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LEBANON

THE GROSS DOMESTIC PRODUCT  
AND  
GROSS NATIONAL PRODUCT FOR  
1988

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## Preface

This study has been prepared by a team of consultants including Samir A. Makdisi (Project Director), Imad Chatila (Statistical Consultant), Kamal Hamdan (Economic Consultant), and Makram Sader (Economic Consultant). Its preparation reflects a joint effort by members of the team. Within this framework individual members concentrated on particular sectors: S. Makdisi and I. Chatila handled agriculture, manufacturing, trade and public administration, while K. Hamdan and M. Sader handled construction, non-financial and financial services. Riad Saadeh served as Agricultural Consultant.

In carrying out the project, the consultants benefited greatly from the detailed comments of Adel Al Akel, of the United Nations Department of Technical Cooperation for Development, on the methodology of the work as well as earlier drafts of the various sectors under investigation. Also, Roger Hagg provided valuable advice concerning <sup>methodology as well as sampling design</sup> ~~the design of the~~ sample questionnaires used in the field surveys. Their contributions are gratefully acknowledged.

Throughout the implementation of the project, which frequently took place under difficult conditions emanating from the then prevailing situation in Lebanon, the UNDP Office in Beirut provided immense support. Further, in providing needed data, the

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## I. GROSS DOMESTIC PRODUCT BY ECONOMIC ACTIVITY

### INTRODUCTION

The outbreak of the civil strife in 1975 disrupted the work of the Central Directorate of Statistics (CDS) at the then existing Ministry of Planning which had been engaged in the preparation of Lebanon's national income estimates since 1964. In 1975 the official national income series were discontinued and no national income accounts questionnaires information have been submitted by the CDS to the UN Statistical Office since the latter part of the seventies. Several international, regional and national agencies have attempted to provide estimates of GNP and related income aggregates, utilizing extrapolation methods and other available indicators. They are based, however, on outdated base year information and a variety of indicators are used which measure the growth of GNP and related income aggregates in different ways.<sup>1</sup>

The primary purpose of the study is to estimate Lebanon's Gross Domestic Product (GDP) and thereby Gross National Product (GNP) for 1988 and on the basis of the resident population estimate for that year to

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<sup>1</sup>/In 1977 the Council for Reconstruction and Development prepared a study on national accounts largely based on trade data. Further, certain individual attempts have been made to measure GDP for selected years. However, they are not comparable and their degree of reliability cannot be ascertained particularly that they do not rely on any significant sample surveys, if at all.

arrive at per capita GNP. It is a modest attempt governed by imposed time and budgetary constraints as well as by the paucity and often the non-existence of the required national data. Nonetheless, the study, relying to a large extent on field surveys based on reasoned choice sampling in a number of major activities, can be considered an initial contribution to providing a framework for the future development of fully fledged national accounts for Lebanon. In the meantime, it is intended to provide the needed data to adjust the interim illustrative planning figure (IPF) for the fourth cycle (1987-1991) and to serve as a basis for future annual updating of Lebanon's national income accounts until such time when detailed and comprehensive national accounts can be fully developed.

The methodology of the study follows closely the UN standard System of National Accounts (SNA) with appropriate modifications being made to account for the particularities of the Lebanese case. The production approach has been followed in estimating value added in the larger number of activities and the cost approach for the rest. Where feasible, both approaches were attempted for the purpose of estimating the value added ratio, e.g., in manufacturing and trade. However, instead of fully adopting the standard SNA classification by kind of economic activity, a modified classification has been used. Table 1 compares the SNA and the modified classification.

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 Table 1. GDP by Kind of Economic Activity<sup>1</sup>


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S N A	Modified SNA <sup>2</sup>
1. Agriculture, hunting, forestry and fishing	1. Agriculture, fishing and livestock
2. Mining and quarrying	2. Manufacturing
3. Manufacturing	3. Construction
4. Electricity, gas & water	4. Trade
5. Construction	5. Transport, education, health, restaurants & hotels, and other non-financial services including rent
6. Wholesale and retail trade, restaurants and hotels	6. Banking, insurance and other financial services
7. Transport, storage and communication	7. Public administration
8. Financing, insurance, real estate and business services	
9. Community, social and personal services	

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<sup>1</sup> / SNA makes three adjustments to the total GDP relating to: imputed bank service charge, import duties and value added tax. In the case of present study, the first item is not relevant as a different approach to banking services has been adopted; the third item does not arise while import duties were relatively unimportant in 1988, (about \$22 million or about three per cent of total public sector expenditure).

<sup>2</sup> / This classification is based in a number of respects on the one adopted in the official Lebanese national accounts which show trade, industry (and artisanat), financial services rent and public administration as separate activities and also excludes extractive activities. Non-financial services are divided into transport and communications and other services. The remaining activities are agriculture, hunting and livestock, energy and water, and construction.



It is believed that the modified classification, while partly dictated by the exigencies of the Lebanese case, better reflects the economic structure and conditions of the national economy. In comparing the two classifications the following may be noted:

- (i) livestock production is a relatively important activity in Lebanon in contrast with hunting and forestry which are very minor and have therefore not been considered;
- (ii) similarly extractive activities, mining and quarrying, have not been considered separately owing to their little importance in the Lebanese economy and have been included under manufacturing;
- (iii) electricity and water are, by and large, public enterprises unlike gas which is a private sector activity and has also been included under manufacturing;
- (iv) following Lebanese official classification, trade, financial services, and public administration are treated as separate activities; this is partly due to the particular characteristics of the Lebanese economy: trade has historically played an important role in the national economy, financial intermediation (mainly banking and to a lesser extent insurance) has similarly been a highly significant activity while public administration, by tradition, has been treated separately in Lebanese national accounts; and
- (v) under non-financial services, value added in four important activities namely education, health, transport and hotels & restaurants, has

been separately estimated, in addition to rent pertaining to residential and non-residential dwellings; lack of data did not permit direct estimation in the other activities which fall under this heading though on the basis of given indicators the value added for the remaining non-financial sector has been estimated.

A further observation, in this regard, is in order. Originally it had been envisaged to include non-governmental organizations (NGO's) as a separate activity on the assumption that the war had occasioned the proliferation of such organizations to provide personal and community services. However, as the armed conflict broke out in March 1989 it became increasingly difficult to contact the organizations concerned. Moreover, preliminary investigations seemed to indicate that their contribution to GDP is likely to have been relatively small. It was accordingly decided not to estimate separately value added by the NGO's. When, in the future, a more comprehensive and detailed national income estimates are carried out, any modified SNA classification can be readily made to accommodate the SNA standard classification by including all the necessary sub-items to second or third digit titles under each broad category. This would permit the full reclassification of the accounts to suit the purposes of the ISIC and UN publications on national accounts.

For six of the seven activities under study, reasoned choice sampling was adopted as an alternative to random sampling which, for budgetary, time and other reasons,

could not be carried out. It made up for the non-randomness of the sector samples by choosing representative observations to the fullest extent possible. A primary purpose of the questionnaires was to estimate the ratio of value added to gross output. They were, moreover, designed for the purpose of securing a variety of data which was deemed useful either for estimating value added or to cross check the results derived in specific activities. To illustrate, for certain activities, data was sought relating to differentials between producers, wholesale and retail prices, share of exports in total production, investment, change in stocks, etc. While the responses were not always as comprehensive as might have been desired, the information proved useful one way or another in arriving at the results of value added in the various sectors. The statistical method used and the results obtained are detailed in the sections dealing with the individual activities. It should be stated at the outset, however, that while gross output was not estimated directly from the sample surveys, the information they provided was useful for checking the reliability of the indirect estimates of this output, or as in the case of agriculture to check the reliability of available output data.

Gross marketed output is valued at producers' current prices.<sup>1</sup> As available data did not permit a direct estimate of private consumption, it was not possible to estimate independently GDP on the expenditure side. The other expenditure streams were estimated however. No attempt has been made to value output of households for own consumption though in the case of Lebanon it is not expected to have been very significant.<sup>2</sup> Own account capital formation (except for own construction in industry) has also been excluded mainly because no reliable data could be obtained. In certain areas of the country this could have been a significant activity, e.g. own construction of dwellings, terracing, etc.

GNP was arrived at by estimating net factor income to the rest of the world. Data available at the IMF and information secured from the Bank of Lebanon and the Council for Reconstruction and Development were

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<sup>1</sup> / The estimate of GDP at factor cost would not differ substantially from GDP at market prices as indirect taxes were unimportant in 1988 (about \$29 million or about four per cent of total public sector expenditure) and subsidies were primarily related to petroleum sales (\$96.8 million) and to a lesser extent wheat. In estimating GDP at factor cost (i.e. after allowing for indirect taxes net of subsidies received), illegal levies collected by local militia for their own military and other purposes could be treated as transfers within the private sector, i.e. the militia would not be considered as part of "local government" and their imposed levies would therefore not be counted as "taxes".

<sup>2</sup> / The SNA excludes from gross output the goods and services produced within the household which are seldom or never marketed, e.g., services of housewives.

utilized for this purpose. To calculate per capita GNP use was made of a recent estimate of the 1987 resident population of Lebanon derived from an independent and unpublished sample study on internal migration. Based on this study appropriate adjustments were made to arrive at the population estimate for 1988, i.e. account was taken of the natural population growth and net emigration for that year.

In the past few years a growing number of internal transactions has come to be quoted and/or settled in foreign currencies, primarily the U.S. dollar, instead of the national currency. "Dollarization" as this phenomenon is referred to has become increasingly widespread since 1987. The field surveys which have been carried out - particularly as concerns manufacturing and construction - do indicate a high degree of dollarization of the economy. Reference to this phenomenon will be made under the sections concerned.

