UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

OCCUPIED PALESTINIAN TERRITORY: ECONOMIC AND DEMOGRAPHIC DATABASE, 1972–2000 USER'S GUIDE

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INTRODUCTION

A. Purpose

As part of its regular work-programme, the UNCTAD secretariat has developed an integrated database of key economic and demographic statistics on the occupied Palestinian territory (West Bank and Gaza Strip) covering the period 1972-2000. This has been developed with two main objectives:

(a)   Providing the secretariat with a consistent data series to be used in regular research activities as well as in development of the secretariat's integrated framework for analyzing and assessing macroeconomic, trade and labour policies;

(b)   Providing the PA and concerned Palestinian research institutions with a unified set of reference statistics based on official sources to better inform short and medium-term policy-making exercises.

The electronic (CD-ROM) version of the database, including a preliminary user interface and this user guide will be distributed on a restricted basis to concerned PA counterparts for their use and future involvement in database development and utilization.

B. Overview

This document presents the methodology of developing and updating UNCTAD's economic and demographic database for the occupied Palestinian territory for the period 1972-2000. The objective of this technical report is to document the contents of the database, its methodology and definition of variables. The report also provides the essential information on sources and availability of data. The methodology presented below describes the different processes implemented to derive the final time series.

However, the political context has with no doubt a direct implication on data structure and availability. The structural changes of the administration occurred with the Oslo agreement in 1993 has a major influence on the data. Specifically, while the pre-93 data is provided by the Israeli Central Bureau of Statistics (ICBS), post-93 data is provided by the Palestinian Central Bureau of Statistics (PCBS). A major issue in the development of continuous series covering both periods is to handle the differences in methodology and definitions between ICBS and PCBS. As a result, pre-93 and post-93 data are generally processed separately prior to the development of the complete series. The database contains national accounts, trade, demographic and labour force data. These categories are treated in four different "blocks". Data of different blocks have different characteristics and therefore each requires specific methodology.

Regardless of the block, the complete data processing (from the source files to the final database) consists of three distinct phases: (1) definition of variables and consistency; (2) transformation (if required); and (3) continuity.

- Definition of variables consists of either defining the unavailable variable by its components, or just stating the implicit definition of the variable when it is available. Consistency refers to both "intra-block" consistency and "inter-block" consistency. Intra-block consistency is the preservation of national accounting identities, accuracy of the aggregated series, and global coherence of the series as a group of inter-related variables. For example, in a consistent data set, the sum of

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the value added series should be equal to the value of GDP by output. Inter-block consistency is a comparison and adjustment procedure between sources in order to ensure global coherence of the data. For example, it is important that the trade data block and the national account block present the same values for the same series. Generally speaking, this first stage is the development phase of the structure of the database.

- Transformation of the data consists in either converting from Israeli shekels to US$, or moving from current to constant series.
- Continuity addresses the issue of missing values that could not be derived in the first phase. Estimations are performed when the methodology is defendable. Most straightforward estimations were implemented, but the more complex (and time consuming) ones are left for further research.

C. Software and technical approach

The database was developed using MS Excel. The fundamental principle maintained while developing the database was the preservation of the dynamic of the economic relations of the variable, and thus the database contains a maximum of aggregate variables calculated from its elements based on economic accounting relationships. The objective is to guarantee a maximum degree of transparency and flexibility, which allows easy modifications of the economic aggregates if needs be. For example, if there is a need to change the exchange rate of the Israeli shekel to the US Dollars, it would be easy to implement for the entire dataset.

National account and trade data are developed in file NatAcc & Trade DB.xls. Labour force and demographic data are developed in file Labour & demogr DB.xls. These files are the core of the database, and data can be easily accessed with an elementary user interface that is presented at the end of this report.

D. Territories and data

Data are compiled and presented on territorial bases: Gaza Strip (GS) and Remaining West Bank (RWB). According to the Palestinian Central Bureau of Statistics (PCBS), Remaining West Bank refers to all of the West Bank excluding East Jerusalem. The definition of territory names in the database is summarized in Figure 1.

