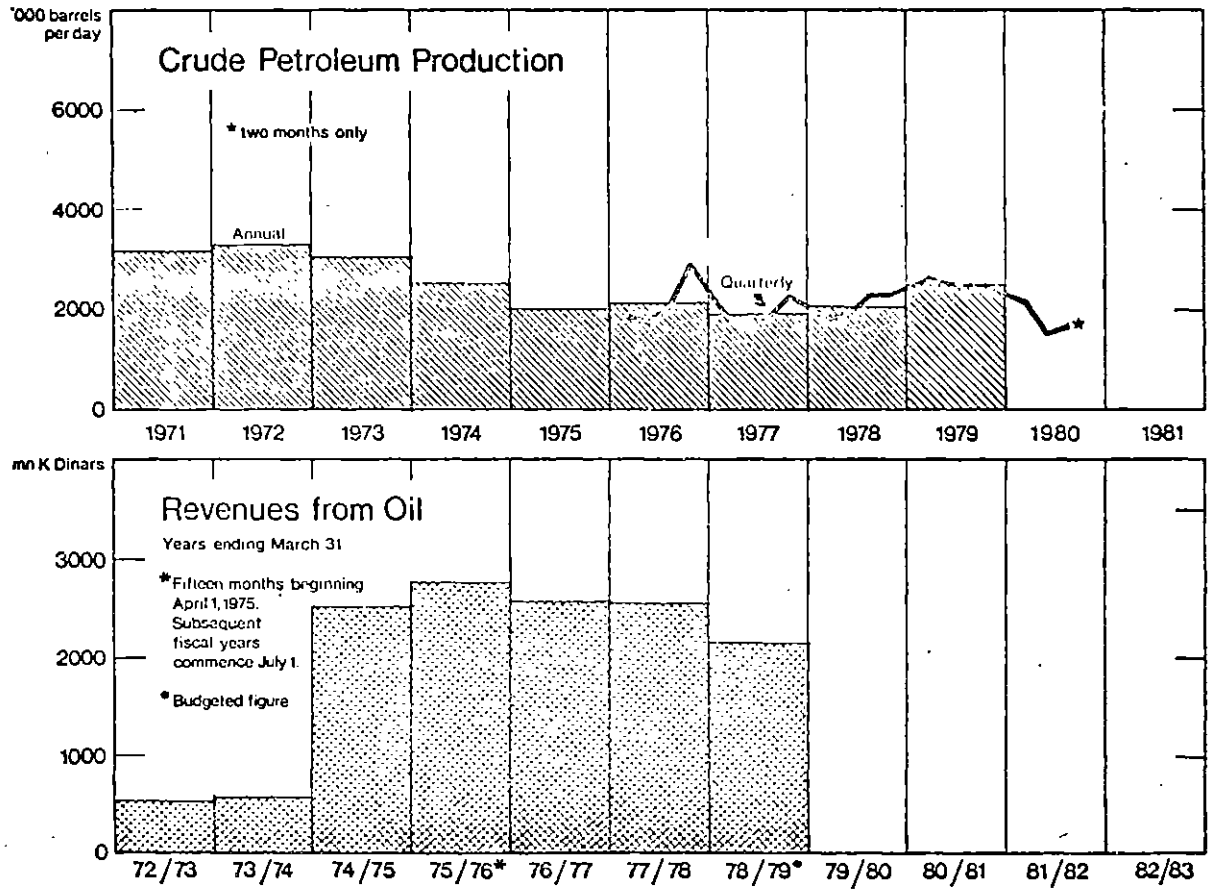
GNP - Per Capita: $14,890 (1978)

Growth: -2.3% (average annual, 1960-1978)

GDP - Growth: 0.7% (average annual, 1970-1980)

Inflation: 19.8% (average annual, 1970-1978)

Oil Production and Revenues: (See Figure 2.2)



Source: Quarterly Economic Review of Kuwait, Annual Supplement, 1980, The Economist Intelligence Unit Ltd., London, England.

Figure 2.2

Oil Production and Revenues

Currency: Kuwaiti dinar (K.D.) equal 1,000 fils;
$1.00 equals approximately K.D. 0.273

Climate: Very hot dry summer with occasional high humidity; mild winter with some rain; occasional dust storms and thunderstorms; less than five inches annual rainfall[1, 2]

History and Political System

Nominally under Ottoman suzerainty, Kuwait became affiliated with Great Britain by treaty in 1899. A British protectorate was established in 1914, but by an exchange of letters on June 19, 1961, Kuwait gained its sovereignty. The present Amir (prince) Shaikh Jaber Al-Ahmad Al-Sabah, who became the ruler of Kuwait in December, 1977, is descendent of a bedouin family that has ruled Kuwait since 1756. Kuwait joined the Arab League in 1961 and became a member of the United Nations in 1963.

A constituent assembly, elected in December 1961, agreed to a permanent democratic constitution (issued November, 1962), and was replaced by a National Assembly (parliament) elected by suffrage of Kuwaiti males (natural born or ten years naturalized) over 21. Under the constitution, legislative power was vested in the assembly and the ruler, while executive power rested with the ruler and a council of ministers (cabinet). The judiciary is independent. Legislation which is drafted (or in certain conditions, issued) by the executive has to be ratified by the

assembly. Members of the cabinet can be selected from within or outside the assembly, but those not already in the assembly become members ex-officio during their term of office. The country is divided into three governorates and there is a full administrative apparatus of ministries, semi-autonomous government bodies, etc.

Intuitively, the general policy goal of Kuwait could be considered to be two-fold: to isolate the internal situation from the effects of regional instability; and to build a sound economic infrastructure. (See Tables 2.1, 2.2, 2.3 for a summary of budgets, trade, and expenditures.) The foreign policy emphasizes heavy participation in international and regional financial institutions, defense priorities, and acting as an unofficial mediator in inter-Arab disputes, a policy it backs up with liberal loans and massive direct government-to-government aid.(3, 4)

Social Structure

The demographic profile of Kuwait shares several characteristics found in other Arabian Gulf states. Out of a population of 1.3 million (1980 Census) roughly 42% are indigenous Kuwaitis. The rest are mostly Palestinians and other Arabs, Iranians, and Indo-Pakistani.(5) Thus, the indigenous Kuwaitis are a minority within their country today. In previous times, this naturally was not the case, but the push for rapid development and the availability of funds

Table 2.1
Summary of Budgets, 1979/80 and 1980/81
(KD mn)

	1979/80	% of total	1980/81	% of total
Revenues				
Petroleum	3,120.54	96.3	4,493.46	96.8
Other	120.78	3.7	146.77	3.2
Total	3,241.32	100.0	4,640.23	100.0
Allocations				
State expenditures	2,250.00	69.5	2,925.00	63.0
Reserve Fund for Future Generations				
(a) allocations under law No. 106 of 1976	324.13	10.0	464.02	10.0
(b) supplementary allocation	-	-	464.02	10.0
State General Reserve	617.19	19.0	737.19	15.9
KFAED	50.00	1.5	50.00	1.1
Total	3,241.32	100.0	4,640.23	100.0

Source: Quarterly Economic Review of Kuwait, Annual Supplement, 1980, The Economist Intelligence Unit Ltd., London, England.

Table 2.2
Trade Statistics

Main Suppliers
(% of total imports by value)

	1974	1975	1976	1977	1978	1979[a]
Japan	17.1	16.2	20.7	19.8	19.5	16.9
USA	14.1	18.0	14.7	13.6	13.2	14.1
UK	8.2	10.2	8.2	9.9	10.2	11.2
W Germany	10.9	11.4	10.9	9.3	9.1	8.6
Italy	4.0	4.5	4.4	5.0	6.3	5.8
France	3.9	3.3	5.2	3.0	3.7	2.9

a January-June only.

Sources: Central Bank Economic Report, Quarterly Statistical Bulletin. In 1977 South Korea provided 6.0 per cent of imports and India 3.8 per cent (also 3.4 per cent in 1978). In the first half of 1979 India (3.8 per cent), South Korea (3.2 per cent) and Taiwan (3.0 per cent) all slightly exceeded the French share.

Imports by Commodity (SITC classification)
(KD mn)

	1974	1975	1976	1977	1978	1979[a]
Food & live animals	69.3	106.0	121.3	147.7	162.7	94.7
Chemicals	19.1	26.8	30.1	41.9	44.4	25.0
Manufactured goods classified by material	112.9	123.8	214.7	299.8	290.3	155.0
Machinery & transport equipment	156.2	316.2	406.7	631.2	500.3	247.2
Miscellaneous manufactured	68.6	92.0	140.1	207.9	203.9	107.0
Total, including other	455.1	693.2	972.0	1,387.1	1,263.9	669.3

a January-June only.

Source: Central Bank Quarterly Statistical Bulletin.

Non-oil Exports/re-exports
(KD mn)

	1974	1975	1976	1977	1978	1979[a]
Exports of Kuwaiti origin	59.5	81.7	56.5	58.1	68.5	76.8
of which:						
fertilisers	32.1	48.6	18.5	20.5	29.0	33.5
others	27.4	33.1	38.0	37.6	39.5	43.3
Re-exports	57.7	88.7	159.0	177.4	166.9	236.3
Total exports/re-exports	117.2	170.4	215.5	235.5	235.4	313.1

a Central Bank calculations.

Source: Central Bank Quarterly Statistical Bulletin and Economic Report.

Copied from: Quarterly Economic Review of Kuwait, Annual Supplement, 1980, The Economist Intelligence Unit Ltd., London, England.

Table 2.3

Kuwait Budget Expenditures[a]
(KD '000)

	1979/80	1980/81
Head of State	8,000	8,000
Ministry of Planning	13,183	14,060
Employees Bureau	8,513	9,999
- Supplementary Allocations	8,580	20,980
Ministry of Finance - General Administration	22,700	232,352
- General Account	1,482,444	1,059,226
- Customs Department	17,351	12,800
Ministry of Oil	13,910	14,625
Ministry of Commerce & Industry	19,825	35,469
Ministry of Defence	110,735	141,199
- National Guard	6,291	7,551
Ministry of the Interior	71,107	80,346
Ministry of Education	165,420	184,050
Ministry of Information	22,209	27,459
Ministry of Public Health	97,500	127,670
Ministry of Social Affairs & Labour	27,562	31,400
Ministry of Electricity & Water	32,400	225,400
- Power Stations & Desalination Plants	17,425	319,250
Ministry of Communications		
- Telegraphs & Telephones	21,732	57,580
- Posts	5,001	5,540
- Civil Aviation	6,376	9,888
Ministry of Public Works	38,700	225,741
Total (including others & supplementary allocations but net of expected savings)	2,250,000	2,925,000

a General state expenditures budgeted, excluding (surplus) to reserves including KFAED, but including "Ministry of Finance - General Account", see above, and "supplementary allocations" (basically Ministry of Finance) which are shown separately for 1980/81 (and included among "others" in total) at KD25 mn and were KD10 mn in 1979/80 but are now included in Ministry of Finance figures for that year. Definitions differ from each other as between the two years for reasons already noted, and still more as regards make-up from both budgets and actuals for earlier years. Sub-headings for specially defined expenditure under individual ministries are not added into ministry totals (i e are not "of which") and are thus additionally added into grand total.

Sources: Official Gazette (Kuwait al-Yawm) and Middle East Economic Survey.

Copied from: Quarterly Economic Review of Kuwait, Annual Supplement, 1980, The Economist Intelligence Unit Ltd., London, England.

brought massive importation of manpower.

The country boasts one of the most advanced systems of social services in the world. State health services as well as education are free for all residents irrespective of nationality. Invariably social services receive large budget allocations. Personnel in charge of these services are primarily non-Kuwaitis. Kuwait also has extensive housing developments. The government distributes houses to low income families, and middle income families are provided with interest-free, long term loans.(6, 7)

The Kuwaitis are strongly individualistic, enterprising and commercially minded. Many members of the ruling family are themselves important operators within the mercantile oligarchy and conversely they perhaps play a controlling role in the government itself. Nevertheless, this must be regarded as a kind of separate entity in which many others participate and is neither the simplified system of some other states nor is likely to develop into a corporate dictatorship. Indeed, the character of the individual Kuwaitis, the market economy system and the wise reapproach to a semi-democratic system should all prevent this. However, "the degree of state power within the economy, whether or not this lies with the ruling family or a more amorphous entity called 'the government', is very interesting."(8)

Development and Economic Issues

The usual measurements employed in classifying an economy as "developed" or "developing" could be misleading when applied to Kuwait. It has the highest per capita income in the world, and the highest saving rates. Yet, the economy reflects clear symptoms of underdevelopment such as sectoral imbalance and overdependence on a single non-renewable source of revenue, oil. Other significant aspects are:

- Private and public investment abroad is sizable, and in those countries which have become heavy recipients (e.g., U.K.), the sudden or mass movement of Kuwaiti funds can be critical.

- While savings have reached a high level, internal private investment is proportionally small.

- Kuwait's foreign aid programs place it in a position of economic power in the area which is far greater than its population and size would ordinarily command.

"The assessment of how other factors of production respond to the growth of a single factor, capital, is an issue facing those less-developed countries experiencing rapid capital growth."(9) Capital could substitute for labor and resources, however this substitution remains a matter of degree. Consequently, Kuwait is facing some critical problems. Amongst them are the following:

- Assuming that investment does materialize, how to insure that it is in the most productive lines for

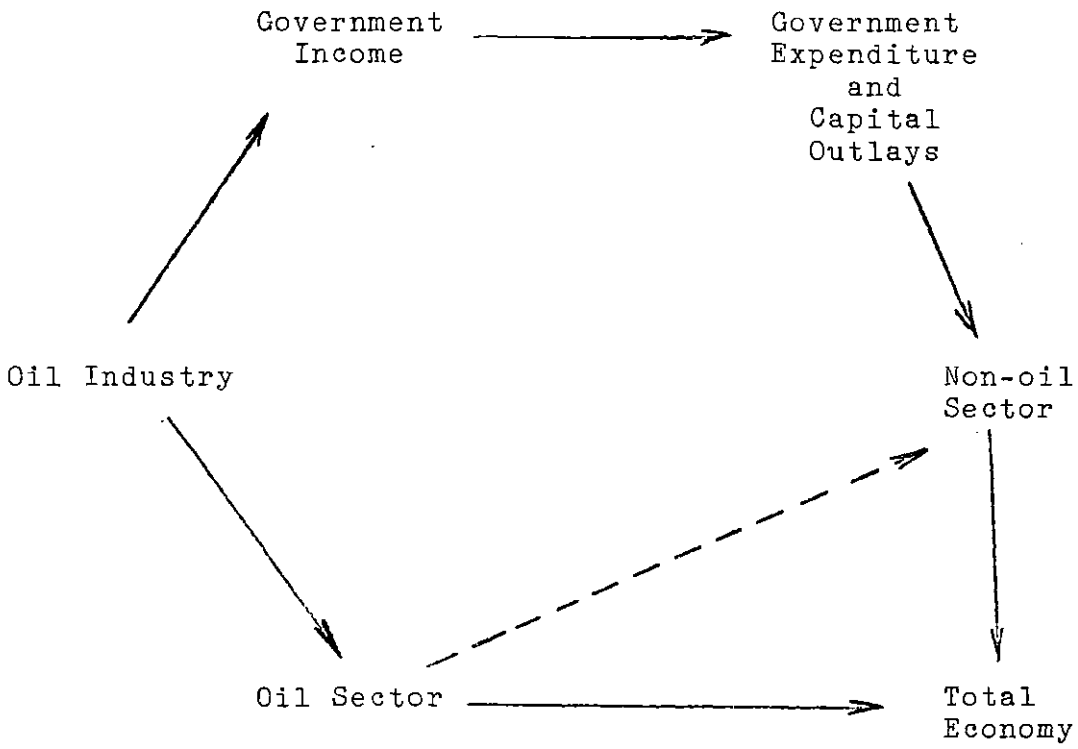
spurring further economic growth?

- Can the hardy, trade-oriented, and entrepreneurial indigenous citizens survive such sudden wealth; and, can the wealth be redirected from commerce into other sectors?

- How is expenditure to be proportioned between fulfilling simultaneously development goals, and political criteria?(10, 11)

Despite the great power of the private members of the mercantile oligarchy which operates in Kuwait, it would now seem that the state is the main owner and controller of most of the largest significant enterprises; effectively: the whole of the primary hydrocarbon sector, a large part of the industrial sector, much of the transport sector and a substantial element of the financial sector. Given the fact that it controls the disposal of both the oil revenues and the interest on its large reserves, the government is thus the dominant element in Kuwait. Both the discussion of the outlook for the economy and the reporting of specific development must be very much state aligned. Though the big merchant firms and the various non-state investment companies (in which they are generally involved) remain extremely important, the overall emerging picture is that Kuwait is becoming less of a mercantile oligarchy.(12) "While the aggregate economy is almost totally dependent on the oil industry, the economy outside the oil sector is heavily dependent on government.

Annual government current expenditures and capital outlays determine, to a great extent, the level, pace and direction of the economy outside the oil sector."[13] (See Figure 2.3)



_____ Direct impact

---------- Indirect impact

Figure 2.3

The Web of Interdependency

Source: Abalkhil, Sulaiman Saleh, Public Enterprise and Development in Kuwait, Ph.D. Dissertation, 1979, Claremont Graduate School.

Important Trends

Against this background, some of the more important trends presently are:

- Increased emphasis on industrialization. The establishment of a viable and diversified economic base via industrialization is essential for insuring a degree of economic vitality and prosperity for the period ahead, when reserves will be diminishing, sometime in the next century, to a relatively low level. Moreover, this drive does not arise from the usual positive stimuli of a cheap labor and abundant raw materials (apart from petroleum), but rather is the result of the limitations on alternatives.

- Economies of scale render efficient production units capable of output much greater than can be absorbed by the domestic economy only. This will produce a more export oriented industry, vulnerable to the state of the world market.

- To broaden the petroleum-based economic options, industrialization and diversification within the oil sector is obviously a prime target. Examples of this are the Petrochemical Industries Co., and the Kuwait Oil Tanker Co.

Laws and Regulations Governing Foreign Investment

Several laws and regulations govern the foreign investment projects in Kuwait. Probably the most important is: The Law of Commercial Companies (Law No. 15/1960). This law declares that foreign participation in Kuwait must be limited to a 49% interest, whether partenership or share company. Additionally, foreign participation is not allowed in the banking sector. Foreign firms or personnel desiring to open a branch or start a new venture must do so through an indigenous Kuwaiti agent or distributor. Non-Kuwaitis may not freely own real property, except for private homes.

Other laws and regulations state the following: New approved industries are granted special privileges including exemption from taxes and custom duties, financial assistance for research, free industrial sites and tariff protection. No restrictions are placed on the transfer to and from Kuwait of resident or non-resident capital in any currency. When a firm in which foreign capital is involved is liquidated, permission for capital repatriation can be quickly obtained from the Central Bank. The status for copyright protection for foreign nationals is unclear. Bids for government tenders cannot be submitted directly by foreign firms, but must be presented through Kuwaiti agents. Consulting firms must deal directly with Kuwait Planning Board and not through an agent.(13)

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(4) Quarterly Economic Review of Kuwait, Annual Supplement, 1980, op. cit., pp. 15-18.

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(7) El Mallakh, Ragaei, Kuwait: Trade and Investment, Westview Press, Boulder, Colorado, 1979, pp. 25-30.

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(10) Ibid., Chapter I

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CHAPTER III

HOUSING IN KUWAIT: A SYSTEM DYNAMICS MODEL

> "The most striking evidence of wealth for the visitor to Kuwait is not the gleaming Cadilacs which jam the streets or the expensive shops, but the housing. Two and three story villas line the avenues which lead to the city, each individually and grandiosely designed, often mirroring the owners' fantasies."
>
> The Financial Times
> February 25, 1977

Demographic Structure

In about 1765, a Danish traveller visited Kuwait and described it as containing some 10,000 inhabitants, possessing 800 vessels and living by trading, fishing and pearling. In the early 1950s, it was estimated that the overall population was in the order of 100,000. Since then, as is shown below, there was a phenomenal increase.

	Total Population	Percent Kuwaitis
1957 General Census	206,473	55.0
1975 April Census	994,837	47.5
1980 April Census	1,355,827	41.5

Full analysis of the 1980 census (+36.3% on 1975) cannot yet be given. However, the following information is available.

	Males	Females	Total
Kuwaiti Population	278,516	283,549	562,065
Non-Kuwaiti Population	497,609	296,153	793,637
	776,125	579,702	1,355,827

Tables 3.1 through 3.4 give population estimates, estimates of the annual rate of population growth, and the breakdown of population between Kuwaitis and non-Kuwaitis, males and females, and the different age groups.(1, 2, 3)

As can be noted from Table 3.4, though the annual rate of population growth is declining, it is still a high 6.1%, and for reasons that will be argued is expected to remain so. This high rate could be attributed to one main factor and several complimentary. The main factor is the newly generated oil wealth which brought with it a large influx of immigrants on the one hand, and dramatic improvement in the social and health services on the other.

The complimentary factors, which affected mostly the indigenous sector, include:

- High fertility rates;
- High per capita income which generates a "baby boom" of sort
- Religious convictions;
- Traditional customs--up until 1965, 26.5% of all marriages that occurred in the state were polygamous;
- Early marriage--according to the 1970 census, 53% of the girls at the age of 15-19 were married; and

Table 3.1
Population of Kuwait for Selected Years, 1957-1976
(Percentage of Total Population Given in Parentheses)

Year	Kuwaiti			Non-Kuwaiti			Totals		
	Males	Females	Total	Males	Females	Total	Males	Females	Total
1957	59,154	54,468	113,622 (55.0%)	72,904	19,947	92,851 (45.0%)	132,058	74,415	206,473
1961	84,461	77,448	161,909 (50.4%)	116,246	43,466	159,712 (49.6%)	200,707	120,914	321,621
1965	112,569	107,490	220,059 (47.1%)	173,743	73,537	247,280 (52.9%)	286,312	181,027	467,339
1970	175,513	171,883	347,396 (47.0%)	244,368	146,898	391,266 (53.0%)	419,881	318,781	738,662
1973[a]	199,842	195,941	395,783 (45.5%)	279,432	198,259	477,691 (54.5%)	479,274	394,200	873,474
1975	236,600	235,488	472,088 (47.5%)	307,168	215,581	522,749 (52.5%)	543,768	451,069	994,837
1976[a]	251,700	250,600	502,300 (47.2%)	323,400	239,600	563,000 (52.8%)	575,100	491,300	1,065,300

Source: Central Statistical Office, The Ministry of Planning, *Annual Statistical Abstract 1976*, p. 24.
[a]Estimates.

Table 3.2
Population by Age Group and Sex, 1957, 1961, 1965, 1970, 1975[a]

Age Group	Year	Kuwaiti			Non-Kuwaiti			Totals		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
0-14	1957	22,530	21,968	44,498	6,830	5,903	12,733	29,360	27,871	57,231
	1961	33,110	32,071	65,181	19,246	16,946	36,192	52,356	49,017	101,373
	1965	55,132	52,810	107,942	36,411	33,236	69,647	91,543	86,046	177,589
	1970	88,371	85,692	174,063	74,788	70,450	145,238	163,159	156,142	319,301
	1975	118,071	115,371	233,442	106,043	101,422	207,465	224,114	216,793	440,907
15-59	1957	26,617	24,327	50,944	53,956	9,885	63,841	80,573	34,212	114,785
	1961	34,337	31,914	66,251	90,086	23,150	113,236	124,423	55,063	179,486
	1965	52,201	49,310	101,511	135,258	38,810	174,068	187,459	88,120	275,579
	1970	79,654	78,442	158,096	166,686	73,731	240,417	246,340	152,173	398,513
	1975	109,497	111,271	220,768	196,990	110,188	307,178	306,487	221,459	527,946
60+	1957	3,018	3,153	6,171	882	395	1,277	3,900	3,548	7,448
	1961	4,010	4,129	8,139	1,318	926	2,241	5,328	5,055	10,383
	1965	5,183	5,328	10,511	1,797	1,478	3,275	6,980	6,806	13,786
	1970	7,454	7,719	15,173	2,788	2,694	5,482	10,242	10,413	20,655
	1975	9,032	8,846	17,878	4,135	3,971	8,106	13,167	12,817	25,984
Not stated	1957	2,946	2,687	5,633	5,012	685	5,697	7,958	3,372	11,330
	1961	6,729	4,123	10,852	1,273	408	1,681	8,002	4,531	12,533
	1965	53	42	95	277	13	290	330	55	385
	1970	34	30	64	106	23	129	140	53	193
	1975	–	–	–	–	–	–	–	–	–

Source: Central Statistical Office, The Ministry of Planning, *Annual Statistical Abstract, 1976*, pp. 42-44.
[a]Nomad population excluded.

Copied from: El Mallakh, Ragaei, Kuwait: Trade and Investment, Westview Press, Boulder, Colorado, 1979.

Table 3.3
Percentage Distribution of Age Groups in Kuwait (Selected Years)

Age Group	Year	Kuwaitis			Non-Kuwaitis		
		As % of Age Group	As % of Kuwaitis	As % of Total Population	As % of Age Group	As % of Non-Kuwaitis	As % of Total Population
0-14	1957	77.8	39.2	21.6	22.2	13.7	6.2
	1970	54.5	50.1	23.6	45.5	37.1	19.7
	1975	52.9	49.4	23.5	47.1	39.7	20.9
15-59	1957	44.4	44.8	24.7	55.6	68.8	30.9
	1970	39.7	45.1	21.4	60.3	60.1	31.8
	1975	41.8	46.8	22.2	58.2	58.8	30.9

Source Computed from Table 3.2

Table 3.4

Period	Annual Percentage Rate of Population Growth		
	Kuwaitis	Non-Kuwaitis	Total
1957-1961	9.2	14.5	11.7
1961-1965	8.0	11.5	9.8
1965-1970	9.6	9.6	9.6
1970-1975	6.4	5.9	6.1

Source: The Draft Five-Year Plan, 1976-1977 -- 1980-1981, p. 20.

Copied from: Al-Qudsi, Sulayman Shaban, Growth and Distribution in Kuwait: A Quantitative Approach, Ph.D. Dissertation, 1979, University of California.

- Naturalization of some of the nomads living on the outskirts of the country.(4)

Two significant aspects are apparent in the present demographical profile. First, the Kuwaiti segment of the population plays less of a role than would be expected. Its share of the total population continued to decrease from 55% in 1957 to 41.5% in 1980. Additionally, it is dominated by economically unproductive population which--according to 1975 figures--is composed of three subsegments: the 0-14 years old age group which accounts for 49% of the segment population; all adults over 60 years of age; and the majority of the females in the 15-59 year old age group. Thus, the Kuwaiti productive population (males in the 15-59 year old age group) accounted for only 23% of the segment population and 11% of the total population. Working females add a small 1.5% and 0.75% respectively.

Second, the structure is dynamic. It displays high rates of population growth coupled with fluctuations in the percentage share of the different groups.

Labor Force

The "bottom heavy", i.e., young, population structure needs special care in education, health and leisure programs. However, the human resources of productive working age in the total population (much less in the Kuwaiti segment) are not enough to meet the demands of development. On every

level, the country depends heavily on non-Kuwaiti labor. For example, in 1970 only one engineer in 15, one nurse in 32, one accountant in 37 and one teacher in 5 was a Kuwaiti citizen, while 79% of the managers, 96% of the cooks and waiters, 95% of the bricklayers, carpenters and construction workers, and 90% of the secretaries were expatriots. "In only a handful of occupations is Kuwait self-sufficient in labor, and these are generally jobs reserved for citizens as government executives and administrators, firemen and policemen."(5, 6)

Table 3.5 shows the structure of the labor force. In 1965 1970 and 1975 respectively, non-Kuwaitis provided 77%, 73% and 70% of the total supply of labor. It is interesting to note that the Kuwaiti labor force contains a category of potential workers who do not work because they are not in need of work. This category is defined by the census report as those able to work, but having no desire to work.*

Thus, unless Kuwait adopts an all open immigration policy, population in its intricateness is probably the most important factor behind a critical issue facing it today. As indicated earlier this involves a tradeoff between satisfying the requirements of providing all sorts of social services, creating an infrastructure for a strong and diversified

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*In their own "affluent" society members of this category are certainly a far cry from Bryezinke's prediction that in such a society only the elite will have the privilege of working while the majority will be busy with consumption.

Table 3.5

Labor Force in Kuwait

Year	Sex	Kuwaitis	Percent	Non-Kuwaitis	Percent	Total	Percent
	M	41,926	37.2	133,603	76.9	179,529	61.3
1965	F	1,092	1.0	7,576	10.4	8,768	4.8
	T	43,018	19.5	141,279	57.1	184,297	39.4
	M	63,314	36.1	162,286	66.4	225,600	53.7
1970	F	2,055	1.2	14,542	9.9	16,597	5.2
	T	65,369	18.8	176,828	45.2	242,197	32.8
	M	84,367	35.7	185,009	60.2	269,376	49.5
1975	F	7,477	3.2	27,729	12.9	35,206	7.8
	T	91,844	19.5	212,738	40.7	304,582	30.6

Source: Ministry of Planning, Annual Statistical Abstract 1976, Table 54.

Copied from: El Mallakh, Ragaei, Kuwait: Trade and Investment, Westview Press, Boulder, Colorado, 1979.

economy, and tapping off the real and psychological threat to the indigenous segment minority.

The Building Industry

The building industry in Kuwait represents an important market in its own right. Special characteristics of the industry are:

- A growing source of demand for materials and know-how
- A nascent manufacturer
- The development of Kuwait as a regional warehouse
- A pacesetter in styles and trends in the region(7)

The two major sectors within this market are housing and industrial development. The former, when considered with the infrastructure network of roads, recreation facilities, shopping centers and the like, could safely be assumed the larger of the two, despite the absence of figures. With the rapid increase in population, Kuwait had been living with a housing crisis since at least the early sixties. In recent years, the rents charged have reached exorbitant levels. The major reason lies in the heavy speculation in real estate which had allowed many Kuwaitis to amass fortunes. Middle income Kuwaitis are protected from the soaring land prices by aid from the Bank of Credit and Savings which offers them land at nominal prices. The heavy burden, therefore, lies on the expatriate community. It is customary for foreigners'

employment contracts to contain provisions for housing, and one of the very first things contractors consider are the housing arrangements for their imported labor.

In 1977, the then Housing Minister, Hamad Mubarak Al-Ayyar declared the year to be 'house building' year and hoped that by 1980 the housing crisis will be a thing of the past.* Some 60,000 units were planned over the next few years, and 17,000 Kuwaitis were on the Housing Ministry's waiting list.(8) A study made by the National Housing Authority at the end of 1977 estimated that Kuwait would need 319,000 additional housing units by 1980, and the Minister of Housing mentioned an additional 136,000 units as needed by the year 2000.(9)

By 1978, $4 billion were allocated for housing, and the National Housing Authority was planning 16,000 houses a year for the next 20 years, against the planned rate at that time of 6,000 to 7,000 per year. It was estimated that between 1980 and 1990, Kuwait will have to build 319,000 homes and provide services for them. Approximately 800,000 people were to be housed on projects under construction and 1,200,000 others on new projects yet to be started.(10, 11) Two new "towns" were planned: at "Subiya", near the Iraqi border, with an

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*In the very best of terms, this was a statement of over-optimism. In 1980, the crisis was as acute as ever. Indeed, this goal might be achieved someday, but only temporarily (personal observation). As will be shown, several factors -some exogenous to the country- interact to produce continuous fluctuations in the housing situation.

estimated cost of $25 billion and a population of 500,000 expected by the turn of the century; and at "khiran", near the Saudi Arabian border which is to achieve its first intake of population during 1983, and is expected to have at least 80,000 inhabitants by 1990. It is interesting to note that some observers believe that the key reason for both the proposed sites is a political one. One of the problems with the desert boundaries of Kuwait is that the actual frontier lines are, to say the least, indeterminate. In the past, such flexibility has caused friction from time to time, and is viewed by the Kuwaitis as a temptation to their neighbors. The proposed new towns will set a firm Kuwaiti seal on a large stretch of virgin desert and are thus in essence security measures.*(12)

Amongst the more important housing projects of the Ministry of Housing/National Housing Authority is the Jahra project. The first stage of a 1,850 housing units was completed in 1979; the second stage allows for 2,490 lower income group houses; and there is an associated rural scheme comprising 4,170 rural houses. Other large schemes which have already been completed partially or are in hand include: Sulaibiya (5,546 rural dwellings), Ajaila (3,800 rural houses), Sabah al-Salem (2,398 houses and villas), and 18,000 housing units on the 6th Ring Road. All these projects are equipped with sizeable numbers of mosques, schools and other social

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*This is one clear manifestation of the impact of the socio-political factors in the environment on the market.

services buildings.(13)

Structure of the Model

The model consists of two subsystems: A and B (See Figure 3.1).*

Subsystem A: Population (See Figure 3.2)

The population (POP) is composed of:

1) Kuwaiti Population (POPK), i.e., the indigenous citizens segment, and
2) Foreign Population (POPF). This segment is in turn composed of:
   a) Resident Foreign Population (POPNK), i.e., those who live in the country indefinitely, but do not have the status of a citizen.
   b) Temporary Immigrants Population (TMIG). This category is composed mainly of workers imported on temporary basis by the building industry.

Subsystem B: Housing (See Figure 3.3)

The number of housing units available (UAVAIL) is the aggregate of the number of units presently available plus the annual numbers of units completed (UCOMP), less demolished

*The author assumes that the reader is familiar with the System Dynamics terminology, and its type of flow diagramming and equations formulation. For further discussion, see references in Chapter I.