For purposes of country comparisons, national income estimates in national currency are converted into U.S. dollars. The most appropriate method would be purchasing power parity comparisons. However, for most countries, especially developing countries, this is not feasible. And for purposes of conversion two alternative approaches are in use: (i) the PARE method,

and (ii) the World Bank Atlas method. While the two are similar, their results could differ significantly.<sup>1</sup>

Concerning Lebanon, it has traditionally maintained a free foreign exchange system with no restrictions whatsoever on current or capital transfers. The exchange rate is market determined with occasional intervention on the part of the Central Bank primarily to maintain orderly market conditions. As already noted, trade (tariff) restrictions have been relatively low particularly in the past several years. The Lebanese economy is not only highly open but is also greatly dependent on imports which historically comprise a large portion of GDP, and as noted above since 1987 "dollarization" of transactions has become widespread. In effect, it can be argued that the Lebanese exchange rate basically reflects market forces and its 1988 average of LL409.23 per US\$ can be used

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<sup>1</sup> / The P.A.R.E. method is based on the choice of a base year for the exchange rate judged to have been close to equilibrium, i.e. year of relative monetary stability and no major changes internationally. The exchange rate of the target year is then derived by extrapolation: the base year exchange rate is adjusted by the relative inflation rates (GDP deflators) in the home country and the U.S. Where possible, the GDP deflator is corrected for the terms of trade effect and the transfer effect related to the country's indebtedness. The World Bank Atlas method takes the simple arithmetic average of the actual exchange rate for year  $t$  and of the inflation-adjusted exchange rates for year  $t-1$  and  $t-2$ . This assumes that in the long-run the exchange rate tends to be in equilibrium. For operational purposes this is approximated by taking the three year average of the actual exchange rate of the target year and of the PARE adjusted rates of exchange of the two previous years.

for purposes of GDP conversion from Lebanese pounds to U.S. dollars.<sup>1</sup>

Since 1975 the Lebanese economy has evolved under conditions of war and political conflict. All economic sectors have been adversely affected, though the severity of the burden they had to bear may have differed from one sector to another and from one period to another. The once flourishing tourist industry has almost ceased to exist and the importance of Beirut as a regional financial center has declined considerably. Industrial and trade activities were frequently disrupted and many firms were either damaged or forced to close or leave the country. The economic infrastructure has over the years been substantially damaged, though limited Governmental attempts have been made to maintain and partially restore it especially before 1982. Since then, rapidly mounting financial pressures, alongside increasing political fragmentation and sporadic armed conflicts, eventually led to a virtual halt of any significant project implementation on the part of the national authorities. In contrast, the private sector, though suffering considerably from the prevailing situation, proved more resilient: on the basis of certain indicators, the years 1986-88

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<sup>1</sup>/ Applying the World Bank Atlas method to calculate the exchange rate for 1988 (taking 1985 as a base year) gives a conversion rate of LL440 per US\$. Using the PARE method - again with 1985 as base year - gives a conversion rate for 1988 of LL 314 per US\$. The actual average exchange rate thus lies between the two calculated conversion rates but closer to the World Bank Atlas rate. Admittedly these calculations are not totally reliable as no GDP deflators exist for Lebanon and the consumer price index has been used instead.

witnessed a notable agricultural and industrial expansion albeit in the context of high rates of inflation and the continued prevalence of political uncertainty. This recovery, however, was halted by the military/political crisis which broke out in March 1989, and lasted until October 1990. The extent to which developments in 1975-90 may have caused structural changes in the Lebanese economy is yet to be fully determined. This study helps throw some light on this matter as noted in the conclusions.



AGRICULTURE

Estimates of value added in agriculture are based on the production approach, i.e. value of gross production less intermediate consumption. Output data are based on the estimates of the "Programme Continue d'Information Agricole" (PCIA) of the Comptoire Agricole du Levant for the year 1988 with certain adjustments discussed below. Briefly, this program is based on an annual survey of (i) the major eighteen crops - comprising in terms of value over 85 per cent of total production - in the various agricultural regions of the country, and (ii) the eight major types of animal production. Data on minor crops was also provided in order to arrive at the overall gross output and value added in agriculture.

The eighteen major crops included in the PCIA survey are: citrus fruits, bananas, musk melon, water melon, apples (two varieties), tomatoes, lettuce, cucumbers, carnations, roses, wheat, onions (two varieties), grape vines, olives, opium and hashish. For purposes of presentation they have been classified into the following five subgroups: (i) field crops, (ii) vegetable crops (open field and green house crops), (iii) prohibited crops, (iv) industrial crops, and (v) fruits. Animal production has been grouped into eight categories, namely, dairy products, beef, lamb, pigs, goats, broilers, layers and pisciculture. The survey data for crops comprised: (i) area planted in hectares (ha), (ii) output and revenue yields per ha., (iii) farm gate prices, (iv) retail prices, (v) cost per ha., and

(vi) profit per ha. On the basis of this data gross output and costs of production are estimated. For animal production, data included animal population, production, cost, revenue and profit per animal as well as farm gate prices.

With the objective of providing appropriate checks on the relative accuracy of data produced in the PCIA survey, a field survey comprising 85 questionnaires (75 for crops and 10 for livestock) was carried out based on reasoned choice sampling. This survey, implemented under the supervision of the Agro-economist, was intended to provide information pertaining to (i) value added ratios for the major crops and animal production, (ii) yields per hectare for each crop, (iii) average farm gate prices per unit crop produced, (iv) production per animal, and (v) the average farm gate price per unit of animal production. In addition, the field survey was intended to collect data on investment and cost components of production none of which was available. It should be noted that the survey covered representative farmers and livestock producers in the various agricultural regions of the Country.

A comparison of the PCIA survey and the field survey was then conducted. Where the two surveys indicated differences exceeding ten per cent in reported average yields, the Consultants and the Agro-economist examined each case and reconciled the results. Crops where differences exceeding ten per cent were reported included: onions (bulbil), bananas, carnations, roses, tomatoes (open field), musk melon and hashish. For 1988, their combined share of total revenue was about

20 per cent. Reconciliation of the results was based on a thorough examination of the degree of reliability of each of the two surveys pertaining to the crops under examination, taking into account reported average yields, prices and number of observations. The outcome of this process was the adoption for each of these crops of one of three alternatives: (i) the use of the average yield reported in the PCIA survey, (ii) the use of the average yield reported in the sample survey, or (iii) the use of an average of the two reported average yields. For the majority of cases the third alternative was chosen. No reconciliation in the reported data on animal production was deemed necessary. The agreed estimates of the ratios of value added to gross output were applied to gross output in the various categories to derive value added in agriculture.

Table 2 below presents the results pertaining to (i) gross output, and (ii) value added for each of the major crops, minor crops and animal production. For 1988, total gross output in agriculture amounted to about LL245 billion. Of this total, major crops accounted for LL176 billion (72 per cent of the total), animal production for LL51.1 billion (21 per cent) and minor crops for LL17.5 billion (7 per cent). Total crop output thus amounted to about LL194 billion or 79% of the total.

Table 2. Agriculture: Gross Output  
and Value Added, 1988

	LL million	
	(1) Gross Output	(2) Value Added
<u>Main Crops:</u>		
- Field Crops	17,813,474	5,637,709
- Industrial Crops	35,263,615	26,916,717
- Prohibited Crops	39,901,250	30,902,598
- Fruit Trees	56,695,610	38,770,292
- Vegetable Crops:		
. Open Fields	19,507,397	9,978,212
. Green Houses	7,134,982	4,176,898
Sub-total	176,316,328	116,382,426
<u>Minor Crops:</u>	17,480,520	11,537,143
TOTAL CROPS	193,796,848	127,919,569
(US\$ Equiv. 000)	( 473,564)	( 312,586)
<u>Animal Production:</u>		
- Dairy	11,999,520	4,108,120
- Beef	420,000	130,788
- Lamb	195,000	42,166
- Pigs	843,750	343,744
- Goats	3,465,000	2,494,800
- Broilers	22,440,000	2,358,444
- Layers	7,950,000	1,192,500
- Pisciculture	3,750,000	3,736,125
TOTAL ANIMAL	51,063,270	14,406,687
(US\$ Equiv. 000)	( 124,778)	( 35,204)
GRAND TOTAL	244,860,118	142,326,256
(US\$ Equiv. 000)	( 598,342)	( 347,790)

Estimates of value added show that for total agriculture it amounted to about LL142 billion of which major crops accounted for LL116 billion (82 per cent of the total), animal production for LL14.4 billion (10 per cent), and minor crops for LL11.5 billion (8 per cent). For total crops, value added amounted to about LL128 billion or 90 per cent of the total. As shown in the table, crops account for a higher share in value added than in gross output because of the higher overall average ratio of value added which applied to crops (66 per cent) in comparison with that applicable to animal production (28 per cent). For the whole agricultural sector, the ratio of value added to gross output amounted to about 58 per cent.

The table also indicates the U.S. dollar equivalent of gross output and value added. Total gross output amounted to about US\$597 million and total value added to about \$347 million distributed as follows: main crops US\$284 million, minor crops US\$28 million - for a total of US\$312 million - and animal production US\$35 million.

Looking at the major crop groups, it is noteworthy that fruit production was the most important single group accounting for about 30% of total value added in the crop sector and 27% for the whole agricultural sector. It was followed by prohibited crops (24% and 21% respectively), and industrial crops (21% and 19% respectively). These three categories of crops thus accounted for over two-thirds of total value added in agriculture. For livestock, the most important single category was dairy products, which accounted for 28 per

cent of total value added in this sector but for a very small share of total value added in agriculture. It was followed by pisciculture which accounted for 26 per cent of value added in the livestock sector.

## MANUFACTURING

The production approach is followed in estimating value added in manufacturing, i.e. gross output less intermediate consumption. A field survey comprising 160 questionnaires, covering major industrial centers and based on reasoned choice sampling (taking into consideration stratification according to size and location), was carried out for the purpose of deriving data principally related to: (i) the ratio of value added to gross output; (ii) the ratio of manufactured exports to total output; (iii) cost structure (iv) change in stocks during 1988; (v) the degree of dollarization in the manufacturing sector in that year; and (vi) industrial investment during the year. Other supplementary information such as the market share of individual enterprises was also sought though the responses were not as comprehensive as in the case of the above items.