Figure 1 – Palestinian territories data
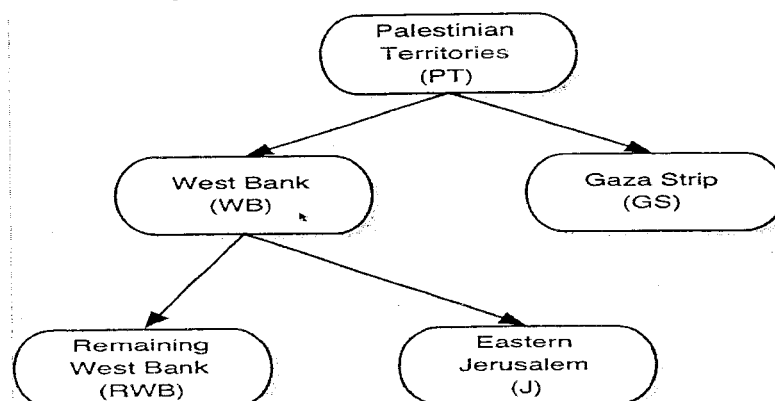
I.   NATIONAL ACCOUNTS DATA

The goal is to produce a continuous set of national account variables, over the 1972-2000 period, expressed in US$ both in current and real terms. Following the most recent national account data published by PCBS, the real figures are expressed in 1997 US$. Regarding data sources, the pre-93 data in Israeli shekels is entirely obtained from the ICBS publication containing pre-1994 series. The starting point for the Pre-93 data is converting the national account data expressed in Israeli shekels into current US$ and then moving to constant 97US$. Regarding post-93 data, the current and 97US$ data is directly obtained from PCBS files and introduced in the database without any transformation. The methodology is summarized graphically in Figure 2, and explained in details in the following sections. The availability of national accounts variables is reported in Table A1 in the Annex.

Figure 2 – Overview of the Treatment of the National Account Data
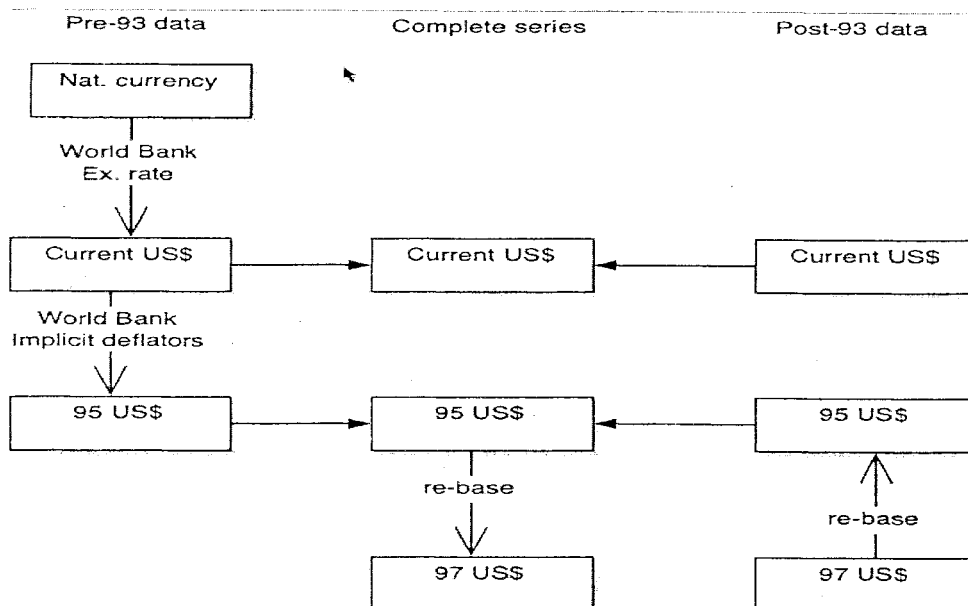
A. Definitions and consistency

The national accounts block comprise of 61 series, including aggregates. In addition, intermediate consumption figures (17 variables) are available for post-93. Variables description and code are presented in Table 1. The variables are ordered according to the logic of their derivation in the national accounts framework. Table 2 presents the definitions used to calculate national account elements and aggregates for both Pre-93 and Post-93 data, where the "*" signifies that the corresponding data is available, and "-" denotes unavailable data.

