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SOCIAL FACTORS AND LABOR MARKET STRUCTURE IN SAUDI ARABIA

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The active pursuit of economic development in any underdeveloped society is an effort to foreshorten a process which took decades--if not centuries--in the developed nations. To the extent that the core of today's development problem is surplus labor, development must be measured in terms of job creation as well as in real per capita income, because it is obviously possible that per capita income may rise without significant increases in employment.

Since the early 1950s theoretical analysis of these conditions has been framed in terms of dualistic growth models. Ragnar Nurkse [11], W. Arthur Lewis [10; 1954, 1958], J. C. H. Fei and G. Ranis [2, 12], A. K. Sen [14], L. G. Reynolds [13] and others postulated a two sector model in which an agrarian (rural, traditional) and a modern (industrialized) sector exist side by side. The agrarian sector provides a minimal life sustaining income for the majority of the population (80 percent or more). High population density, peasant farming, capital poor, labor intensive methods combine to lower the marginal productivity of labor in agriculture to zero, and if it is not zero it is assumed to be negligible. The modern, urban sector is more productive. Labor combined with capital produces goods for sale in relatively small domestic and limited export markets. Wages are higher in the urban economy creating a wage-gap which provides one incentive for the rural-urban population shift.

The idea that a worker may have zero marginal productivity has been debated almost from the moment W. A. Lewis' paper was published. As Jacob Viner pointed out it is hard to conceive that there exists a farm where it is impossible "to obtain some addition to the crop by using additional labor in more careful selection and planting of the seed, more intensive weeding..." [16, 152; 4,298; 7].

The attack on the zero marginal productivity

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\* The author wishes to thank Allan Hunt for his thoughtful comments on an earlier version of this paper. The author alone is responsible for any shortcomings. Preliminary draft, April 12, 1976..

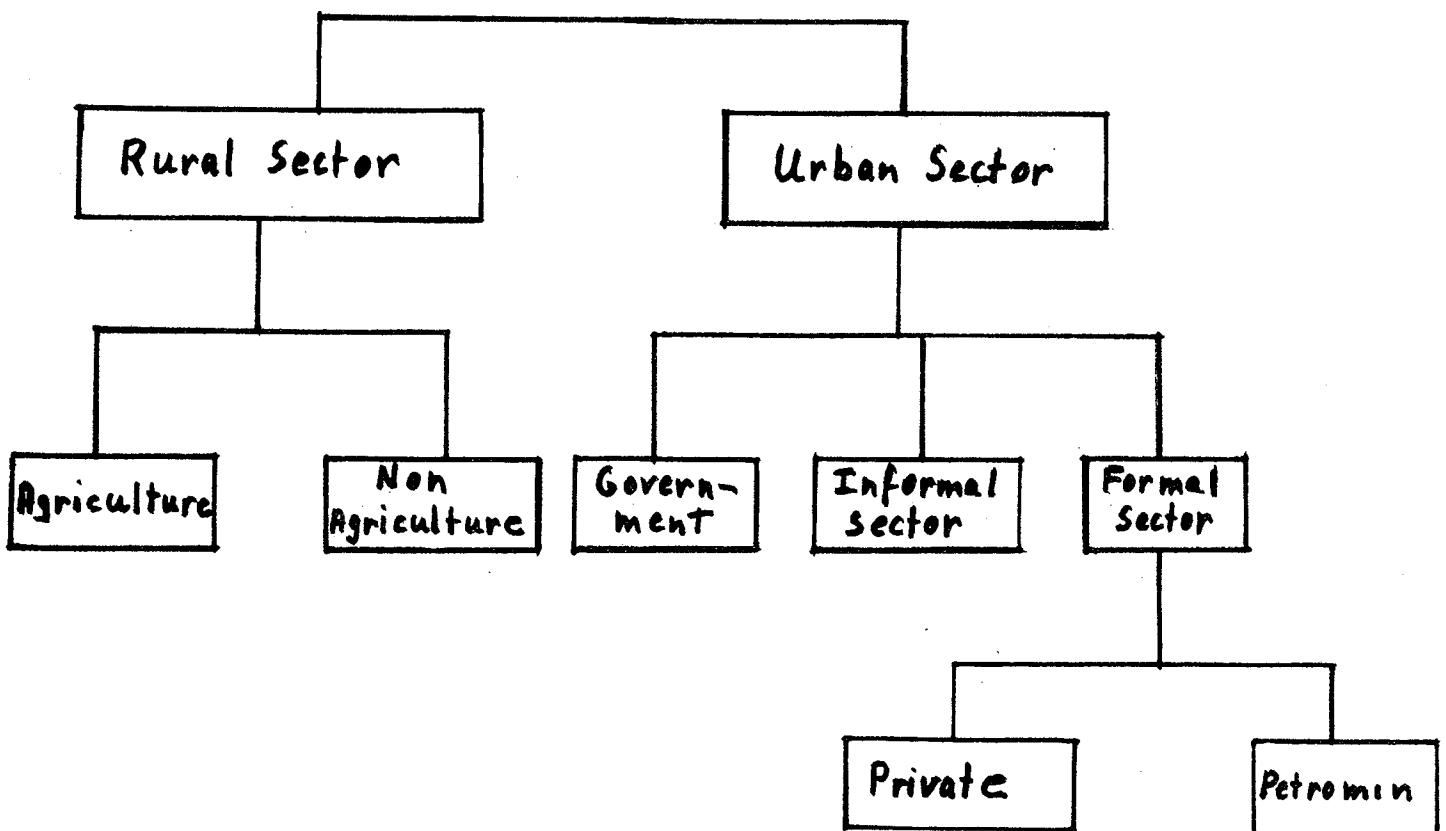
This paper is part of a study of the basic structure of the Saudi Arabian economy. Its emphasis is on the supply of labor. It is planned to examine labor demand more extensively if the requisite statistics can be found.

of labor theory was blunted by Sen who argued that "the [underemployment] phenomenon is essentially connected with variations in labor time per person (or effort per person)," and that "the necessary work will be spread over more people than are needed to get that work done." [14, (1975), 32-33]. As long as the real labor cost for an additional unit of output, the share of additional output going to the worker and the worker's valuation of the portion of the additional share going to others are constant, "so will be the output Q, despite the withdrawal of some working members of the family, and all that will change is the amount of work done per person."

This paper deals with the structure of the Saudi Arabian labor market within the general "dual economy" paradigm. Economic development began in Saudi Arabia about 1960. During the past sixteen years the government has concentrated its efforts primarily on the creation of social overhead capital. Huge expenditures have been made on roads, education, medical services, communication facilities and other infrastructure sectors. Except for Petromin, whose activities are concentrated in petro-chemical industries, non-infrastructure industrial development has been in private hands. There is some evidence that this strategy has not been effective and that owing to certain social factors Saudi Arabian nationals have not benefited in proportion to the development effort undertaken.