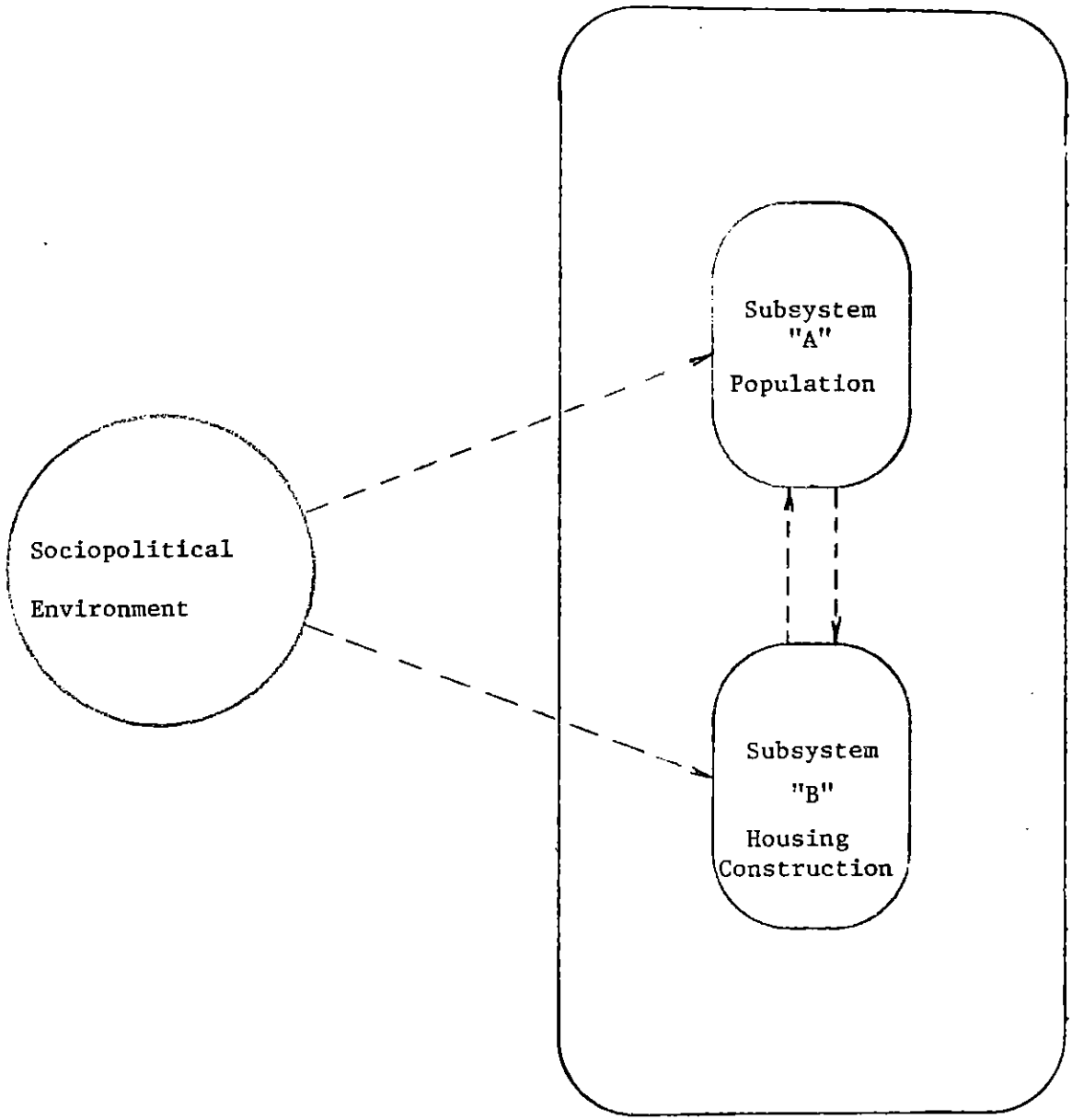
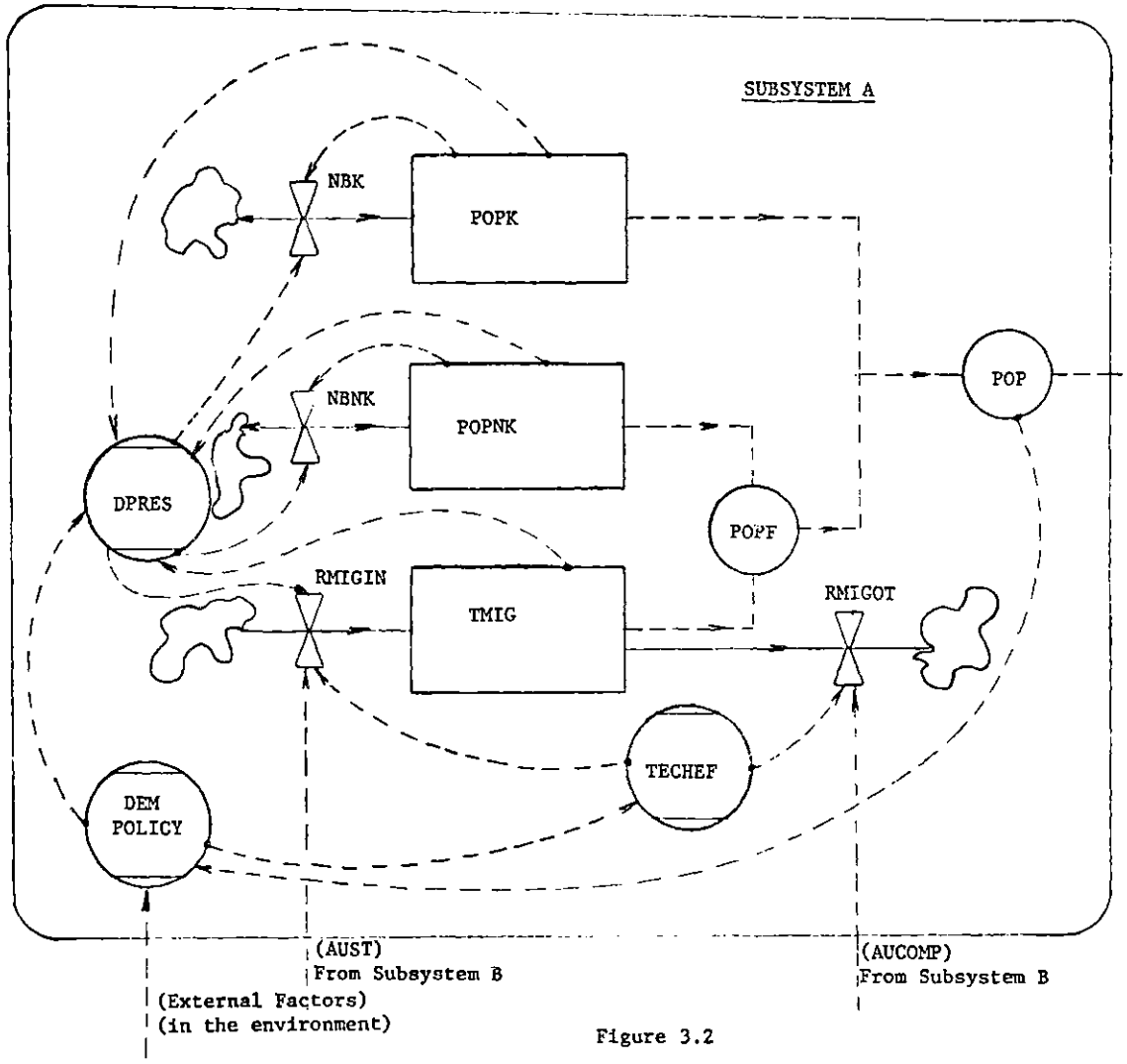


Figure 3.1

Model Overview



POP...Population
POPK ....Kuwaiti Population
POPF...Foreign Population
POPNK...Resident Foreign Population
TMIG...Temporary Migration

To Subsystem B (UREQ)

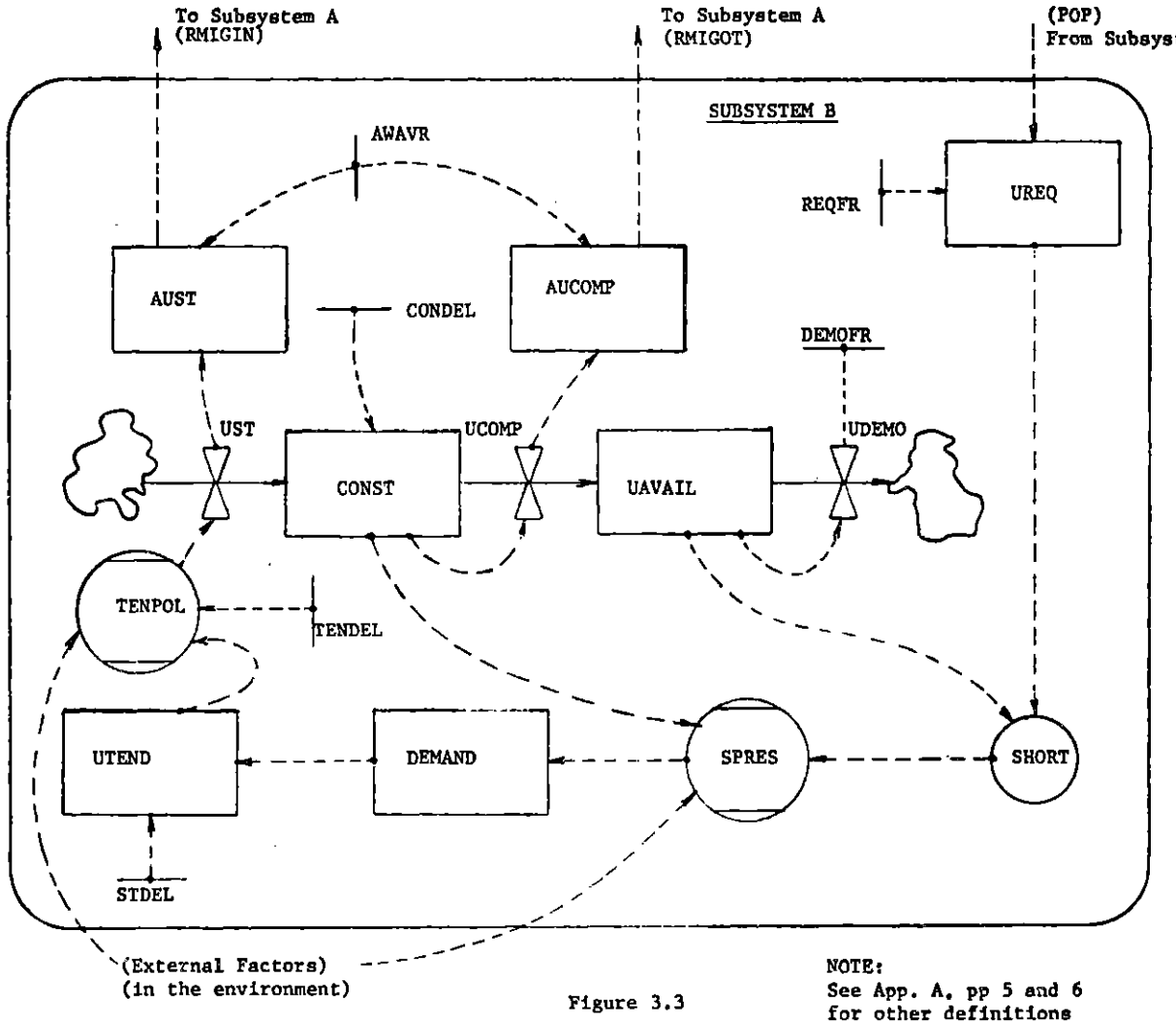
NBK....Net Birth Increase Rate,Kuwaiti
NBNK...Net Birth Increase Rate Resident Foreign

RMIGIN....Coming Migration Rate
RMIGOT....Leaving Migration Rate
DEM POLICY...Demographic Policy
DPRES....Demographic Pressure
TECHEF...Technology Effect

NOTE:
See App. A, pp 5 and 6 for other definitions and units.

Figure 3.2

Population Model



UREQ...Units Required

REQFR...Requirement Fraction

SHORT...Units Shortage

SPRES...Shortage Pressure

DEMAND...Units Demanded

UTEND...Units Tendered

STDEL...Statistical Delay
TENDEL...Tendering Bias Effect
TENPOL...Tendering Policy
UST...Rate of Units Started
CONST...Units Under construction
UCOMP...Rate of Units Completed
CONDEL...Construction Delay
UAVAIL...Units available

UDEMO...Rate of Demolishing
DEMOFR...Demolishing Fraction
AUST...Average Units Started
AUCOMP...Average Units Completed

AWAVR...Awareness Average

NOTE:
See App. A, pp 5 and 6 for other definitions and units.

Figure 3.3

Housing Construction Model

(UDEMO). The number of units completed annually is a function of the number of units under construction (CONST) and the duration of construction. The total number of housing units required (UREQ) is a function of the size of population, which feeds in from Subsystem A.

The number of housing units demanded (DEMAND) annually is a function of the shortage (SHORT), which is the numerical difference between the numbers of units required and available. Decisions regarding the number of housing units to be built (i.e., the number of units announced for tendering), whether by the government or the private sector, is an average of the perceived shortage, i.e., demand. In turn, the number of these units announced for Tendering (UTEND) determines the number of units started (UST), through a "bias" factor (TENDEL). This factor is caused by a practice of lack of promptness in awarding the relevant contracts, and stems out of extensive routine and beaurecratic measures.

Awareness of the average volume of construction, i.e., the average numbers of housing units started and completed (AUST and AUCOMP), determines perceptions of the job opportunities available, and feedback to Subsystem A to affect the size of the temporary immigrants segment in the population.

Major Control Policies

National Demographic Policy

Based on information about the population structure on the one hand, and various factors in the environment (see

Figure 3.4) on the other, an informal national demographic policy exerts pressure in two directions.

First, aiming at a balanced population structure, the policy exerts a pressure through various measures toward increasing the relative size of the indigenous Kuwaitis segment. While the general trend of this pressure remains alive at all times, its intensity, nevertheless, is neither steady nor constant. At times when there is an increased "threat feeling" among the Kuwaitis of being a minority in their own country, the pressure accelerates. At other times, when the need for imported labor force becomes acute and coincides with stable internal political situation, the pressure comes to a near halt.

Second, with the progress in development, and given the general trend of the policy, there is a continuous emphasis on an increased use of technology (e.g., capital intensive vis-a-vis labor intensive projects). An obvious implication resulting from this pressure is a reduction in the number of job opportunities available and consequently the size of the foreign population, especially the temporary immigrants segment.

Housing Policy

Shortage in housing units available exerts pressure on the government to start new housing projects in line with its social responsibility, and on the private sector to satisfy the market (see Figure 3.5). The two determinate factors are the volume of construction in progress coupled with the

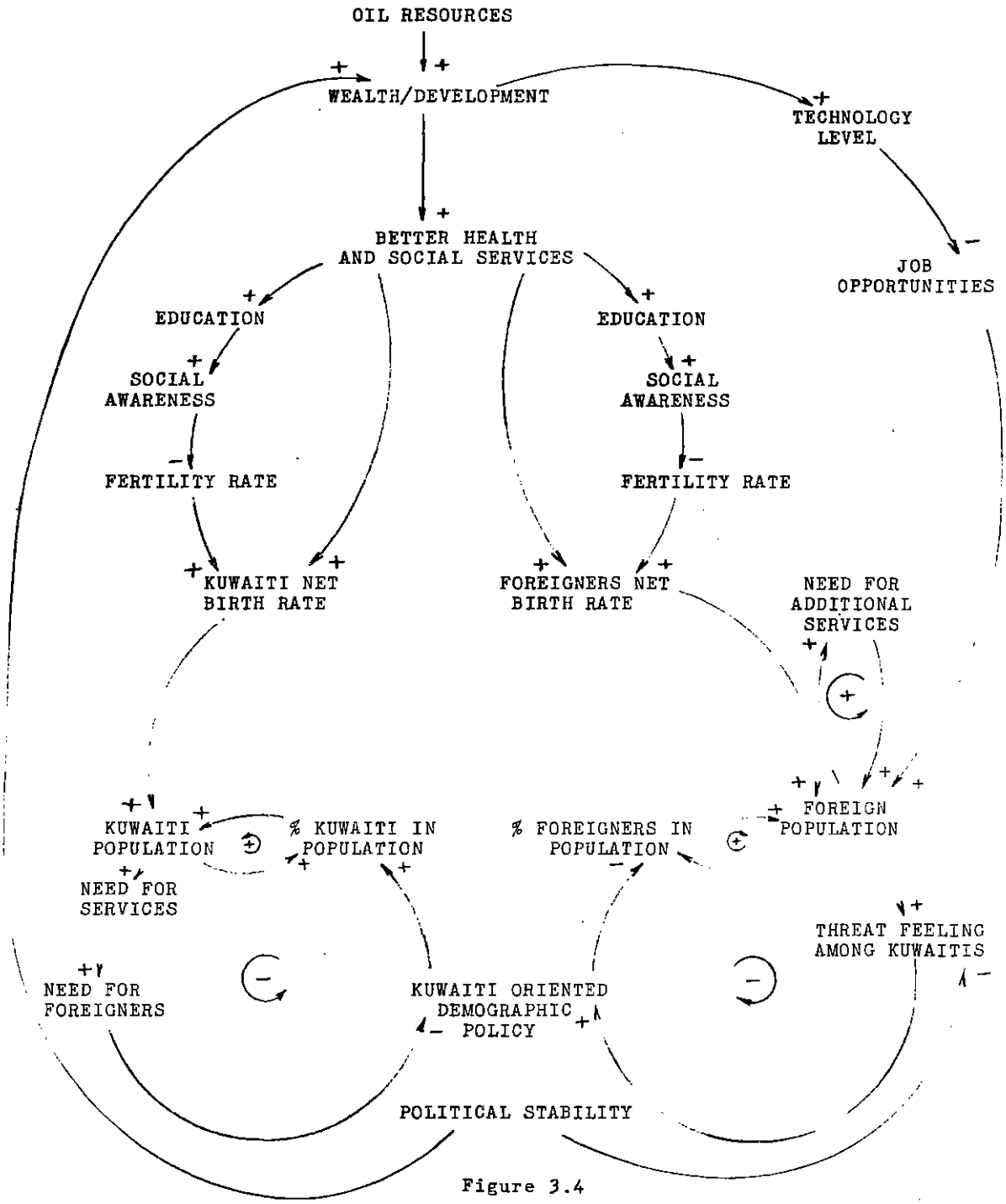


Figure 3.4
Causal Loop Diagram of Population

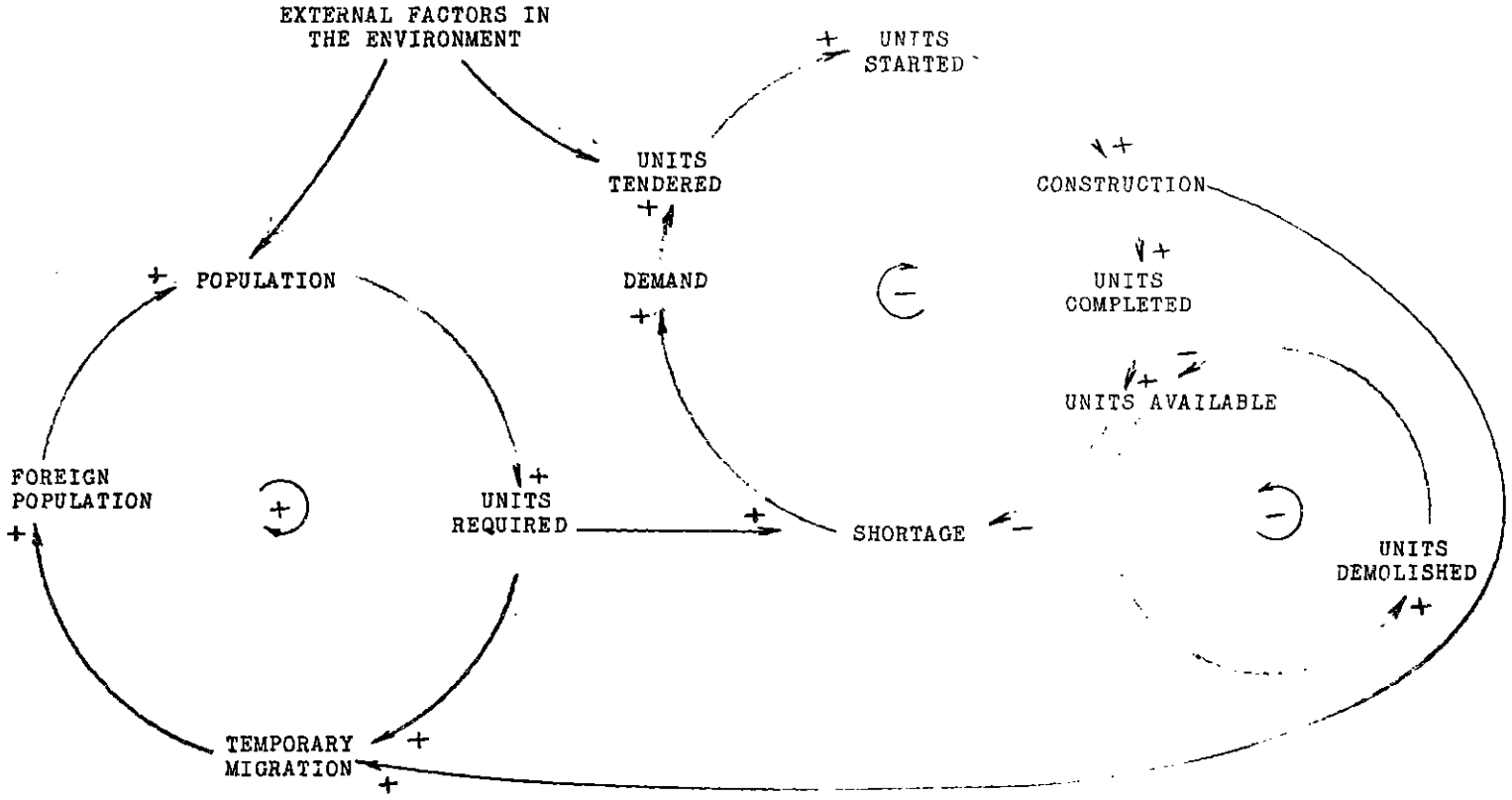


Figure 3.5

Causal Loop Diagram of
Housing Construction

intensity of shortage, and the general socio-political situation in the country. Assuming that the oil revenues are not reduced appreciably by an outside factor, the state of the economy, not surprisingly, exerts secondary influence due to the capital surplus Kuwait enjoys.* The demand for new houses is, consequently, a function of the actual shortage and the volume of construction on the one hand, and the pressure arising from them as amplified by exogenous factors, on the other. When the average demand for a period of time is perceived, the decisions are taken. However, the actual start of new projects will not take place until after a certain period of time has been exhausted in preparing designs, resources and land allocations, negotiations with contractors and other activities. During the period from when the actual shortage occurs until work actually starts, the situation will naturally change. Changes in the population structure, living habits, and wealth distribution render the state of shortage inherently unstable, and a cyclic pattern is anticipated.

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*This assumption can be considered valid only for the near future represented by the model, i.e., 20 years. For periods in excess, the probability of reduced revenues due to depletion of oil reserves or other factors can not be reasonably ruled out.

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(13) Quarterly Economic Review of Kuwait, Annual Supplement, 1980, op. cit., p. 21.

CHAPTER IV

MODEL ASSUMPTIONS AND SIMULATION

> "What counts in any attempt at social prognosis is not the Yes or No that sums up the facts and arguments which lead up to it but those facts and arguments themselves. They contain all that is scientific in the final result."
> Joseph A. Schumpeter

Assumptions - Subsystem A

The numbers of Kuwaiti population (560,000) and foreign population (790,000) are based on the most recent estimates and are reasonably valid.

No official estimate is available for the present number of temporary immigrants. A figure of 80,000 (approximately 10% of the foreign population) is considered to be an acceptable estimate.

Aggregate average net births increase for the whole population is presently running, according to best estimates, at 6.1%. In line with the general trends of the informal national demographic policy, this figure is expected to be leaning in favor of the Kuwaiti population. In fact, the official projections for mid 1975 population to 1985 assumes an annual average increase rate of 6.4% for Kuwaitis and 5.9% for non-Kuwaitis.* These figures are assumed for the duration

*See Chapter III, Demographic Structure

of the model period.

Due to the fact that the number of temporary immigrants other than those employed by the building industry is relatively small, it is considered to have a nominal effect on the model and accordingly is neglected.

The general pressure exerted in favor of the Kuwaiti segment is assumed arbitrarily to be in accordance with the graph in Figure 4.1. According to this assumption, the goal of the national demographic pressure is to increase the size of the Kuwaiti population to double that of the foreigners. At this point, the pressure is neutral and is equal to one. When the relative size of the Kuwaiti population to the foreign population is less than two, the pressure starts exerting. For example, if it is equal to 0.7, as is presently the situation, a pressure of 1.30 is exerted. While the figure of 1.30 is indeed arbitrary, there is every indication that the government policy, which reflects the feelings of the Kuwaitis, is moving in this direction. On the other hand, if the relative size of the Kuwaiti population to the foreign population exceeds two, the trend will reverse direction, though at a lower rate. A pressure of 1.1 in favor of the foreign population is assumed if the number of the Kuwaitis reaches three times that of the foreigners. The reason lies in the need of the Kuwaiti population, the majority of whom will be young and requiring all sorts of social services, for foreign labor and expertise.

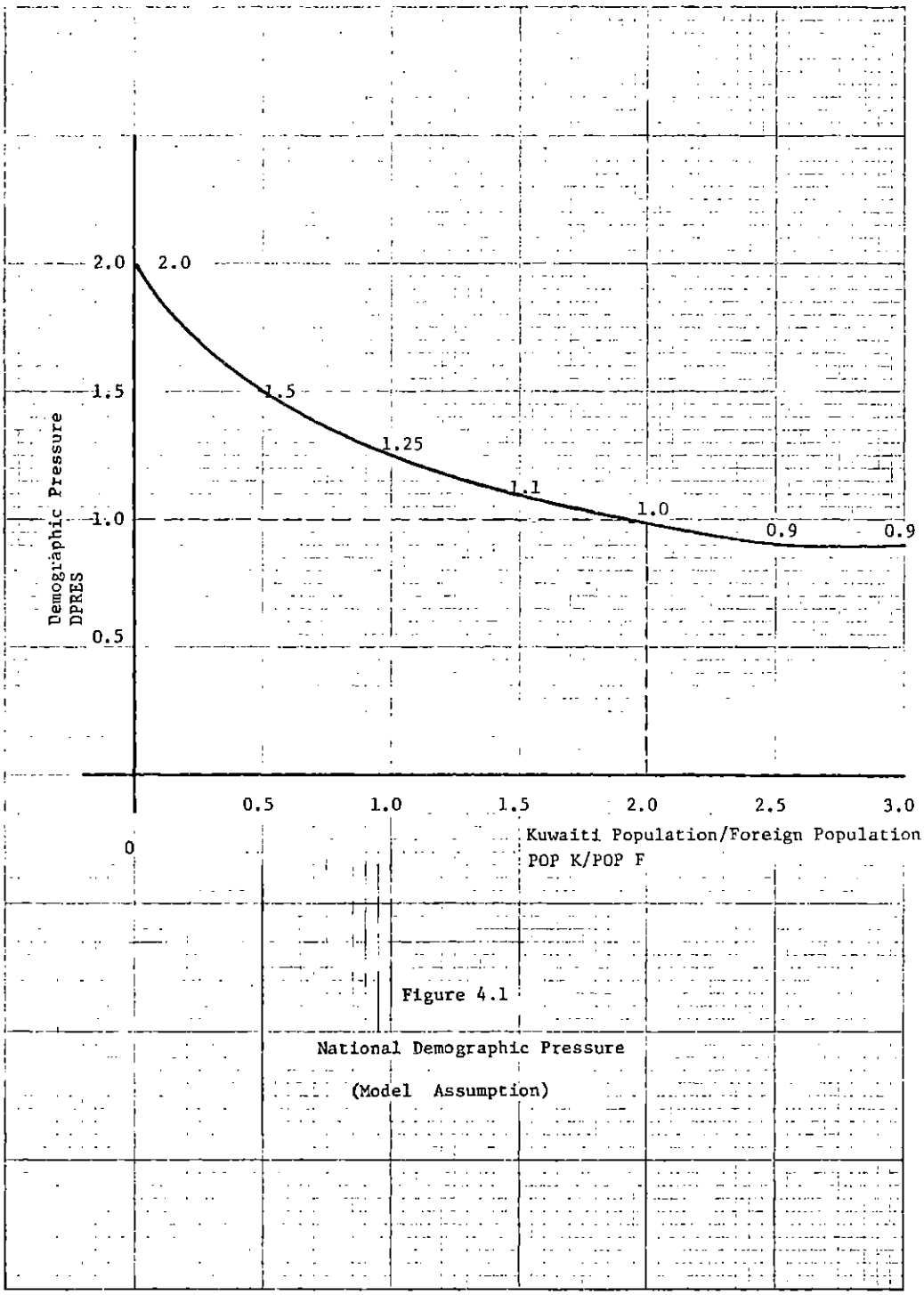

Figure 4.1

National Demographic Pressure

(Model Assumption)

To explore the technological effect on the foreign population, a "ramp" increase of 4% is arbitrarily assumed. Initially, the number of temporary immigrants is reduced annually by this percentage. Foreign residents will not be affected except after the "technology effect" reaches a high level and the number of temporary immigrants entering the country starts having negative values, indicating depletion in the foreign resident population.

Assumptions - Subsystem B

The pattern of living habits varies greatly between the Kuwaitis, most of whom live lavishly, and the foreigners who live mostly in concentrated areas in small houses or apartments. It is hard to estimate the average number of inhabitants per household. However, with the changes in the social structure and habits, a "modern" style of living could be anticipated. Few will go on living in large houses while the majority, Kuwaitis and foreigners alike, will dwell in small units. A figure of five inhabitants per housing unit is considered reasonably accurate. The initial number of available units is assumed arbitrarily to be 210,000.

The pressure exerted by shortage is assumed arbitrarily to be in accordance with the graph in Figure 4.2. According to this assumption, the pressure is neutral and equals to one when there is a 10% shortage. The pressure will increase with the increase in shortage, reaching a maximum of three

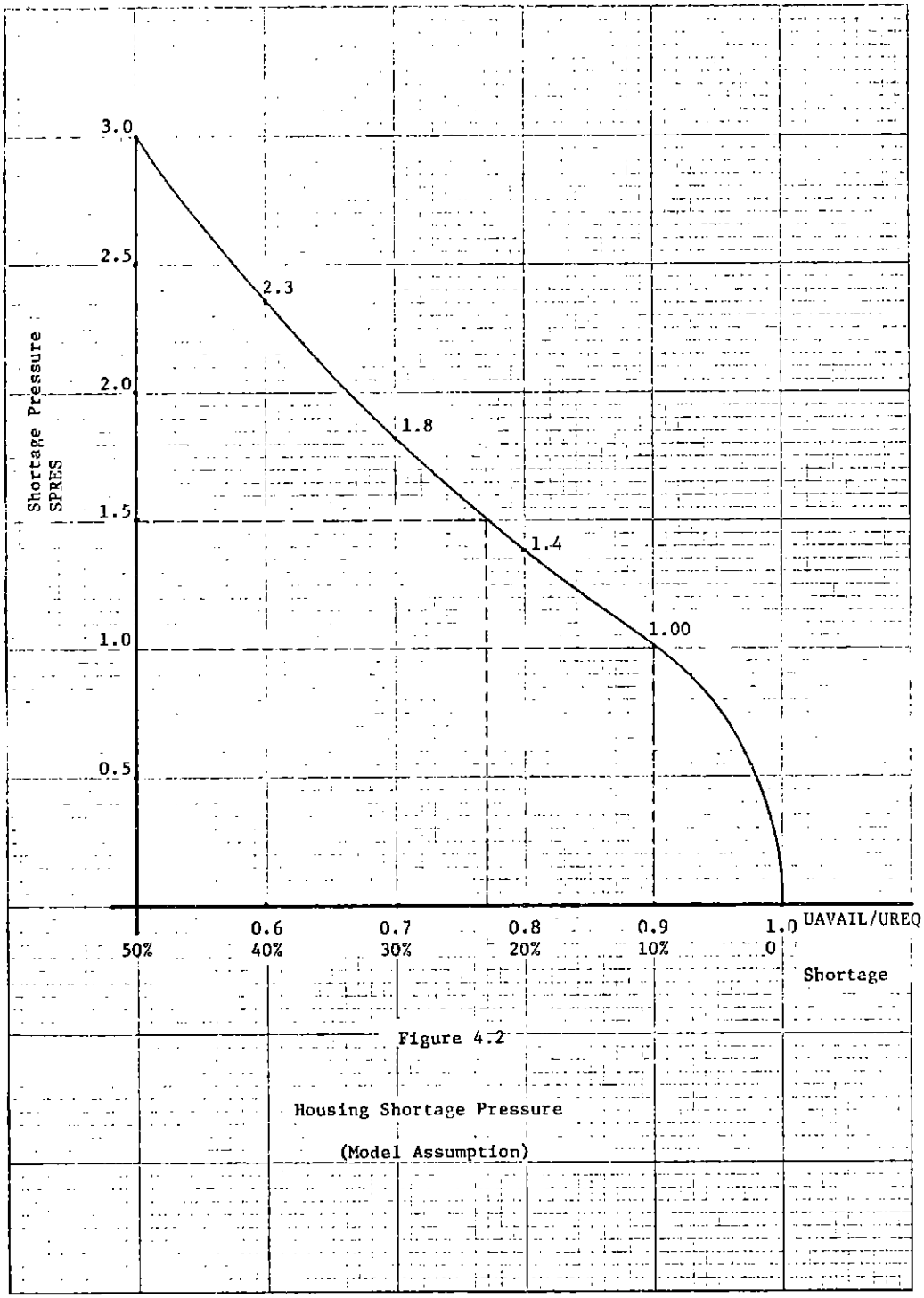

Figure 4.2

Housing Shortage Pressure

(Model Assumption)

when the number of units available is one half the number of units required. Following the model assumptions, there is in the first year a 23% shortage (units available/units required = 0.77) and the pressure is equal to 1.5. When the shortage decreases to less than 10% the pressure decreases to less than one accordingly, until it becomes equal to zero when the shortage equals to zero. In other words, at the time that the number of units available exceeds the number of units required, the demand becomes zero. These assumptions are in accordance with what is perceived to be common sense and sound judgment.

The perceived demand which is translated into the number of units announced for tendering is assumed to be the average demand for the past two years. This period is considered what it takes for the related information to be acquired and understood. Additionally, a bias equivalent to an average delay of two years is assumed from the time of the decisions to start new housing units until work actually starts.

Construction work is assumed to take $2\frac{1}{2}$ years from start to finish, divided into three stages: 1) start up and foundation ($\frac{1}{2}$ year), 2) structural work ($1\frac{1}{2}$ years), and 3) finishing and delivery ($\frac{1}{2}$ year). The initial number of units at each stage is assumed to be 20,000.

Demolishing is assumed to run at $2\frac{1}{2}\%$ per year. That is to say, the average life of a housing unit is 40 years.

Awareness of the numbers of new units started and completed per year is assumed to be an average of the actual occurrances for the past three years.

Simulation of the Basic Model

Based on the above assumptions following are the main results of the model simulation run for a 20 year period, representing the years 1980-2000 (See Appendix A for equations and definitions).

Population (Figures 4.3, 4.4, 4.5)

- Total population will pass the 4.0 million mark by the year 19, and reach 4,423,000 in the year 20.
- Population of the Kuwaitis will surpass that of the foreigners in the seventh year. However, even by year 20, the foreign population will remain constituting a sizeable 40% of the total population (1,769,000 foreigners vis-a-vis 2,654,000 Kuwaitis).
- The number of temporary immigrants will be stable initially, but after the fourth year, it starts to decrease rapidly until it reaches 12,000 by the year 20. In the years after its value is expected tc become negative indicating outward migration of resident foreigners.