The basic statistical unit was considered to be the manufacturing establishment which in Lebanon is usually identified with the enterprise or firm. For the purpose of the survey, manufacturing establishments were divided into the following nine main branches:

- (1) food, beverages, tobacco, etc.
- (2) textiles, clothes, leather products, etc.,
- (3) furniture, wood, etc.,
- (4) paper, typing material, etc.,
- (5) petroleum, chemicals and plastic products,
- (6) cement, marbles, etc.,
- (7) iron, aluminum products, etc.,
- (8) machines, transport materials, furnaces metal accessories, etc., and

- (9) jewelry, musical and athletic instruments and other.

The last industrial census for Lebanon was conducted in 1985 and no updated estimates of industrial output have been made since then. Indeed data on industrial exports are only partially available, i.e., to the extent that official certification on the part of exporters is required and even then the data provided is not complete. The field survey was therefore a major source relied upon to estimate industrial output for 1988. However as the size of the sample relative to the population did not, on its own, allow for a direct estimation of gross output based on the field survey, other supplementary information was utilized to arrive at this result including data provided by respondents on market shares and share of exports in total output, which in turn were used as a check on estimates of the Ministry of Industry and Petroleum (MIP) concerning total exports of manufactured goods and manufacturing output. MIP bases its estimate of total manufactured exports on the total number of officially registered exports, i.e., certificates of origin that the Ministry issues to exporters upon their request (see table 3). This total substantially underestimates total exports of manufactures primarily



Table 3. Officially Registered Exports, 1988

LL million								
	<u>Arab</u> <u>World</u>	<u>%</u>	<u>Western</u> <u>Europe</u>	<u>%</u>	<u>Other</u>	<u>%</u>	<u>Total</u>	<u>%</u>
FOODSTUFFS & BEVERAGES	7693	10.6	1379	5.3	1175	9.2	10247	9.2
MANUFACTURES of which:	64609	89.4	24527	94.7	11538	90.8	100674	90.8
Clothing	(12300)	17.0	( 8649)	33.4	( 808)	6.3	( 21757)	19.6
Jewelry	( 8311)	11.5	( 2106)	8.1	( 6603)	51.9	( 17016)	15.3
Metallic products	( 5007)	20.8	( 1292)	5.0	( 57)	0.5	( 6365)	5.7
Aluminum products	( 2145)	3.0	( 3435)	13.3	( 19)	0.2	( 56000)	5.0
Total	<u>72302</u> =====		<u>25906</u> =====		<u>12713</u> =====		<u>110921</u> =====	

Source: based on data supplied by the Ministry of Industry and Petroleum.

on account of: (i) under-reporting of export bills, and (ii) unreported exports to countries which do not require official certification of exports such as Kuwait and other Gulf countries, certain African countries, Canada and the United States. Based on its knowledge of export markets, the Ministry estimates that to correct for under-reporting and arrive at a realistic estimate of total manufactured exports, registered exports should be multiplied by a certain coefficient which may differ from one year to another. In the light of discussions with the Ministry and Chamber of Industry, the relevant coefficient for 1988 was determined to be about 2.75<sup>1</sup>. Accordingly, given total registered exports of about LL110.9 billion, exports of manufactures for 1988 are estimated at about LL304.9 billion or US\$745 million.<sup>2</sup>

The Ministry also estimates that manufactured exports comprise between 40-50 of total manufactured output, i.e. a 2.0-2.5 coefficient should be applied to exports to arrive at total output. As a check to the

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<sup>1</sup> / While based on the Ministry's cumulative knowledge of the evaluation of exports, this coefficient may be subject to a margin of error. For earlier years, it may have been lower, its subsequent upward adjustment being attributed to increased exports to countries which do not require official certification.

<sup>2</sup> / The IMF's 1989 Staff Report on the Interim Article IV Consultation Discussions gives an estimate of US\$850 million for total exports of manufactures which implies a multiple of 3.14 in relation to officially registered exports. While based on various Lebanese sources, the method of estimating this total is not indicated, however.

Ministry's estimated coefficient, the sample results indicated that exports comprised about 40% of total output or a coefficient of 2.5 should be applied. As this was the same as the Ministry's upper limit multiple, it was decided to use the average of the Ministry's suggested range of coefficients i.e. 2.25 to arrive at an estimate of total output.

On the basis of the sample survey, the ratio of value added to gross output ranged, for the nine branches, from 28% to 56%. A weighted average of about 40% was derived using the 1985 shares of the above branches in total output as reported in that year's industrial census. An additional alternative calculation was made based on sample data relating to wages, profits, and depreciation allowances which gave a weighted average of about 34%. Given the fact that profits are likely to have been under-reported in a number of instances, this ratio appears underestimated. On this basis the 40% value added ratio appeared reasonable and was adopted for the purpose of estimating value added in manufacturing which was about LL274.4 billion or the equivalent of about US\$670 million. Table 4 summarizes the results.

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Table 4. Manufacturing: Exports, Gross Output and Value Added, 1988

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	<i>LL billion</i> <u>LL million</u>	<u>US\$ million</u>
1. Officially registered export	110.9	271
2. Estimated total exports	304.9	745
3. Estimated gross output	686.0	1678
4. Estimated value added	274.4	670

Of the various manufacturing branches, food, beverages and tobacco accounted for over 20 per cent of value added closely followed by petroleum, chemicals and plastics with an estimated share of about 20 per cent. Textiles and clothing accounted for about 16 per cent and machines and equipment for about 14 per cent. Altogether these four branches of manufacturing accounted for over 70 per cent of value added in this activity.

The sample results also give a rough indication of the extent to which transactions in the manufacturing sector had been dollarized in 1988. On the basis of the responses of the manufacturing units in the various branches which had been surveyed, in all except the food industry, over 90 per cent indicated they had effected their sales totally in foreign currency, primarily the U.S. dollar, or alternatively partly in dollars and the rest in Lebanese pounds effected at the current rate of exchange for the dollar. For food and beverages the ratio was about 70 percent. These respondents accounted for the bulk of the output of all the units which have been surveyed. Very few respondents, accounting overall for a very small share of the sampled output, indicated that they had effected their sales wholly in Lebanese pounds and without reference to the current rate of exchange. Similarly most, and for some branches all, of the respondents indicated they effected their expenses either totally or partially in dollars. For the vast majority, however, payment in dollars was partial as local expenses such as wages and salaries were paid in pounds in accordance with Lebanese pound salary scales. In

brief, on the receipts side, it would appear that the bulk of receipts were effected in U.S. dollars or pounds calculated at the prevailing dollar rate, whereas on the expenses side, a lower share was effected in dollars, about 60 per cent of the total covered in the survey.<sup>1</sup> Sample data on changes in stocks during 1988 indicates a (weighted) increase of about 19 per cent. One explanation for stocking up could have been the desire to make additional profits resulting from the expected appreciation of the U.S. dollar in terms of the Lebanese pound. Also producers were expecting upward adjustments in the dollar prices of their commodities. However, the sample results concerning the change in stocks could not be considered as necessarily representing the change which occurred in manufacturing as a whole (see below p.32 footnote (2)).

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<sup>1</sup> / Since 1987, the dollarization process has accelerated. This process effectively began after 1983 which marked the beginning of the dramatic depreciation of the Lebanese pound from an average of LL4.5/US\$ in 1983 to LL38.4/US\$ in 1986, LL224.8/US\$ in 1987, LL409.23/US\$ in 1988 and LL496.7/US\$ in 1989.

CONSTRUCTION

Construction activity has been divided into: (a) private sector construction including own residential construction, (b) public sector construction and (c) own construction in industry. While own construction in other activities - mainly agriculture - could not be estimated, its share in total construction is expected to have been very small.

For the private sector, the estimate of value added was based on data derived from the following sources:

- (i) official data on construction permits issued in 1988;
- (ii) a field survey comprising 35 questionnaires covering the five administrative districts (Mohafazat) of the country and based on reasoned choice sampling: for each district the distribution of construction activity between urban and rural areas was taken into consideration; and
- (iii) interviews with knowledgeable contractors and engineers in both the public and private sectors.

For the public sector data provided by the Council for Reconstruction and Development and the Ministry of Finance formed the basis for estimating value added. For own construction in industry, use was made of data provided by the industrial sample survey.

Value added in private construction has been based on: (i) the estimated percentage of executed permits in each of the districts and (ii) estimates of own construction based on data from the sample survey and interviews with contractors. According to available data, permits were issued in 1988 for a total area of 4,956 thousand square meters distributed - in percentage terms - among the administrative districts as follows: Beirut- 9.1%, Mount Lebanon-60.1%, South- 11.9%, Beqaa'- 5.8% and North- 13.1%. As for the percentages of executed permits, sample data and interviews with knowledgeable contractors and engineers in the private and public sectors indicated the following ratios: Beirut and Mount Lebanon- 42.5%, North- 65%, and the South and Beqaa'-75%. These ratios, it should be noted, represent the percentage of executed permits issued in 1988 as well as construction completed in that year related to permits issued prior to 1988. Further, the above ratios also include - particularly as concerns the South, the Beqaa' and the North - estimates of unauthorized construction during 1988. Interviews with contractors and engineers also provided information regarding residential and non-residential construction: it is estimated that for 1988 the average share of residential construction for all five districts was 74 per cent of the total.

Estimates of construction costs - apart from land - were based on data, expressed in dollar terms, derived from the sample survey and checked with knowledgeable contractors. Average construction costs per sq. meter were, thus, estimated to be as follows: Beirut- \$145.0, Mount Lebanon- \$125.0, North and South- \$105.0 and the

Beqaa'- \$100.0. In addition, on the basis of the sample surveys and interviews with contractors, it was possible to estimate, for all five districts, the average land cost as a percentage of the average sale price per square meter of the constructed area. Accordingly, the average total cost per square meter of construction (including land) was then derived. Estimates of average total cost per square meter varied from \$130.0 in the Beqaa' to \$243.0 in Beirut. The weighted average for the five districts was \$186.0, using as weights the distribution of issued permits among the administrative districts, ratios of executed permits and average cost per sq.meter. A comparison of the average sales price per sq.meter of construction (also quoted in terms of the U.S. dollar) with its average total cost for each of the five districts yielded an estimate of the average profit per square meter derived from construction activity. This estimate varied from \$51.0 per square meter in the South to \$117.0 per square meter in Beirut. Further, in conjunction with interviews with contractors, the sample surveys provided data pertaining to wages and depreciation: for wages the estimate ranged from an average of \$25.0 per square meter in the South to an average of \$39.0 per square meter in Beirut. Depreciation allowances ranged from \$3.0 per sq.meter in the South to \$5.0 per sq.meter in Beirut and Mount Lebanon.