The study is divided into three parts. Part One states the assumptions, definitions and relevant labor market theory applicable to the problem at hand. Part Two presents the cultural and social factors which shape the Saudi Arabian labor market structure, and Part Three gives the overall structure of urban and rural employment.

Figure One

The Structure of the Saudi Arabian Economy

## I

## Assumptions, Definitions and Theory

The Saudi Arabian economy is divided into an urban and rural sector, each of which are divided into several subsectors. (Figure One) The rural sector consists of an agricultural and a non-agricultural service subsector. The urban sector is made up of a government, an informal and a formal subsector. The formal sector is further divided into a private industrial subsector and a petro-chemical (Petromin) sector. To avoid the a priori bias among analysts that the traditional sector is an inefficient drag on the economy and to focus more closely on the division of the urban economy into a modern industrial and a traditional service sector, the modern sector is called the formal sector and the other, the informal sector.

The distinction between agriculture and non-agricultural activities in the rural sector is important. First, there exists evidence that cultural factors have created a preference for non-agricultural employment by land owning peasants. Second, the non-agricultural rural subsector contains a number of relatively skilled workers when compared to the agricultural part of the rural sector. Third, the existence of some usable skills in the rural areas means that the absorption of the migrants into the urban economy does not necessarily lower the average skill level. It may harm the rural areas, however, because they lose the skills required to maintain equipment, etc.

The formal sector is made up of the oil industry and the private non-oil industrial sector. Its major characteristics are relatively large (by Saudi standards) scale production for geographically extended markets, use of modern

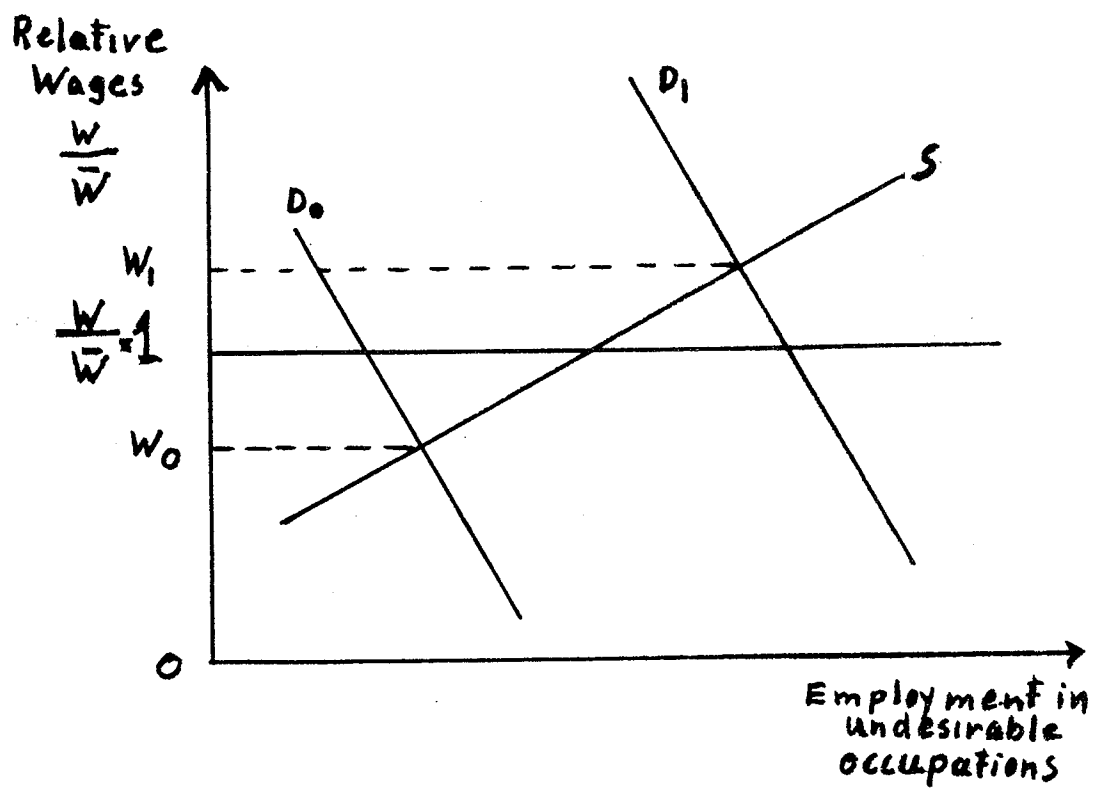
machinery and a close relationship to the government via easy access to government lending institutions. The informal sector is characterized by predominance of trade and service activities serving a small geographic area, negligible use of machinery, artisan and manufacture, and lack of a well defined government link. Productivity in the informal sector is low. Nevertheless, it serves two useful functions. First, it supplies products and services to the formal sector [5, 1972, 506-508] and second, it absorbs redundant labor and provides a bridge between rural and urban employment.

The government sector has been included in the scheme as a separate entity, because in one way or another its activities touch on every sector of the economy. This means that its role in the economy transcends the formal sector. To include it in the formal sector downgrades its importance in the whole economy.

Underemployment in a given sector is defined as a condition such that at a given level of technology and capital stock, emigration of labor out of the sector will not lower output significantly [5, 1964]. In Reynolds' terms there exists a labor surplus, or "labor slack", which "is confirmed by the fact that industrial employers in the LDCs rarely complain of inability to find labor. There may be complaints about lack of training, low motivation, and other aspects of labor quality, but there is no deficiency of numbers." [13, 93-94].

Underemployment may be of two kinds: seasonal or sociological [7, 78-80]. Seasonally induced underemployment exists when a farmer fails to apply himself to work in his farm or does not take advantage of non-farm work between planting and harvest time. Sociological underemployment may result from sex discrimination or cultural patterns which label some work as socially inferior, thus, automatically assigning anyone engaged in such activities a lower social position. [Idem].