Housing Shortage (Figures 4.6, 4.7)

The pattern of housing shortage depicted is cyclic. Initially, it starts to decrease from the estimated initial

KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

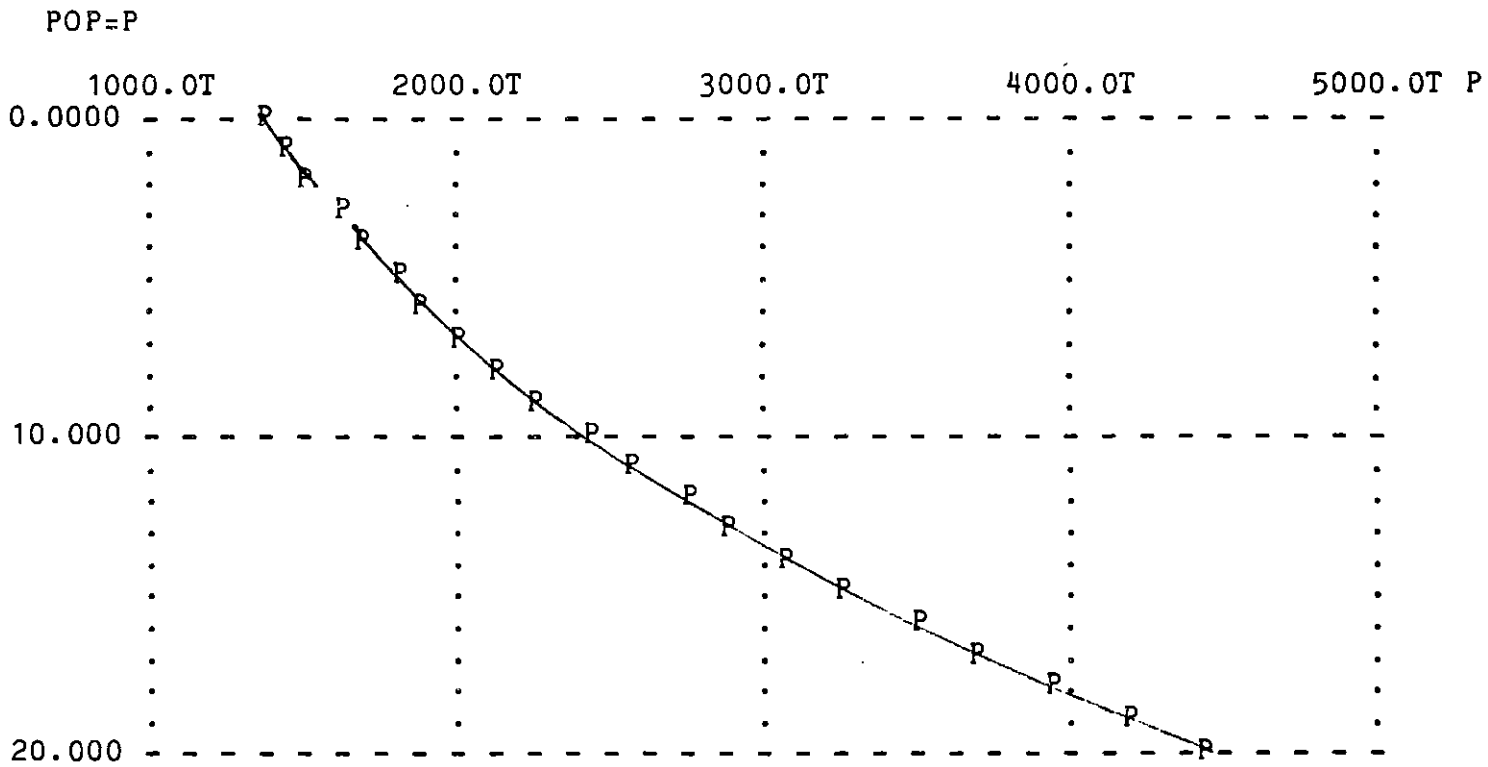

Figure 4.3

Population

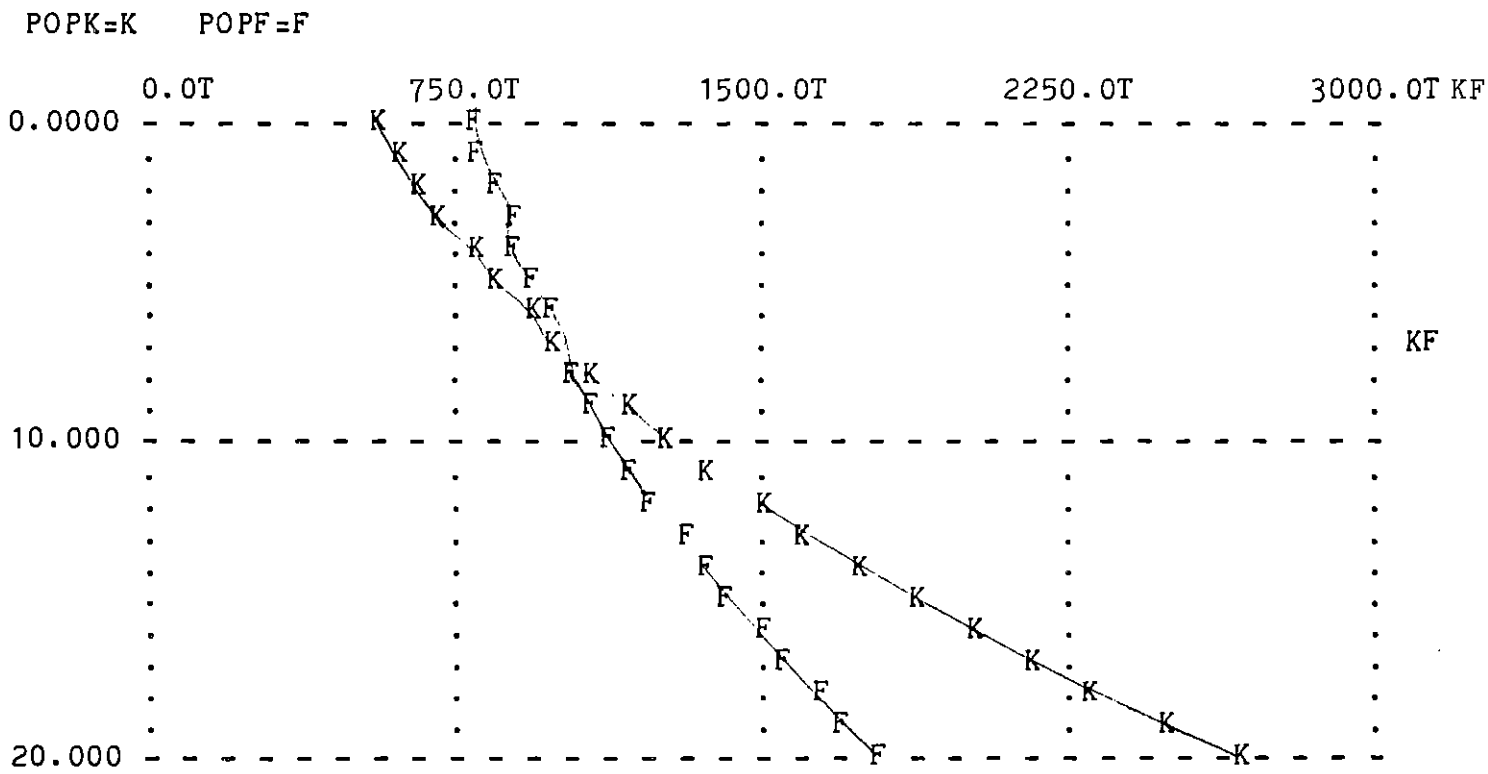

Figure 4.4

Kuwaiti and Foreign Populations

KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

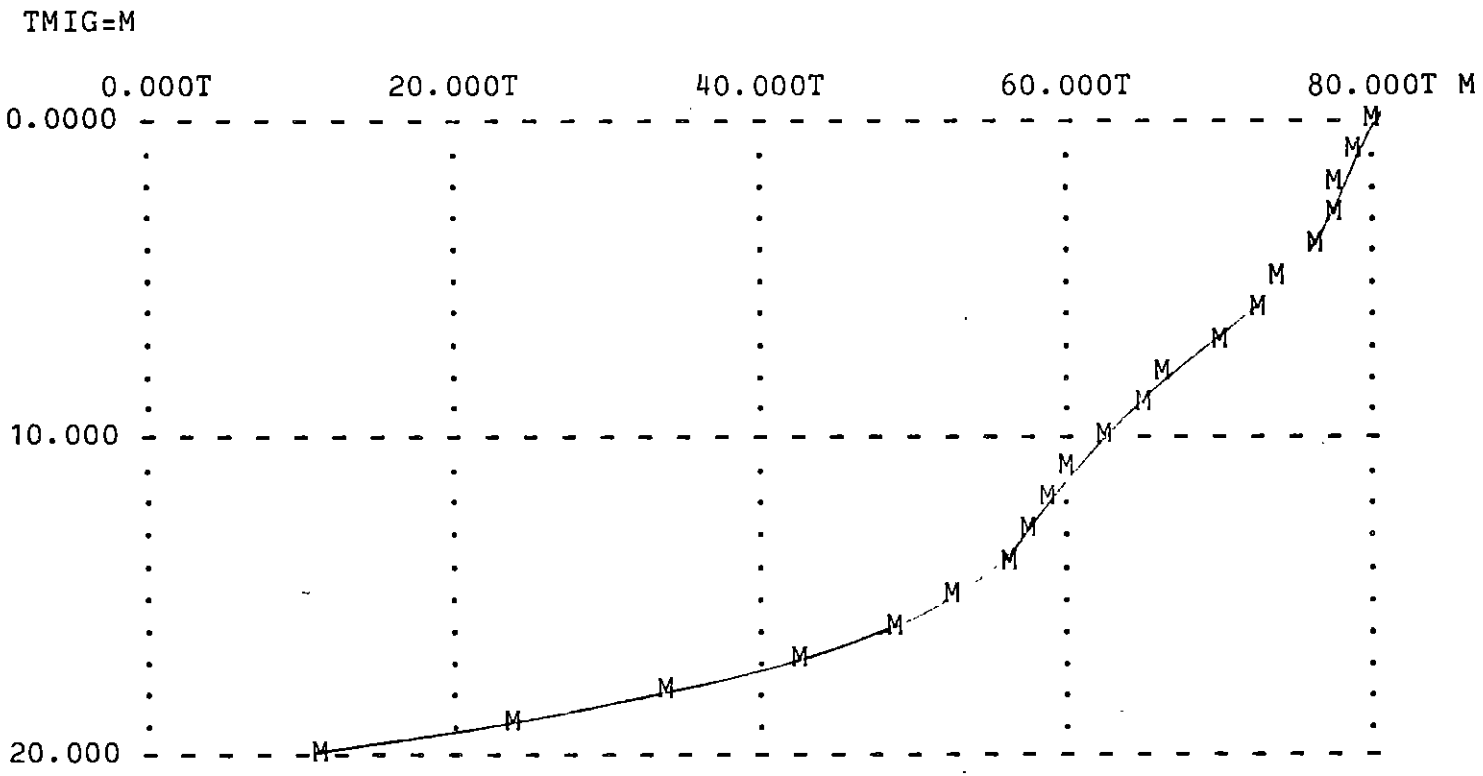

Figure 4.5

Temporary Migration

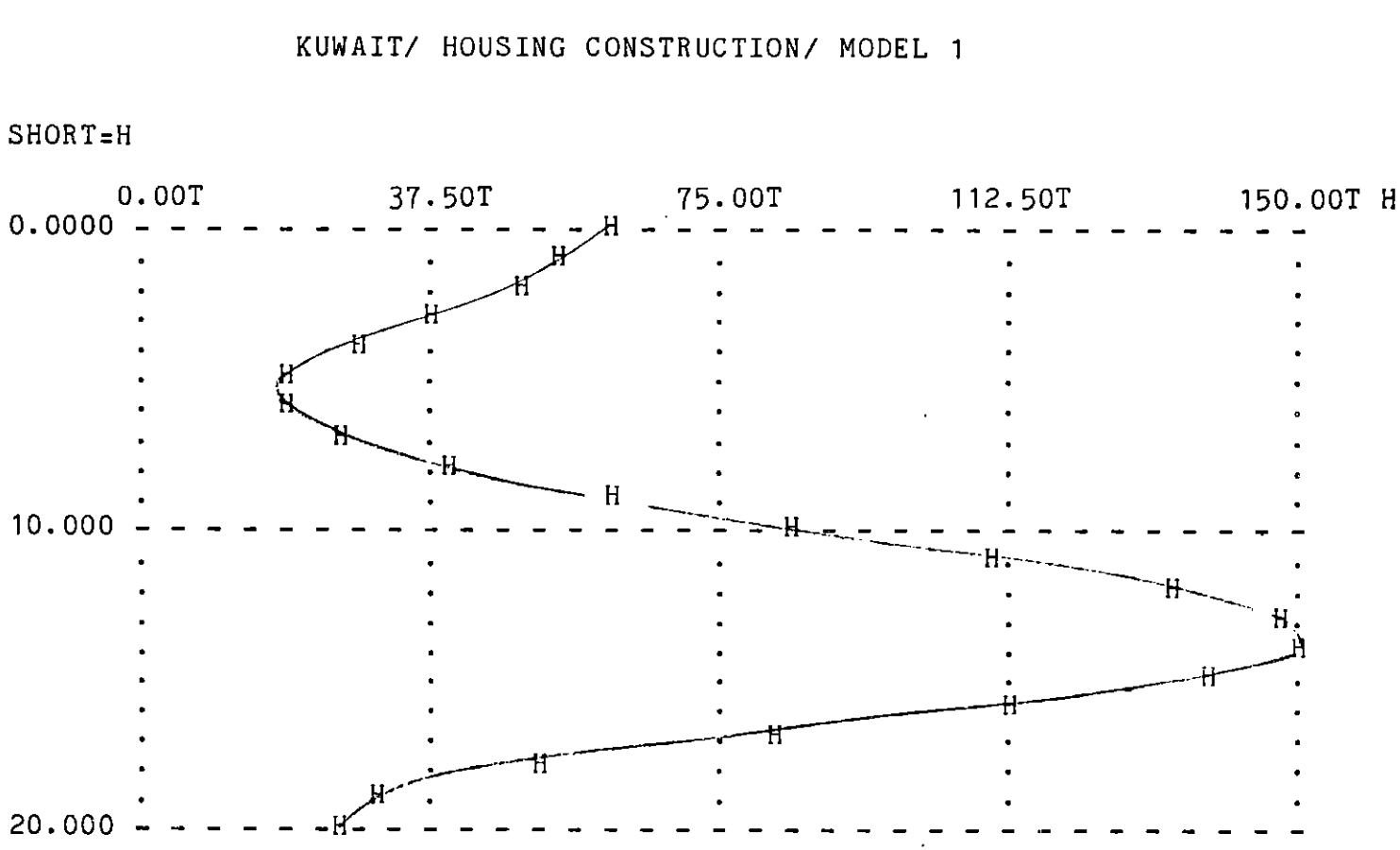

Figure 4.6

Housing Shortage

KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

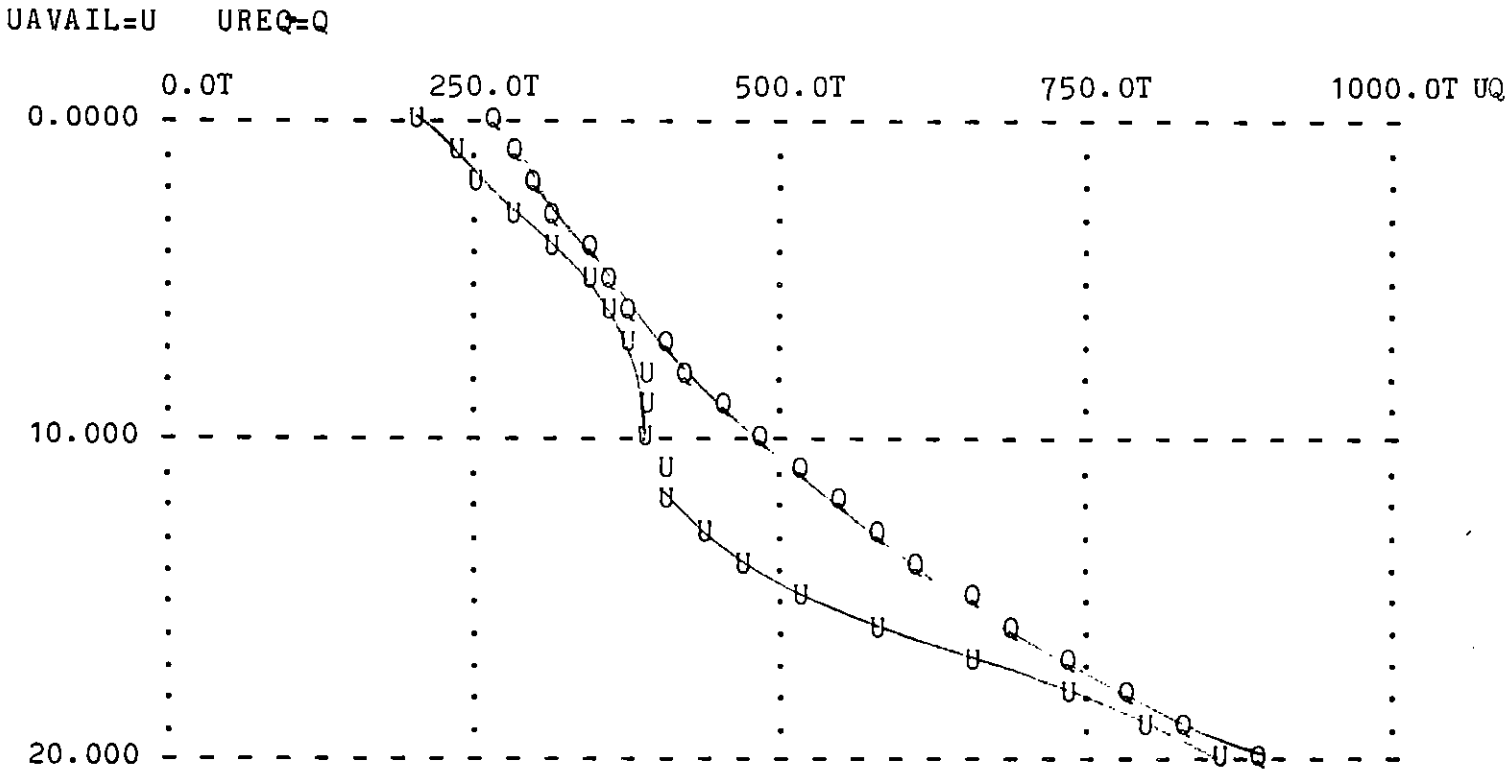

Figure 4.7

Numbers of Housing Units
Required and Available

value of 60,000 units until it reaches a low 19,000 units in the seventh year. Then, it starts to rise until it reaches a peak 149,000 units in the fourteenth year, and falls following that.

Construction (Figures 4.8, 4.9, 4.10)

The number of housing units under construction follows a similar fluctuating pattern: a minor peak in the third year (92,000 units), followed by a bottom in the ninth year (32,000 units), a major peak in the seventeenth year (233,000 units), and another bottom thereafter.

Model Changes

To investigate the effects of variations in the initial assumptions, several changes were attempted representing a range of optimistic to pessimistic projections. These are:

A) 20% Reduction in Rates of Net Births Increase (ANBK and ANBNK).

B) Less Housing Shortage Pressure (SPRES). The pressure decreases proportionally (straight line) from two at a shortage of 50% to one at a shortage of 10%, and thereafter to zero at zero shortage.

C) As in (B) above, plus:

- 33% Reduction in Rates of Net Births Increase.
- 20% Increase in Technology Effect (TECHEF).
- 40% Proportional Reduction in Construction Delays (COND1, COND2 and COND3). The total

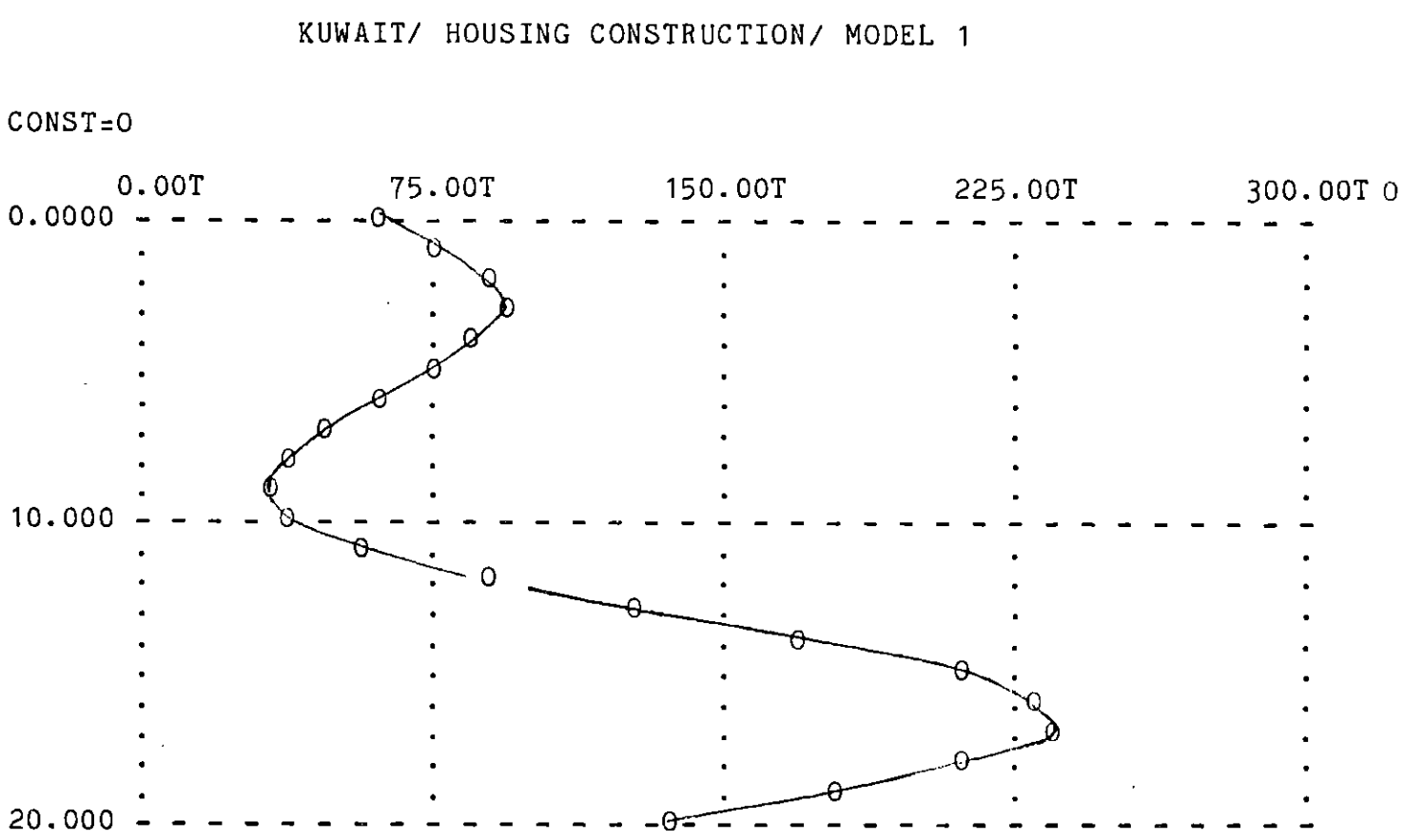

Figure 4.8

Number of Housing Units
Under Construction

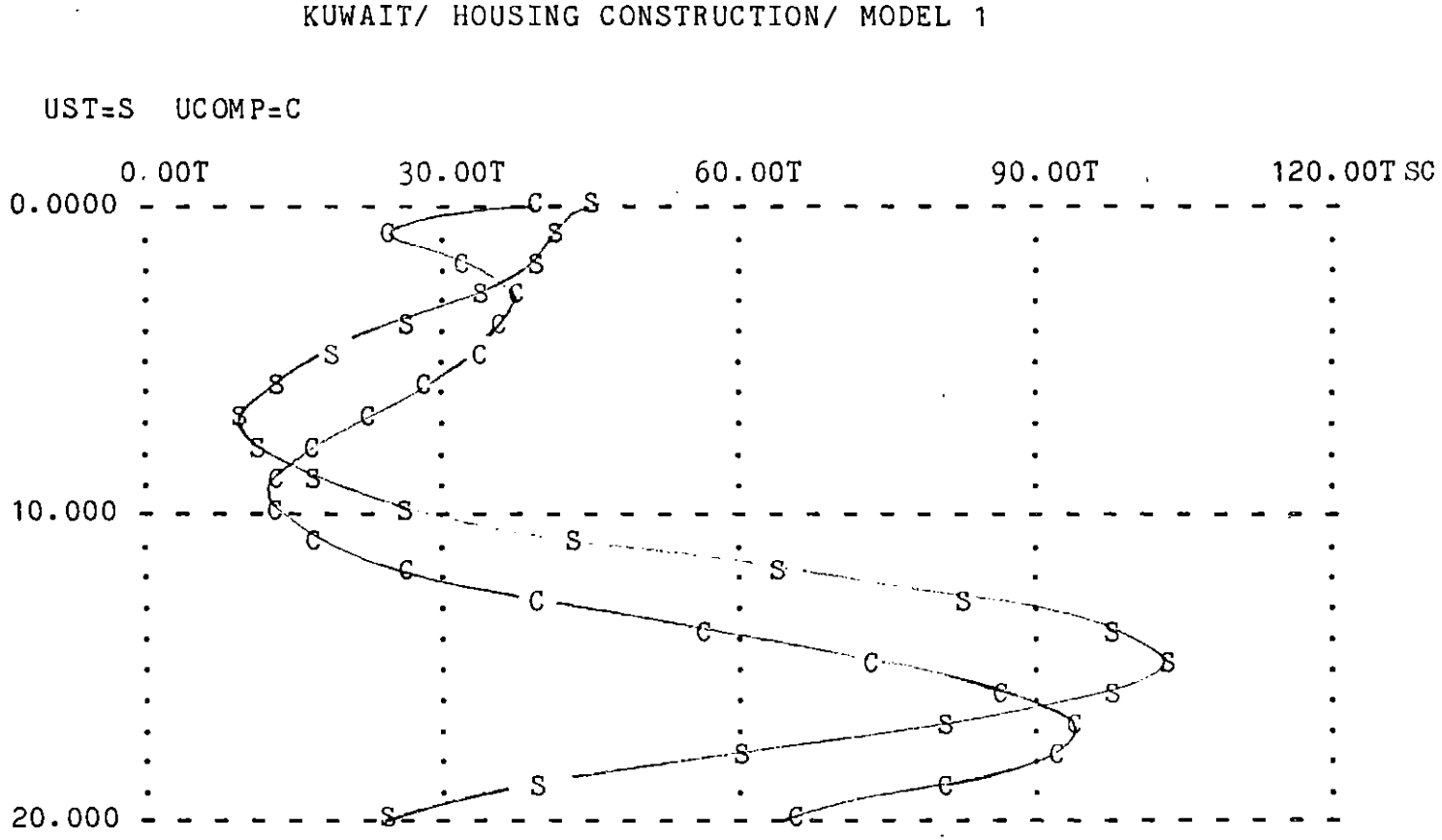

Figure 4.9

Numbers of Housing Units
Started and Completed

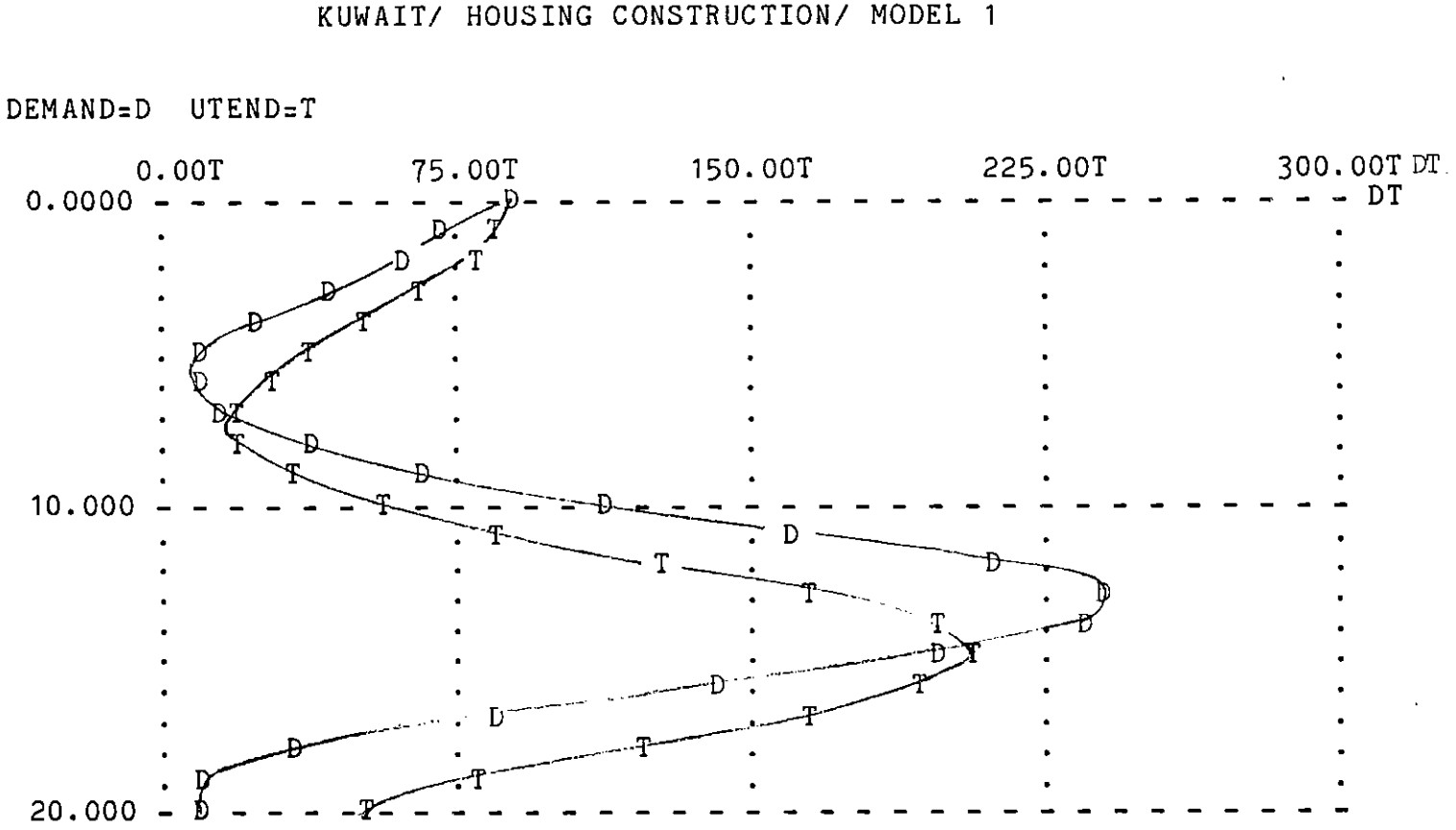

Figure 4.10

Numbers of Housing Units Demanded
and Announced for Tendering

construction delay drops from $2\frac{1}{2}$ to $1\frac{1}{2}$ years.

D) More Demographic Pressure in Favor of the Kuwaiti population (DPRES). The pressure increases proportionately (straight line) from 0.9 to 2.5 as the size of the Kuwaitis segment relative to the foreigners decreases from three to zero. A proportionately less than one pressure is exerted on the foreign population (DPF) up to the point the Kuwaitis segment reaches double the size of the foreigners, and thereafter it stabilizes at a value of one.

E) Double the Time Delay for Averaging Shortage (STDEL), and 50% Increase in Tendering Delay Effect (TENDEL).

F) Same as in (D) plus (E) above.

G) Same as in (F) above, plus 1.5 Step Increase in the Number of Housing Units Started (UST).*

H) 50% Increase in the Number of People per Housing Unit (REQFR). This represents an increase from 5 to 7 people per housing unit.

For the sake of clarity and conciseness, the main results of the relevant computer runs are summarized in Table 4.1. For the same reason, details of the numerical changes and some of the generated graphs are included in Appendix B.

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*The step increase represents a psychological impulse on the side of the decision makers to offset the affects of lack of promptness in taking required decisions, as a hedge for the future.

Changes	Basic Model	A 20% reduction in rates of population net births increase	B Less shortage pressure	C 33% reduction in rates of population net birth increase Less shortage pressure 40% proportional reduction in construction delays 20% increase in technology effect	D More demographic pressure in favor of the Kuwaiti segment	E Double delay (STDEL) for averaging shortage → demand 50% increase in bias affect (TENDEL)	F Same as changes in D and E	G Same as changes in D and E Step increase (TENIN) of 1.5 in number of units started	H 50% increase in number of people per housing unit (REQFR), i.e., from 5 to 7
Population After 20 years									
Kuwait	2,654,000	1,984,000	2,654,000	1,648,000	4,190,000	2,654,000	4,190,000	4,188,000	2,652,000
Foreign	1,769,000	1,438,000	1,773,000	1,272,000	1,938,000	1,779,000	1,948,000	1,949,000	1,777,000
Total	4,423,000	3,422,000	4,427,000	2,920,000	6,128,000	4,433,000	6,138,000	6,137,000	4,429,000
% Population Kuwaiti/ Foreign	150%	138%	150%	130%	216%	149%	215%	215%	149%
Foreign/Total	40%	42%	40%	44%	32%	40%	32%	32%	40%
Kuwaiti population exceeds Foreign population in year:	7	9	7	10	5	7	4	5	7

Table 4.1

Summary of Model Changes Results
(Source: Appendix B)

	Basic Model	A	B	C	D	E	F	G	H
Shortage: Bottom/Yr. Top/Yr. Bottom/Yr.	19,000/6 149,000/14 27,000/ after 20	2,000+/6 127,000/14 8,000+/ after 20	30,000/6 141,000/14 83,000/ after 20	9,000+/4 86,000/12 29,000/17	44,000/5 180,000/14 105,000/19	48,000/4 180,000/18 171,000/ after 20	57,000/1 Continuous Increase: 243,000/ after 20	47,000+/7 279,000/16 3,000+/ after 20	28,000+/1 103,000/10 20,000+/16
Maximum Number of Units Announced (UTEND)/Yr.	206,000/15	169,000/15	168,000/16	93,000/13	251,000/15	247,000/ after 20	333,000/ after 20	326,000/18	151,000/11
Units under Construction Maximum Number/Yr.	233,000/17	192,000/17	198,000/17	67,000/14	291,000/17	196,000/20	270,000/20	604,000/20	170,000/13
Minimum Number/Yr.	32,000/9	14,000/9	46,000/9	5,000/8	73,000/8	57,000/8	6,000/10	36,000/12	2,000/5
Pattern:	Cyclic	Cyclic	Cyclic	Cyclic	Cyclic	Steady Increase after year 8	Steady Increase	Cyclic	Cyclic
Number of Units Available (UAVAIL) in year 20	858,000	693,000	803,000	526,000	1,111,000	713,000	985,000	1,230,000	570,000

Note: All figures are rounded to the nearest 1,000.
(+)Denotes surplus

Table 4.1 (Continued)

Summary of Model Changes Results
(Source: Appendix B)

Under the most favorable conditions (case C), the population still increases to a sizeable 2,920,000 at the end of the twentieth year. This represents 116% increase from the present 1,350,000. The demographic pressure in favor of the Kuwaiti segment has a marked effect on a rapid increase of the population. In all of the three cases (D, F and G) it reaches a staggering level of over six million. Nevertheless, despite this pressure, the relative size of the foreign population does not decrease appreciably. It remains constituting a good 32% at the end of the period, dropping from only 44% in the worst case (C). No significant changes are apparent with respect to the temporary immigrants segments. Its size continues to decline steadily, reaching zero or so at the end of the period.