Given the estimated area (in square meters) of executed construction in each of the five administrative districts, it was thus possible to adopt the cost approach to estimate value added in 1988 based on the



estimates of average profits, wages and depreciation per sq. meter in each of the five districts. For 1988, value added in the private construction activity is thus estimated at \$305 million of which about 60 per cent was accounted for in the district of Mount Lebanon alone. Gross output - based on the average cost of actual construction - is estimated at about \$661 million. The value added ratio was thus about 46 per cent<sup>1</sup>.

The estimate of own construction in the industrial sector, based on data yielded by the industrial survey, was about \$8.0 million and value added \$3.7 million.

Concerning the public sector, official estimates of construction expenditure in 1988 by both the CDR and other governmental bodies give a total of about \$42.0 million. Applying the 46 per cent value added ratio would yield a value added of \$19.3 million.

Table 5 summarizes the results. For total construction gross output in 1988 is, therefore, estimated at \$711.0 million (LL291.0 billion) of which about 94 per cent was accounted for by private construction. Value added is estimated at \$328.0 million (LL134.2 billion).

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<sup>1</sup> / This ratio is greater than the historical ratio derived in the official national accounts of pre-1975 which was about 39%. One possible explanation for the higher ratio in the late eighties is the rise in the profit rate associated with construction activity.

Table 5. Construction: Gross Output  
and Value Added  
1988

	US\$ million	
	<u>Gross Output</u>	<u>Value Added</u>
Private Sector	661.0	305.0
Public Sector	42.0	19.3
Own construction: Industry	8.0	3.7
	<u>711.0</u>	<u>328.0</u>

TRADE

The production approach has been followed in estimating value added in the trade sector which covers both wholesale and retail trade. As per SNA, gross output of trading establishments is defined as their gross trade margin, i.e., the difference between the cost of goods bought for resale and the receipts from their sale, less the cost of goods destroyed by wastage or for other reasons during the period between purchase and sale. Intermediate consumption includes goods and services needed to run the trading establishment such as packaging materials, electricity, rent, office supplies, etc.

Trading establishments were divided into four categories namely (i) food, beverages, tobacco, (ii) clothing, footwear and apparel in general, (iii) petroleum and petroleum products, and (iv) durable, semi-durable and other goods. A field survey comprising 126 questionnaires distributed over the four categories (based on reasoned choice sampling and taking into consideration stratification according to size and location) was carried out for the purpose of estimating for each category, (a) the average ratio of value added to gross output, (b) the average ratio of gross output to total sales, and (c) change in stocks. The distribution of the questionnaires over the different categories and hence the assigning of weights to each category in order to determine the weighted value added and gross output ratios was based on data derived from the following sources: (i) the most recent

family budget study carried out in 1985-86 by the "Confederation Generale des Travailleurs Libanais", (ii) the composition of imports for 1988 as reported in the Directory of Trade Statistics, and (iii) discussions with leading businessmen and bankers.

In designing the questionnaire, wholesale and retail activities were separated because of possible different cost structures. Where the establishment was engaged in both activities, the more prominent of the two was chosen for the purpose of classifying it as wholesale or retail.

The sample results showed that the ratio of gross output to value of sales varied, for the four categories, from 18% to 26% in the case of wholesale trade and from 22% to 28% in the case of retail trade. Ratios of value added to gross output ranged from 56% to 85% in the case of wholesale and 75% to 84% in the case of retail establishments respectively. It is clear that for both ratios the range of variation in respect of retail trade was much narrower than in the case of wholesale trade. Retail trade, in turn, comprises the larger part of total trading activities.

Applying the calculated weights, we derive, for the whole trade sector, an average trade margin of gross output to total sales and ratio of value added to gross output of 25% and 80% respectively. The results obtained from the field survey were checked against data on trade margins derived from sample surveys carried out in the manufacturing and agricultural

sectors. This cross check indicated that the weights assigned to the different categories as well as the estimated ratios were reasonable.<sup>1</sup> The Total supply of traded commodities was derived as the aggregate value of agricultural and industrial production <sup>2</sup> plus total imports. Gross output and value added were then arrived at by applying the weighted trade margin and value added ratios derived above. The following table summarizes the results.

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<sup>1</sup> / Using different weights for each category of trade for the purpose of estimating the average trade margin and value added ratios does not alter the results significantly. Indeed, even if substantially different weights are used, the resulting range for the trade margin ratio would be from 23.5 to 26.3 and for the value added ratio from 77.2 to 80.8. These results further support the conclusions arrived at above.

<sup>2</sup> / Adjustment should be made for changes in stocks, in particular as concerns manufacturing for which sample data was collected. However, as the sample results cannot, on their own, be considered as representing changes in stocks for the whole activity, it was preferred not to adjust for changes in stocks. Had this been done, the value added would have been revised downward by about US\$69 million or about 8 per cent.

407 28

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Table 6. Trade: Gross Output and Value Added, 1988

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	<u>LL billion</u>
Total Supply of Traded Goods	1885.6
of which:	
Agriculture	244.9
Manufacturing	686.0
Imports	954.7
Gross Output	471.4
Value Added	377.1

In U.S. dollar equivalents, gross output is estimated at ~~\$1068.5~~ million, and value added at ~~\$854.8~~ million.

X \$1151.9

921.5

NON-FINANCIAL SERVICES

Non-financial services include diverse activities. Gross output and value added were estimated for four major activities, namely, transportation, education, health, and hotels and restaurants. Sample surveys and/or data obtained from relevant institutions formed the basis for this estimation. Together, the four activities comprised the larger portion of non-financial services. For the remaining non-financial sector, indirect methods were used to estimate gross output and value added. Rent pertaining to residential and non-residential dwellings has also been included in this section as payment for service, though in the pre-1974 official accounts, it was shown as a separate activity.

The schedule below summarizes the results pertaining to value added derived from non-financial services in 1988. The total amounted to about LL234.7 billion or \$537.7 million, with transportation accounting for about 36 per cent of the total.

	<u>\$ million</u>	<u>Per Cent</u>
Transportation	208.3	36.3
Education (private)	46.3	8.0
Health	87.6	15.3
Hotels and Restaurants	83.0	14.5
Other Services	105.5	18.4
Rent	43.0	7.5
	-----	-----
	573.7	100.0
	=====	=====

In what follows the methods of estimating gross output and value added for each of the above categories are detailed.

1. Transportation.

The transportation sector is defined to include land, air and sea transport in addition to other facilities such as storage facilities, pipelines, private couriers, travel agencies etc. Applying the production approach, estimates of gross output and value added in the three major branches of transportation (land, air and sea) are detailed below followed by an estimate for the remaining transport sector.

The schedule below summarizes the results which show that for 1988, gross output amounted to LL220.2 billion or \$538.1 million and value added to LL85.2 billion or \$207.3 million with land transport accounting for 48.5 per cent of total value added.

	<u>\$ million</u>	
	<u>Gross Output</u>	<u>Value Added</u>
Land transport	170.8	101.0
Air transport	295.7	57.3
Sea transport	34.5	24.0
Other	37.1	26.0
	-----	-----
	<del>208.3</del>	<del>538.1</del>
	538.1	207.3
	=====	=====

(1) Land Transport. Three major means of land transport have been considered, namely, taxicabs, lorries and buses.



Taxicabs. On the basis of official published data and interviews with officials of the union of taxicabs owners and drivers, it would appear that of the 10,649 registered taxicabs in 1988, about 95 per cent were in operation or 10,100 vehicles. In contrast with pre-war years, the vast majority of drivers were also owners of the vehicles. However, in addition to the registered taxicabs a relatively large number of vehicles registered as private vehicles, i.e., for private use, were in fact used as taxicabs. Their number has been estimated at 15,000 vehicles half of which operated full time and the rest half time. Further, interviews with the union of taxi owners and drivers indicated that, on average, the monthly gross output per taxicab (i.e. total fare) ranged from 5-7 times the minimum monthly wage which in 1988 averaged LL17,500.<sup>1</sup> Taking the average of the monthly minimum wage, monthly gross output per vehicle would amount to LL105,000 half of which, it has been estimated by the union, goes as intermediate consumption (gasoline, fuel, spare parts, etc) or value added is 50 per cent. The separation of value added between profits and wages is difficult partly because the majority of drivers were also owners of the vehicles. However, if account were taken of then prevailing wage rates of drivers, the wage bill (mostly imputed wages) would comprise about 50-60 per cent

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<sup>1</sup> / For the first three quarters of 1988 the minimum monthly wage was LL15,000. For the fourth quarter it was raised to LL25,000.

of value added. Depreciation allowances amounted to a negligible portion as most of the vehicles were old.

Accordingly, gross output pertaining to taxicabs transport was estimated at 10,100 (registered taxis)  $\times$  LL105,000 plus 7500 (private vehicles operating full time)  $\times$  10,500 plus 7,500 (private vehicles operating half time)  $\times$  105,000/2 = LL27 billion or \$66 million. Value added was, therefore, estimated at LL13.5 billion or \$33 million.

Lorry transport. Official data put the number of registered lorries for public use in 1988 at 3,500 of which 90 per cent were in operation. These lorries varied considerably in terms of capacity and uses. In addition, it has been estimated that one fourth to one fifth of lorries registered as private vehicles belonging to trading and industrial establishments were in fact used, either full time or part time, in a similar capacity as those registered for public use. For 1988 the number of lorries registered as private vehicles amounted to 55,000.