Figure Two

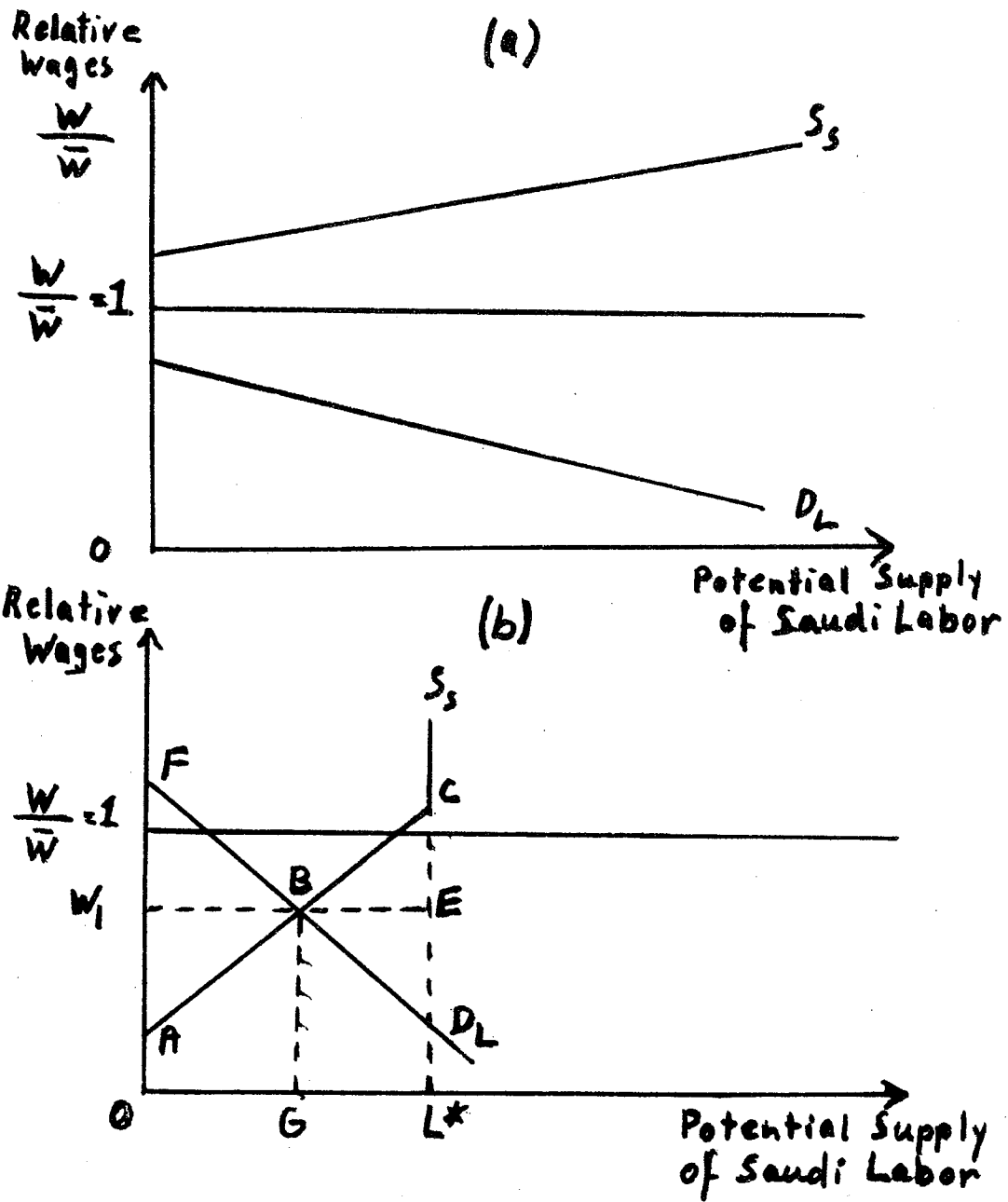


To overcome the aversion to certain jobs wages in the less desirable occupations must compensate the job holder for his reduced social standing. The required compensating wage differential is determined by the strength of demand and the distribution of tastes. In Figure Two employment in the undesirable occupations is measured on the x-axis and relative wages on the y-axis. (Relative wages equals  $W$ , the wage rate in the undesirable occupation(s) over the average wage in socially more acceptable employment,  $\bar{W}$ ).  $S$  is the labor supply curve under the assumption that social factors determine labor's willingness to accept jobs. If demand equals  $D_0$  there exists an adequate supply of workers willing to accept employment and the wages in the undesirable occupations will be below that of the socially preferred occupations, and if demand is strong,  $D=D_1$ , it will have higher wages than that in the preferred jobs.

In Saudi Arabia strong social and cultural influences have led to voluntary underemployment or unemployment. In Figure Three relative wages,  $\frac{W}{\bar{W}}$ , are measured on the ordinate and all workers currently not employed in the desirable occupations and the on the abscissa. These workers are potentially available for employment in the less desirable occupations. To simplify the analysis it is assumed that all desirable jobs are filled and that no new desirable job openings are created.

In panel (a) it is assumed that social factors are so strong that the supply curve of Saudi workers lies everywhere above unity, where  $W = \bar{W}$ . That is, the reservation wage is so high that there must be a positive, compensating wage differential to attract any workers into these occupations. The high reservation wage exists because the individual is part of an extended family.

Figure Three



An explanation of this phenomenon requires a closer look at the meaning of employment. There are three aspects to employment: [14, 1975, 3-9; Chp. 4].

- "(i) the income aspect, employment gives an income to the employed;
- (ii) the production aspect, employment yields an output;
- (iii) the recognition aspect, employment gives a person the recognition of being engaged in something worth his while." [Idem, p. 5].

As long as the individual contributes some work to the family effort he is entitled to a subsistence share in the family income. Even if his marginal productivity is zero, which means that he is unemployed in the production sense, he is employed in the income and recognition sense. His share of the family income is augmented by the value of the free social services supplied by the government. Given this basic endowment individuals not currently employed in a desirable job can set the high reservation price reflected in the labor supply curve of panel (a).\*

The position of the labor demand curve,  $D_L$ , is determined by product demand and labor productivity. Limited product markets and low productivity of labor combine to place  $D_L$  below  $S_S$ .

The case developed in panel 3(a) is too extreme. Equilibrium is impossible and in the absence of alternative employment opportunities large scale voluntary unemployment will prevail. There is no evidence that the social constraints are so strong that no one will accept employment in the less desirable jobs without a substantial positive compensating wage differential.

Panel 3(b) offers a more realistic alternative. Assume that  $OL^*$  is the total potential supply of Saudi labor; that is, all those workers not engaged in desirable occupations. Also assume that the disutility of accepting socially

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\*The role of the urban informal sector will be explored later.

undesirable employment varies between individuals. That is, there are some individuals who will accept these jobs even at a negative compensating wage differential. Let  $ABC_s$  be the labor supply curve under these modified conditions, and  $FBD_L$  the labor demand curve. In this case labor demand will equilibrate at the relative wage  $W_1 < \bar{W}$  and OG workers will be employed. But the total potential labor force equals  $OL^*$ . Therefore, socially induced voluntary unemployment will be  $GL^* = OL^* - OG$ .