In general, housing shortage reflects a cyclic pattern with various intensities, except in case (F) where it depicts a continuous increase. In four cases (A, C, G and H) surplus occurs for various periods. However, only in case (G), is the surplus relatively significant. In cases (A and C), the surplus can be traced to the reduction in the rates of net births increase, while in case (G) to the step increase in the number of housing units started and in case (H) to the increase in the number of people per housing unit. Despite these surpluses, the shortage is apparent and dominant in all cases.

The highest number of housing units under construction at any particular time during the 20 year period ranges from

67,000 (case C) to 604,000 (case G), and the lowest number from 2,000 (case H) to 73,000 (case D). The pattern is again cyclic, except in cases (E and F) where it shows a continuous increase. The shortest range occurs in case (C), where the number varies from 5,000 minimum in the eighth year to 67,000 maximum in the fourteenth year. Except for case (C) where several factors have to be present simultaneously, which is not reasonably probable, the results indicate an appreciable volume of activity in the industry at all times.

CHAPTER V

IMPLICATIONS AND TRENDS

"The relevant fact of life are too many
and too varied to make it possible to reach
decisions without a strong intuitive feeling."
Jan Tinbergen

Population

The model indicates an increase in population from 1,350,000 in 1980 to 4,423,000 in 2000, i.e., an increase of 328%. This might seem, on an off hand assessment, an exaggeration. Certainly, new factors could emerge in the future to limit the growth, especially when it reaches a dangerous level. One argument in this respect is that with the spread of education, there will be more awareness of a social responsibility of some sort, and therefore lower fertility rate, i.e., lower population increase rate.

This argument overlooks two catalysts, which rendered education effective in limiting population growth in many industralized countries: population congestion and environment degration. These do not seem to play a role in Kuwait.

Apart from the scarcity of fresh water which is being tackled through desalination plants and an agreement with Iraq to receive fresh water in exchange for electricity,

Kuwait's area can accommodate more inhabitants. Assuming the model projections materialize, population distribution will be 248 people/sq. km. in the year 2000 which is still below that of many countries.

Additionally, though illiteracy experienced continuous decline, it still was 40% in 1975, with the highest concentration in the non-adult segment of the population.(1) Another element of concern is the local religious, social and economic aspects mentioned earlier which keeps the country divided between adopting western life and keeping aloof from it. The combined effect of all these factors indicates that the effect of the spread of education on lowering the net birth rates in Kuwait will remain marginal for a reasonably long time.

Considering that during development, not only the population increases, but the levels of expectations do so also, simultaneously, it is only shortsightedness to overlook the realities of population explosion in developing countries, especially those with capital surplus such as Kuwait. From a psychological point of view, the threat of being a small country surrounded by not few larger and stronger neighbors, and the abundance of revenues coupled with relatively high illiteracy rate, might indeed prove to play a more dominant role than pure rational analysis. History tells us that in such situations, rationality is a "luxury", and basic selfish self-interests prevail.

Under the circumstances, it seems wise for the Kuwaitis to take whatever action is necessary to stabilize the population structure and bring its growth under control. Two options are open for them. The first is to exert more pressure in favor of the Kuwaiti segment, by severely limiting migration and the resident foreigners. This seems to be an unmanageable proposition in the light of the country's political realities, and the Kuwaitis' economic dependence on the foreigners.

The second option is for the Kuwaitis to overcome their bias and agree to grant the resident foreigners citizenship status. Needless to say, constraints would have to be imposed, such as limiting the measure to those born in the country and/or to those who have been living there for reasonably long periods. The immediate effect would be stronger bounds amongst the various segments of the society. At the very best, the resident foreigners feel presently no more than a symbolic sense of belonging to Kuwait. By accepting them as participating members and not mere employees, granting them equal privileges, and weakening the psychological barriers separating them from the Kuwaitis, this sense might be translated into responsible commitment to the welfare of the country. The fact that the majority of the foreigners are Arabs with whom the Kuwaitis share a common heritage of historical, cultural, and ethnic bounds, is an added advantage. Moreover, if one considers the wider scope of Arab--and not

Kuwaiti, per se--aspirations, and looks upon the region as an entity, then the future seems to be common among the various segments of the region's people.

It is true that the structure will remain incoherent for sometime. Nevertheless, it will at least be more coherent than it is now, and will improve with time. Regardless of how drastic this option might seem from the Kuwaitis' perspective, in the final analysis it might prove to be the basic mean which could make rational demographic planning possible. Other measures which might also prove effective in this respect include the introduction of compulsory education up to a certain grade, and the imposing of cultural migration standards. Apart from their positive impact on productivity, these measures would allow at important later stages, effective utilization of technology and therefore less need for foreign labor.

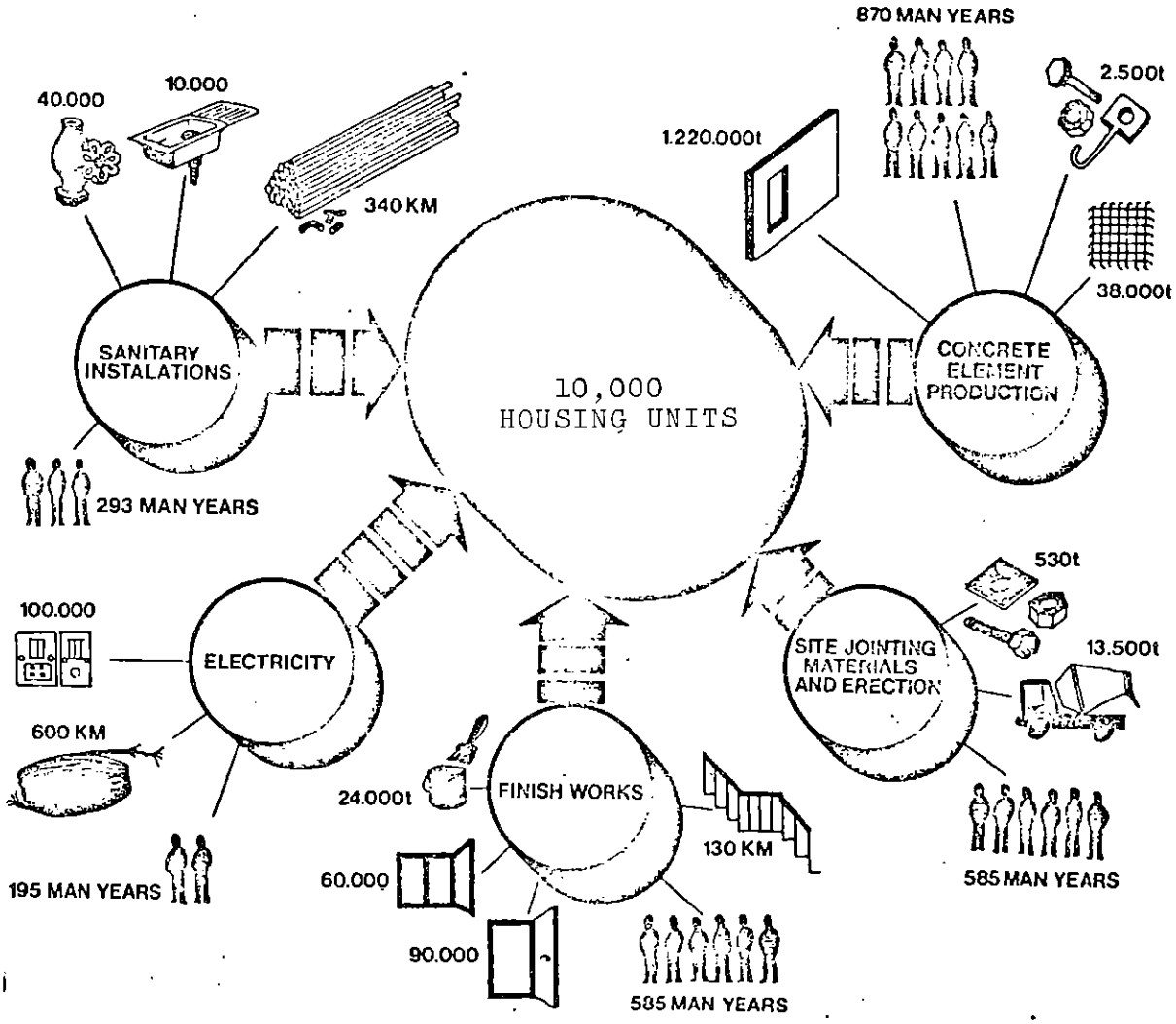
Housing Shortage and Construction Levels

The cyclic pattern of housing shortage depicted by the model is expected in the light of the interaction between the various components of the system. It might be useful to point out here that for the shortage to reach its bottom 19,000 units in the sixth year, which represents a small 5% of the total number of units in the country at that time, two measures are prerequisite.

First, the government housing policy will have to continue its vigorous pace. Otherwise, with the population growing at its present rate, the accumulated shortage will prove to be impossible to surpass. This is very much

dependent on three main factors: continuous availability of raw materials, and manpower (see Figures 5.1 and 5.2), access to high production technology, and last--but by no means least--, growth of the economy. While these factors are not readily recognized amid the enthusiasm for development, their net interaction, unless wisely assessed, usually generates an obstacle which is not easy to overcome.

Second, clearly an efficient and of a sufficient size housing infrastructure is to be developed concurrently. This infrastructure includes networks for roads, utilities, social services, and recreation facilities, as well as management systems for the forthcoming housing satellites. It is here that the immediate bottleneck will reside. For one thing, these requirements are costly and extend far beyond the local technical capabilities. For another, the social and managerial problems which will evolve are immense, and it is questionable whether Kuwait can cope with them. In Iraq, for example, while significant progress has been made toward increasing the number of housing units, the infrastructure kept lagging behind. To limit the size of utilities (sewers, electricity, telephone and water) and roads networks, the official housing policy emphasized multi-rise buildings. However, soon after the very first units were occupied, problems ranging from lifts and air conditioning, maintenance, parking, and buildings management, to compatibility with living habits forced a change in direction. The new Iraqi policy is oriented



Source: Iraqi Danish Symposium on Modular Coordination, Baghdad, April, 1978.

Figure 5.1

Estimated Requirements of Materials and Labor for the Production of 10,000 Housing Units

(European Standards/Industrial Buildings Methods)

Source: Iraqi-Danish Symposium on Modular Co-ordination, Baghdad, April, 1978.

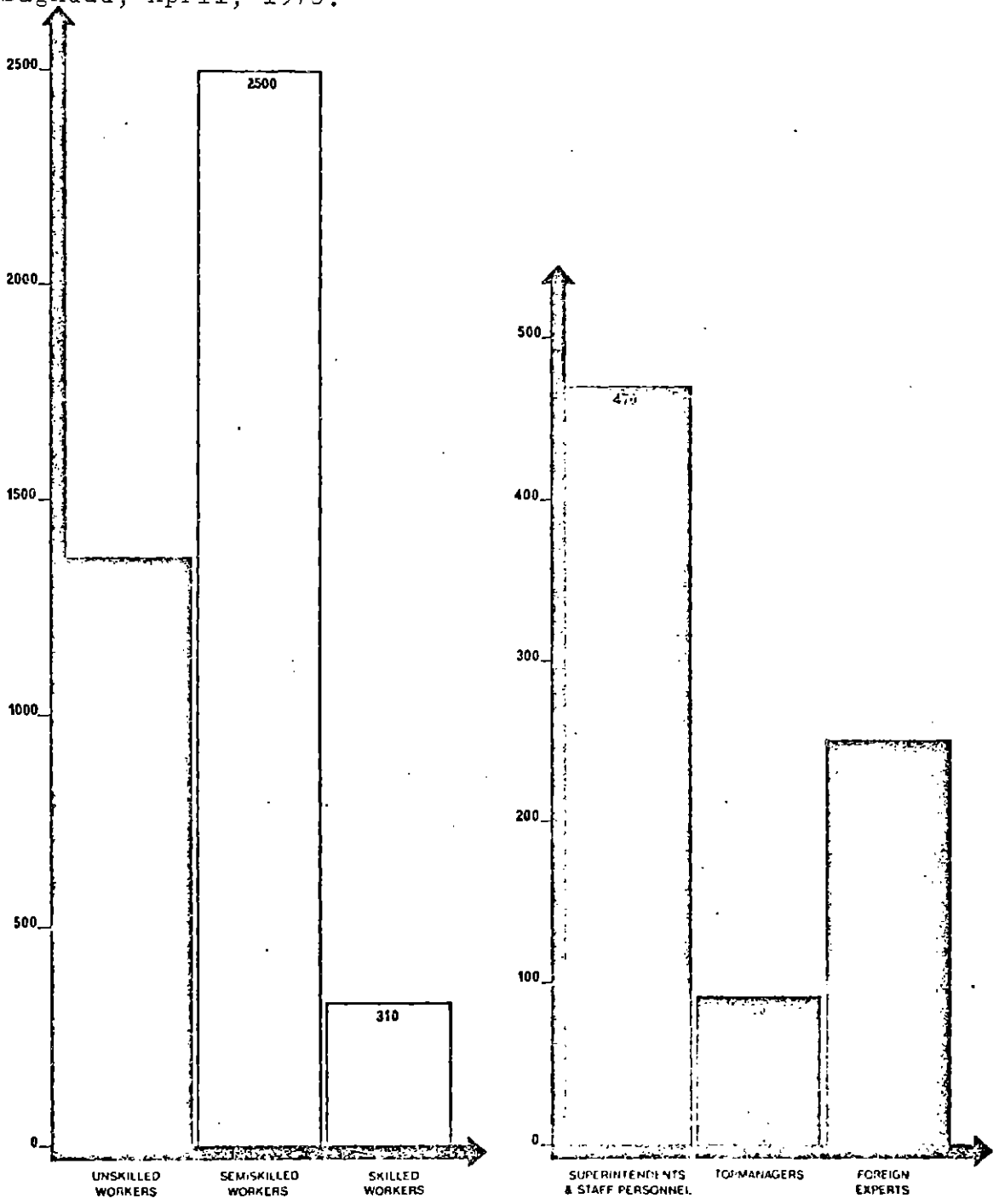


Figure 5.2

Estimated Requirements of Manpower for the Production of 10,000 Housing Units

(European Standards/Industrial Buildings Methods)

toward medium-rise buildings (3-4 stories) which hopefully might prove to be a happy compromise.

These two prerequisites are serious constraints on Kuwait's overall resources. The net effect which can be inferred is that optimism is not justified. The housing shortage, in all probability, will persist, though at less acute levels for the first few years.

The number of units under construction reaches a peak 233,000 units in the seventeenth year. This is more than the total number of units assumed to be in Kuwait in 1980, Additionally, the total number of units available in 2000 will be more than fourfold the 1980 total. These are the theoretical figures generated through the interaction of available financial resources, population growth and public demand. However, it is reasonable to be skeptical, considering the above arguments, that such high levels will indeed be reached. Consequently, it is safe to assume a more even cyclic pattern, with a sizeable portion of the activity directed from building housing units to constructing infrastructure networks.

Assessment of Risk in the Foreign Environment

Research findings indicate the following generally accepted observations.

Conflict with the Host Country

The most proximate cause behind the tension between the multinational enterprises and the host countries has been perhaps the "psychic" resentment of foreign investment. This

resentment stems from the association by many leaders of these countries, of the growth of the multinational enterprise with some of the perceived endemic ills of the modern industralized world itself. Amongst these perceived ills are:

- The efforts of various countries to create regional or wider areas of hegemony.
- The presence of corruption in high places.
- The pervasive waste and inequities in the distribution of rewards.
- The pollution and degradation of environment.

It must be noted that these ills are not the special hallmark of the multinational form of enterprise. They are present in countries where multinational enterprises are virtually barred as well as in those where the multinationals are substantially restrained.

Another source of tension arises from the growth of economic interdependence among national economies. As nations have been drawn together by various economic links some national leaders have been alarmed by the restraints that these links seemed to impose upon national autonomy and national choice.(2)

Classification of Risks

The risks facing foreign investment in developing countries can be broadly classified into two groups:

1) Financial risks including payment considerations, exchange rates, differential in inflation, devaluation, tax, etc.
2) Political risks either relating to the stability of the country per se where an upheaval might

bring out economic and/or social discontinuities detrimental to all business activities or relating to the impact of forces detrimental only to the interests of the foreign investors.(3)

Expropriation

Expropriation is a topic of constant "popularity" and concern to multinational corporations. It is widely assumed that expropriation is simply a manifestation of economic nationalism and anti-foreign bias. Recent findings, however, refute this and point out that expropriation more than being arbitrary and uncertain is rational and systematic. Moreover, it is a function of three interrelated factors. Stated briefly they are:

1) Sector: banking, insurance, natural resources and infrastructure industries are more vulnerable
2) Ownership Structure: joint ventures with locals are less vulnerable
3) Maturity of Technology and Global Integration: industries with less mature technology and more global integration are less vulnerable(4, 5)

Risk in the Kuwaiti Environment

Drawing on the special aspects of the Kuwaiti environment, following are the major implications with respect to the above findings.

Assuming that the foreign investor conducts his affairs in a reasonably good manner; possesses rational understanding of the local environment; and his activities are not, or portrayed one way or another as mainly serving the political objectives of his home state, financial risks other than those normally associated with business are not to be expected.

Several factors support this argument. First, with such an attitude there simply remains no cause for conflict with the perceptions of Kuwait's national interests. Second, there is no "psychic" resentment of foreign enterprise. As a matter of fact, many of the Kuwaitis are actively engaged in investment outside their country, and/or have substantial interests in the Kuwaiti subsidiaries of international firms. Third, Kuwait has a market economy system, social progress is accelerating, and economic vitality is the mode of the day. Moreover, democracy is practiced and well perceived. Though it has not yet reached the Western extent, nevertheless it is, in all fairness, commendable relative to the region. Finally, despite its capital surplus, the problems facing Kuwait extend far beyond the capabilities of the country to deal with, without resorting to foreign assistance, especially in the technical and managerial areas.

Inferring from the same argument, difficult constraints affecting foreign firms are not expected to be imposed by the government. Additionally, such measures require a

bureaucracy with the ability to design, apply, and enforce rather complex regulations, which is not the case in Kuwait.*

From the above, it thus seems safe to conclude two things. First, that the risks facing foreign investments in Kuwait are basically confined to political risks which are detrimental to all businesses and not limited to foreign investors. Second, that the origin of these risks is exogeneous to the environment. In other words, political risks are more a function of international than national circumstances. This is clearly reflected in the concern that the U.S. exhibits in the "stability" of the region. It is considered of such vital interest that the U.S. is prepared to use force to maintain its "stability".**

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*Effective control of foreign investment is almost by definition quite difficult. To relate conflict with the host country government to the foreign firm, two factors have to be considered: the nature of the conflict, and by this it is meant conflict to the extent that it motivates a governmental action; and if such a conflict develops the government administration must have the capacity to enforce its position.(6)

**The United States has embarked on a five-year plan to construct or expand a string of military bases across the Middle East and the Indian Ocean in support of American naval, ground, and air forces in the area, Administration officials said today.

Officials familiar with the plan indicated that it would cost well over $2 billion but declined to be specific because the projected cost is being kept secret. In addition, one official said, many operational decisions were yet to be made because of the "dynamic situation" in the region. (The New York Times, March 12, 1981)

The large foreign residents sector which is basically composed of immigrants from nearby countries might constitute a potential threat to Kuwait internal political stability. However, it appears that so far, this sector is very much occupied in making the most of his presence in Kuwait in terms of personal financial gains. Also, various measures and legal constraints had already been taken to neutralize adverse actions by the foreign population. Moreover, it is the international political developments in the area such as a Communist interference, a new wave of war between the Arabs and Israel, or another coup d'etat that might trigger action by this sector and not the internal situation per se. It can be rationalized, in retrospect, that for U.S. firms, strange as it may seem, much of the triggering element for the risks facing their subsidiaries in that part of the world lies with their home country (U.S.) and not the host country (Kuwait).

Politics in the Region: The Arab-Israeli Conflict

An important factor which merits special consideration due to its impact on the government's strategic decisions and ultimately the business climate in general and foreign investors in particular is the state of the Arab-Israeli conflict. In the words of Sheik Ahmed Zeki Yamani, the oil minister of Saudia Arabia, "to the Saudis, there are only two threats in the world: International Communism and Israel. The first helps to reinforce our friendship with America,

while the second is a threat to that friendship".* This factor, it is believed can best be examined within the context of the broad nationalistic trend which had been taking place with various intensities since the early twenties.

In its totality, nationalism and the Arab-Israeli conflict (see Appendix C) pose a serious question to Kuwait. Given Kuwait's unique portfolio of parameters (see Chapter II, Overview), the question revolves mainly around two aspects: the degree of congruency between national-Arab and national-Kuwaiti goals; and the structure (form and process) of material (actual) participation in the Arab nationalist movement. While there is no disagreement about the former, the latter is a different matter. Basic self interests are afterall only to be expected. Nevertheless, it is hard for the Kuwaitis to understand, not to say accept, U.S. passive, if not hostile, attitude toward their Kuwait/Arab national aspirations, in the face of their belief in capitalism, investment in the west and reluctance to use oil in a coercive manner. The Kuwaitis are amongst those Arabs who can understand the interplay of special interest groups in the U.S.,

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*The Wall Street Journal, April 24, 1981. Few knowledgable in the area will disagree that nowadays, these words do reflect the point of view of Kuwait as well as the other Arab states in the Gulf.

and of all the factors that make it difficult for American officials and media to understand the broad Arab, and Palestinian aspirations. However, this does not mean willingness to gloss over what they perceive to be inaccuracies and distortions. Moreover, neither, with their "bedouin" mentality, do they want to gloss over these issues, nor, with their regional position and internal situation, can they afford.

The net impact of a disregard to the Arab feelings, unrealistic assessment of their perspective--regardless of whether or not this perspective is agreed with--and a pure emotional attitude, could cause among other things:

- Loss of an economically important and attractive market
- Deterioration of the political stand of the U.S. in a strategically important part of the world
- Strengthening the possibilities of detonating a potentially explosive conflict, through weakening the prospects of a more understandable attitude from the Arabs

In brief, the Arabs, specifically the so called "moderates" among them, such as the Kuwaitis and the Saudis, argue that in as much as they are anxious to achieve through peaceful measures their rightful aspiration, they are anxious to preserve their sovereignty. To advise otherwise, is to advise to close one's eyes and dream that one can eat one's cake, and enjoy it too.

Operating Strategy

The subsidiary of a multinational corporation is an entity created under the laws of the country in which it operates and therefore is responsive to the sovereign that sanctions its existence. Yet, on the other hand, as a unit in a multinational network, it must also be simultaneously responsive to the needs and strategies of the network as a whole. Consequently, the subsidiary is inescapably the target of a set of influences that stem from factors present in three different domains: the host country, the home country, and the corporate headquarters.(7)

The inputs to the determination of an appropriate strategy for the subsidiary are thus far more complex than is the case if it was operating within the national boundaries of the parent company's home country. Formulation of the strategy requires a more rigorous analytical and conceptual ability, and its implementation demands a highly elastic, flexible, yet strong-administrative skill.

For the aggressive companies seeking wider market opportunities in Kuwait, the primary goal remains the cardinal of profit maximization, growth, asset protection and survival. One of the main factors affecting this goal attainment is the local society's perception of the company's image as a "good corporate citizen" in matters affecting the national economic interests, as well as in non-economic areas of social concern.

Thus, once the company starts to operate, it has no alternative but to adapt in some fashion to the political, social, and economic conditions it encounters there. Consequently, it is imperative to develop--with full awareness of the relevant power relations--a strategy for establishing "legitimacy" within the country. An indirect objective of this strategy is to refute viewing the company's operations as an illegitimate extension of the power of its parent state. For American companies, the image of the U.S. in developing countries is as much a factor of success as it is of failure.

Developing such a strategy demands, among others:

- Understanding the social objectives of private enterprise, noting that the Kuwaitis are strongly individualistic and entrepreneurial.

- Apprehensive attitude towards the current role of the government, and adequate knowledge of the government's priorities and the measures it is taking to implement them. (It should be realized that economic policies are devised by political men under pressure).

- Proper skill in handling both the government and the public feelings.

- Rational assessment of the current state of nationalistic feelings. In this respect, nationalism should be viewed as an aggregate of three national elements: interest, sovereignty and identity.(8, 9, 10)

The subsidiary manager plays an important role with a dual function: information processing and external representation.

The local environment could be treated as information available through search or exploration. This information is various: strategic, managerial and technical. However, in all cases, the manager is to act as both a filter and a facilitator.(11) Public affairs function has to do with affecting a convergence between corporate strategy, political decision, and social change. It is important to note that this function, as defined here, is quite distinct from the traditional public relations functions which is really part of corporate marketing in that it is targeted toward improving the company's image for the specific purpose of enhancing acceptance of the company's products.(12)

To summarize, profitable operations dictate the right policy which should set the limits to what is feasible and desirable. Therefore it is not a matter of going to or staying in Kuwait at any cost, but rather it is setting up criteria guidelines on the one hand, and scanning the environment for current and future developments to see if these criteria and guidelines need to be changed, on the other. The net effect should be an ability to create conditions in which the corporate company autonomy is seldom challenged while concurrently the subsidiary is not placed at some disadvantage in competition with domestic or other foreign firms.

Chapter V - References

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CHAPTER VI

SUMMARY

"My community will not
agree on what is wrong."
Muhammad

Background

Kuwait is a small country with enormous wealth relative to its size that stems from a single, non renewable source (oil), and unstable demographic profile. These internal factors when coupled with a geographical location amid a region rich in turmoil render the market for foreign investment economically attractive, yet at the same time politically questionable.

The government controls the disposal of oil and all related activities. Consequently, while the aggrega e economy is almost totally dependent on the oil industry, the economy outside the oil sector is heavily dependent on the government. The major economical issue facing the country is how to satisfy simultaneously the social contents of development, a future infrastructure capable of sustaining the economy, independently of oil, and political criteria. Significant trends include increased emphasis on industralization with diversification within the oil sector being a prime target, export oriented industralization policy, heavy expenditures on social

services, and isolation of the internal situation from the effects of regional political instability.

The demographic structure displays a rapid growth, which presently is running at an estimated 6.1%. According to April, 1980 census, the total population is 1,355,000, 36.5% up from 1975 total of 995,000. The indigenous segment of the population plays less of a role than it would normally be expected. First, its share is a low 41.5%. The rest are mostly other Arabs, and some Iranians, Indo-Pakistanis and others. Second, it is dominated by young, economically unproductive population. On every level, the country depends heavily on non-Kuwaiti labor and expertise. The determinate factors of the informal demographic policy are thus the psychological "threat" feeling amongst the Kuwaitis of being a minority in their own country on the one hand, and the need for imported labor, on the other.

The rapid increase in population generated a housing shortage crisis. In turn, this shortage combined with capital surplus resulted in an increased activity in the building industry. By 1978, $4 billion were allocated for housing. It was estimated that between 1980 and 1990, Kuwait will have to build 319,000 housing units, and 800,000 people were to be housed on projects under construction, while 1,200,000 others on new projects yet to be started. Nowadays, rather large housing projects, complete with the necessary social services buildings are either completed or are at hand. Main features

of the building industry are: a growing source of demand for material and know how, a nascent manufacturer, the development of Kuwait as a regional warehouse, and a pacesetter in styles and trends in the region.

Through a System Dynamics approach which draws on library research and personal contact with the environment, the thesis attempted to examine the impact of the sociopolitical factors with respect to the feasibility of the market for foreign investment in the building industry; and the apparent trends and implications. A simple System Dynamics model was developed to serve basically the purpose of highlighting the trends and implications.

Conclusion

Stabilization of the population structure, and bringing its growth, in both volume and direction, under control is a prerequisite for rational economic planning. Assuming continuity of the present growth rate, the population will roughly triple in 20 years. This growth has a direct impact on the housing shortage situation, and therefore on the feasibility of the market. Two factors are considered determinate: the rate of population growth relative to the rate of construction, and the sociopolitical situation which governs the priorities' allocations, mainly the financial resources budgeted by the government for the specific purpose of housing, and the extent of the administrative responsiveness to the shortage.

However, even with adequate financing and response, an immediate bottleneck resides in the additional requirement of providing concurrently with the new housing units an infrastructure of networks for roads, utilities and social services, as well as suitable management systems. This requirement extends beyond Kuwait's local capabilities to deal with, without resorting to outside assistance. It is not hard to infer, consequently, an anticipation of further appreciable activity in the building industry. In fact, taking population growth with the relevant technical, political and administrative factors, but with no financial constraints, the model depicts cyclic continuities of both housing shortage, and appreciable number of housing units under construction. Hence, the conclusion that, at least in terms of size alone, a reasonably large market for foreign investment does exist. Moreover, considering the export oriented industrial trends mentioned earlier, the market size is, in reality, larger than what it would initially be assessed.

Given Kuwait's economic vitality, its market economy system, and the social progress achieved so far, the market should additionally prove attractive. As long as the foreign investor conducts his affairs in a reasonably good manner, possesses rational understanding of the local environment, and his activities are not portrayed as mainly serving the political objectives of his home state, financial risks, other than those normally associated with business are not to be

expected. In an aggregate sense, the laws and regulations governing foreign investment facilitate the issue more than constrain it. The only major constraint is limiting majority shares in joint ventures to the Kuwaitis. Nevertheless, from a different point of view, this measure has indeed some positive effects, as it enhances acceptance of the foreign investor in the new environment and virtually ensures illimination of an adverse governmental action. However, there still remains another factor to consider. Specifically, this is limited to the political risks detrimental to all business activities in the area and not only to foreign enterprise. As such, it is not a function of the country per se; rather, it is a function of the regional stability which in turn is a function of international factors. An important aspect in this respect is correct assessment of both Arab and Kuwait nationalistic feelings, and their broadly congruent political perspectives, regardless of whether or not the persepective is agreed with.

Within the above context success of the foreign investment venture in Kuwait ends up in being basically a function of the operating strategy, an important element of which is suitable technology. The local environment could be treated as information available through search or exploration, and in all cases the local managers are to act as both filters and facilitators of information. The net effect should be

an ability to utilize the opportunity to create conditions in which the corporate company autonomy is seldom challenged while at the same time the local venture is not placed at some disadvantage in competition with domestic or foreign firms.