On the basis of interviews with land transport companies and with individual owners of lorries, it was estimated that in 1988 the average monthly gross output per lorry was 20-25 times the minimum monthly average wage while value added (wages of drivers, profits and depreciation allowances) ranged from 60-70 of gross output. Assuming for

gross output a monthly average of 22.5 times the minimum wage, total gross output for 1988 would amount to  $90\% \times 3500$  (lorries)  $\times$  LL394,000 (monthly gross output per lorry)  $\times$  12 months = LL14.9 billion plus 10,000 (privately owned lorries operating half time)  $\times$   $394,000/2 \times 12 =$  LL23.6 billion for a total gross output of LL38.5 billion or \$94.1 million. Applying an average value added ratio of 65%, value added was estimated at \$61.1 million.

Buses. Bus transportation retrenched substantially since the outbreak of hostilities in 1975. Of the 620 public buses registered in 1988, only one fourth is estimated to have been in operation and, according to interviews with bus owners, monthly gross output per bus did not average more than 15 times the minimum wage. Value added was estimated to average about 60 per cent of gross output. Accordingly, gross output was calculated at  $620 \times 1/4 \times$  LL263,000  $\times$  12 = LL488 million or \$1.2 million. Value added was, in turn, estimated at \$0.72 million.

However, the above estimate should be adjusted to account for 3200 private buses one half of which operated at least half time as school buses and whose fees were not considered as part of the costs of education. Gross output of these buses were estimated at \$9.5 million and value added at \$6.2 million.

Total gross output and value added derived from land transport was therefore as follows:

	<u>\$ million</u>	
	<u>Gross Output Value Added</u>	
Taxicabs (including private vehicles operating as such)	66.0	33.0
Lorries	94.1	61.1
Public buses	1.2	0.7
School buses	9.5	6.2
	-----	-----
	170.8	101.0
	=====	=====

- (2) Air Transport. The cost approach was applied based on an examination of the statements of profit and loss of operating expenses for both of Lebanon's airline companies: the Middle East Airlines (MEA) and the Trans Mediterranean Airlines (TMA).

MEA. According to its 1988 statements, wages and salaries and related benefits amounted to LL7.4 billion, depreciation allowances, LL6.085 billion, social security and health insurance premia and provisions for end of service indemnities, LL 7.77 billion, and net loss LL0.238 billion. This gives a total value added of LL21.17 billion or \$51.7 million compared to a gross output of LL67.4 billion or \$164.8 million.

TMA. Its 1988 statements show that wages and salaries and related benefits amounted to LL645 million, social benefits LL627 million, social security and taxes LL120 million, provisions for end of service indemnities LL261 million,

allowances for depreciation, LL2370 million, and net loss, LL1661 million. This gives a total value added of LL2291 million or \$5.6 million in comparison with total gross output of LL53.6 billion or \$130.9 million.<sup>1</sup>

Hence, value added derived from airline transport (excluding travel agencies) amounted to \$57.3 million.

- (3) Sea Transport. As a result of the conflict, the Government lost effective control over sea ports and a number of illegal ports were established under the control of various militias. Data pertaining to sea transport was thus no longer as reliable as it used to be. Even when official registration was made concerning goods passing through ports nominally still under Government control, the declared documents were falsified in order to minimize payment of customs fees.

With the above caution in mind, official data indicates that in 1988 the port of Beirut received 1877 cargo ships and handled 2.2 million tons of goods including the importation of 1.2 million tons of fuel and 505,000 tons of wheat. Further

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<sup>1</sup> / According to TMA officials a large part of this output was expended as service charges and commissions to companies abroad.

233,100 heads of livestock were imported.<sup>1</sup> Available data for other legal ports (Tripoli, Sidon, Tyre, Jouneh and Chekka) shows that altogether they received 1232 cargo ships and 117,300 passengers. Tonnage handled through these ports is estimated at 1.38 million tons. Data pertaining to the movement of goods through illegal ports is not available. However, according to interviews with people working in these ports, it is estimated that the tonnage they handled was about 40 per cent of the total. Interviews with various sea shipping agencies also yielded the following information regarding sea transport in 1988:

- (i) Container traffic accounted for about 60 per cent of total sea transport. The number of containers destined to Beirut averaged about 3500 per month. About 90 per cent of such traffic was handled by ships owned by non-Lebanese companies which shipped the containers primarily to Cyprus instead of Beirut. About a quarter of these containers were in turn shipped to Beirut by Lebanese owned ships and the rest by other ships. The remaining ten per cent of container traffic was handled by Lebanese owned ships: the containers were shipped directly to Beirut.

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<sup>1</sup> / Beirut port was closed to passenger traffic.

- (ii) Cargo shipping comprised in 1988 about 40 per cent of sea transport and the traffic route was mostly direct from the country of import to Beirut. Lebanese owned ships handled about 20 per cent of this traffic.
- (iii) The fees of the local shipping agents averaged about 2.5 per cent of the tariff of sea transport via foreign owned ships.
- (iv) The average revenue derived per container transported from Cyprus to Beirut via Lebanese owned ships was \$200.
- (v) The average revenue derived per container transported via foreign owned ships was \$1500. This also applied to Lebanese owned ships which handled sea transport from European ports to Lebanese ports.
- (vi) The average fare per passenger for sea transport between Jouneh and Cyprus was \$75.

Given the above data gross output derived from sea transport was estimated at \$34.5 million as follows:

	<u>US\$ million</u>
- Resident agents' fees from container traffic	1.4
- Revenue generated by Lebanese owned ships handling container traffic between Lebanon and Cyprus	8.4
- Revenue generated by Lebanese owned ships operating longer routes between Lebanon and other countries (container traffic)	6.3
- Revenue derived by Lebanese owned ships from cargo traffic	8.4
- Fees of resident agents from cargo shipping	1.1
- Revenue derived by Lebanese owned ships from passenger traffic	8.8
	-----
	34.5
	=====

Finally on the basis of an examination of the statements of accounts (profit and loss and operating expenses) of certain shipping companies, it was possible to estimate that value added averaged about 70 per cent of gross output. Accordingly, for 1988 value added derived from sea transport was about \$24 million.

- (4) Other Transport. This covers mainly pipelines, travel agencies, private couriers and storage. Based on interviews with the agencies involved in these activities, it was estimated that for 1988 these activities accounted for about 6-8 per cent of total gross output and that the value added ratio was close to that applicable to sea



transport, i.e., about 70 per cent. Accordingly gross output was approximated at about \$37 million and value added at about \$26 million.

## 2. Private Education.

The cost approach has been applied in estimating value added in education whereby gross output is defined to include the total costs (bill) of education and value added as comprising wages, profits and depreciation. Table 7 indicates that student enrollment in private schools and universities for the academic year 1988 totalled 595,000 students or 65 per cent of the total and the teaching staff comprised 34,200 teachers, or 52 per cent of the total while the administrative staff reached 3,500 employees.

Table 7. Student Enrollment and Teaching Staff by Level of Education, 1988

	TOTAL		
	Students	Institu- tions	Teaching Staff
Pre-university	840,000	2,647	57,000
University	88,000	19	8,000
TOTAL	928,000	2,666	65,000
	=====	=====	=====
	PRIVATE SECTOR		
Pre-university	551,000	1,316	29,400
University	44,000	18	4,800
TOTAL	595,000	1,334	34,200
	=====	=====	=====

To estimate the cost of educational services, a sample of 110 schools was chosen covering all Lebanese districts and all levels of education. The sample population included 120,000 students, or about 22 per cent of the total student population of private schools, and 6,300 teachers as well as 700 administrators. This gave a student/teacher ratio of 19 which was close to the average private school ratio but higher than the average national ratio as the public schools ratio was much lower, about 10.4 per cent.

Based on the above sample of 100 schools, a weighted average annual cost per student of LL27,734 was derived, using levels of education as weights as follows: pre-school: 20%, elementary: 38%, intermediary: 27%, secondary: 11% and technical: 4%.

To estimate the total cost of education (gross output) in the private pre-university level, student enrollment was multiplied by the average weighted tuition cost per student (LL27,734) to give an estimate of LL15.28 billion or US\$37.3 million as the total cost of education. Also on the basis of data derived from the sample, salaries and wages averaged about 73.6 per cent of the total cost followed by general (including administrative) expenses, 19.6%, profits and depreciation, 6.8%, and supplies, 8.6%. Value added (wages and salaries plus profits and depreciation) thus amounted to about 80% of gross output. Applying this ratio, we derive a value added in pre-university

private schools of LL12.225 billion or about US\$30.0 million.<sup>1</sup>

Private university education in Lebanon is provided by 18 universities and institutes of higher learning which together had a student enrollment of 44,000 for the academic year 1988, 95.5% of whom were registered at the top five universities in the country. On the basis of their budgetary accounts all of these institutions incurred deficits which were covered by grants and other forms of financial assistance and value added was approximated as the sum of wages and salaries (including related benefits) and depreciation allowances.

An examination of the budgets of the five top universities indicated that for the academic year 1988 wages and salaries and depreciation allowances comprised, on average, about 80% of the cost of education which amounted to LL8.5 billion or US\$20.4 million. Thus value added at the university level was estimated at about LL6.67 billion or US\$16.3 million.

For total private education, gross output was, therefore, estimated at LL23.6 billion or US\$57.7 million and value added at LL18.95 billion or US\$46.3 million.

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<sup>1</sup> / It is noted that the academic and calendar years differ. To that extent value added corresponding to each of these two years may also differ, though any difference is expected to be relatively small.

### 3. Health

The production approach has been followed in estimating value added derived from health services. To measure output, data provided by the National Social Security Fund (NSSF) indicated that in 1988 about 6.6 per cent of all those included in the social security scheme (767,000) made use of hospital services covered by the scheme. As these represented about one fourth of the resident population, it was assumed that the 6.6 ratio also applied to the resident population at large which for 1988 has been estimated at LL3.1 million (see below pages 70-71). Accordingly, the number of "health cases", i.e. number of residents who have made use of hospital care has been estimated at about 205,000 health cases (3.1m x 6.6%). Further, data provided by NSSF showed that the average number of days of hospitalization per case was 5.3 which applied primarily to third class patients. Taking into account the data provided by the American University of Beirut Hospital and other hospitals concerning second and first class patients, it was estimated that the overall weighted average number of days of hospitalization per patient was about 6.8. Accordingly, it was estimated that in 1988 the number of days of hospitalization totalled:

$205,000 \times 6.8 = 1,394,000$  days.