Until now expatriate labor has been ignored. Although there are some restrictions on the inflow of expatriate labor it is easy for foreign workers to enter the Kingdom. This is especially true for Yemeni and Sudanese workers. As is the case with the German "Gastarbeiter," the expatriates are willing to accept virtually any job at a wage lower than that demanded by Saudi workers for the same job. They are substitutes for Saudi labor. Therefore, the total effective labor supply equals Saudi plus expatriate workers. Figure Four shows the aggregate labor market. Total employment and effective labor force are measured on the abscissa and the wage rate on the ordinate.  $OL^*$  is the total supply of Saudi labor, including all Saudis employed in the desirable and undesirable occupations and  $OL^{**}$  is the total effective labor supply.  $ABS_S$  is the supply curve of Saudi labor for both types of jobs,  $CFS_E$  is the supply curve of expatriate labor and  $CFS_E + S_S$  is the total effective labor supply.  $D_L D_L$  is the demand curve for all types of labor. In this instance the wage rate will be  $OW_1$ , and total employment will be  $OL^{**}$ , where  $OL_S$  is Saudi employment and  $L_S L^{**}$  is expatriate employment and  $L_S L^* (= OL^* - OL_S)$  is socially determined voluntary Saudi unemployment. Thus it can be concluded that socially determined factors lead to unemployment or underemployment among native Saudi workers while at the same time labor must be imported to meet demand. Outright unemployment is low because the

informal sector absorbs native Saudi workers unwilling or unable to find work in the formal sector. There are also indications that expatriate workers can find work in the informal sector.

## II

### Social Factors and the Labor Demand for and Supply of Labor\*

Saudi society is by far the most conservative and traditional among the Arab nations. From the days of the Prophet to World War II the society and culture of the Arabian Peninsula was virtually isolated from the rest of the world and maintained the same pattern from generation to generation. There was no significant social change.

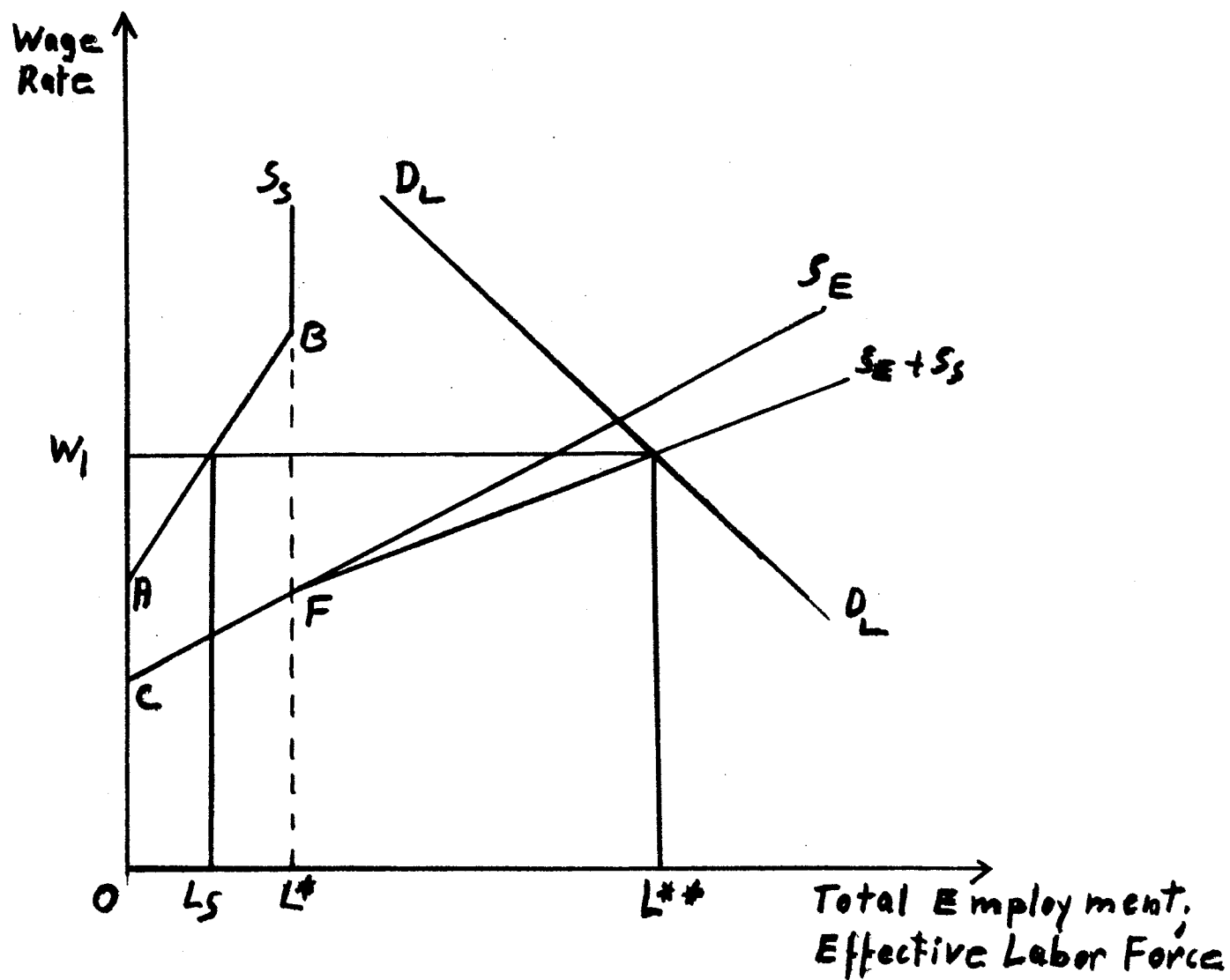
The social structure is divided into a primary social group based on nomads and peasants and a smaller group of city dwellers [1, 41]. Although the city dwellers value their descent from the bedouin, the usual social division between city and country exists. The urban population considers the bedouin primitive and socially inferior, rating the settled rural population only slightly higher. On the other hand the rural population does not hold the city dwellers in high esteem.

Since the turn of the century the royal family of the house of Saud and its branches constitutes the upper class to which can be added some top members of the al-Shaykh family (the descendants of Muhammad Abd al-Wahhab, the 18th Century reformer) and a few important tribal shaykhs. The middle class is made up of the "ulema" (religious learned men), merchants, land owners, teachers, lawyers and other intellectual workers. The lower class is comprised of nomadic and semi-

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\*For a discussion of Saudi Arabian history and society see [9, Chaps. 1-3].

Figure Four



nomadic herdsmen, agricultural workers, traders and skilled and unskilled manual workers. In recent years the middle class has been augmented by managers, engineers, technicians and other "modern" occupations whose rise in status is not necessarily connected with family and tribal origin.

Tribal, regional and family ties are still all-important because they determine an individual's position in the social hierarchy. The rise of the "new" middle class does not indicate that this bias has weakened appreciably during the last two decades. Quite often the chance for promotion or advanced education at home or abroad is based on social factors. For example, the director of a government department or the owner of a business will ordinarily surround himself with persons from his family, tribe, or region with technical competence taking a slightly subordinate role in the hiring and promotion process. Regional ties are expected to gain a man entrance into jobs. In the late 1960's considerable resentment existed among college educated young men from the Quaseem, because one of the major private employers in Riyadh showed little preference for them despite the fact that the owner's family has its roots in this area.