APPENDIX A

MODEL EQUATIONS AND DEFINITIONS
(BASIC MODEL ASSUMPTIONS AND RUN)

```
* KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1
*
*
* ..................... SUBSYSTEM  A .....................
*
* ..................... POPULATION .....................
*
*
A POP.K=POPK.K+POPF.K
A POPF.K=POPNK.K+TMIG.K
*
*
L POPK.K=POPK.J+DT*NBK.JK
R NBK.KL=POPK.K*FRINK.K
A FRINK.K=ANBK*DPRES.K
C ANBK=0.064
N POPK=560000
*
L POPNK.K=POPNK.J+DT*NBNK.JK
R NBNK.KL=POPNK.K*FRINNK.K
A FRINNK.K=ANBNK*DPF.K
C ANBNK=0.059
N POPNK=710000
*
L TMIG.K=TMIG.J+DT*(RMIGIN.JK-RMIGOT.JK)
N TMIG=80000
R RMIGIN.KL=AUST.K*MIGFRI.K*DPF.K
A MIGFRI.K=(1/10)*(1-RAMP(TECHEF,1))
C TECHEF=0.04
*
*
NOTE TECHEF=0 FOR NO TECHNPLOGICAL EFFECT
*
*
R RMIGOT.KL=AUCOMP.K*MIGFRO.K
A MIGFRO.K=(1/10)*(1+RAMP(TECHEF,1))
*
*
A DPRES=TABLE(TDPRES,POPK.K/POPF.K,0,3,0.5)
T TDPRES=2.00/1.50/1.25/1.10/1/0.90/0.9
*
*
A DPF.K=TABLE(TDPF,POPK.K/POPF.K,0,3,0.5)
T TDPF=0.00/0.50/0.75/0.90/1.00/1.10/1.10
*
NOTE ...TDPF=2-DPRES
*
*
```

```
* PAGE 2/ KUWAIT /HOUSING CONSTRUCTION / MODEL 1
*
*
* ..................... SUBSYSTEM B .....................
*
* ..................... HOUSING POLICY ...................
*
*
A UREQ.K=POP.K*REQFR
C REQFR=0.2
*
A SHORT.K=UREQ.K-UAVAIL.K
*
A DEMAND.K=SHORT.K*SPRES.K
A SPRES.K=TABHL(TSPRES,UAVAIL.K/UREQ.K,0.5,1,0.1)
T TSPRES=3.0/2.3/1.8/1.4/1.0/0
A UTEND.K=SMOOTH(DEMAND.K,STDEL)
C STDEL=2
*
*
NOTE FOR UAVAIL>UREQ, TSPRES=0, DEMAND=0
*
*
L C1.K=C1.J+DT*(UST.JK-UCOMP1.JK)
N C1=CIN
R UCOMP1.KL=C1.K/COND1
C COND1=0.5
*
*
L C2.K=C2.J+DT*(UCOMP1.JK-UCOMP2.JK)
N C2=CIN
R UCOMP2.KL=C2.K/COND2
C COND2=1.5
*
L C3.K=C3.J+DT*(UCOMP2.JK-UCOMP.JK)
N C3=CIN
R UCOMP.KL=C3.K/COND3
C COND3=0.5
*
A CONST.K=C1.K+C2.K+C3.K
C CIN=20000
*
NOTE CONST(UNITS UNDER CONSTRUCTION)=STARTUP AND FOUNDATION( C1)
*     +STRUCTURE( C2 )+FINISHING WORK( C3 )
*
NOTE TOTAL CONSTRUCTION DELAY  ( 0.5+1.5+0.5=2.5 ) EQUIVALENT
*     TO DELAY3(UST)
*
```

```
PAGE 3/ KUWAIT / HOUSING CONSTRUCTION /MODEL 1
*
*
R UST.KL=(UTEND.K/TENDEL)*(1+STEP(TENIN,TIME))
C TENDEL=2
C TENIN=0
*
*
NOTE TENIN=0 FOR NO STEP INCREASE IN UNITS TENDERED
*
*
*
A AUST.K=SMOOTH(UST.JK,AWAVR)
C AWAVR=3
A AUCOMP.K=SMOOTH(UCOMP.JK,AWAVR)
*
L UAVAIL.K=UAVAIL.J+DT*(UCOMP.JK-UDEMO.JK)
N UAVAIL=210000
*
R UDEMO.KL=UAVAIL.K*DEMOFR
C DEMOFR=0.025
*
*
*
```

```
* PAGE 4/ KUWAIT/ HOUSING CONSTRUCTION / MODEL 1
*
*
* ..................... CONTROL STATEMENTS ...................
*
*
SPEC DT=0.25/PLTPER=1/PRTPER=1/LENGTH=20
*
PLOT POPK=K,POPF=F(0,3000000)
PLOT POP=P(1000000,5000000)
PLOT TMIG=M(0,80000)
PLOT UST=S,UCOMP=C(0,120000)
PLOT DEMAND=D,UTEND=T(0,300000)
PLOT UAVAIL=U,UREQ=Q
PLOT SHORT=H(0,150000)
PLOT CONST=O(0,300000)
*
PRINT POPNK,TMIG,POPF,POPK,POP
PRINT DPRES,FRINK,DPF,FRINNK
PRINT UREQ,UAVAIL,SHORT,DEMAND,UTEND
PRINT UTEND,UST,CONST,UCOMP,UAVAIL,UDEMO
PRINT AUST,RMIGIN,AUCOMP,RMIGOT,TMIG
*
OPT P
*
```

PAGE 5/ KUWAIT/ HOUSING CONSTRUCTION MODEL
*
*
..... DEFINITIONS .....
*
*
POP..... Population (N. People)
POPK..... Kuwaiti Population (N. People)
POPF..... Foreign Population (N. People)
POPNK..... Resident Foreigners Population (N. People)
TMIG..... Temporary Migration (N. People)
*
NBK..... Net Births increase Rate, Kuwaiti (N. People/Year)
NBNK..... Nete Births Increase Rate, Resident Foreigners
(N. People/Year)
FRINK..... Fractional Increase, Kuwaiti (1/Year)
FRINNK.... Fractional Increase, Resident Foreigners (1/Year)
ANBK..... Average Net Births Increase, Kuwait (1/Year)
ANBNK..... Average Net BIrths Increase, Resident Foreigners (1/Year)
*
DPRES..... Demographic Pressure, Kuwaiti
DPF..... Demographic Pressure, Foreign Population
TDPRES.... Table Demographic Pressure, Kuwaiti
TDPF..... Table Demographic Pressure, Foreign Population
*
RMIGIN.... Coming Migration Rate (N. People/Year)
RMIGOT.... Leaving Migration Rate (N. People/Year)
MIGFRI.... Coming Migration Per Housing Unit (N. People/Unit)
MIGFRO.... Leaving Migration Per Housing Unit (N. People/Unit)
TECHEF.... Techonolgy Effect
*

PAGE 6/ KUWAIT/ HOUSING CONSTRUCTION MODEL
*
*
UREQ..... Number of Housing Units Required (Units)
REQFR..... 1/Number of People Per Housing Unit (Units/N. People)
UAVAIL.... Number of Housing Units Available (UNITS)
SHORT..... Shortage in Number of Housing Units (Units)
*
DEMAND.... Number of Housing Units Demanded (Units)
SPRES..... Housing Shortage Pressure
TSPRES.... Table for Housing Shortage Pressure
UTEND..... Average Number of Housing Units Announced for
Tendering (Units/Year)
STDEL..... Statistical Delay for Averaging Demand (Year)
*
UST..... Number of Units Started Per Year (Units/Year)
TENDEL.... Affect of Delay in Accepting Tenders Submitted and
Actual Start of Work (Bias)
TENIN..... Time for Starting a Step Increase in UST
UCOMP..... Number of Housing Units Completed Per Year (Units/Year)
UDEMO..... Number of Housing Units Demolished Per Year (Units/Year)
DEMOFR.... Demolishing Fraction (Year)
*
CONST..... Number of Housing Units Under Construction (Units)
C1..... Number of Housing Units Under Construction, Stage 1 (Units)
C2..... Number of Housing Units Under Construction, Stage 2 (Units)
C3..... Number of Housing Units Under Construction, Stage 3 (Units)
CIN..... Initial Number of Housing Units Under Construction (Units)
COND1..... Construction Delay, Stage 1 (Year)
COND2..... Construction Delay, Stage 2 (Year)
COND3..... Construction Delay, Stage 3 (Year)
*
AUST..... Average Number of Housing Units Started Per Year
(Units/Year)
AUCOMP.... Average Number of Housing Units Completed Per Year
(Units/Year)
AWAVR..... Time for Averaging Number of Units Started and Completed
(Year)

- 3 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

TIME E 00	POPNK E 03	TMIG E 03	POPF E 03	POPK E 03	POP E 03
0.000	710.0	80.000	790.0	560.0	1350.0
1.000	736.0	78.824	814.8	611.4	1426.2
2.000	763.9	78.030	841.9	666.7	1508.6
3.000	793.8	77.119	870.9	726.0	1596.9
4.000	825.8	75.828	901.7	789.6	1691.2
5.000	860.3	74.070	934.3	857.6	1791.9
6.000	897.2	71.886	969.1	930.2	1899.3
7.000	936.9	69.420	1006.3	1007.7	2014.0
8.000	979.4	66.868	1046.2	1090.4	2136.6
9.000	1024.4	64.431	1088.9	1179.0	2267.9
10.000	1072.4	62.277	1134.6	1273.8	2408.5
11.000	1123.3	60.481	1183.8	1375.3	2559.1
12.000	1177.5	58.983	1236.5	1483.7	2720.2
13.000	1235.1	57.557	1292.6	1599.5	2892.2
14.000	1296.3	55.787	1352.1	1723.2	3075.3
15.000	1361.5	53.090	1414.6	1855.2	3269.7
16.000	1430.9	48.831	1479.7	1995.8	3475.5
17.000	1504.8	42.512	1547.3	2145.6	3692.9
18.000	1583.5	33.975	1617.5	2305.0	3922.5
19.000	1667.5	23.507	1691.0	2474.4	4165.5
20.000	1757.2	11.777	1768.9	2654.4	4423.4

P- 4 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

TIME E 00	DPRES E 00	FRINK E-03	DPF E 00	FRINNK E-03
0.000	1.3956	89.316	.60443	35.661
1.000	1.3748	87.988	.62519	36.886
2.000	1.3541	86.659	.64595	38.111
3.000	1.3332	85.323	.66683	39.343
4.000	1.3121	83.978	.68785	40.583
5.000	1.2911	82.628	.70893	41.827
6.000	1.2701	81.284	.72993	43.066
7.000	1.2496	79.975	.75040	44.273
8.000	1.2373	79.189	.76266	44.997
9.000	1.2252	78.411	.77483	45.715
10.000	1.2132	77.645	.78680	46.421
11.000	1.2015	76.894	.79853	47.113
12.000	1.1900	76.161	.80999	47.789
13.000	1.1788	75.441	.82123	48.453
14.000	1.1677	74.730	.83234	49.108
15.000	1.1566	74.020	.84344	49.763
16.000	1.1454	73.303	.85464	50.424
17.000	1.1340	72.575	.86601	51.095
18.000	1.1225	71.839	.87751	51.773
19.000	1.1110	71.105	.88898	52.450
20.000	1.0999	70.393	.90011	53.107

P- 5 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

TIME E 00	UREQ E 03	UAVAIL E 03	SHORT E 03	DEMAND E 03	UTEND E 03
0.000	270.00	210.00	60.00	89.33	89.33
1.000	285.25	232.23	53.02	71.23	84.27
2.000	301.72	253.54	48.17	59.67	77.36
3.000	319.38	281.47	37.91	40.75	66.80
4.000	338.25	311.02	27.23	21.93	52.84
5.000	358.38	338.46	19.92	11.07	37.80
6.000	379.86	361.20	18.66	9.17	26.15
7.000	402.80	377.77	25.03	15.56	19.88
8.000	427.32	388.14	39.18	35.92	20.97
9.000	453.57	393.66	59.91	67.60	32.44
10.000	481.69	396.85	84.84	110.68	54.01
11.000	511.81	401.34	110.48	161.67	86.15
12.000	544.03	411.43	132.60	208.85	125.92
13.000	578.43	431.69	146.75	236.96	166.00
14.000	615.06	466.10	148.96	233.68	195.99
15.000	653.95	516.70	137.25	197.57	206.35
16.000	695.10	582.12	112.98	141.24	193.37
17.000	738.58	657.13	81.45	84.80	161.73
18.000	784.50	733.56	50.94	33.07	120.37
19.000	833.09	802.75	30.34	11.05	79.53
20.000	884.67	857.82	26.85	8.15	50.24

P- 6 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

TIME E 00	UTEND E 03	UST E 03	CONST E 03	UCOMP E 03	UAVAIL E 03	UDEMO E 03
0.000	89.33	44.67	60.00	40.000	210.00	5.250
1.000	84.27	42.14	76.33	23.761	232.23	5.806
2.000	77.36	38.68	89.93	32.608	253.54	6.339
3.000	66.80	33.40	92.29	36.651	281.47	7.037
4.000	52.84	26.42	86.31	36.486	311.02	7.775
5.000	37.80	18.90	74.36	33.287	338.46	8.462
6.000	26.15	13.08	59.46	28.015	361.20	9.030
7.000	19.88	9.94	45.37	22.014	377.77	9.444
8.000	20.97	10.48	35.23	16.734	388.14	9.704
9.000	32.44	16.22	32.19	13.400	393.66	9.842
10.000	54.01	27.00	38.98	13.282	396.85	9.921
11.000	86.15	43.07	57.18	17.312	401.34	10.033
12.000	125.92	62.96	87.32	26.033	411.43	10.286
13.000	166.00	83.00	127.26	39.402	431.69	10.792
14.000	195.99	98.00	170.99	56.126	466.10	11.653
15.000	206.35	103.18	209.13	73.341	516.70	12.917
16.000	193.37	96.68	231.83	87.101	582.12	14.553
17.000	161.73	80.87	232.87	93.733	657.13	16.428
18.000	120.37	60.19	212.70	91.492	733.56	18.339
19.000	79.53	39.77	176.70	81.255	802.75	20.069
20.000	50.24	25.12	134.77	65.715	857.82	21.446

P- 7 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

TIME E 00	AUST E 03	RMIGIN E 00	AUCOMP E 03	RMIGOT E 03	TMIG E 03
0.000	44.667	2699.8	40.000	4.000	80.000
1.000	44.470	2780.2	36.212	3.621	78.824
2.000	43.396	2691.0	33.668	3.502	78.030
3.000	41.439	2542.2	33.954	3.667	77.119
4.000	38.282	2317.2	34.811	3.899	75.828
5.000	33.887	2018.0	34.987	4.058	74.070
6.000	28.737	1678.1	33.900	4.068	71.886
7.000	23.691	1351.1	31.459	3.901	69.420
8.000	19.605	1076.6	28.026	3.587	66.868
9.000	17.483	921.1	24.252	3.201	64.431
10.000	18.258	919.4	20.957	2.850	62.277
11.000	22.610	1083.3	19.070	2.670	60.481
12.000	30.919	1402.5	19.469	2.803	58.983
13.000	42.761	1826.1	22.876	3.386	57.557
14.000	56.547	2259.2	29.658	4.508	55.787
15.000	69.618	2583.6	39.506	6.163	53.090
16.000	78.984	2700.1	51.210	8.194	48.831
17.000	82.482	2571.5	62.746	10.290	42.512
18.000	79.654	2236.7	71.801	12.063	33.975
19.000	71.417	1777.7	76.546	13.166	23.507
20.000	60.224	1301.0	76.172	13.406	11.777

APPENDIX B

MODEL CHANGES/GRAPHS

CHANGES FOR RERUN - CASE A

	ANBK	ANBNK
PRESENT	51.000A	46.000A
ORIGINAL	64.000A	59.000A

CHANGES FOR RERUN - CASE B

	TSPRES	....	....	....	....	....
PRESENT	2.0000	1.7500	1.5000	1.2500	1.0000	0.0000
ORIGINAL	3.0000	2.3000	1.8000	1.4000	1.0000	0.0000

CHANGES FOR RERUN - CASE C

	TSPRES	....	....	....	....	....
PRESENT	2.0000	1.7500	1.5000	1.2500	1.0000	0.0000
ORIGINAL	3.0000	2.3000	1.8000	1.4000	1.0000	0.0000

	ANBK	ANBNK	TECHEF	COND1	COND2	COND3
PRESENT	43.000A	39.000A	50.000A	.30000	.90000	.30000
ORIGINAL	64.000A	59.000A	40.000A	.50000	1.5000	.50000

CHANGES FOR RERUN - CASE D

	TDPRES	....	....	....	....	....
PRESENT	2.5000	2.0200	1.8000	1.5500	1.3500	1.1000
ORIGINAL	2.0000	1.5000	1.2500	1.1000	1.0000	.90000
	....	TDPF	....	....	....	....
PRESENT	.90000	0.0000	.48000	.70000	.95000	1.0000
ORIGINAL	.90000	0.0000	.50000	.75000	.90000	1.0000
	....	....				
PRESENT	1.0000	1.0000				
ORIGINAL	1.1000	1.1000				

CHANGES FOR RERUN - CASE E

	STDEL	TENDEL
PRESENT	4.0000	3.0000
ORIGINAL	2.0000	2.0000

CHANGES FOR RERUN - CASE F

	TDPRES	....	....	....	....	....
PRESENT	2.5000	2.0200	1.8000	1.5500	1.3500	1.1000
ORIGINAL	2.0000	1.5000	1.2500	1.1000	1.0000	.90000
	....	TDPF	....	....	....	....
PRESENT	.90000	0.0000	.48000	.70000	.95000	1.0000
ORIGINAL	.90000	0.0000	.50000	.75000	.90000	1.0000
	....	....	STDEL	TENDEL		
PRESENT	1.0000	1.0000	4.0000	3.0000		
ORIGINAL	1.1000	1.1000	2.0000	2.0000		

CHANGES FOR RERUN - CASE G

	TDPRES	....	....	....	....	....
PRESENT	2.5000	2.0200	1.8000	1.5500	1.3500	1.1000
ORIGINAL	2.0000	1.5000	1.2500	1.1000	1.0000	.90000
	....	TDPF	....	....	....	....
PRESENT	.90000	0.0000	.48000	.70000	.95000	1.0000
ORIGINAL	.90000	0.0000	.50000	.75000	.90000	1.0000
	....	....	STDEL	TENDEL	TENIN	
PRESENT	1.0000	1.0000	4.0000	3.0000	1.5000	
ORIGINAL	1.1000	1.1000	2.0000	2.0000	0.0000	