Concerning costs of hospitalization, the NSSF estimates that for 1988 the average costs - for third class patients - it incurred per day of hospitalization was LL7565. This represented 90 per cent of the total hospital bill per day of hospitalization, the remaining cost being incurred by the beneficiary, or the total

bill amounted to LLB406. On the basis of interviews with the NSSF and private hospitals it is estimated that the average bill for second and first class patients was respectively twice and three times the average third class bill. For occupants of hospital suites it was four times the third class bill. Also estimates provided by the NSSF and the union of owners of private hospitals indicated that the percentage distribution of "health cases" was as follows: third class- 50%, second class- 30%, first class- 16% and suites- 4%. Accordingly, it is estimated that for 1988 the total hospitalization bill was about \$50 million. This total includes the cost of medicines administered by hospital to their patients which is estimated to have been about 19 per cent of the hospitalization bill or \$9.5 million. Thus, the hospitalization bill net of medicines amounted to \$40.5 million. This amount, in turn, is estimated to have comprised about 37 per cent of the bill for total health services in the country, net of the cost of medicines.<sup>1</sup> Or the bill for health services amounted in 1988 to \$109.5 million.

The sample surveys indicated that for health services (excluding medicines) the value added ratio was about 80%. Accordingly, value added in 1988 is estimated at about \$87.6 million.

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<sup>1</sup> / This estimate is derived from the "basket of family expenditure on medical services and medicines for 1988" established by the Consultation and Research Institute on the basis of field work carried out for this purpose.

#### 4. Hotels and Restaurants.

The cost approach was applied in estimating value added derived from restaurants, cafes and entertainment establishments. Data on the number of operating establishments and number of employees involved was obtained from the union of owners of restaurants, cafes and entertainment establishments. For 1988 the number of establishments was close to 2,500 and the number of employees was estimated at about 45,000. Average wage and profit levels were then estimated in the light of interviews with owners of a variety of operating establishments. On this basis it was roughly estimated that value added (wages and profits) in 1988 was about US\$68 million. Depreciation allowances could not be estimated. As for hotels, a large number had remained closed in 1988 while some had been occupied by displaced families or sold as apartment units. Nonetheless, a number of hotels was operating in Beirut and other regions. Interviews with owners of hotels indicated that wages and profits in the hotel sector amounted in 1988 to roughly \$15 million. Again depreciation allowances were not accounted for.

Accordingly, for the whole sector, value added (excluding depreciation allowances) has been estimated at about \$83 million. Gross output was in turn estimated at roughly \$100 million.

#### 5. Other Services.

This includes services provided to or requested by institutions, personal services rendered, and work associated with repairs and maintenance. Data pertaining to such services is very limited and

indirect methods were applied to estimate value added derived from "personal services" and "repairs and maintenance" which constituted the most important part of "other services". For purposes of estimating value added derived from "personal services", two sources were examined, namely, the family budget survey for 1985/86 and the weights used in the CRI's cost of living index. Concerning "repair and maintenance", the estimation was based on data pertaining to the number of vehicles in operation, their average number of years in service and the approximate number of operating repair and maintenance shops. In addition, interviews with operatives in these field were conducted.

On this basis, it has been roughly estimated that for 1988 value added derived from "other services" was in the neighborhood of \$105 million while gross output was roughly estimated at about \$120 million.

#### 5. Rent.

Rent contracts, residential and non-residential formed the basis for estimating value added corresponding to rent.<sup>1</sup> Available data showed that in 1988 the number of residential contracts was about 225,000, of which ten per cent were concluded in the period 1982-88. The post 1982 contracts were normally accompanied by the payment of key money on the part of the lessee, a common practice in Lebanon resorted to by the lessors

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<sup>1</sup>/ Imputed rent was not accounted for mainly because of the unavailability of any reliable data on the basis of which reasonable estimates could be made.

since the rent law does not permit annual revisions in rent contracts. Total key money payment was amortized over a period of 25 years and the annual amortization was added to the annual rent.

An estimate of the 1988 average residential rent payment corresponding to contracts concluded since 1982 was then arrived at based on data supplied by the CRI relating to key money payments and the evolution of new annual rental payments since then. This average was estimated at about \$750 per contract. Hence, total rental payments in 1988 for these contracts was approximated at \$16.9 million (i.e. 10% of 225,000 x \$750). For contracts concluded prior to 1982, it is estimated that the corresponding total rental payment in 1988 was about \$2 million. Hence total residential rent payment was estimated at a little less than \$19 million.

Regarding non-residential rent contracts, following the above procedure it was estimated that for contracts concluded since 1982 the average rental payment in 1988, including the annual amortization of key money, was about \$1,500 per year. The number of these contracts in 1988 was approximated at 15,000 which gives a total rental payment of \$22.5 million to which should be added \$1.5 representing total rental payment corresponding to contracts concluded prior to 1982.

Accordingly, total rental payments for both residential and non-residential housing was roughly estimated at about \$43 million.



### FINANCIAL SERVICES

The financial sector comprises the banking system - the commercial banks and the Central Bank - and other financial intermediaries such as investment banks, insurance companies, exchange dealers, etc. For Lebanon, the banking system generates, by far, the largest share of financial activity followed by insurance companies and exchange dealers. Other financial intermediaries play a very minor role: the evolving conditions in the country disrupted the development of the Lebanese financial system and in recent years brought domestic pressures on Lebanese banks a number of which sought additional outlets for their activities abroad. A noteworthy feature of the Lebanese banking system is the relatively large number of operating banks which in 1988 numbered 83. However, to a large extent, banking activity is dominated by a relatively small number of banks: for that year thirteen banks accounted for over one half of total assets and deposits. Another feature is that foreign dealings, and especially treasury operations have come to occupy an important position in banking activity. Prevailing war conditions have induced residents (banks and public) to shift a growing portion of their portfolio abroad and foreign based operations have therefore come to generate a growing portion of banking activity and income.

In estimating value added in banking, an alternative approach to that suggested by the current SNA has been

adopted. Gross output is defined here as equivalent to bank operating income less bank operating expenses plus net income (profit or loss) associated with extraordinary banking operations (e.g. real estate transactions). Bank operating income includes primarily commissions received plus income related to foreign exchange transactions, securities held and leasing operations. Bank operating expenses are defined to include mainly interest and commissions paid but excludes general operating expenses such as employee compensation, and other running costs. Or gross output is equivalent to net bank operating income (bank operating income less operating expenses) plus or minus extraordinary banking income. In turn, value added is defined as gross output less general operating expenses plus wages and salaries and related benefits. Put differently, value added comprises: employee compensation, depreciation allowances, corporate income taxes and net profit. Allocations to provisions are additionally included: their inclusion reflects the practice followed by banks which set aside part of their earned profits as provisions against possible contingencies or the accumulation of non-performing debt.

The estimate of value added generated by commercial banks was based on the 1988 published statements of profit and loss of 58 banks (accounting for about 80 percent of total bank assets) adjusted by supplementary information based on interviews with leading bankers concerning particular banking operations not reflected in sufficient details in the published statements. With the profit and loss statements of the 58 banks as

a basis, the estimate of value added was made for the whole commercial banking sector. The estimation took into consideration the market share of the remaining banks as well as bank distribution by ownership and size.<sup>1</sup>

Examining the published statements alone, the above approach yielded, as a first approximation, a gross output in 1988 of LL92.2 billion or \$225.3 million. General operating expenses, including wages and related benefits, were estimated at about LL42 billion or \$102.6 million. Data published by the Bankers' Association put the total wage bill alone at LL21.6 billion or \$52.8 million. As a first approximation value added in 1988 was, therefore, estimated at LL72.2 billion or \$176.4 million which gave a value added ratio of about 78 per cent. The supplementary information referred to above permitted a further adjustment of this estimate by accounting for doubtful debt and related provisions and modifying the estimates concerning the volume of extraordinary bank operations and the total wage bill. Altogether, the above modifications lead to an adjusted gross output of LL100.2 billion or \$244.8 million and value added of LL80.0 billion or \$195.5 million.

Investigations pertaining to other financial intermediaries - insurance companies, exchange dealers as well as the Bank of Lebanon - indicated that they accounted for about 25 per cent of total value added

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<sup>1</sup> / The remaining banks did not publish their 1988 profit and loss statements.

generated by financial activities. Hence for 1988 total value added relating to all financial activities has been estimated at LL106.7 billion or \$260.7 million.

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 Table 8. Financial Services:  
 Gross Output and Value Added, 1988  
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	<u>LL billion</u>	<u>US\$ million</u>
<u>Gross output</u>	133.4	326.0
<u>Value Added</u>	106.7	260.7
of which banking:	( 80.0)	( 195.5)

### PUBLIC ADMINISTRATION

Following SNA, as Government output is mainly not sold, its value is measured by the cost of producing it. The costs of producers of Government services are largely met by Government itself which is considered to be the final consumer of most of the goods and services it produces. Gross output is defined as equal to costs of production, i.e. intermediate consumption (including all military expenditure), compensation of employees, consumption of fixed capital and indirect taxes, if any. Value added is gross output less intermediate consumption which is equivalent to compensation of employees, consumption of fixed capital and indirect taxes, if any.

Public sector accounts in Lebanon consist of: (i) the general budget of the Central Government, (ii) attached budgets of three Government agencies without financial autonomy: the Cereals Office, the Post, Telephone and Telegraph Office and the National Lottery; and (iii) independent budgets of financially autonomous agencies and enterprises the most important of which included the Council for Reconstruction and Development (CDR), railroad companies, port authorities, water supply agencies, research establishments and Electricite du Liban (EDL). In addition there are several extra-budgetary special accounts.