First and foremost in the determination of social position is the descent on the father's side from an independent, camel breeding bedouin tribe. It is the only legitimate ground upon which a person can claim the right to call himself an Arab. Next comes membership in one of the religious sects: Sunnis rank before Shiites, Wahhabbis before Shafites. Third is land ownership. Ownership of animals and townhouses yields less prestige. Finally, there is a person's occupation. Merchants, service, intellectual occupations and animal husbandry are held in high esteem. Manual occupations, i.e., those which dirty a person's hands are held in relatively low esteem.

An outstanding feature of rural labor market patterns is the preference among landowners for second occupations outside farming. Dequin [p. 121] observes that the larger a peasant's land holdings the more involved he becomes in his outside occupation. This phenomenon is more pronounced in the larger oasis where non-agricultural employment and business opportunities are more readily available. Retail trade, truck driving, electrician, work for local government are preferred by those peasants who own their gardens and fields, while peasants who rent part or all of their land tend to be engaged in the "lower" trades such as tinsmith, tailor, sandal maker and others. Land owning peasants actually prefer these occupations for themselves and will employ larger numbers of paid day laborers on the farm to pursue their ancillary occupations.

Specialization in non-agricultural occupations has led to a slight upgrading of the skill level. While the general level of skill of the rural Saudi labor force is very low, repeated work in their non-farm occupations has made these individuals relatively more productive workers. Learning-by-doing pays off.

There appears to be a certain amount of informal sharing of the available work, a "live and let live" attitude among the rural population. For example: A peasant will subcontract the transport of manure from the farm to his field to a neighbor having him in produce. This arrangement is made despite the fact that the employer's draught animals are not fully utilized. [1, 128]. Because the cost to the employer is greater than the actual payment for the services rendered it is clear that cost minimizing is not necessarily the only objective and that non-monetary factors play a role in the farmer's decision making.

The cultural preferences for certain types of employment are also reflected in the urban areas. Service occupations such as taxidriver, truck driver, night watchman, messenger and retail trade are preferred over plasterer, bricklaying, plumbing and others. There is, however, a small but significant difference in the urban areas. While blacksmithing and other manual "lower" trades are relatively undesirable occupations, these activities become socially more acceptable when the individual moves into the automobile repair or similar modern occupations. This acceptance does not extend to all modern jobs and skills.

The social and cultural factors discussed have combined to produce a labor market where response to economic incentives are strongly modified by social pressure. The pattern of rural-urban migration is split along formal-informal lines. The interaction of various labor market sectors is further influenced by a lack of skills. Thus, preference for a limited number of occupations and general lack of skills are the outstanding characteristics of the native Saudi labor force. The skill shortage is so acute that skilled labor must be considered a distinct factor of production. At the moment the usual foreign exchange and savings gaps do not exist. The skill constraint, however, is creating problems as serious as those experienced by developing countries without oil income.

The supply of labor consists of two basic types: informal and formal which must be divided into various degrees of skills. In the rural areas the bulk of the labor force is made up of unskilled stoop labor and some semi-skilled petty traders, artisans and service workers. In the urban areas there is a large pool of unskilled labor both native and expatriate and a smaller one consisting of the traditional occupations. In addition there is an even smaller group of educated town dwellers and the supply of expatriate technical personnel.

On the demand side there are three sources of employment: the government, the traditional service oriented and the modern (predominantly manufacturing) sectors. The government and the modern components require the whole spectrum of skilled workers while the traditional sector offers employment opportunities primarily to the unskilled and semi-skilled.

Let:  $R_A$  = rural unskilled (agricultural) labor

$R_C$  = rural semi-skilled (trade, nonfarm) labor

$U_C$  = urban semi-skilled (trade, manual) labor

$U_A$  = urban unskilled labor

$U'$  = urban educated labor

$E$  = expatriate labor

$u$  = social factors

$\frac{W}{\bar{W}}$  = relative wages

$G_C$  = government demand for unskilled and semi-skilled labor (Out-Cadre)

$G_{H.C.}$  = government demand for skilled labor (In-Cadre)

$U_{T.C.}$  = urban informal sector demand for unskilled and traditional labor

$M_{L.C.}, M_{M.C.}, M_{H.C.}$  = formal sector demand for low, medium and highly skilled labor

Therefore, we can write:

$$(1) \text{ Labor Supply} = L^S = L^S (R_A, R_C, U_C, U_A, U', E, u, \frac{W}{\bar{W}})$$

and

$$(2) \text{ Labor Demand} = L^D = L^D (O_C, G_{H.C.}, U_{T.C.}, M_{L.C.}, M_{M.C.}, M_{H.C.})$$

The labor flow and the rate of absorption of the underemployed into more productive occupations is divided into two streams. First, there is an intra-regional (geographically limited) flow. Land owning peasants and unskilled workers move from farm to rural non-farm employment within a region. In the urban areas unskilled and semi-skilled workers move from the informal to the low skill formal and government sectors. Furthermore, there is a continuous movement from lower to higher skill positions within the government. Within the modern sector this flow is negligible. (Figure Five)