CHANGES FOR RERUN - CASE H

	REQFR
PRESENT	.14300
ORIGINAL	.20000

P- 16 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

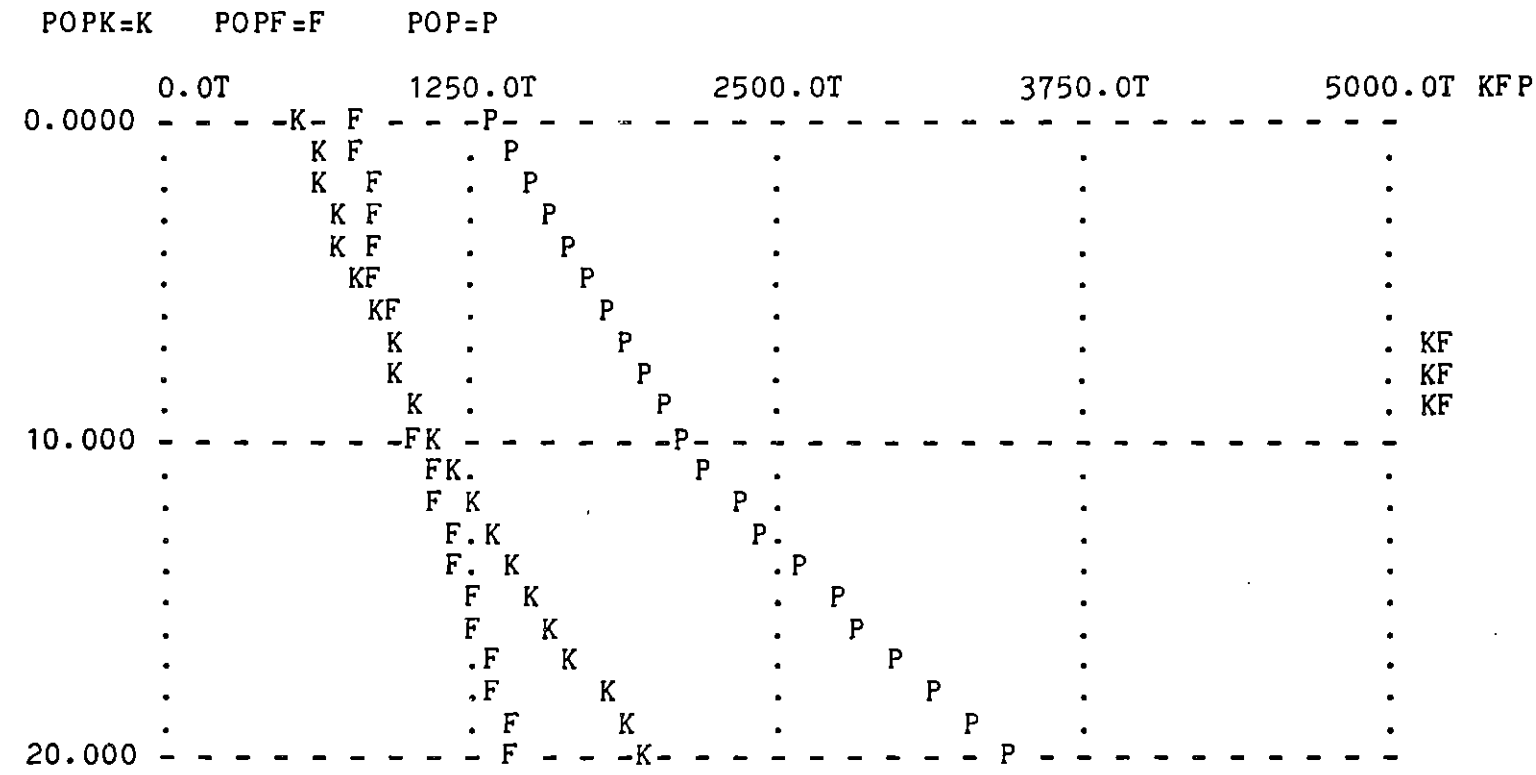

Figure B.1

Population/Case A

P- 17 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

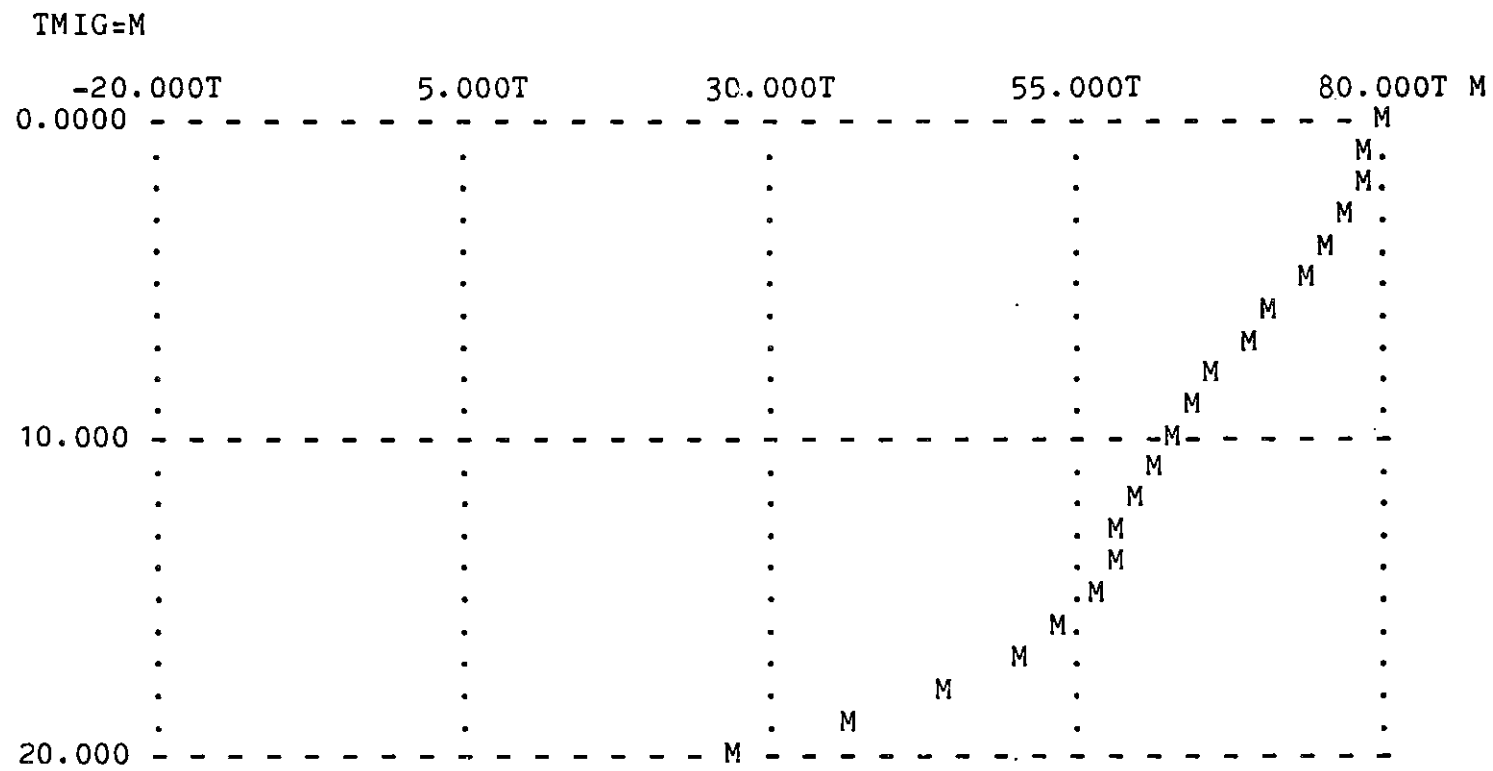

Figure B.2

Temporary Migration/Case A

P- 20 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

SHORT=H

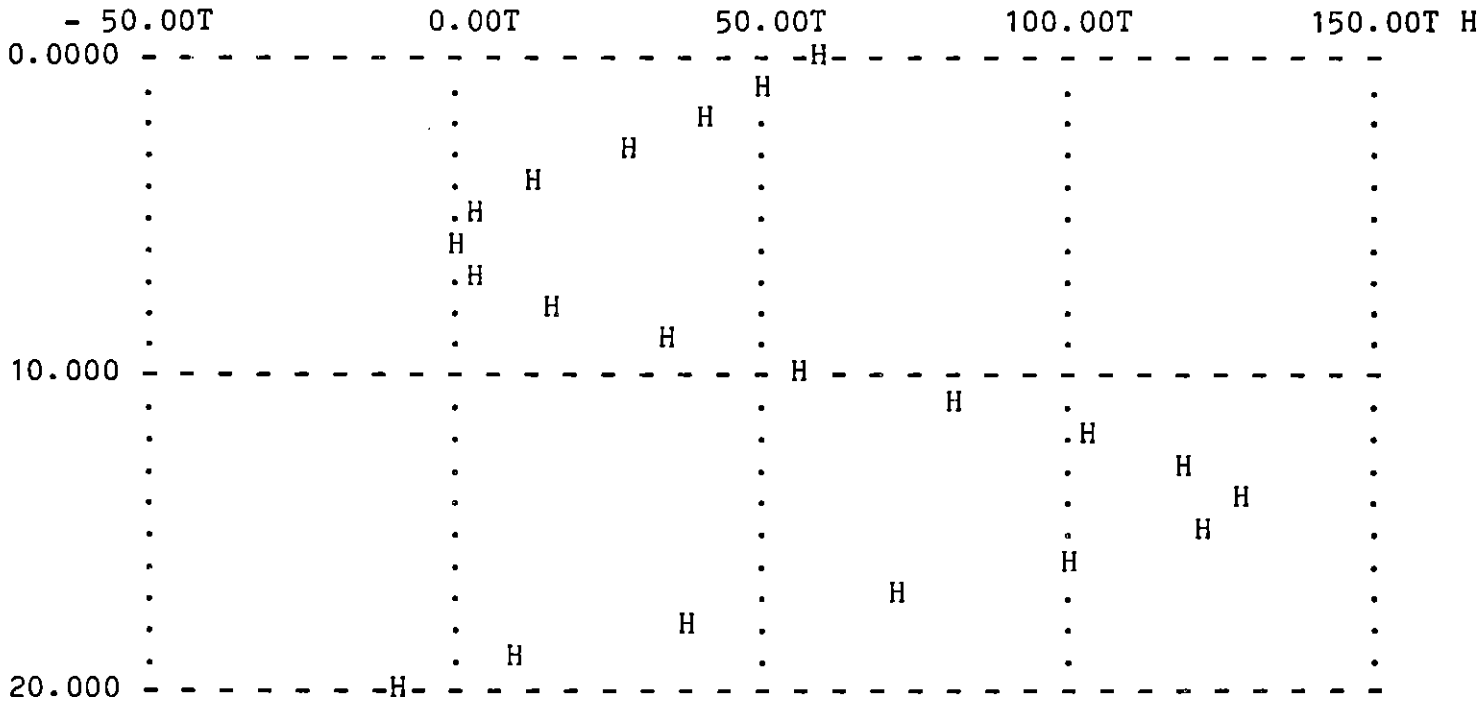

Figure B.3

Housing Shortage/Case A

P- 21 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

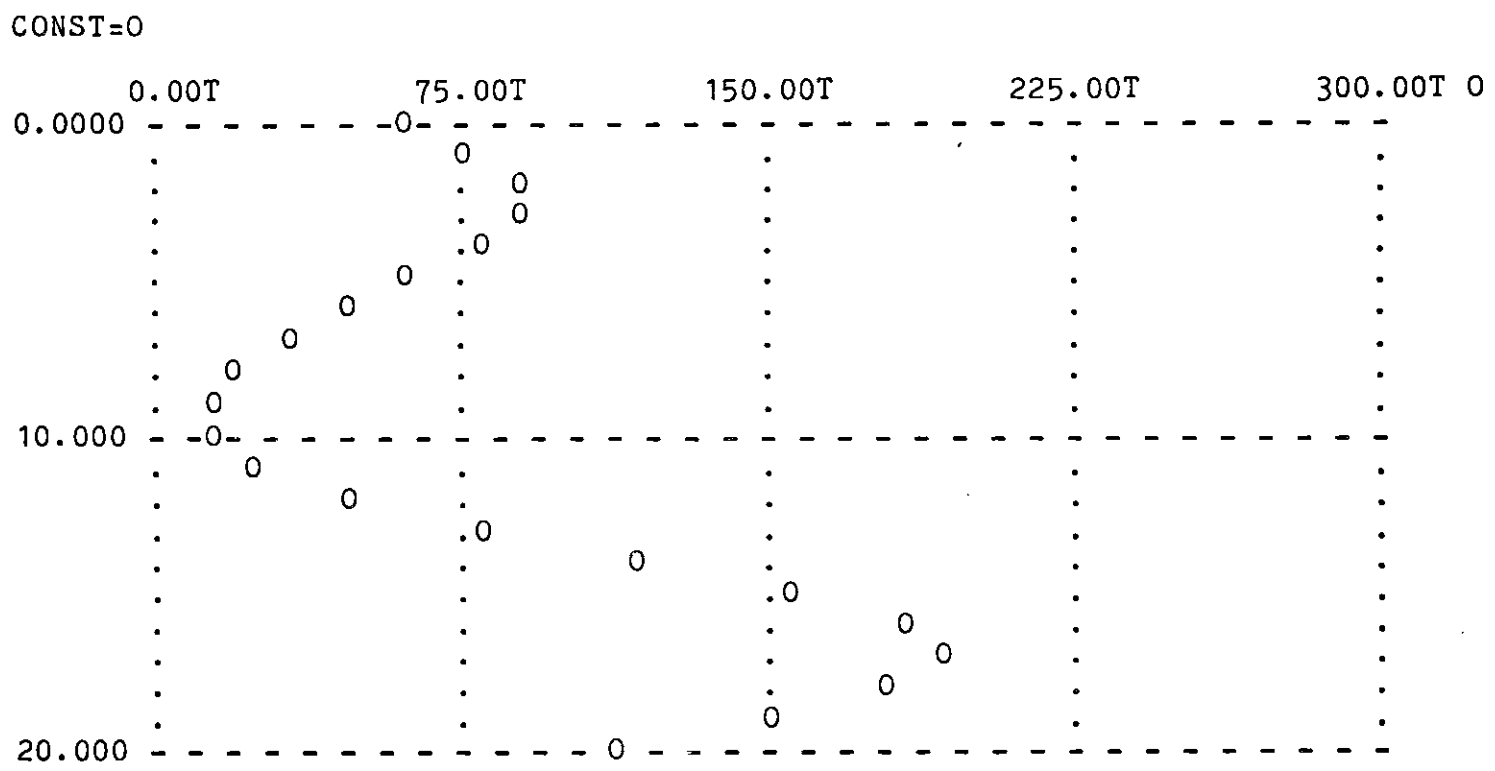

Figure B.4

Housing Construction/Case A

P- 36 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

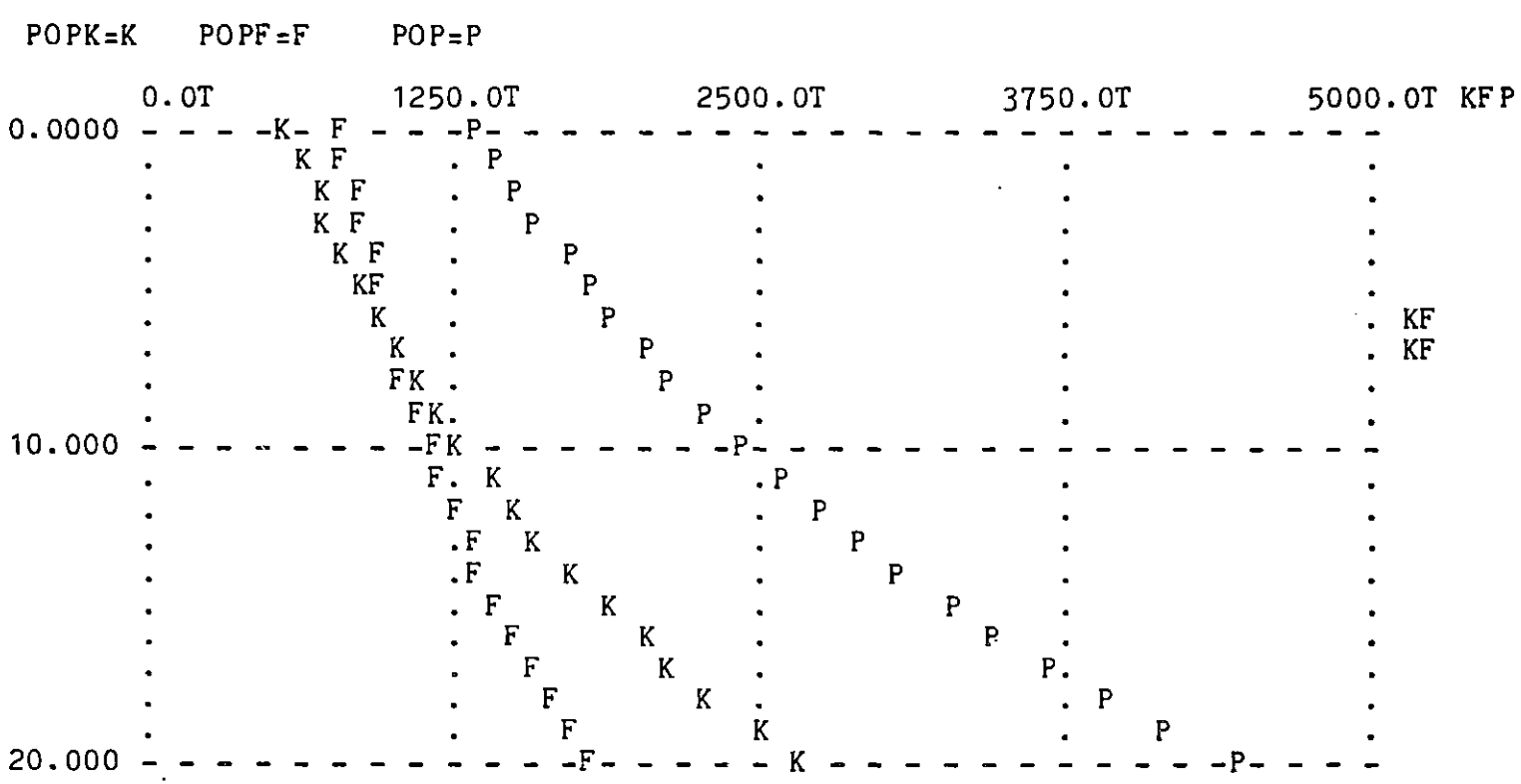

Figure B.5

Population/Case B

P- 37 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

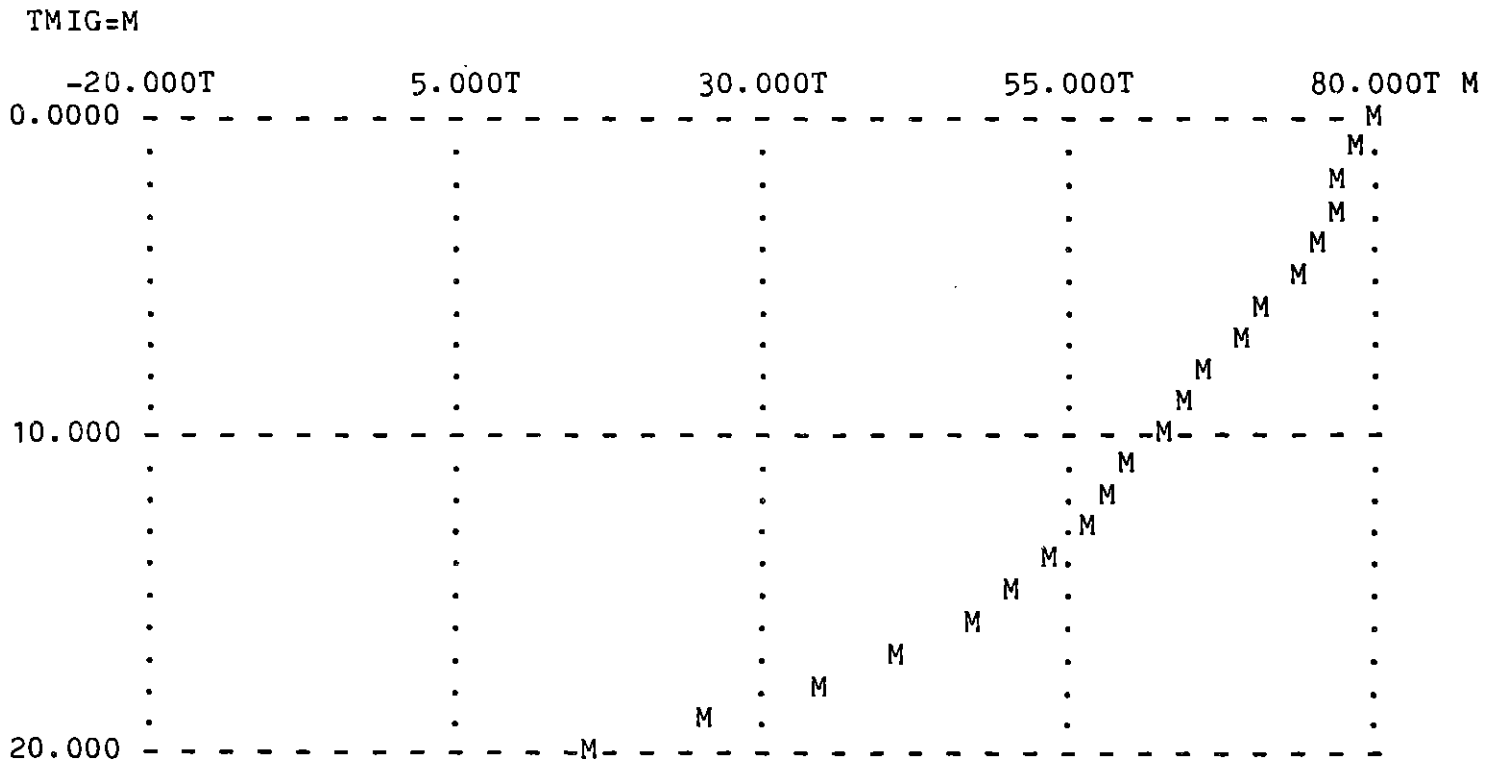

Figure B.6

Temporary Migration/Case B

P- 40 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

SHORT=H

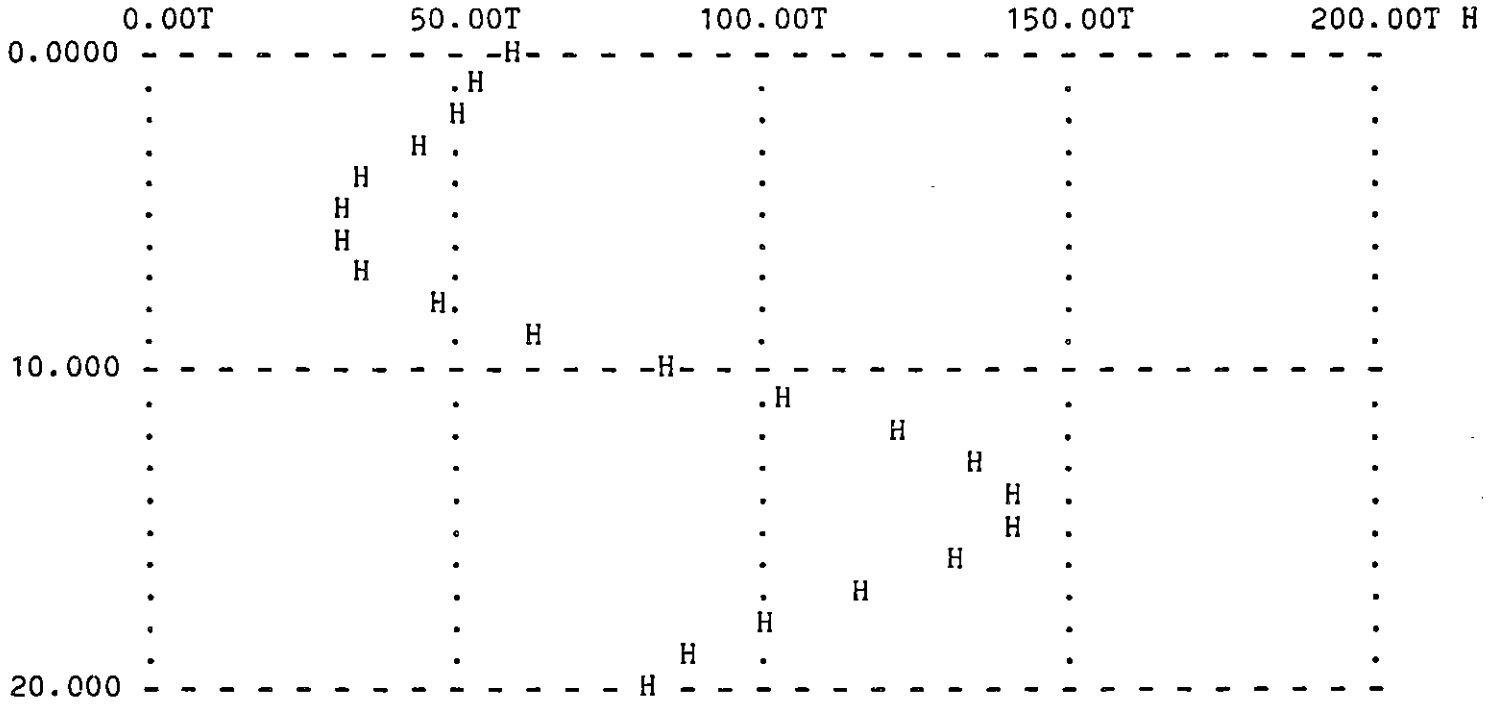

Figure B.7

Housing Shortage/Case B

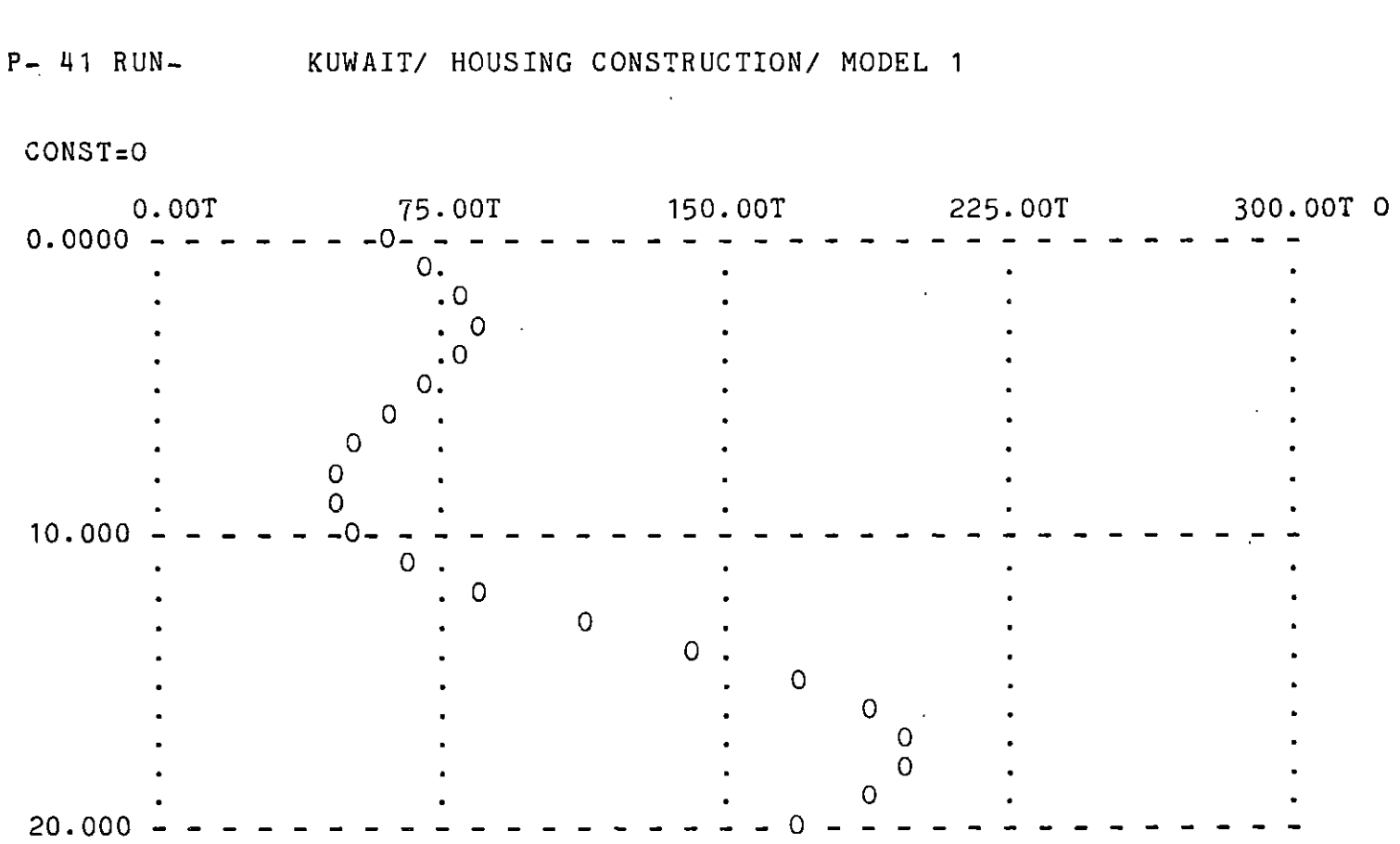

Figure B.8

Housing Construction/Case B

P- 46 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

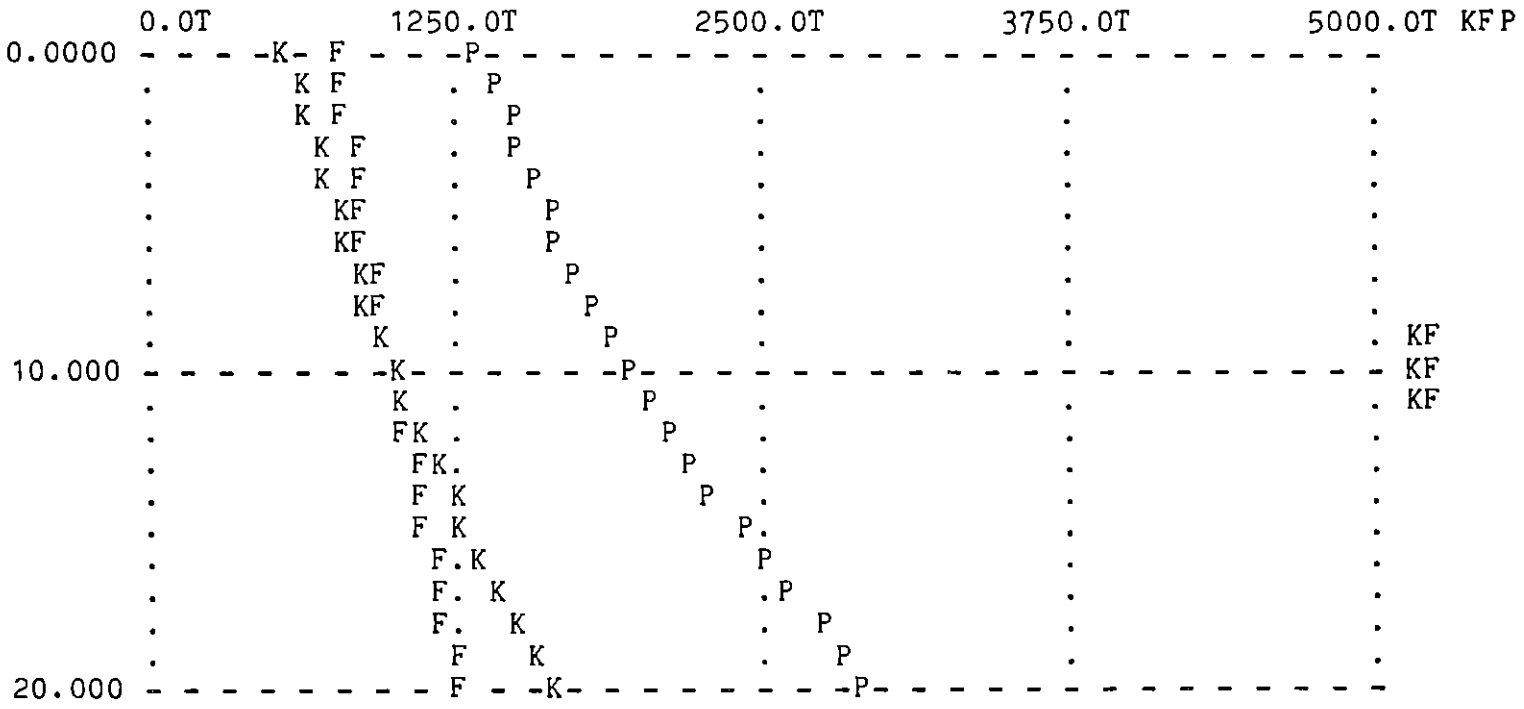

Figure B.9

Population/Case C

P- 47 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

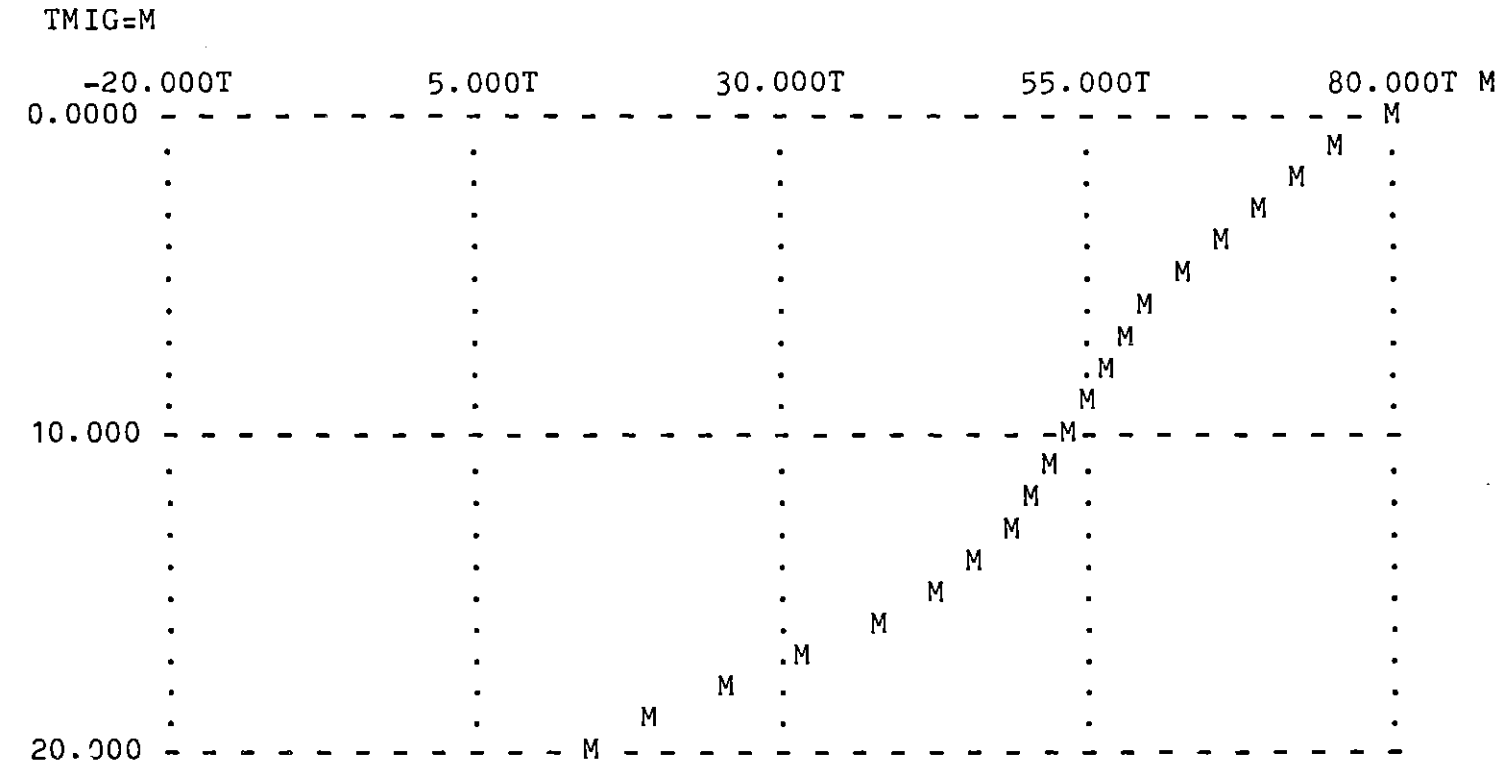

Figure B.10

Temporary Migration/Case C

P- 50 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

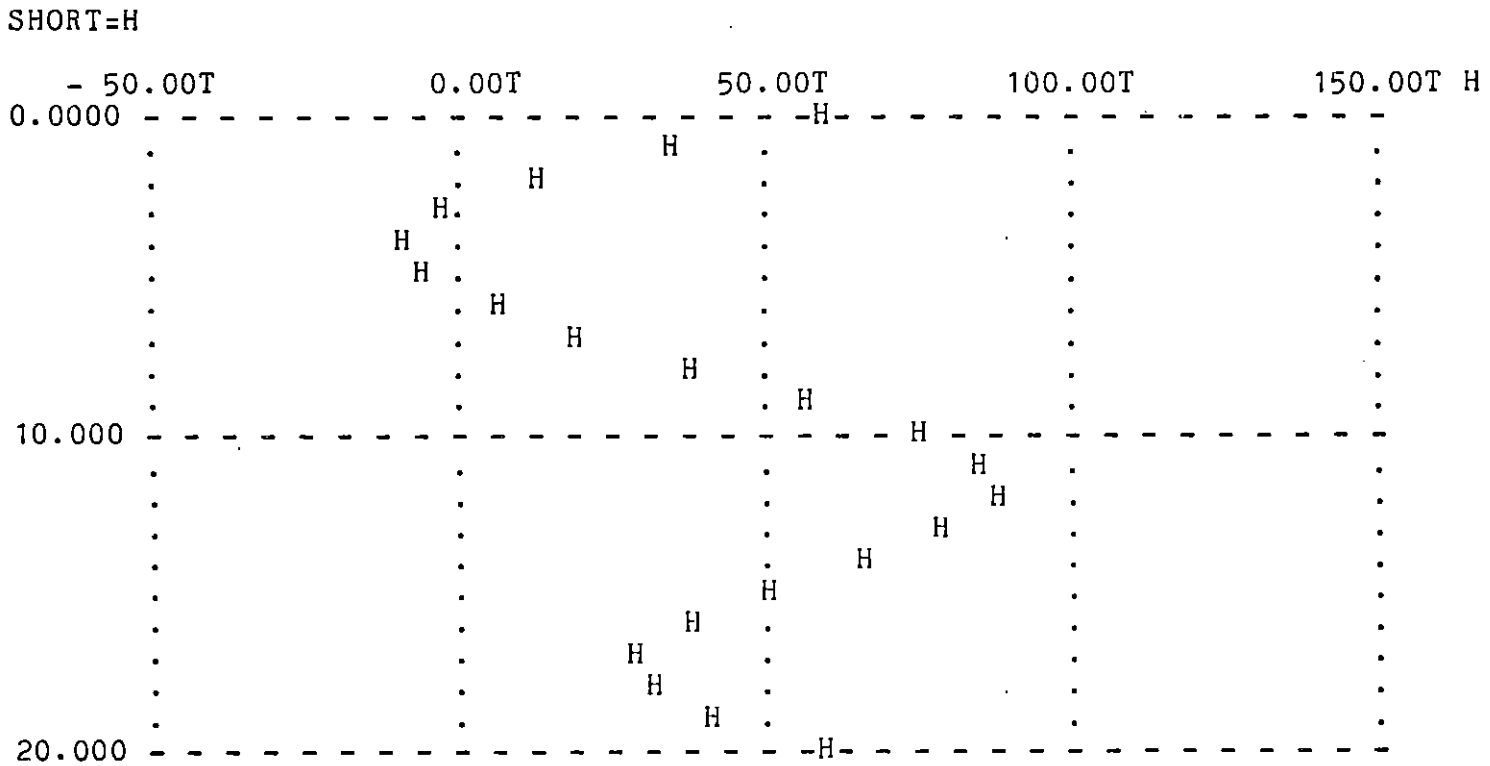

Figure B.11

Housing Shortage/Case C

P- 51 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

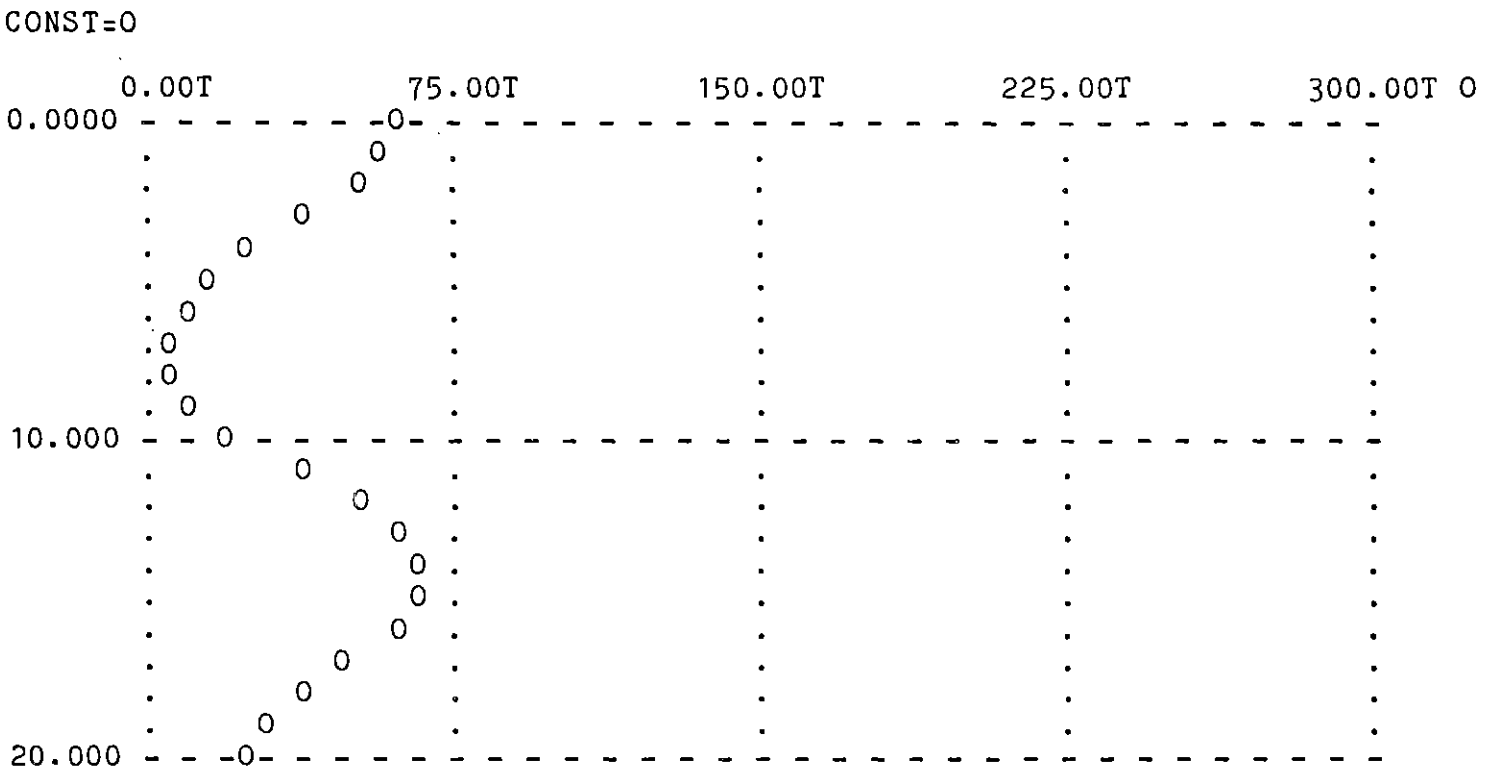

Figure B.12

Housing Construction/Case C

P- 56 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

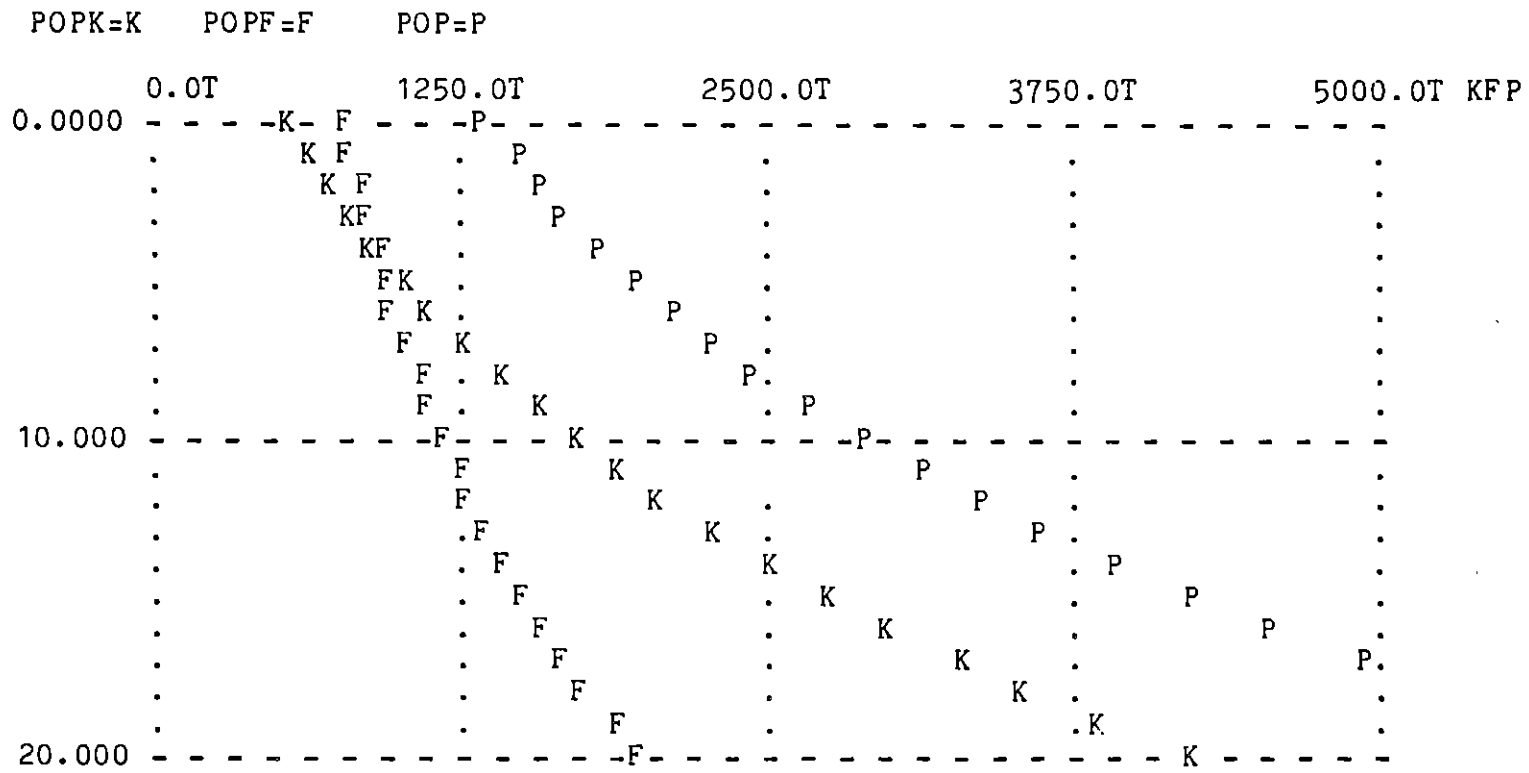

Figure B.13

Population/Case D

P- 57 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

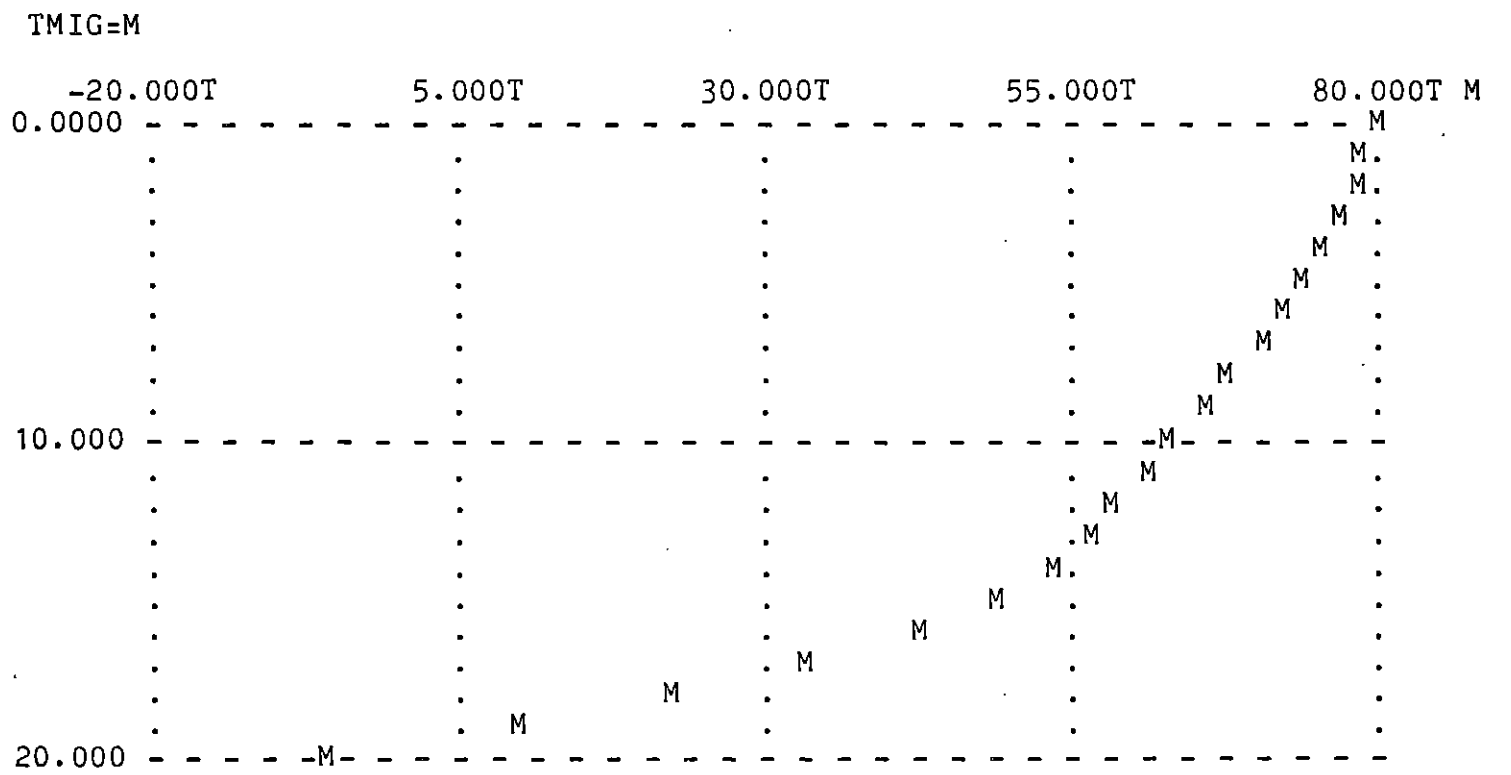

Figure B.14

Temporary Migration/Case D

P- 60 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

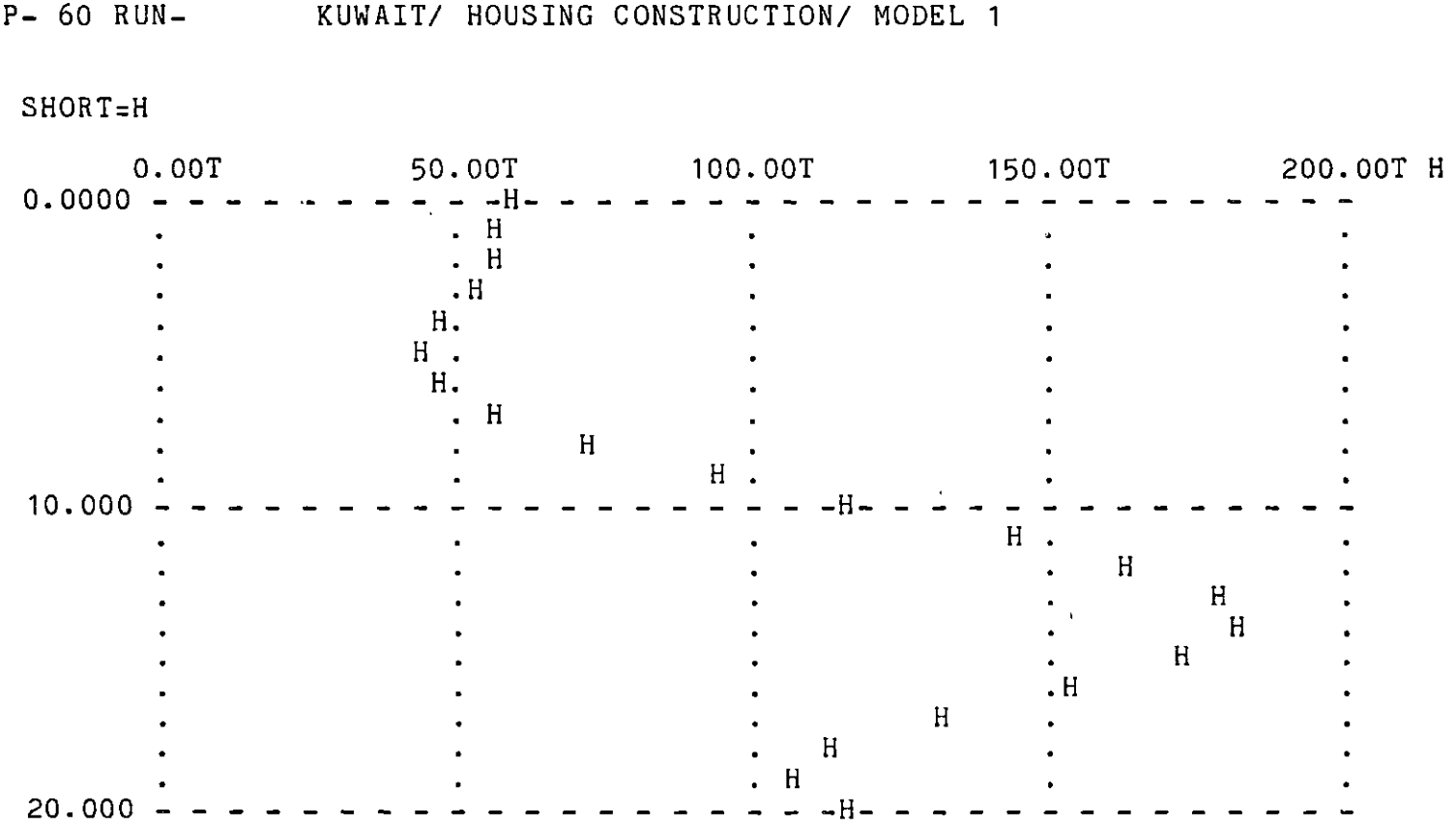

Figure B.15

Housing Shortage/Case D

P- 61 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

CONST=O

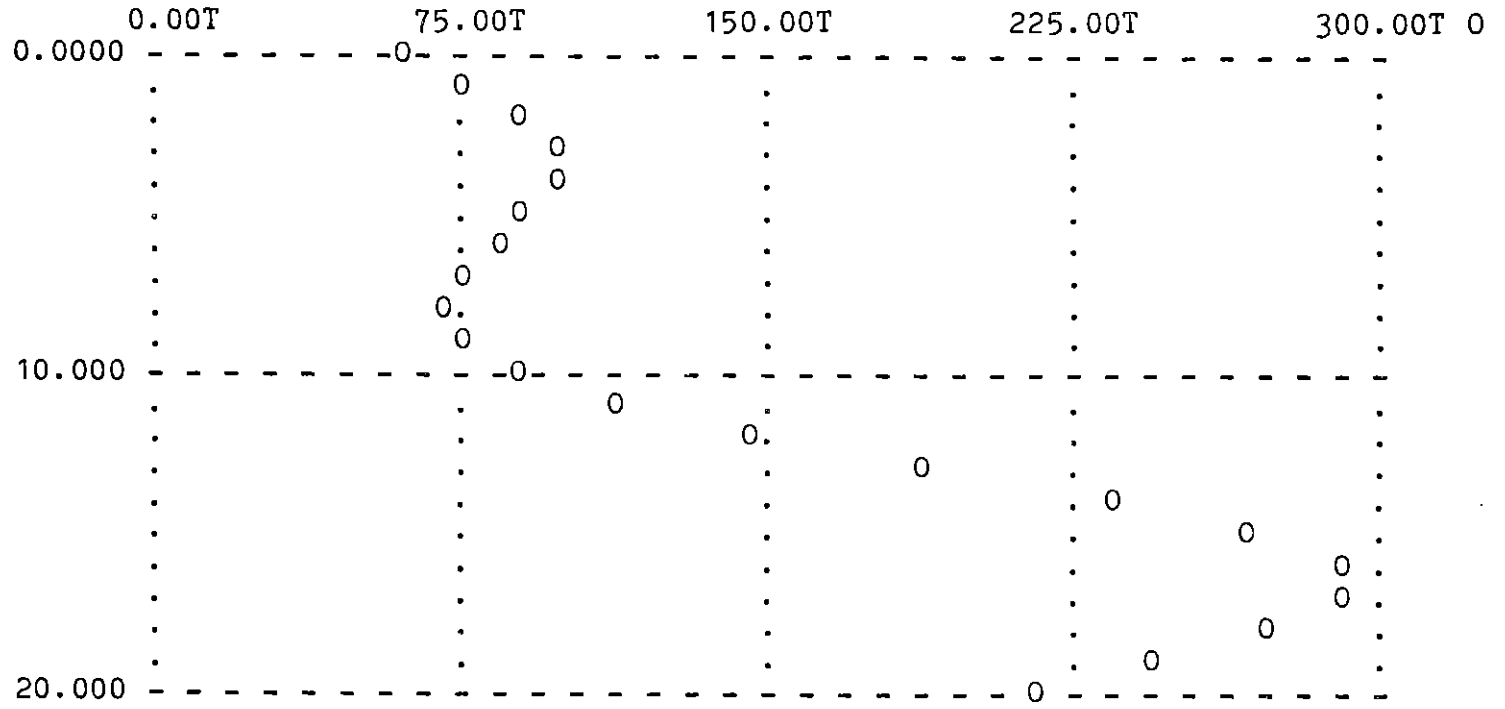

Figure B.16

Housing Construction/Case D

P- 66 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

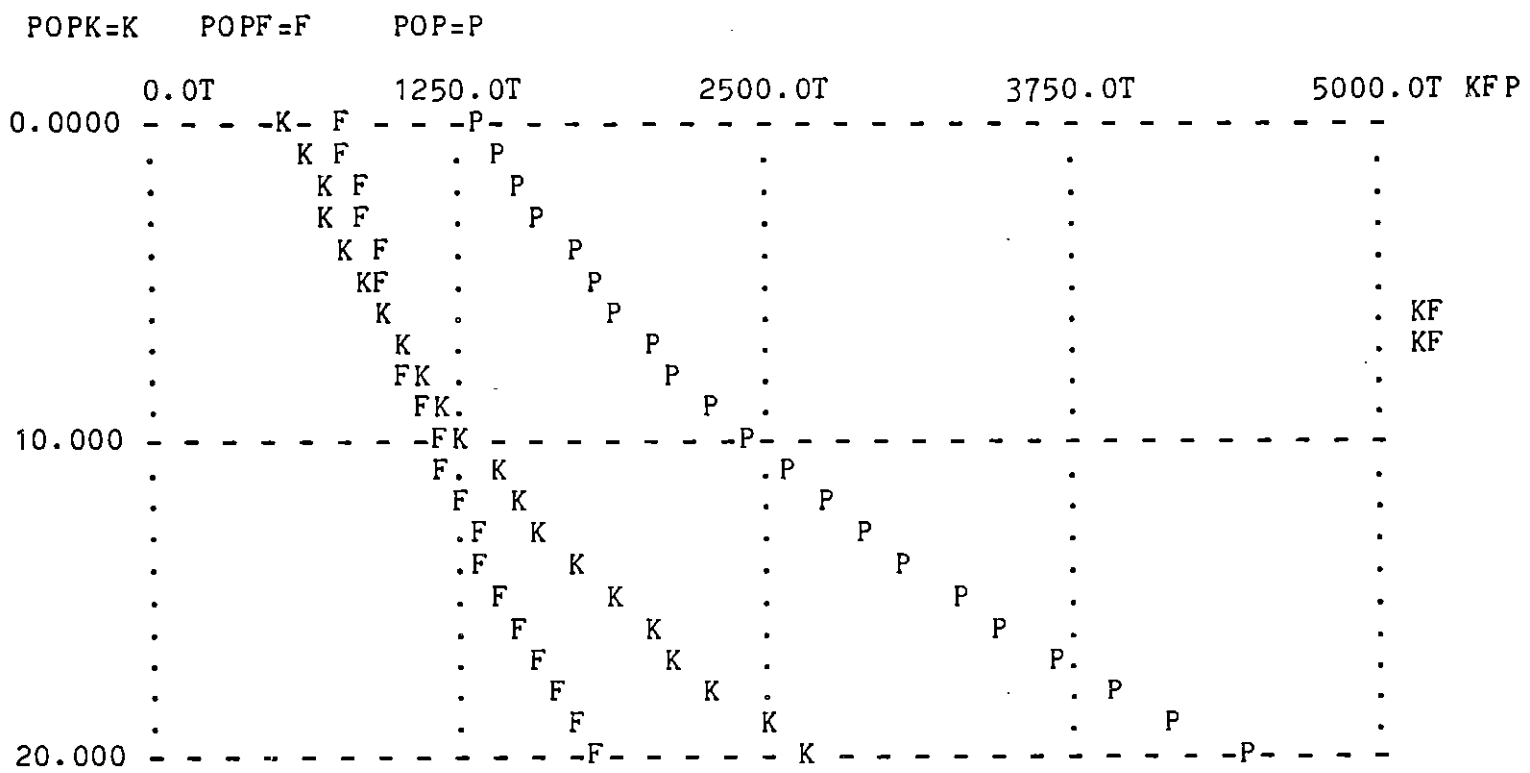

Figure B.17

Population/Case E

P- 67 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

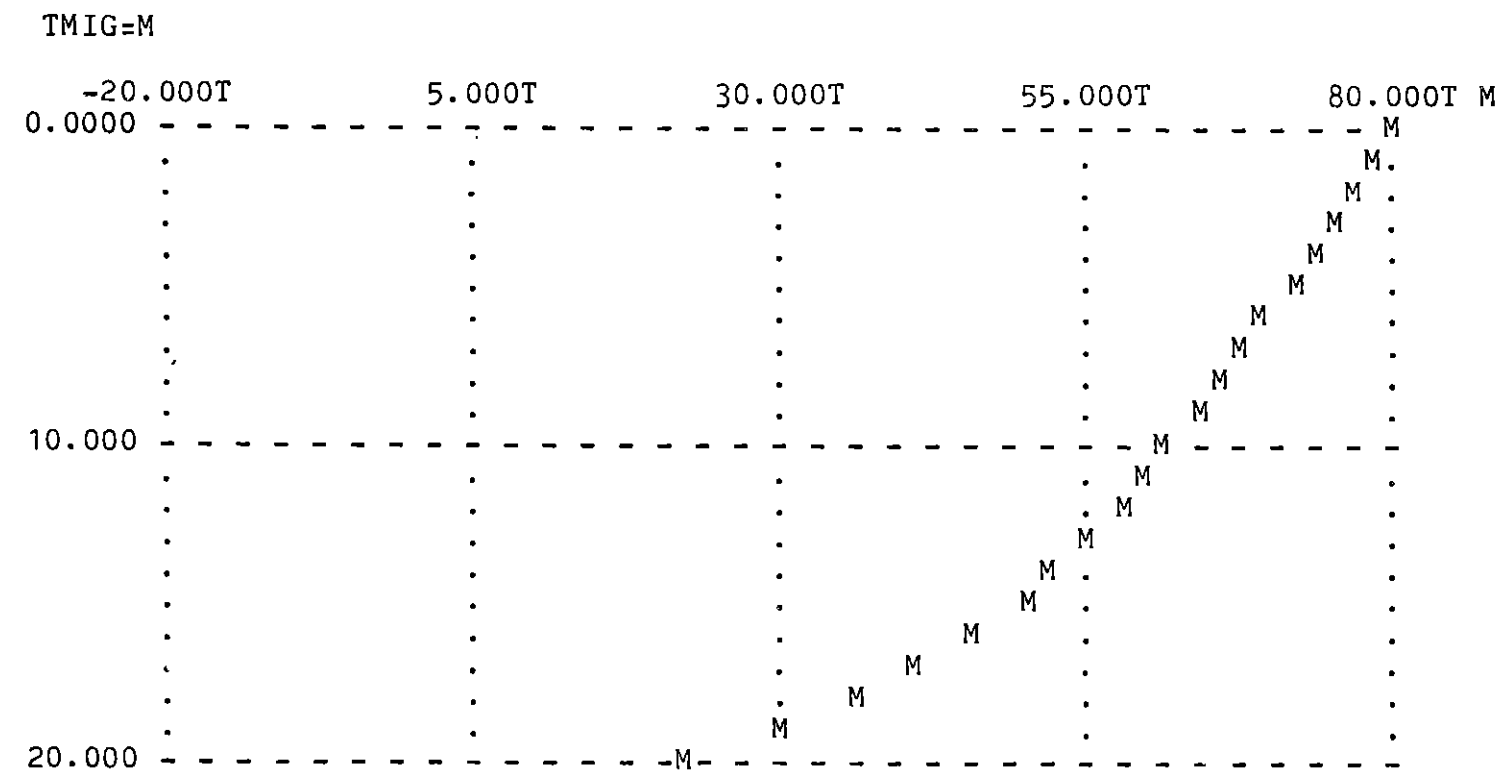

Figure B.18

Temporary Migration/Case E

P- 70 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

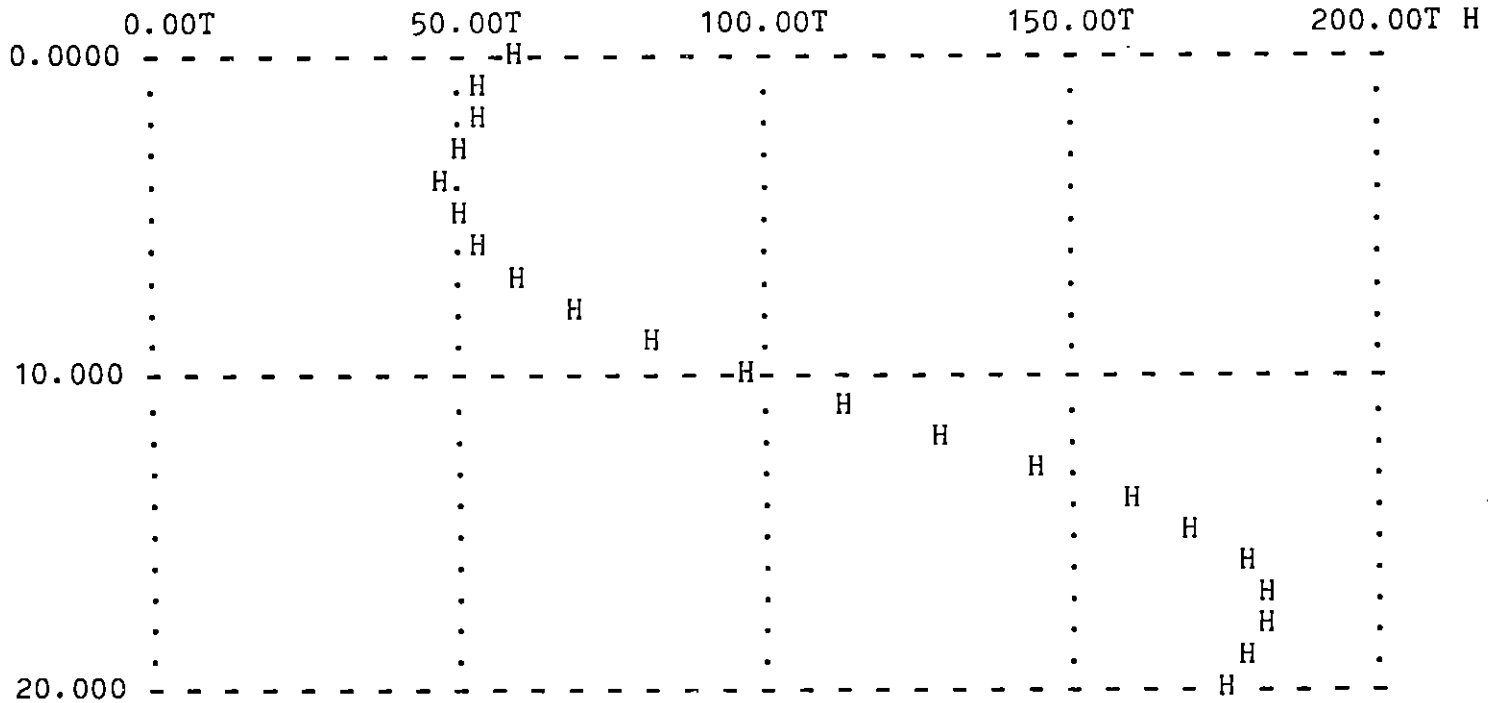

Figure B.19

Housing Shortage/Case E

P- 71 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

CONST=O

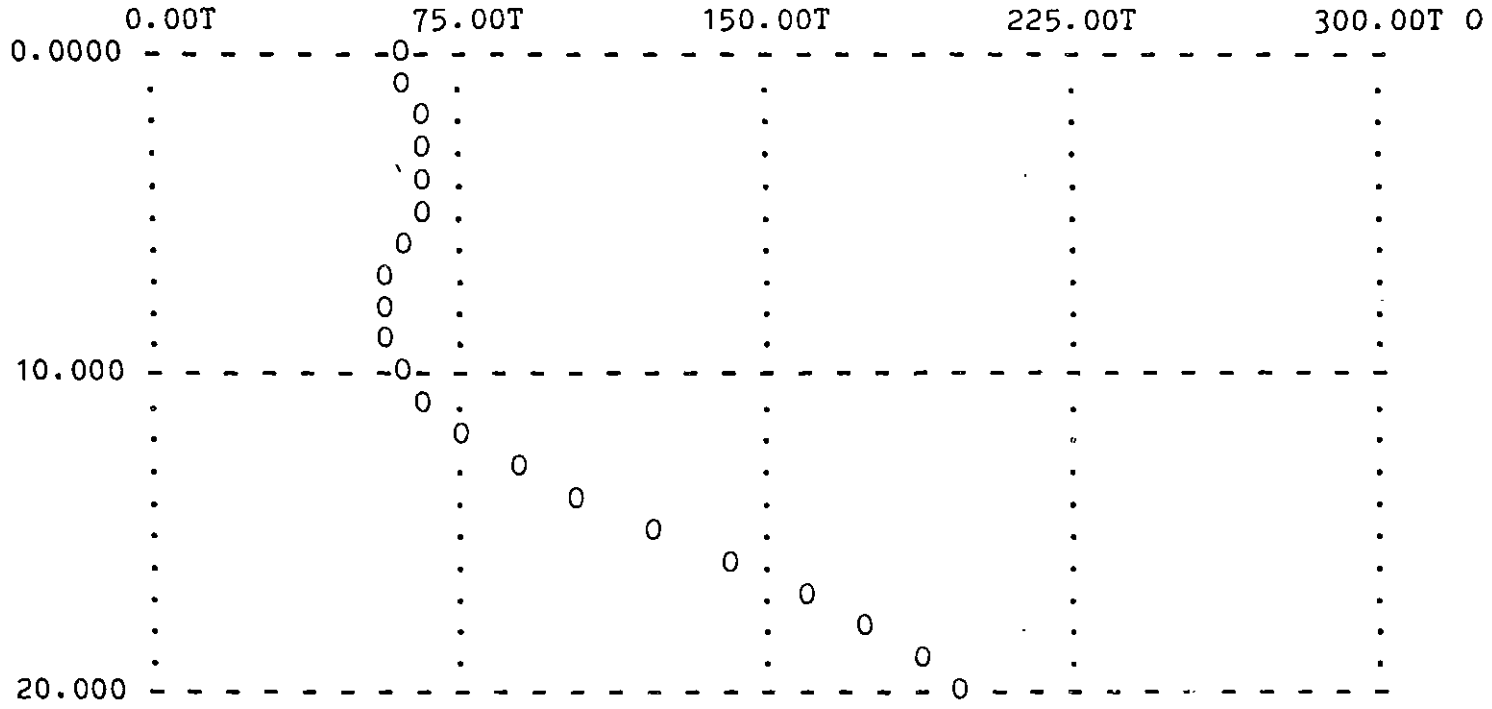

Figure B.20

Housing Construction/Case E

P- 76 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

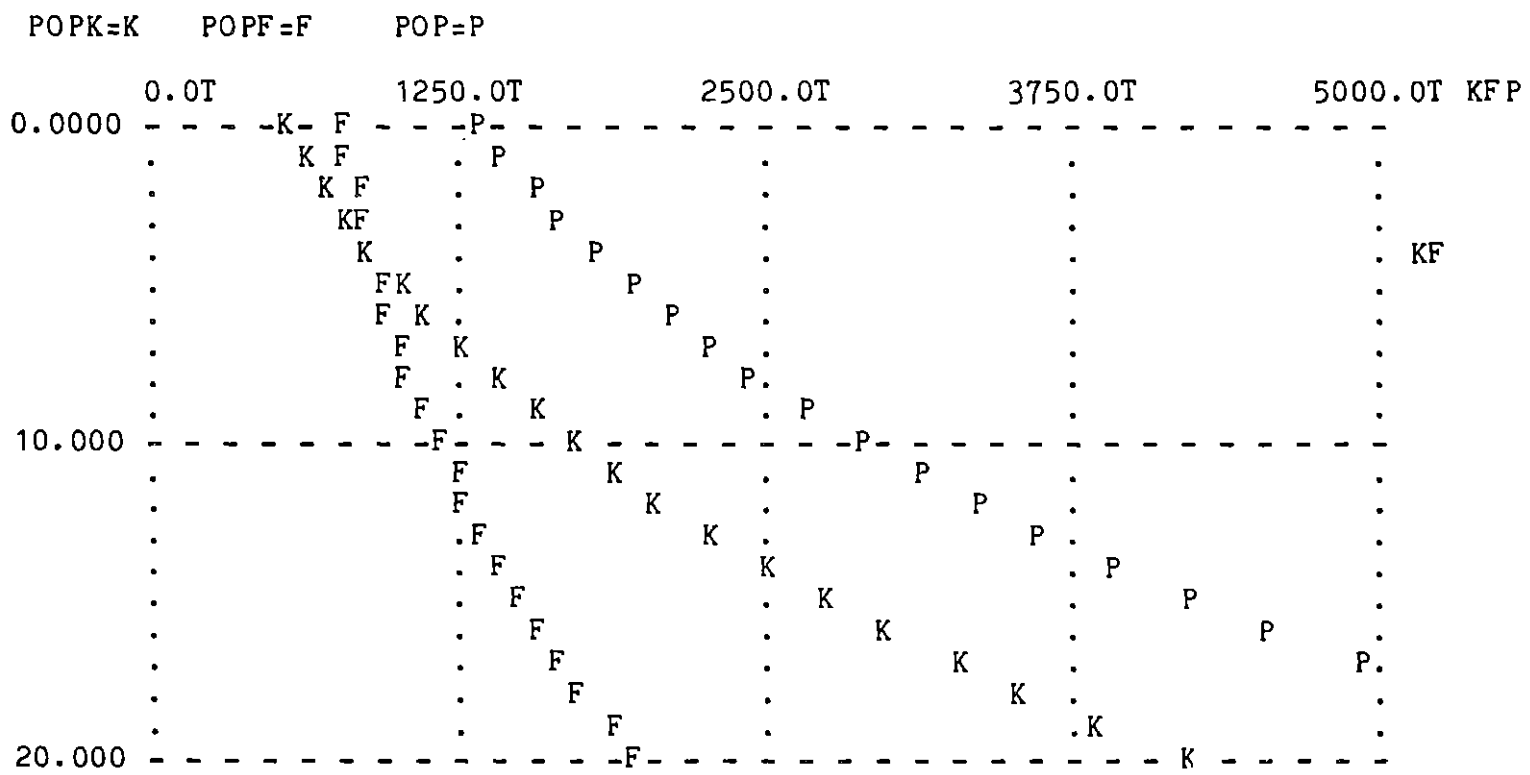

Figure B.21

Population/Case F

P- 77 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

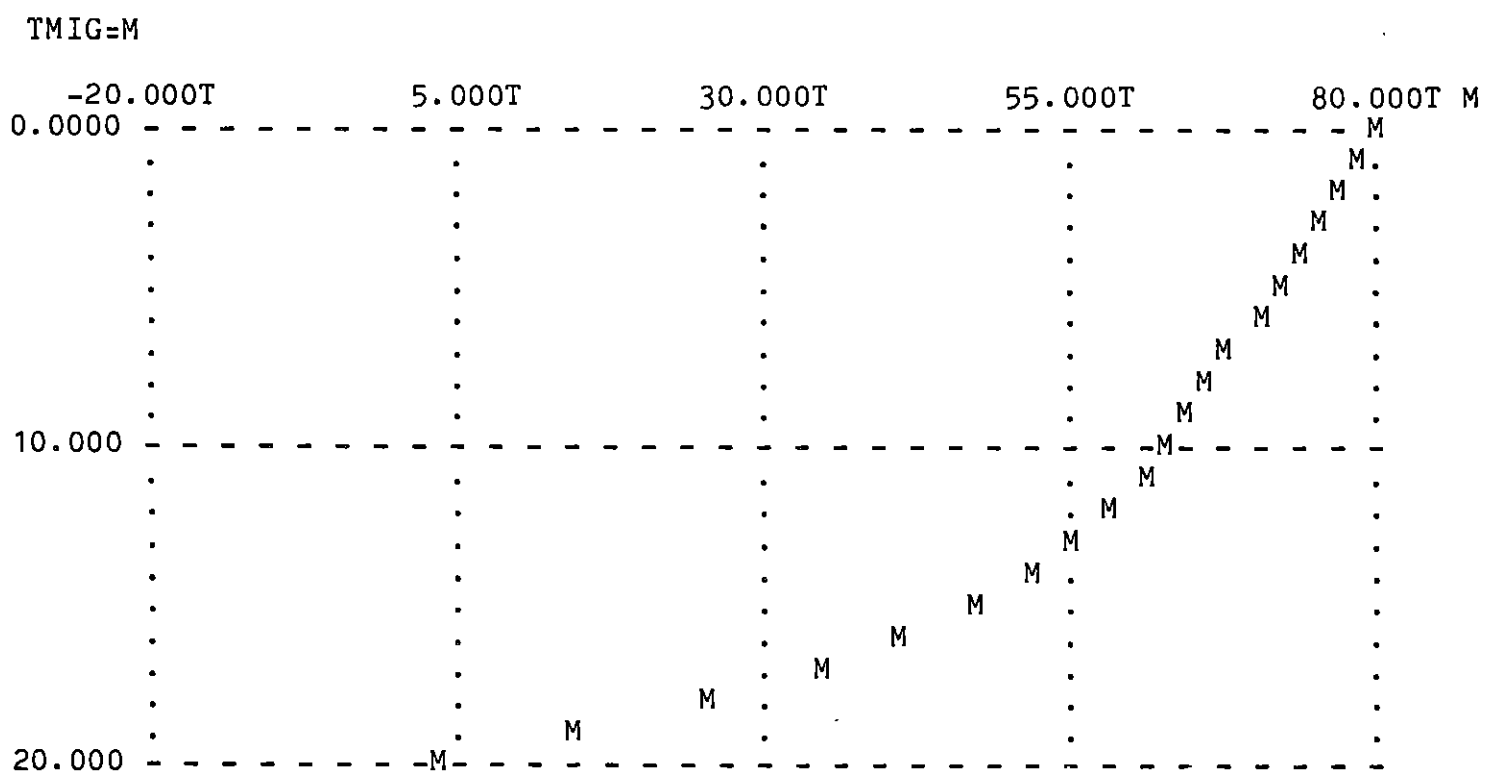

Figure B.22

Temporary Migration/Case F

P- 80 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

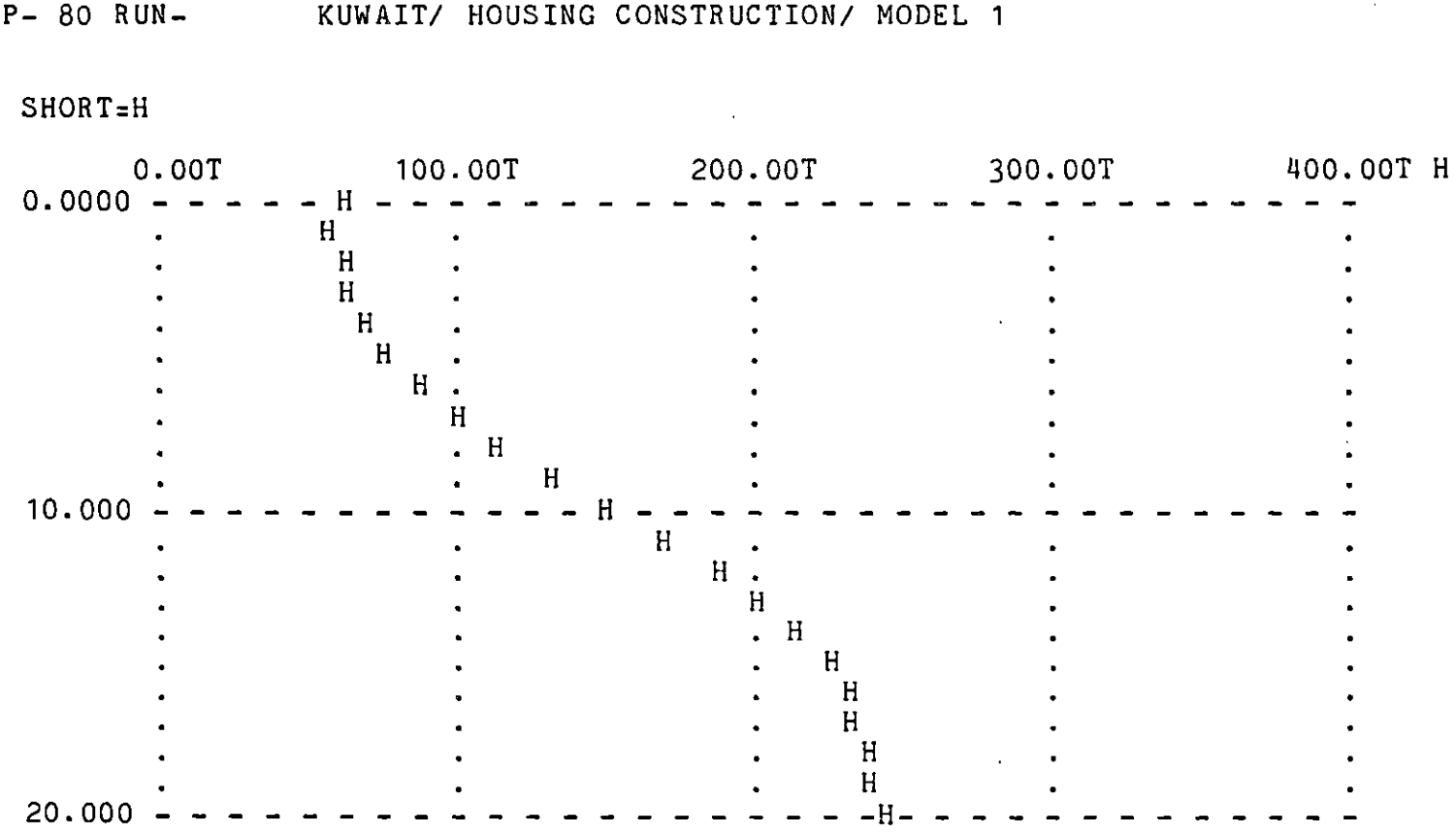

Figure B.23

Housing Shortage/Case F

P- 81 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

CONST=0

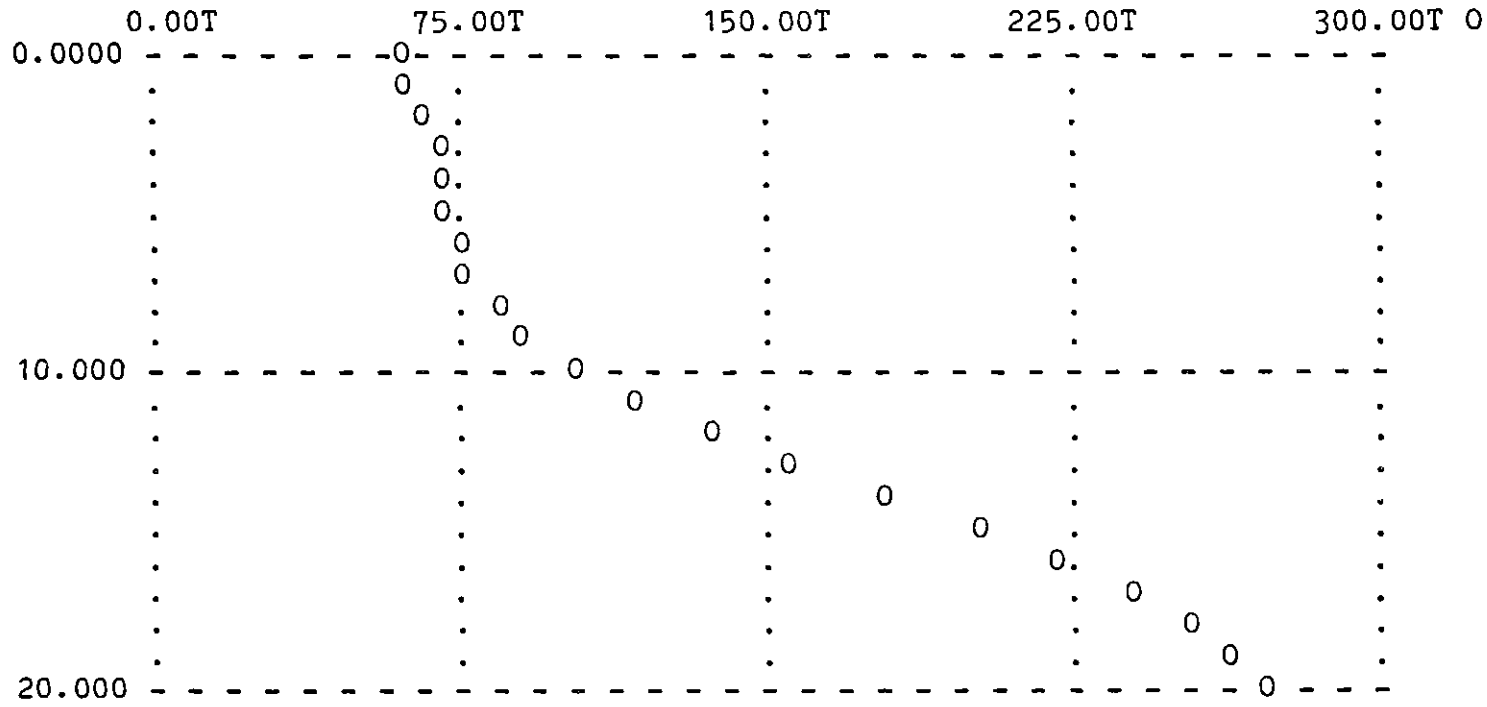

Figure B.24

Housing Construction/Case F

P- 86 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

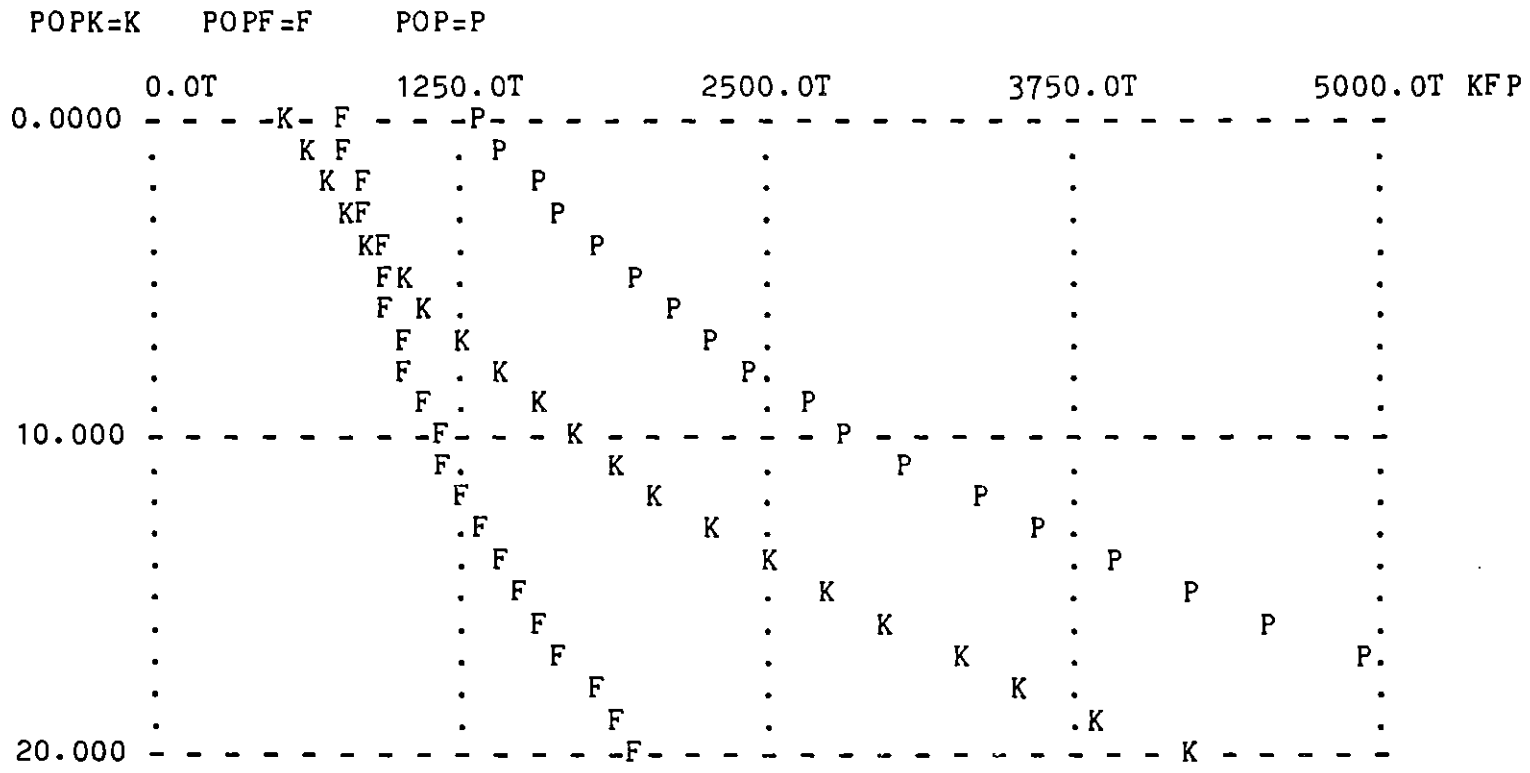

Figure B.25

Population/Case G

P- 87 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