Expenditures under the general budget are divided into two main categories: (i) current expenditures, i.e. salaries and wages and general expenses comprising

chapter 1 of the budget, and (ii) expenditures for investment projects expected to be completed during the fiscal year, including the purchase of equipment (chapter 11a of the budget) and projected expenditures in the current fiscal year for investment programs that extend over one year (chapter 11b). Total public sector capital expenditure includes chapter 11 of the budget (keeping in mind that some of the items in this chapter are more properly classified as current rather than capital expenditures and to that extent the latter is overestimated) plus capital spending by the CDR.

National income accounts require recording on an "accrual" basis reflecting the time the services are rendered. Lebanese Government accounts are recorded mainly on a "cash" basis (or orders of payment) recording money actually paid or received at the time it is paid or received. Expenditures are those actually paid in the fiscal year which for Lebanon coincides with the calendar year. During a short complementary period beyond the fiscal year bills for transactions in the fiscal year can be submitted for payment and the payments are recorded against that fiscal year.

Table 9. Actual Public Expenditures, 1988  
(Orders of Payment)

	LL Thousand		
	Ordinary Expen- diture and Transfers	Capital Expend. and Transfers	TOTAL
Ordinary Budget	98,481,938	14,693,854*	113,175,772
Attached Budgets	3,668,563	--	3,668,563
Extra-budgetary	165,763,076	24,368,611	190,131,687
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	267,913,577	39,062,465	306,976,022 <sup>1</sup>
	=====	=====	=====

Source: Ministry of Finance.

\* Includes military expenditure of LL4,922,000 and excludes CDR expenditure.

The Treasury performs the role of cashier and banker for the public sector and receives the surpluses and finances the deficits of public sector entities. A few public sector entities (e.g. the CDR and EFL) hold accounts with commercial banks. Most of the financially autonomous budgets receive transfers from

<sup>1</sup> / In the IMF's 1989 Staff Report on the Interim Article IV Consultation Discussions total expenditure is reported at LL276 billion. The difference is largely explained by the downward adjustment - in the IMF Report - of total ordinary expenditure by LL5 million and extra-ordinary expenditure by LL22 million for a total downward adjustment of LL27 million. The reason for this adjustment is the exclusion of budgetary items pertaining to principal repayment and transfers.

the general budget, and municipalities sometimes receive advances from the Treasury against transit accounts held for them by the Government. The extra-budgetary special accounts are intended either to link certain expenditures with specific sources of revenue or to provide financial flexibility, mostly for special expenditures.

The Lebanese public sector accounts have not yet been totally consolidated although progress has been made in terms of data recording concerning actual expenditures particularly under the general budget. Further in the past few years the Ministry of Finance began to apply the functional classification of public expenditure. Nonetheless, for national accounting purposes a number of major data limitations continue to prevail especially as related to extra-budgetary accounts, rent, investment expenditure, and consumption of fixed capital.

In estimating value added in the Lebanese Government sector the following sources of data were examined:

- (1) Actual expenditures under the general budget, covering the ordinary and related budgets.
- (2) Actual expenditures under the independent budgets.

Following the cost approach, of the three components of value added: (i) employee compensation, (ii) depreciation allowances, and (iii) indirect taxes, the last item does not apply while the second has not been



provided for in 1988 Government accounts<sup>1</sup>. Hence the estimated value added corresponds basically to wages and salaries and related benefits. To that extent both gross output and value added are underestimated but not to a substantial degree. Wages and salaries comprise the bulk of value added in the Government Sector.<sup>2</sup>

For wages and salaries - except for some of the independent budgets - data represent actual payments effected during the year (i.e. orders of payments with allowance for a small portion which is estimated not to have been effected). Data on actual expenditures under the independent budgets were provided through the Ministry of Finance. For certain of the budgets estimated actual expenditure are based on the budgeted data for 1988 taking into account the annually decreed adjustments to compensate for inflation. Total wages and salaries under the independent budgets accounted in 1988 for about 13-14 per cent of the total wage bill of the public sector.

With the above in mind, value added derived from public administration in 1988 amounted to about LL70.5 billion or US\$172 million.

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<sup>1</sup> / The Government undertook some repairs and maintenance but not to the extent which would have been required under normal conditions.

<sup>2</sup> / Imputed rent of Government owned buildings may also be considered as part of value added. However, no reliable estimates could be provided.

SUMMARY

Table 10 summarizes the results of the estimates of GDP for 1988 by economic activity. Trade continues to be the leading activity with an estimated contribution of about 28 per cent followed by manufacturing, 20.5 per cent, and non-financial services, 17.5 per cent. Together these three activities accounted for two thirds of GDP. The lowest share, about 5 per cent, was for public administration. For the remaining activities - agriculture, construction and financial services - their shares ranged from 8 to 11 per cent. Trade and services (financial and non-financial alone) accounted for about 54 per cent of total GDP. Within manufacturing, the leading industry in terms of contribution to value added were food, beverages and tobacco followed by petroleum, chemicals and plastics, textiles and clothing and machines and equipment in that order. Together these industries accounted for about 70 per cent of value added in manufacturing. Within non-financial services, transportation was the leading sector with a share of about 36 per cent of the total. As for financial services, banking was, by far, the most important activity with an estimated share of 80 per cent of the total. Concerning agriculture, fruits comprised the most important single crop category followed by prohibited crops and industrial crops. Altogether, they accounted for over two thirds of value added in agriculture.

Table 10. GDP by Kind of Economic Activity  
1988

	<u>LL</u> <u>billion</u>	<u>US\$</u> <u>million</u>	<u>Per Cent</u>
Agriculture	142.3	347.8	10.6
Manufacturing	274.2	670.0	20.5
Construction	134.2	328.0	10.0
Trade	377.1	921.5	28.1
Non-financial Services (including rent)	234.7	573.7	17.5
Financial Services	106.7	260.7	8.0
Public Administration (including water and electricity)	70.4	172.0	5.3
	<u>1,339.6</u>	<u>3,273.7</u>	<u>100.0</u>

Table 11 below compares the sectoral composition of GDP for 1988 with the two pre-war years, 1964 and 1973. The former was the base year for official national income accounts while the latter was the last pre-war year for which official GDP estimates are available. For the twenty-four-year period under consideration, the following developments are noteworthy: (i) the pre-war years 1964-1973 did not witness significant structural changes; however, the shares of manufacturing and construction rose somewhat while those of agricultural, non-financial services and public administration fell; (ii) in contrast, when comparing 1988 and 1973 some important changes seem to have occurred manifested in the marked rise in the shares of manufacturing and construction and financial services and a substantial drop in the share of non-financial services and public administration, and to a

lesser extent in the share of trade. The relative contribution of agriculture appear to have increased a little. The combined share of trade and services declined from about 63 per cent in 1973 to about 54 per cent in 1988 while the combined share of manufacturing and agriculture rose from about 24 per cent to 31 per cent respectively. (For brief comments on sectoral developments over the war period, see below p. 73).

Table 11. Sectoral Composition of  
GDP: 1964, 1974 AND 1988

	Per Cent		
	<u>1964</u>	<u>1973</u>	<u>1988</u>
Agriculture	11.9	9.3	10.6
Manufacturing	12.8	14.4	20.5
Construction	5.6	4.4	10.0
Trade	32.1	31.7	28.1
Non-financial services (including rent)	24.4	27.1	17.5
Financial services	3.4	4.0	8.0
Public administra- tion, water & electricity)	9.8	9.1	5.3
	<u>100</u>	<u>100</u>	<u>100</u>

## II. GROSS DOMESTIC PRODUCT: THE EXPENDITURE APPROACH

GDP, on the expenditure side, is defined as:  $C + I + X - M$   
where:

- C : expenditure on final consumption  
(household, non-profit institutions and  
Government);
- I : expenditure on gross capital formation by  
Government and private sector including changes in  
stocks;
- X : exports of goods (f.o.b.) and non-factor services;
- M : imports of goods (c.i.f.) and non-factor services;

Or Government (G) can be treated separately and thus  
define GDP as:  $C_p + I_p + I_g + C_g + X - M$  where:

$C_p$  and  $I_p$  are private sector consumption and gross  
capital formation respectively, and  $C_g$  and  $I_g$  are the  
corresponding Governmental expenditures. In estimating  
the components of the 1988 GDP on the expenditure side,  
the following should be noted:

Firstly, as no data could be relied upon to estimate  
private consumption expenditure directly,  $C_p$  has been  
estimated as a residual. That is, we have taken the  
estimated total for GDP and arrived at private  
consumption by deducting from it estimates of private  
gross capital formation, Government expenditure on  
final consumption and capital formation and net  
exports.

Secondly, the estimate of gross capital formation refers to fixed capital formation: no reliable estimates for the change in stocks could be made. The estimate has been based on data pertaining to imports of machinery and equipment as reported in the UN Trade Data System plus private expenditure on residential and non-residential construction, and public sector expenditure on construction. No estimates for own construction, except for industry, are included.

Thirdly, the trade balance refers only to exports and imports of goods. No data was available on the basis of which non-factor services could be estimated. The value for imports (c.i.f.), about \$2333 million, is the one reported in the Direction of Trade Statistics Yearbook for 1990 (DOT). This figure probably includes unrecorded re-exports and to that extent is overestimated. The value for exports, \$1200 million, is taken from the 1989 IMF Staff Report on the Interim Article IV Consultation Discussions. It is greater than the figure reported in DOT which is based on the import reporting of Lebanon's trading partners. However as discussed under manufacturing, registered Lebanese exports are underestimated and the reporting partners' data is similarly expected to underestimate the value of total Lebanese exports. In light of the estimated total for industrial exports (p. 21 above) and available data on the share of industrial goods in total exports, the IMF Staff Report figure for exports appears to be more realistic than the DOT figure though it also may include a margin of error.

الجمهورية اللبنانية  
مكتب وزير الدولة لشؤون التنمية الإدارية  
مركز مشاريع ودراسات القطاع العام

Bearing in mind the above limitations, Ip has been estimated at \$956.5 million, Ig at \$42.0 million, Cg at \$212.6 million and net X at \$ -1133.0 million. Given GDP of \$3273.7 million

$$C_p = \text{GDP} - I_p - I_g - C_g - X + M = \$3195.6 \text{ million.}$$

Private consumption was, thus, estimated at about 97.6 per cent of GDP. This compares with a ratio of 87 per cent for the 1972 official estimate. The rise in the estimated consumption ratio over the war period is perhaps not surprising. Domestic production, in real terms, has fallen and inward transfers and remittances from abroad assumed a relatively greater share in financing consumption expenditure. Unfortunately, no estimates are available for such transfers and remittances although they are expected to have been substantial.