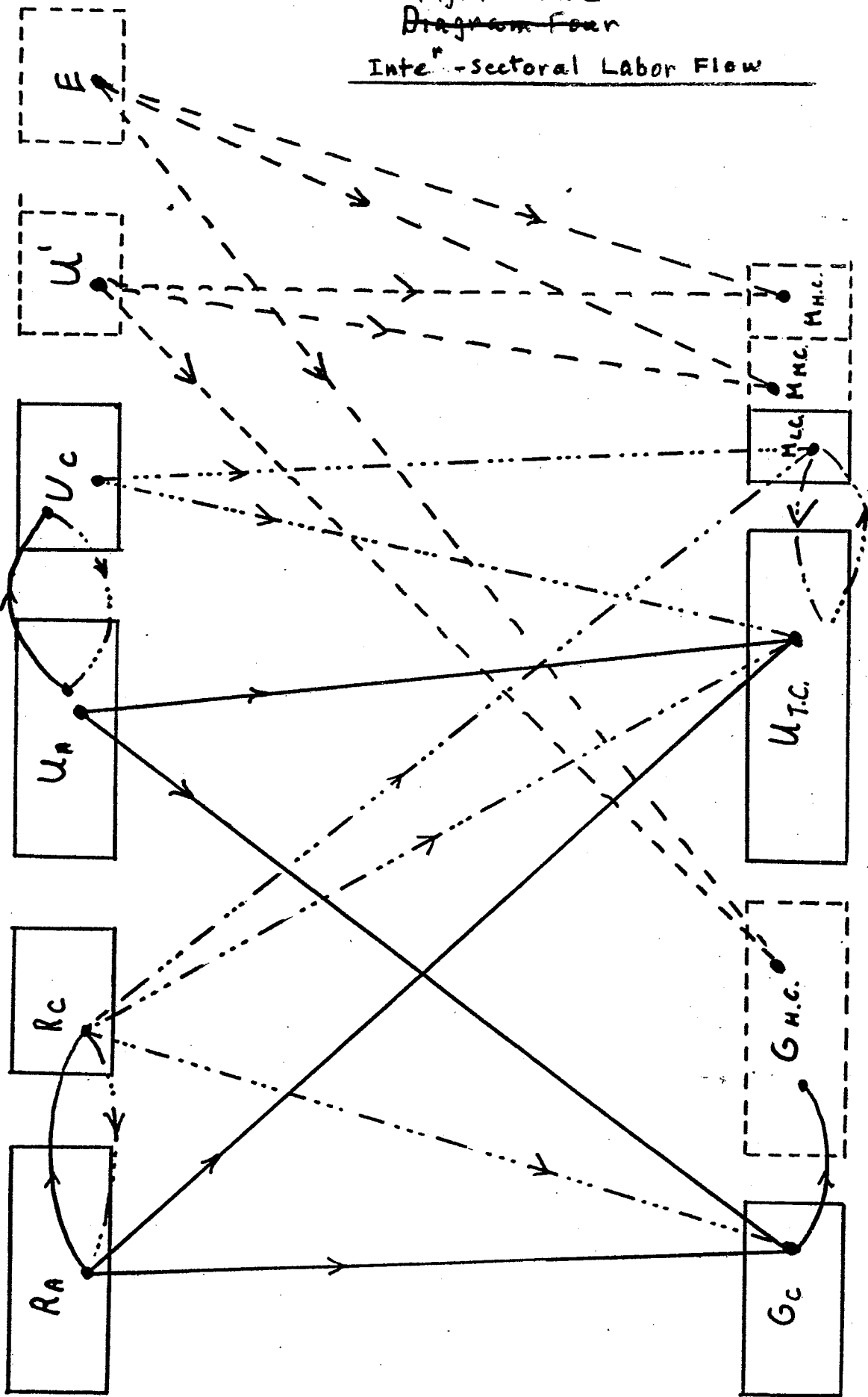
On the whole it would appear that the intra-regional flows appear to be of little importance. Productivity gains are small and it can be argued that these shifts are horizontal movements from one type of underemployment to another. Yet, they may be an important, necessary factor in the rural-urban shift as well as in the process of human capital formation. First, the existence of the informal urban sector reduces the uncertainty and risk associated with the move from the country to the city because it assures the migrant some form of employment [Todaro, 1969]. Second, in the cities as well as the rural areas the number of "modern" jobs has been increasing. It is here that the self-taught rural electrician, truck driver or mechanic finds at least part time employment. Whereas in the formal sector hiring practices require proof of competence such as graduation certificates etc., in the informal sector these formidable barriers to entry do not exist. Furthermore, as the formal sector increases the interrelationship between the two sectors increases, expanding, pari passu, the number of "modern" jobs in the informal sector offering additional opportunities for learning by doing. Thus, the urban informal sector serves an important function: It lowers the probability of complete unemployment which may result from the move into the cities and at the same time provides learning opportunities.

Figure Five  
Diagram Four

Inter-sectoral Labor Flow

13a

Supply



Labor Quality:  
 — Unskilled  
 - - - Semi-skilled  
 . . . Skilled

Demand

The major flow is the movement from the agricultural and informal rural sectors into the urban areas. This flow, modified by economic and social influences, gives the Saudi labor market its structure and determines the benefits from economic development derived by the general population.

Four major forces account for the rural-urban shift. First, the availability of employment opportunities. By far the largest effects of development planning have been in the urban areas. To the extent that there is labor demand from the formal sector it is concentrated in the five or six largest cities. Second, the wage gap. Urban wage rates are higher in virtually all occupations in the informal and formal sectors. It has been estimated that the relationship of per capita income in the northern region for bedouin, rural and urban wages is as 1:3:4.9 respectively. Third, the urban informal sector is large and offers at least part time employment in many socially acceptable occupations without requiring significant major social adjustments. Fourth, is the availability of better social services. Contrary to most findings "the bright lights of the city and other cultural factors" [3, 165] are important in the demand pull of people into the cities. Medical services are free everywhere, but they are substantially better in the urban areas. Municipal water works operate pipe systems providing running water to most houses in the cities. Although most forms of public entertainment are prohibited, sports are popular. All large cities have sports arenas in which soccer, camel, horse races and other events are held regularly. Furthermore, city life gives the individual considerable freedom from observance of religious duties. In the villages Wahabi morality prevails. Prayer and other religious obligations are strictly enforced. Many young men resent this and once they have settled in the cities they avoid these duties. "Stadtluft macht Frei".

The importance of social and cultural factors in the Saudi Arabian labor market and its effect on the formal sector must not be underestimated. Employment in the formal sector requires a different social attitude than the prevailing one. Life in a Saudi village--and even in the cities--does not foster a favorable attitude toward industrial discipline. Most formal sector jobs place the worker into an entirely new social environment. There is ample evidence that the migrant searches for a formal sector job among a small number of occupations. If he cannot find employment in these areas, he looks for employment in the informal sector where family ties, the tradition of work sharing and marketable skills guarantee him some income earning employment opportunities.

Commonly accepted labor theory states that a large enough positive compensating wage differential will overcome the reluctance to accept socially inferior jobs. In Section One it was argued that in Saudi Arabia the income incentive is not very strong. Careful observation over the years has revealed many examples where wage differentials as high as double that in the reference occupations failed to induce Saudi workers into the socially less desirable positions. A migrant into the city will become a pavement seller before accepting a waiter's job in a hotel. As a result many semi-skilled positions in the modern sector are vacant or filled by expatriates. The failure to overcome cultural and social pressures with economic incentives is not unique to Saudi Arabia. It has been found in Tanzania that non-Moslem farmers in predominately Moslem areas will not raise hogs. Substantial income incentives made no difference.\*

The primary source of skilled Saudi man-power is the educated urban dwellers, their children currently enrolled in various educational programs and expatriates. Even in education socially determined job choice is apparent. Trade schools

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\*This observation was reported to the author by a group of Tanzanian government officials currently studying at the University of Connecticut.

preparing individuals for manual trades such as plumbing, carpentry and other "blue collar" jobs are less in demand than office skills. A recent informal survey of vocational training centers disclosed that the utilization rate of eight centers located in urban areas was only 65.0 percent. Among several reasons cited for this poor showing the lack of rewards in terms of status even after completion of training. It is said that some young men will not engage in low status work at whatever rate of pay, because it may prevent them from marrying within their social group.\* This concentration on socially desirable education is also reflected in the job preferences of Saudi graduates with diplomas from foreign countries. For example: The Ministry of Agriculture sent a number of men abroad for training in pathobiology. When these individuals returned they became administrators and soon gave up all laboratory work. A foreign education brings prestige, but administrators occupy higher social positions than laboratory technicians.