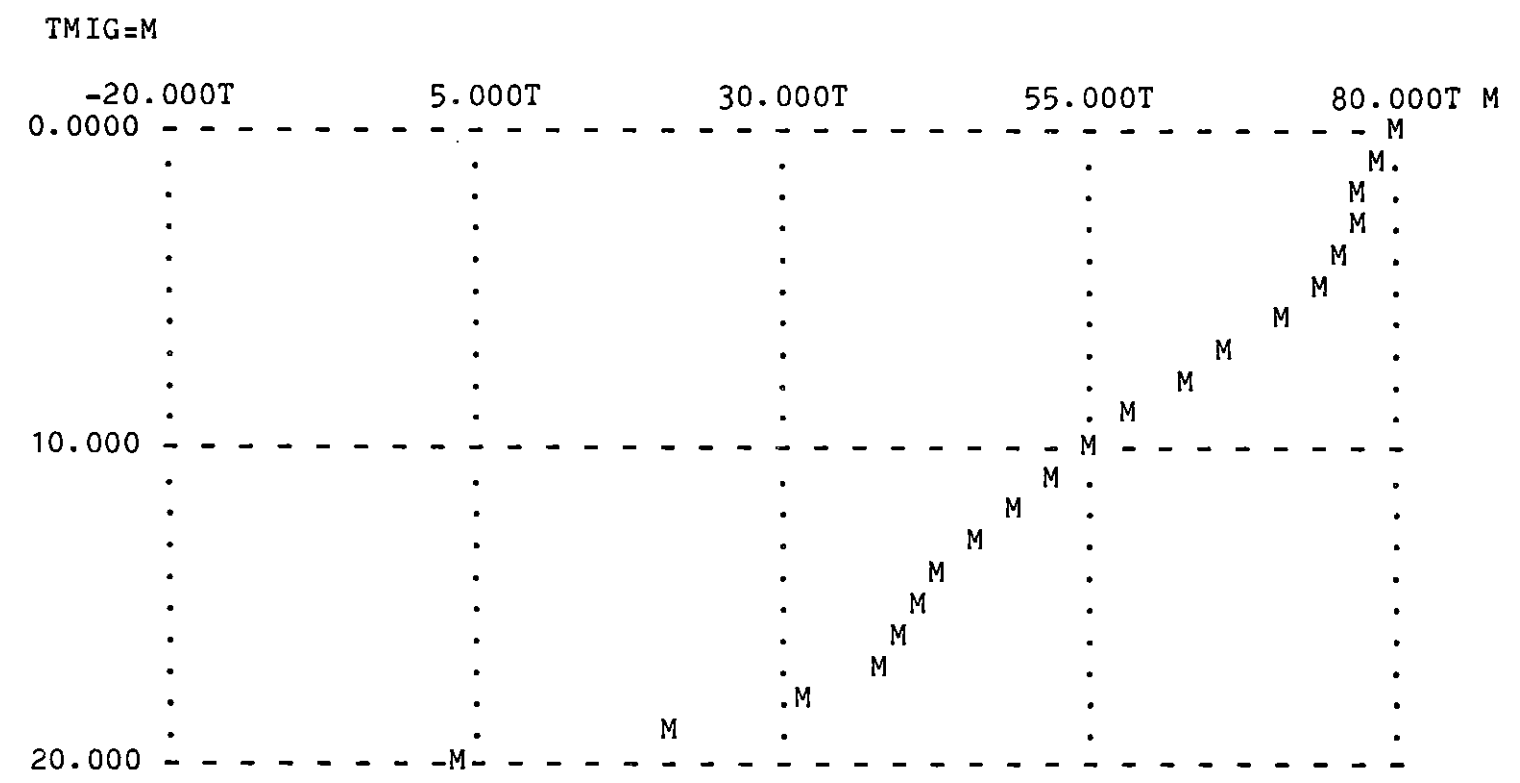

Figure B.26

Temporary Migration/Case G

P- 90 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

SHORT=H

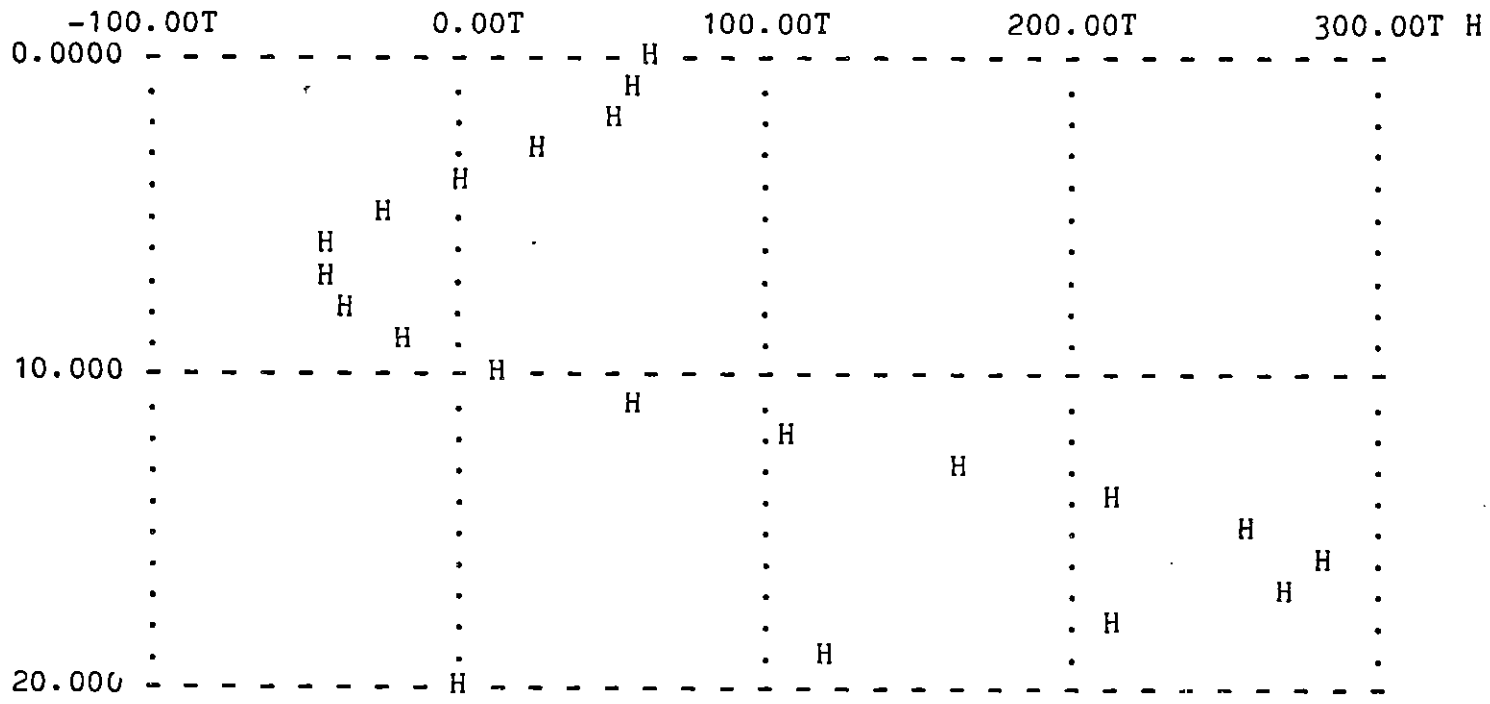

Figure B.27

Housing Shortage/Case G

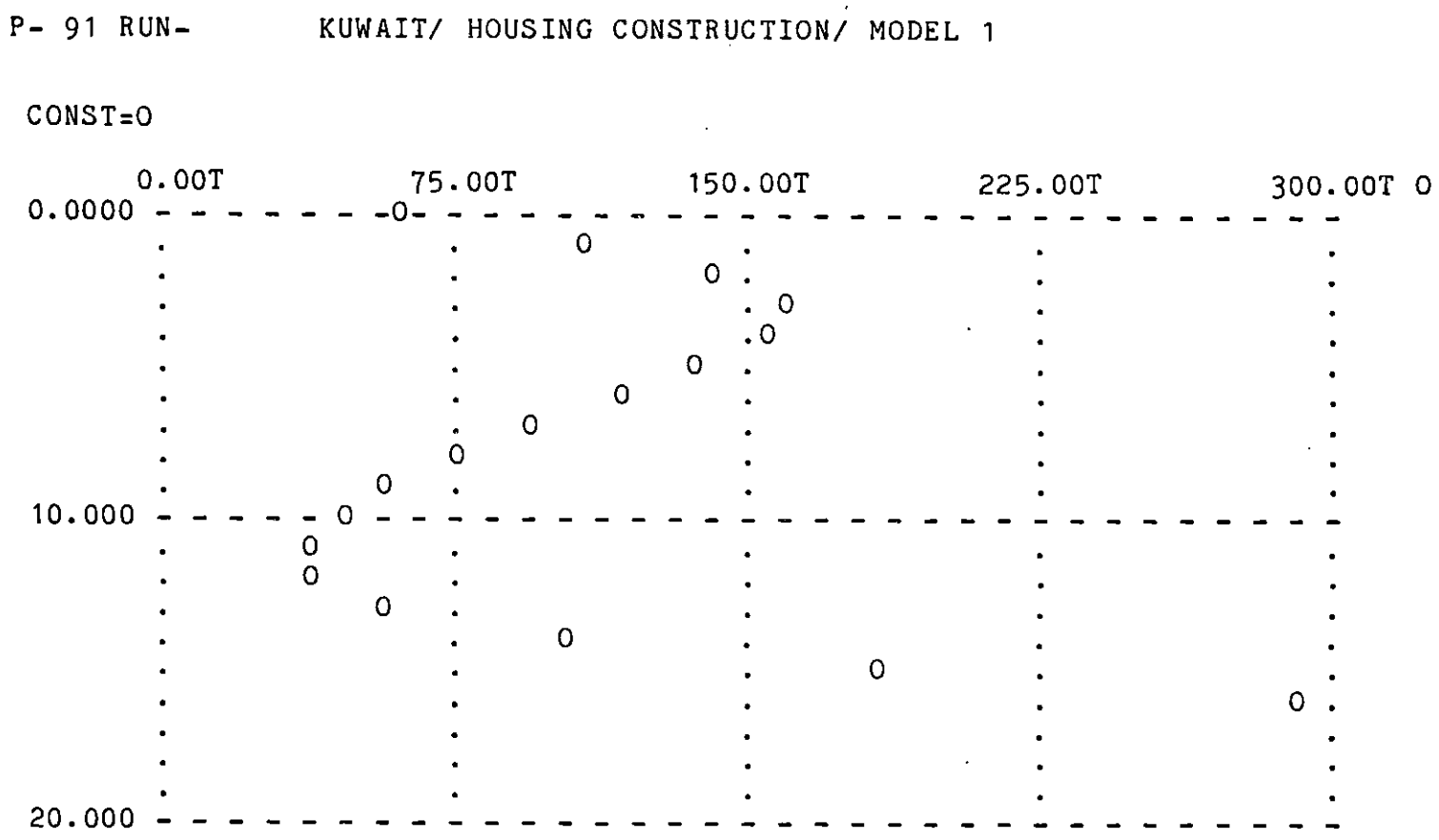

Figure B.28

Housing Construction/Case G

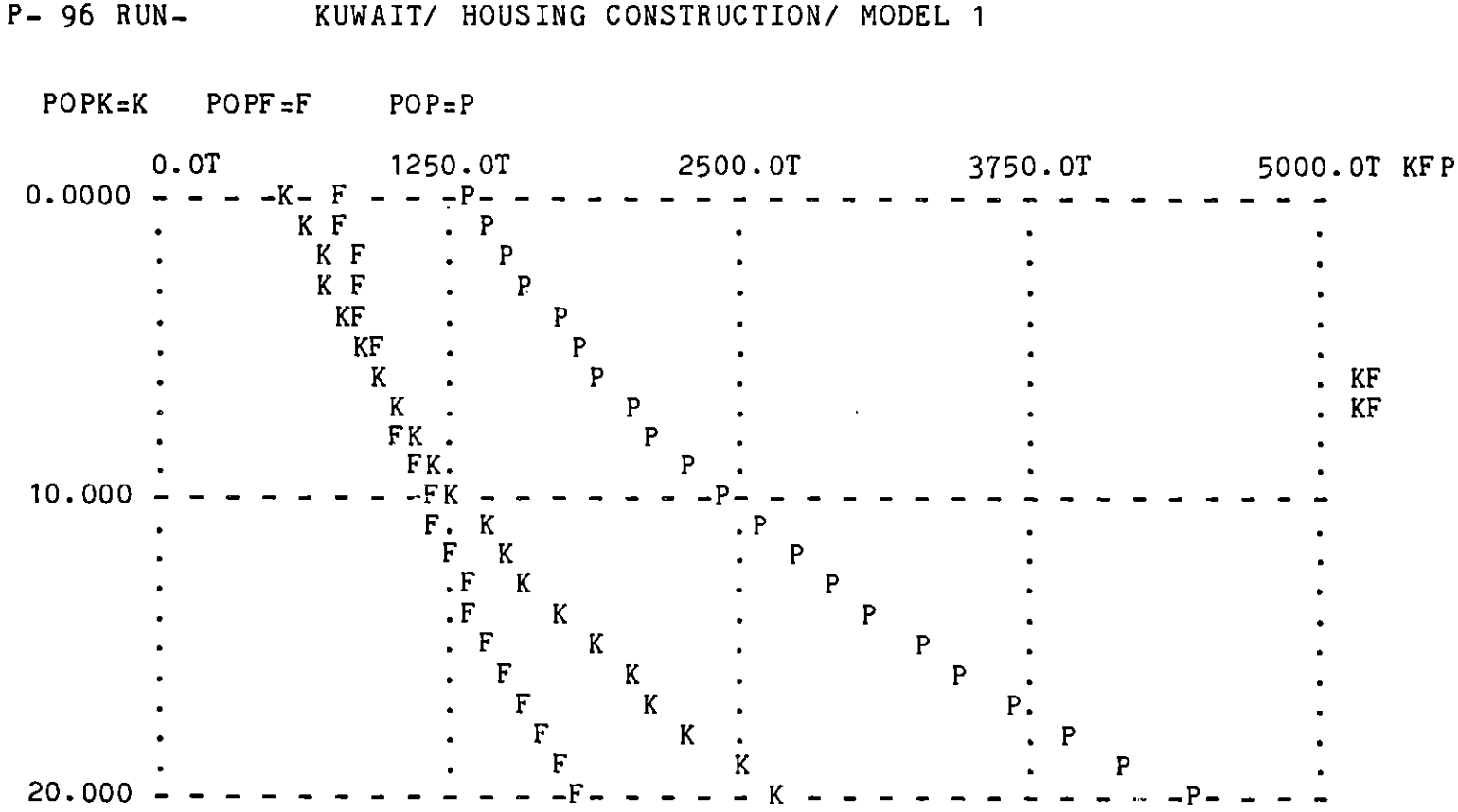

Figure B.29

Population/Case H

P- 97 RUN- KUWAIT/ HOUSING CONSTRUCTION/ MODEL 1

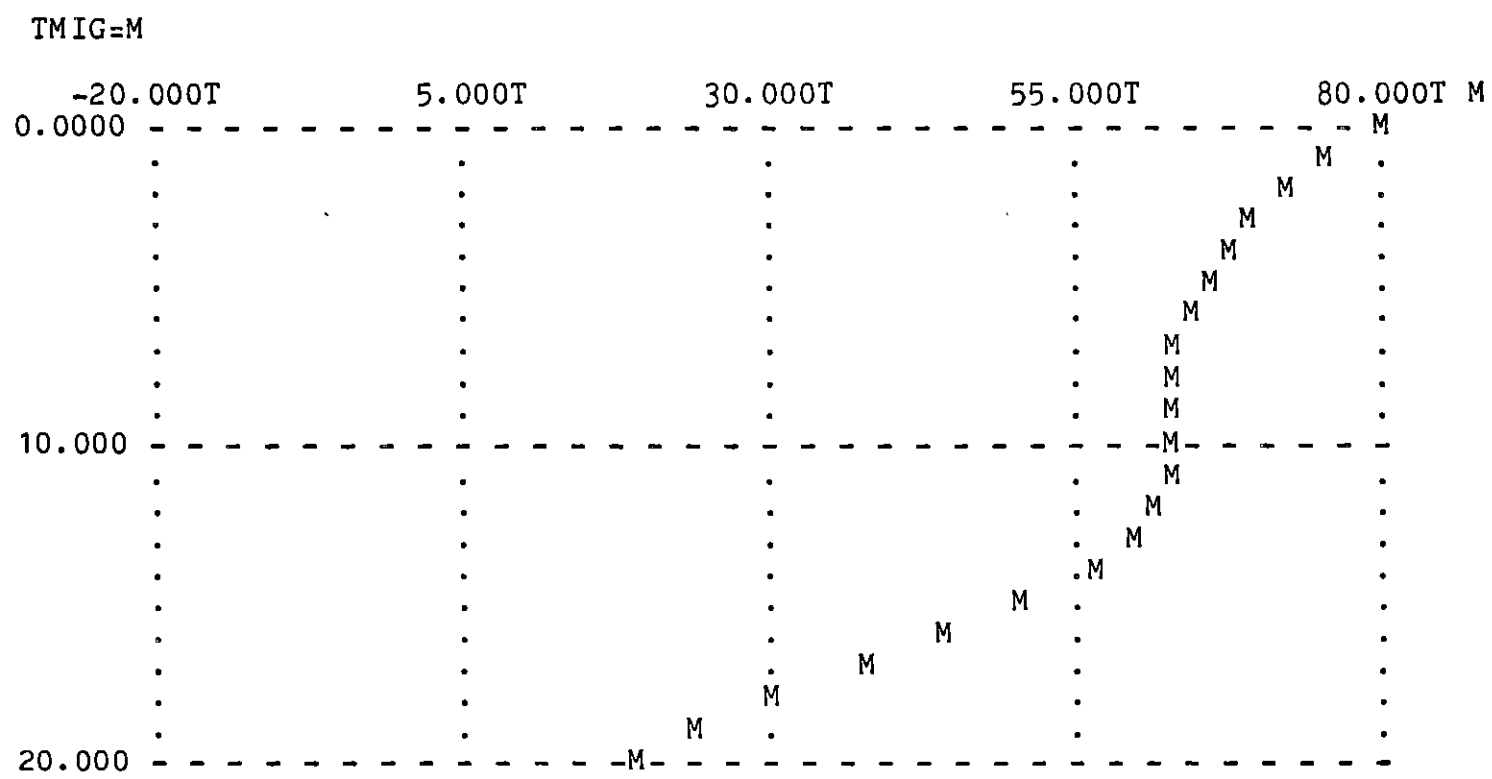

Figure B.30

Temporary Migration/Case H

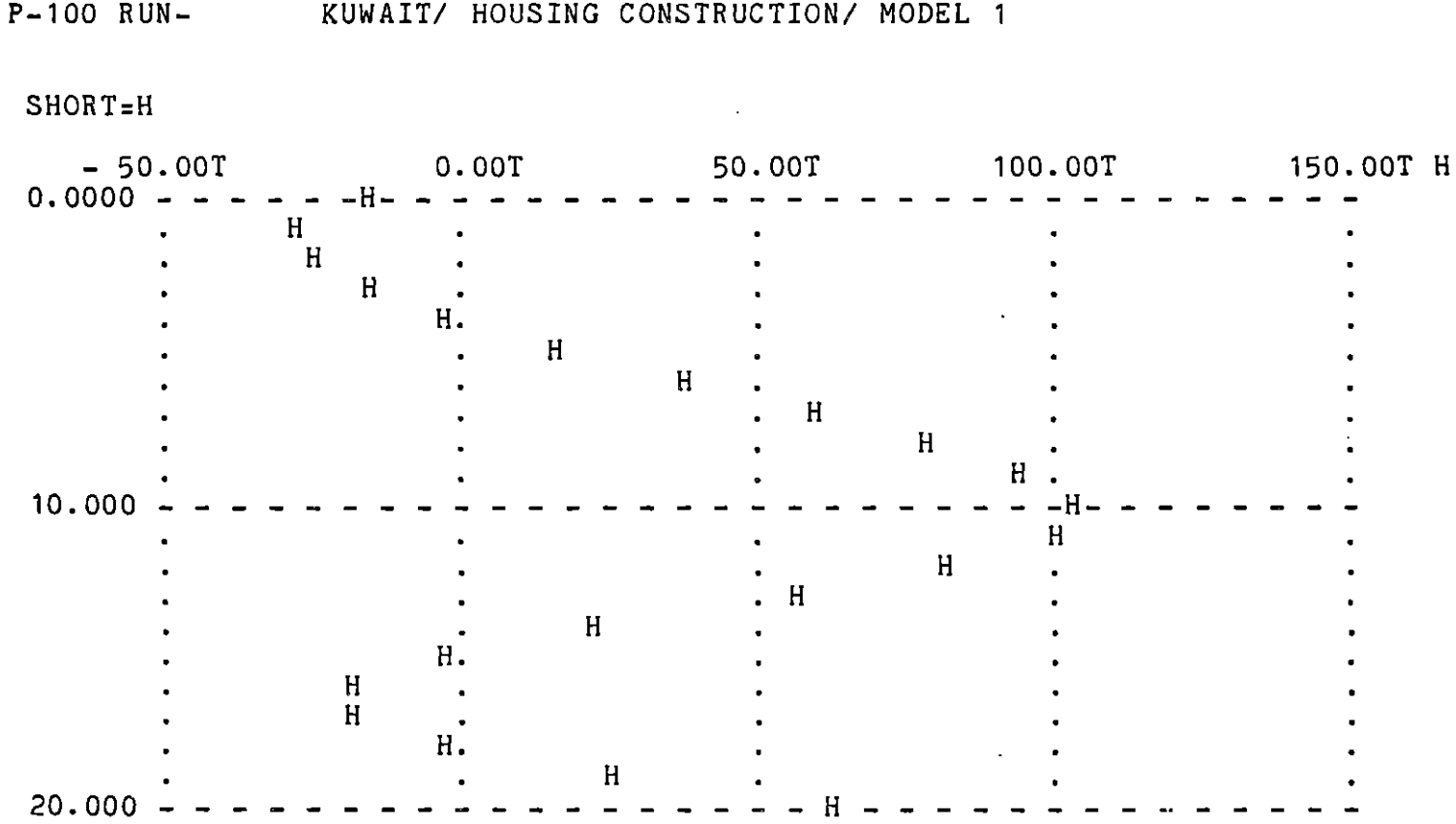

Figure B.31

Housing Shortage/Case H

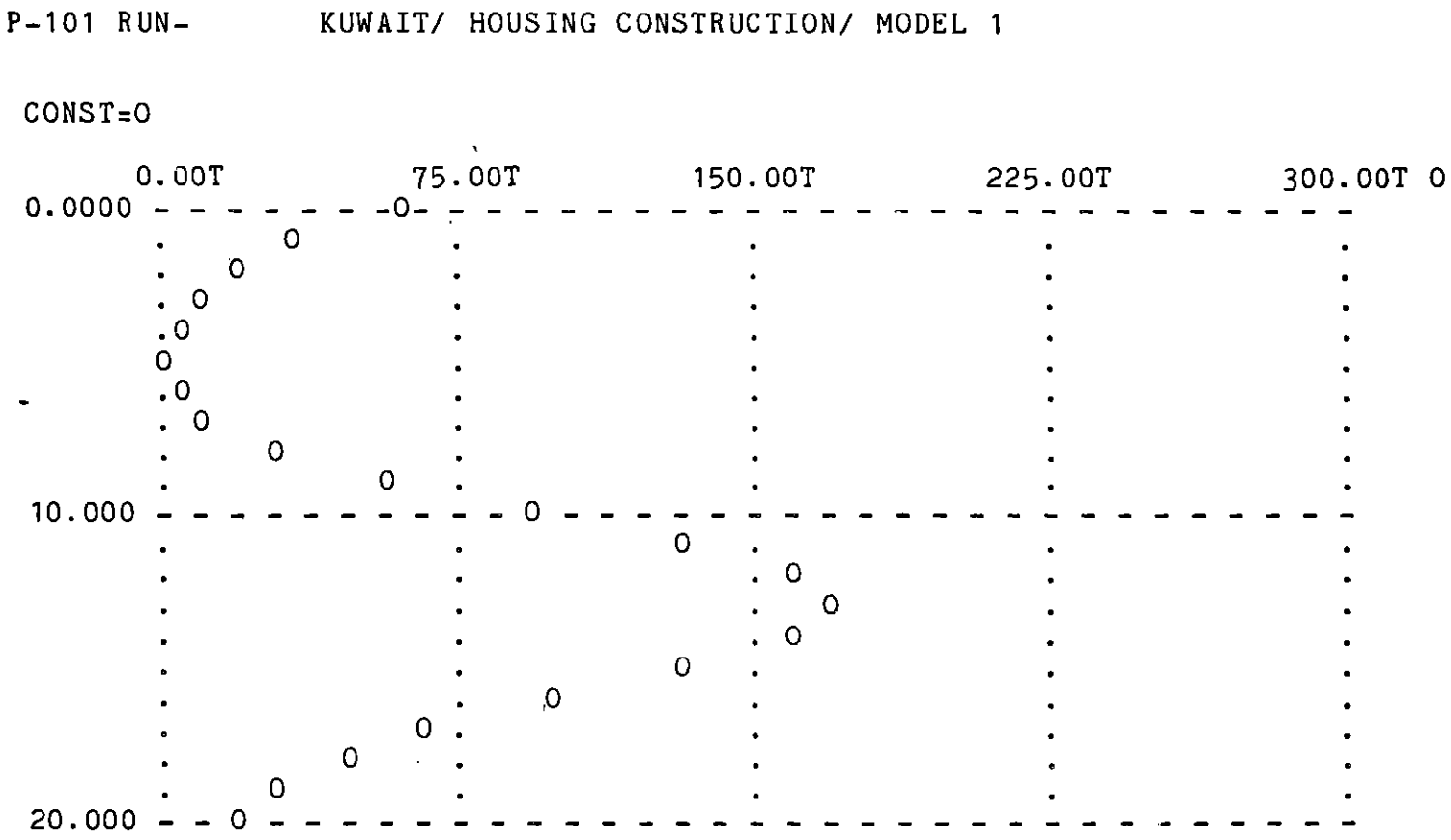

Figure B.32

Housing Construction/Case H

APPENDIX C

ARAB PERSPECTIVE OF SOME ASPECTS OF ARAB NATIONALISM AND ARAB-ISRAELI CONFLICT

Arab Nationalism

The advent of the 20th Century witnessed an upsurge of nationalistic ideas throughout the Arab world. Though influenced both by the western school of thought and Marxist thinkers, they were deeply rooted in the Arab ethos, whose essential ingredients are common language, history, future aspirations, and integrated identity. The Arab thinkers found their world rich with economic as well as cultural poverty following long decades of colonialism. Consequently, the basic question they sought to answer was: how to achieve quick modernization against a background of rich heritage, given the social, political and economic interests of various strata of the Arab people?(1) In other words, viewing culture in R. Robinson's terms "the way of looking at the world, the values, the traditions and the institutions that interact to establish allocational priorities,"(2) what avenues are there for the Arab mind?

The turmoil boiled down to one strategic objective: free and united Arab world with a humanistic outlook and social justice content, through efficient exploitation of common resources. Today, few Arabs, if indeed any, disagree. Nevertheless, there are important differences in perception

with regard to: first, the feasibility of the objective and if so, what should the mechanism be; and second, the essence of the internal social justice.

These differences can be represented on a matrix on one end of which is, for example, Iraq and on the other is Kuwait. Significantly, these two countries are closest geographically to each other. Yet, Iraq is committed to socialism and "revolutionary" Arab unity, while Kuwait's structure is based on a market economy and it strongly advocates an "evolutionary" path. Egypt, is an interesting case.* It remains to be seen how successful Sadat will be in shifting the country away from Nasser's Pan-Arabism and making economic and social progress a reality. Similarly, the Pan-Islamic movement is yet to assert itself.

Realizing this objective represents to the Arabs the regaining of their sense of identity. No wonder, therefore, that their psychological commitment extends to what amounts to be a fanatic belief. This is the main reason behind the host of all sorts of Pan-Arab economical, social and cultural organizations.

Arab-Israeli Conflict

Against this background, the question of Israel has been

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*Sadat's basic argument revolves around the assumption that U.S. friendship is the most rational/practical operational program, so to speak, for realizing Arab aspirations.