As emphasized in the "Conclusions and Recommendations" below, this is an area which is in need of thorough statistical investigations.

### III. GROSS NATIONAL PRODUCT AND PER CAPITA GNP

#### 1. Gross National Product.<sup>1</sup>

Gross national product is defined as gross domestic product plus net factor income from abroad. Factor income includes primarily income from capital (e.g., interest and dividends) and labor, accruing to residents from the rest of the world (receipts) or to foreign residents from domestic production (payments).

In the case of Lebanon, there are no balance of payment statistics which can be relied upon to estimate net factor income. Nonetheless, on the basis of available data it has been possible to examine the following three principal sources of factor income, namely, (i) interest earnings of the Bank of Lebanon and interest payments on Government foreign borrowing; (ii) commercial banks' investment income; and (iii) private sector non-bank investment income. No reliable data was available for the purpose of estimating labor income. However, it has been assumed that most Lebanese workers abroad are residents of the countries where they work. Hence their remittances to Lebanon would be considered as unrequited transfers rather than factor income. Also, the 1988 income remittances of non-residents working in Lebanon is assumed to have

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<sup>1</sup> / Comments received from J. Hicklin, N. Munla, C. Patel and B. Short (all on the IMF staff) are gratefully acknowledged.



been relatively small<sup>1</sup>.

For the first item, the estimate is based on data secured from the Bank of Lebanon and the Council for Development and Reconstruction. For the second item, the estimate is based on the cross-border liabilities and assets of resident banks in Lebanon as reported in the International Financial Statistics, whereby the average 1988 three-month Eurodollar rate with appropriate margins, was applied to the average quarterly stocks held over 1988. For the third item, the estimate is based on the reported assets and liabilities of non-bank residents with international banks. Again the average three-month Eurodollar rate, with appropriate margins, was applied to stocks held over the year.

It is clear that the estimate of net factor income for 1988 arrived at on the basis of the above approach is a rough approximation of this income particularly that it may have been difficult for international banks to distinguish between residents of Lebanon and Lebanese nationals residing abroad and that not all sources of factor income have necessarily been identified, e.g. income from assets held outside the banking system. It is believed, however, that while the estimate which has been derived may be on the low side, it represents the larger portion of net factor income for 1988.

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<sup>1</sup> / For balance of payments purposes, peace-keeping forces (including Syrian forces) are treated as non-residents and, therefore, their remittances are not included in the balance of payments.

Table 12 below includes the results of factor income estimation. Net income is approximated at US\$661.5 million, the major source being deposits of Lebanese residents held with international banks. Accordingly, GNP for 1988 is estimated at  
 US\$3273.7 million+661.5 million = US\$3935.2 million.

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Table 12. Factor Income, 1988

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	<u>US\$ million</u>
Interest earnings of the Bank of Lebanon	+ 56.8
Interest payments on foreign debt	- 10.3
Commercial banks' investment income (net)	+183.0 <sup>1</sup>
Non-bank investment income (net)	+432.0
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	661.5
	=====

## 2. Per Capita.

The estimate of the 1988 resident population has been based on an unpublished study on internal migration in Lebanon in 1975-1987 which includes an estimate of the 1987 resident population. This has been adjusted to take account of the estimated net natural population growth in 1988 and net emigration for that year, thereby arriving at an estimate of about 3.1 million for the resident population in 1988. It should be

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<sup>1</sup> / This item has been adjusted downward by the estimated amount of interest spread accruing to resident banks on placements of resident deposits with non-resident banks. This amount has been accounted for under financial services (pages 52-55 above).

noted that this estimate includes Palestinian residents outside the camps but excludes those in the camps. Accordingly, per capita GNP for 1988 has been estimated at:

$$\text{US\$3935.2 million} / 3.1 \text{ million} = \text{US\$1269.4.}$$

#### IV. CONCLUSIONS AND RECOMMENDATIONS

1. The outbreak of the political-military conflict in 1975 marked a dramatic turning point in the development of the Lebanese economy. Available indicators point to a substantial fall in the level of economic activity in 1975-76. While this level appears to have fluctuated in subsequent years, rising in some and falling in others, it would appear to have sustained a continuous rise from 1986-88 only to fall again in 1989-90 as a result of the renewed military conflict during these two years. The decline was substantial as various sectors either sustained considerable damage and/or suffered from increased interruptions and other constraints imposed by the renewed conflict which eventually resulted in the amendment of the Country's Constitution in accordance with the Taif Accord (approved by Parliament in late 1989) and the beginning in October 1990 of the reunification of the Country.
  
2. For the war period 1975-90, available indicators show that the level of economic activity may have reached a peak in 1988, or at least it was one of the peak years. The estimated GDP for the year of about US\$3274 million compares with the official estimate for 1973 (in U.S. dollar equivalent) of about \$2720 million. However, in constant U.S. prices (taking 1973 as a base) real GDP in 1988 would be lower than in 1973. At the same time,

since 1975 important changes have taken place in income and asset distribution though no attempt has yet been made to quantify them while the rate of emigration (permanent or temporary) has accelerated particularly in the past few years with the consequent loss of skills. These developments have had an important impact on the national economy, the significance of which is yet to be fully determined.

3. The comparison of sectoral composition of GDP for 1988 and 1973 (table 11 above) does not necessarily reflect a sectoral trend over the whole war period: the sectoral shares may have varied from one year to another particularly that the intensity and duration of the military conflict and the consequent disruption to economic activity tended to vary from one period to another and indeed from one area to another. Further, the pre and post 1982 period have witnessed markedly different financial conditions. The latter period (in contrast with the former) has been characterized especially after 1983 with hyperinflation and rapid depreciation of the Lebanese pound which affected, in different ways, the performance of various economic sectors. Nonetheless, as reflected in table 11 above, the comparison of the two years indicates, at least tentatively, that certain structural changes have

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<sup>1</sup> / Certain preliminary investigations seem to point to a declining share of wages and salaries in GDP.

occurred over the war period. While the factors responsible for these changes cannot be analyzed at length here, some brief remarks may be in order bearing in mind that the observed changes have occurred in the context of a declining level of real GDP.

4. The expanding role of manufacturing has been partly induced, at least in recent years, by the depreciation of the Lebanese pound which encouraged industrial exports. Further, the geographic decentralization of industrial enterprises as a consequence of the military conflict may have acted to partially shield industry from the havoc of this conflict which not only tended to flare up intermittently but also to be confined, on the whole, to particular geographic areas. Probably the greatest direct and indirect damage to the industrial sector has occurred in the past two years as the military conflict was concentrated in areas with relatively heavy industrial concentration. The growth in the share of construction may be explained by the proliferation of construction activity - both authorized and unauthorized - in the various regions of the country, and especially in areas considered relatively safe. Savings of immigrants who wished to invest at home were an important source of financing. The growth in the share of financial services is partly attributable to the spread of bank branches outside Beirut and perhaps more generally the ability of the banking system to continue performing and in certain respects

expanding under difficult conditions. On the other hand the decline in the share of non-financial services could be attributed to several factors including the fall in the share of rent as a result of rapid inflation, the decline of the tourist industry, etc. Also with declining real income, expenditure on services may also have tended to decline. The fall in the share of public administration is due to the constraints which the conflict imposed on Governmental sector. While many of the Governmental services were severely affected and a number were partially replaced by private sector initiative, the bureaucracy remained basically unchanged. Rapid inflation led to a decline in real wages despite annual cost of living adjustments. Finally, trade activity has frequently been interrupted by the conflict and in the decade of the eighties period 1985-88, the level of imports, which forms an important part of trade activity, had on the whole tended to decline.

5. The war has not only disrupted, in 1975, the national statistical services but has also created extremely difficult conditions for the conduct of private statistical work relating to the various economic sectors. In consequence, the statistical base upon which national income and other studies normally rely has become extremely deficient. The present study has identified a number of major gaps which need to be addressed in order to develop the country's statistical base and proceed in the future with the development of fully

fledged national accounts. While numerous suggestions pertaining to various activities can be enumerated, we should like to focus on four areas where statistical work is urgently needed.

The first relates to survey work covering the various economic activities and work here can begin with surveys covering two major activities, namely, industry and non-financial services; the industrial survey will be intended to provide bench mark data on industrial output, exports and imports, the cost structure of various industries and other relevant information which would be necessary for national income, as well as Governmental policy purposes; non-financial services are wide ranging and initially the survey work may be geared toward those services for which no data base exists such as those provided by the independent professions, repairs and maintenance, storage, etc. In Lebanon, such services constitute an important activity which has not been thoroughly investigated to provide the required data base for national income and other purposes.

The second area pertains to capital formation and consumption expenditures. While rough estimates of investment expenditure can be arrived at, the data pertaining to the major components of capital formation (machinery and equipment and construction) need to be developed and refined. Equally important, there are a number of missing gaps such as estimates of own construction and



changes in stocks. A thorough survey of capital formation is necessary: such data is essential for any economic planning. As for consumption expenditure, there are no reliable studies which can be used for purposes of estimation and family budget surveys would need to be carried out to fill this gap.

The third area relates to balance of payment accounts which at present do not exist. Available foreign trade data - particularly on the export side - is not reliable while data pertaining to many current account items - let alone capital movements - cannot at present be estimated. Lack of balance of payment data has precluded a proper analysis of the Lebanese economy's interrelationships with the world economy and the development of balance of payment accounts should be given high priority.

The fourth area relates to manpower studies which, after a 15-year war period and substantial emigration, are needed to assess the level and distribution of existing skills and the requirements thereof for future growth.

6. Finally, the work undertaken in this study should form the basis for the future development of a fully fledged national accounts system for Lebanon which, in the light of the revised SNA system, would take into account the structural changes that have occurred in the Lebanese economy since the outbreak of hostilities in 1975.