As a result of this interaction of economic and social factors numerous Saudi workers have not gained appreciably from economic development. In most cases their move from country to city involves a horizontal move from one low productivity job to another equally low productivity job. Underemployment continues to exist, because the planners have failed to provide the right types of employment opportunities.

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\* Even the occupation of a near relative may affect a young man's chances to marry the girl of his family's choice.

## III

## The Structure of Rural and Urban Employment

The Saudi Arabian labor market has the same general "dual-sector" features as are found in most developing countries. On the supply side there exists a large pool of underemployed, unskilled and semi-skilled workers and a smaller pool of trained individuals and expatriates. On the demand side there are four sources of employment: the government, the informal service sector, the agricultural sector and the formal primarily manufacturing sector. Socially conditioned job preferences and lack of skill are the major problems. The government and modern sectors require skilled workers which are not generally available. Cultural and social factors have

Table One  
Sectoral Distribution of the Labor Force

	Agriculture	Industry Percent	Services
Developed Nations (1960)	22.9	36.0	41.1
Developing Nations (1960)	73.1	11.2	15.6
Saudi Arabia (1967)	46.2	16.9	36.9

Source: Kingdom of Saudi Arabia, Central Planning Organization, Development Plan, 1390 A.H., (Riyadh: Central Planning Organization, 1970.) p. 67

complicated the rural-urban shift, diminished the benefits from development accruing to the Saudi population, created underemployment and led to the employment of numerous expatriates.

In this section the employment structure of the agricultural and the urban informal and formal sectors will be explored. Because of data limitations the analysis is presented in static terms. It is assumed that the conditions enumerated in Section Two are reflected in the current structure of labor utilization.

In contrast with most developing countries the Kingdom is sparsely populated. Approximately 5.5 million people are spread over 1.4 million square kilometers of arid desert. Sixty-five percent of the total population live in rural areas. The majority of the rural population, 78.5 percent, are settled in agricultural villages, the rest, 21.5 percent, are nomads. Approximately thirty-five percent of the total population live in seven large cities and nine smaller urban concentrations. Population patterns are determined entirely by the availability of water. Because the number of oases is small, the habitable regions are densely populated. In 1970 the population growth rate was estimated at 2.75 percent and was projected to rise to 3.0 percent per annum in 1975. In 1972/73 the labor force amounted to 1.3 million people of whom 93.0 percent were employed. [8, C.P.O., 52].

The Agricultural Sector: Table One shows the sectoral distribution of the labor force in industrialized, in developing nations, and in Saudi Arabia. Employment in agriculture accounted for 46.2 percent in Saudi Arabia and 73.1 percent in developing countries.

Despite its large share in the labor force agriculture contributes little to output. From 1967/68 to 1974/75 agricultural output grew 41.0 percent at an annual rate of 5.9 percent. In 1974/75 the 46.2 percent of the agricultural labor force produced 1.3 percent of non-government Gross Domestic Product and 9.3 percent of non-government, non-oil G.D.P.

Table Two

Distribution of Employment in 430 Farms in the  
Quaseem Area, 1956

	Number	Percent
Self employed Peasants	590	23.3
Peasant Wives	665	26.2
All Family Members	783	31.3
Wage Labor	485	19.2

Source: Horst Dequin, "Die Landwirtschaft Saudisch-Arabiens und ihre Entwicklungsmöglichkeiten," Zeitschrift für Ausländische Landwirtschaft, (Sonderheft Nr. 1). (Frankfurt/Main): DLG Verlags GmbH, 1962/63?), p. 127.

The structure of rural employment differs somewhat among the regions, but the main outlines are clear. It consists of self-employed peasants, family members, workers with contractual or personal obligations to the land-owner, free wage labor (most of whom own small pieces of land) and Saudi and non-Saudi migrant workers. [1, 122]. There are 7.6 persons per rural household,\* 19.57 dunums (4.89 acres) of cultivated land per household and 11.47 dunums (2.87 acres) of cultivated land per worker.

Table Two presents a breakdown of the agricultural labor force in five villages and towns in the central Nejd. In 1956 over four-fifths of the labor force were family members and the remainder wage laborers. The relatively high percentage of wage laborers is further substantiation of the Saudi preference for non-agricultural employment. The survey area included Onaiza, a major population center in the Quaseem, which offers more diverse employment opportunities because of its larger population. In a smaller village with 46 farms some distance from Onaiza the paid non-family work force amounted to only 4.3 percent [Ibid., 127].

The female component of the rural labor force holds a unique position. While women contribute to output in the agricultural sector they are only part of the rural labor pool. If the family moved into the city the women would drop out of the labor force because under no circumstances would women be allowed to work in an urban area outside the house.

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\*This compares with 7.7 and 8.7 per household for Aramco employees in 1962 and 1968 respectively. [15, 238].

The Urban Informal Sector: In 1967/68 the Central Department of Statistics undertook a survey of business establishments in the Kingdom. "The survey covered all establishments other than those belonging to the government and oil companies, for the purpose of the survey and (sic) establishment was defined as a unit organized for specific kind of economic activity at one location. Agricultural holdings other than poultry farms were excluded and so were all vendors, hawkers, pavement sellers and taxi drivers, etc. who do not have fixed places of business." [8, 1386; 173.]. Although the survey included formal sector industries its sweep was wide enough that the inclusion of these firms does not distort its usefulness as a measure of the extent of the informal sector. The survey covered 43,616 establishments of which 9,174 (21.0 percent) were classified as manufacturing firms and, of these manufacturing firms only 564 (6.1 percent of the respondents) can be classified as modern sector establishments. The exclusion of taxi drivers, vendors, etc. understates the preponderance of low productivity, informal sector jobs in the economy. If these activities had been included the importance of the formal sector in the survey would have reduced the weight of the formal sector well below the 5 percent mark.

A measure of the extent of underemployment in the informal urban sector is the presence of unpaid workers. In 1966/67 about 39.0 percent of the total number of workers in 25 cities were classified as unpaid workers, nearly 69.0 percent of whom were employed in commerce and services. [8, 1388; 183, 197]. There is some evidence which suggests that the survey's employment figures include expatriates. It is likely that the percentage of unpaid workers is a measure of underemployment because expatriates will not work without pay.

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\* It is possible that the unpaid worker category includes self-employed labor. However, because the majority of these workers are employed in retail trade and services where the marginal productivity is known to be negligible, self-employment does not reduce the usefulness of the statistics as a measure of underemployment.