playing a paramount role in shaping Arab's thoughts and actions. Briefly stated, from the Arab perspective, creation of the state of Israel in the forties is not rightful, as a matter of principle; and a major obstacle in achieving the Arab's aspirations, as a matter of practicality. The issue exerts, on the Arabs, an intense emotional pressure in more than one direction. First, it represents an extension of an "illegitimate western hegemony" which infringes upon their sovereignty. Second, it is a live source of a deep sense of humiliation following their "defeat" in the 1967 war, on the one hand; and, thanks to the U.S., "hopelessness" in controlling Israel's continuous expansion, the highlight of which is the complete takeover of Jerusalem, on the other. Finally, complicating the issue further, there is a historical mistrust of the Supreme Powers. The Arabs fought along side the allied forces in World War I against a promise of independence after the war. What happened was that instead, they were colonialized by new masters (Britain and France), and Israel came into being. True, the Jews lived in Palestine some two thousand years ago, but they were afterall Arabs, not Russians or Poles.

It is unfortunate that so far the west, and more specifically the U.S., has shown but a nominal knowledge of the Arab position. Consider, for example, the antisemitism flag often being waved. To the Arabs, there is a fundamental difference between being a Jew and being an Israeli. While

the Jews are members of a religion which the Arabs recognize, respect, and draw on many of their spiritual values,* the Israelis are members of a political entity the Arabs are at odds with. Many Arabs are Jews, but not all Israelis are necessarily Jews. This position is shared generally by all Arabs, Muslims and Christians alike. It is not insignificant that many of the radical Arab political groups are led by Arab Christians. Michael Aflag, a Syrian Christian living presently in Baghdad, established the Arab Baath Socialist Party which is now in power in both Iraq and Syria** and claims a sizeable membership in most other Arab countries; George Habash is the leader of one of the most violent Palestinian fighting groups (The Popular Front for the Liberation of Palestine); and Bishop Capucci was imprisoned in,

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*"Those who believe (in the Quran)
And those who follow the Jewish (scriptures),
And the Christians and the Sabians,
Any who believe in God
And the Last Day,
And work righteousness,
Shall have their reward
With their Lord: on them
Shall be no fear, nor shall they grieve".
Translation: The Holy Quran, Sura Al-Baqara Section 8:62 (3)

"And remember We gave
Moses the Scripture and the criterion
(Between right and wrong): there was
A chance for you to be guided aright".
Translation: The Holy Quran, Sura Al-Baqara Section 6:53(4)

**The Syrian and Iraqi parties are structurally unrelated. Nevertheless, the ideological base for both is the same.

later exiled from, Israel for his support to the Palestinians, to name but few of many.

In summary, the issue is a combination of all sorts of rational and emotional arguments. One should note the way killed members of the fighting Palestinian groups are denoted by top officials in the U.S. as "terrorists", while concurrently their pictures are portrayed in Arab cities as "martyrs" fighting for freedom, to understand the gap in perspective. Thus, unless the Arab perspective, with all its emotional content, is correctly assessed, regardless of whether or not it is accepted, the Arab-Israeli conflict will remain potentially explosive. The implications to economical cooperation and world trade are self revealing.

Appendix C - References

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