In recent years the rural-urban shift has accelerated. The resulting expansion of the informal sector has led to a reduction of productivity in some parts of this sector. For example: in the major cities there are three forms of public transportation. Licensed/jitney busses running along main streets picking up and discharging passengers anywhere along the way, taxi cabs and "freelance" truck owners who cruise along the streets in competition with the busses offering rides to anyone. Because the number of busses and jitneys is not controlled there has been a considerable increase in traffic, causing traffic jams and slow downs. A reduction in the number of taxis and elimination of "freelance" drivers would not affect the public significantly; it may even raise productivity of urban transport because a reduction of the number of vehicles would eliminate traffic congestion and reduce delays owing to accidents.

The Private Formal Non-Oil Sector: In 1972/73 the Industrial Studies and Development Centre conducted a sample survey of all industrial firms (including petroleum refining) and a census of all firms employing 10 or more workers. [8, 1973]. The data published in the second part of the survey approximates the formal sector as defined in this study; i.e., those private firms using modern methods to produce manufactured goods for sale in an extended market.

The Kingdom's formal sector is divided into two major parts: the private manufacturing sector and the manufacture of petro-chemicals including crude oil refining controlled by Petromin, a government corporation primarily concerned with oil associated industrial development. In 1971/72 the private formal sector employed 12,605 persons. (Table Three) With the exception of three refineries, a large fertilizer factory, and a steel bar rolling mill this sector is characterized by small consumer goods oriented enterprises. The majority of the establishments are located in the Eastern Province in the Damman-al-Khobar region, the area around Riyadh in the Central Province and in the Western Province in Jedda and Mecca. Measured in terms of employment the firms are rather small. Eighty-six percent of the firms employed less than 50 workers, and only 4.0 percent employ over 200. (Table Three) Unskilled workers accounted for 45.3 percent of all employees, skilled workers 33.9 percent, and engineers and managerial-administrative employees 9.4 and 11.4 percent respectively. (Table Four) Expatriate labor made up 39.0 percent of all workers. The highest percentage of expatriates, 55.0 percent, was employed as engineers or technicians, followed by skilled workers (39.0 percent) and managerial-administrative and unskilled with 37.0 percent each.

Table Three

## Distribution of Employment by Firm Size

Size by No. of Workers	Number of Establishments	Percent of Total	Number of Workers	Percent of Total
10-19	159	54.0	2,082	17.0
20-49	94	32.0	2,814	22.0
50-99	16	5.0	1,031	8.0
100-199	14	5.0	1,905	15.0
200 and over	11	4.0	4,773	38.0
Total	294	100.0	12,605	100.0

Source: Industrial Studies and Development Centre, Techno-Economic Industrial Structure and Growth Prospects in Saudi Arabia, (Riyadh: ISDC, 1973). Vol. 2, p. 289.

Table Four

## Employment Structure by Job Classification

Job Category	All Employees		Expatriates Percent
	Number	Percent	
Managerial-Administrative	1,431	11.4	37.0
Engineer-Technician	1,189	9.4	55.0
Skilled Workers	4,270	33.9	39.0
Unskilled Workers	5,057	40.1	37.0
Other*	658	5.2	--
Total	12,605	100.0	--

\*Includes drivers, janitors and other.

Source: Ibid, pp. 313, 314.

Almost 64.0 percent of workers earned less than S.R. 500 monthly, 18.1 percent between S.R. 501-1,000, 12.6 percent between S.R. 1,001 and 2,000 and 4.0 percent over S.R. 2,000. Only 1.5 percent worked without salary. Compared to Aramco and government salaries private formal sector wages are low.

The Oil Sector: Despite its importance in G.D.P. total oil sector employment has been very low. (Table Five) In 1964 Aramco and Petromin employed 12,880 and 101 workers respectively, of whom 80.0 and 90.1 percent were Saudi citizens. Between 1964 and 1972 Aramco reduced employment and the percentage of Saudis rose slightly. In 1973, following increases in world oil demand Aramco added 1,884 workers to its payroll. This increase brought Aramco employment to the 1967 level, yet Saudi participation in the Aramco labor force declined to 77.3 percent as compared to 81.3 percent in 1967. During the same period Petromin employment rose manifold, but participation of Saudi workers declined from 90.1 percent in 1964 to 80.6 percent in 1973.

The above statistics understate oil sector employment slightly because it excludes The Getty Oil Company and Arabian Oil (Japan). However, even if these two companies are included total oil sector employment does not exceed private non-oil formal sector employment by more than 20 percent.

Table Five

Oil Sector Employment, Selected Years

Year	ARAMCO		PETROMIN	
	Total Employment	Percent Saudi Workers	Total Employment	Percent Saudi Workers
1964	12,880	80.0	101	90.1
1967	12,073	81.3	746	77.9
1969	10,865	83.0	1,608	75.2
1971	10,139	82.4	2,049	77.2
1973	12,023	77.3	2,423	80.6

Source: Kingdom of Saudi Arabia, Ministry of Petroleum and Mineral Resources, Petroleum Statistical Bulletin, 1974 (Dammam: Al-Mutawa Press, Co., n.d.), p. 40.

## V

## Summary and Conclusions

Despite enormous oil revenue receipts the Saudi Arabians must be classified as a developing nation. The dichotomy between formal and informal economic sectors displays all the features of a "dual economy" as first described by Nurkse, W. A. Lewis and others, <sup>It is</sup> ~~is~~ the economy's single most important characteristic.

Given the virtually unlimited amount of financial resources the existence of un- or underemployment in Saudi Arabia is somewhat surprising. It was shown, however, that the persistence of "labor slack" is the direct result of social factors. On the labor supply side there exists socially induced, voluntary under- or unemployment because Saudi workers have a bias against types of work which they consider socially inferior.

Labor theory suggests that the unwillingness to accept socially undesirable employment can be overcome by payment of a premium over the wages in the more desirable occupations. The market equilibrium wage is established by the simultaneous interaction between the strength of demand and the distribution of tastes. It appears that in Saudi Arabia the social factors are so strong that, given the limited size of internal markets and the inefficiency of labor and capital in the formal (modern, industrialized) sector the wage gap is not large enough to draw Saudi workers into the formal sector. The extended family, free social services, and the existence of the informal sector allow Saudi workers to set a high reservation wage. The result has been the substitution of expatriate workers for native Saudi workers.

It is unlikely that there are short run solutions available. Although the Second Five Year Plan projects the expenditure of \$145 billion the number of socially acceptable jobs will expand slowly. The social bias against certain types of employment will yield only over time as the social structure adapts itself to the new economic conditions. In the meantime it is necessary to raise the incomes of the informal sector workers by dealing with this sector as an integral part of the economy, rather than as a temporary storage area for redundant workers who will be transferred to the formal sector in the course of economic development.

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