B. Converting Israeli shekels to US$ in Pre-93 series

All data in Israeli shekels, as reported by ICBS, are converted using an average annual exchange rate estimated by the World Bank. The exchange rate used is the World Bank's DEC alternative conversion factor (local currency per US$), for Israel. The World Bank definition of this conversion factor is "The DEC alternative conversion factor is the underlying annual exchange rate used for the World Bank Atlas method. As a rule, it is the

official exchange rate reported in the IMF's International Financial Statistics. Exceptions arise where further refinements are made by World Bank estimates. It is expressed in local currency units per U.S. dollar".[1]

Table 1. National account variables

Variable Code	Variable description
CP	Household final consumption
CG	Government final consumption
CNP	NPISH final consumption
C	Final consumption
IC	Gross capital formation, buildings
INC	Gross capital formation, non-buildings
IF	Gross fixed capital formation
IP	Private investment
IG.	Government investment
I	Total investment
ICHI	Changes in inventories
ACQVN	Acquisitions of valuables, net
XG	Exports of goods
XS	Exports of services
X	Exports
MG	Imports of goods
MS	Imports of services
M	Imports
XN	Net exports of goods and services
ERR	Net errors and omissions
GDPMP	Gross domestic product (at market prices)
VAPUS	Value added (VA) public services
VAPRS	VA private services
VAIND	VA Industry
VAAGR	VA agriculture and fishing
VAMIN	VA mining and quarrying
VAMAN	VA manufacturing
VAEWS	VA electricity and water supply
VACON	VA construction
VAWHL	VA wholesale and retail trade
VATRA	VA transport
VAFIN	VA financial intermediation

[1] Source: IMF, International Financial Statistics, supplemented by World Bank estimates.

Variable Code	Variable description
VAREN	VA real estate, renting and business services
VACSP	VA community, social and personal services
VAHOR	VA hotels and restaurants
VAEDU	VA education
VAHSW	VA health and social work
VAOSR	VA other services
VAPDE	VA Public administration and defense
VAHSH	VA households with employed persons
VAPOE	VA public owned enterprises
GDPFC	GDP at factor cost
FISIM	Financial intermediary services indirectly measured
TM	Customs duties
TVATM	VAT on imports, net
TIS	Net ind. tax - subsidies
XFPPN	Net factor payments, property income
XFPLN	Net factor payments, labour
XFPTAN	Factor payments to abroad
XFPFAN	Factor payments from abroad
XFPN	Net factor payments

Table 2: Calculation of national accounts aggregates

Code	Pre-93	Post-92	Note
CP	*	*	
CG	*	*	
CNP	-	*	
C	CP+CG	CP+CG+CNP	
IC	*	*	
INC	IF-IC	*	(1)
IF	*	IC + INC	
IP	*	-	
IG	*	-	
I	IP+I	IF + ICHI + ACQVN	
ICHI	-	*	
ACQVN	-	*	
XG	-	*	
XS	-	*	
X	*	XG+XS	
MG	-	*	
MS	-	*	
M	*	MG+MS	
XN	X-M	X-M	
ERR	-	*	

Code	Pre-93	Post-92	Note
GDPMP VA data	C + I +XN see note	C + I +XN + ERR see note	(2)
GDPFC	VAPUS+VAPRS+VAIND+ VAAGR+VACON	VAPUS+VAPRS+ VAIND+ VAAGR+ VACON	
FISIM	-	*	
TM	-	*	
TVATM	-	*	
TIS	*	TVATM+TM-FISIM	
GDPMP	GDPFC+TIS	GDPFC-FISIM+TM+ TVATM	
XFPPN	-	*	
XFPLN	-	*	
XFPTAN	*	-	
XFPFAN	*	-	
XFPN	XFPTAN+XFPFAN	XFPPN+XFPLN	
GNP	GDP+XFPN	GDP+XFPN	
GNY	GNP - TIS	GNP+FISIM-TM- TVATM	
CTN	*	*	
GNDY	GNP+CTN	GNP+CTN	
TGOV	*	-	
TFGOV	*	-	
GPRDY	GNY+CTN-TGOV+TFGOV	-	
SN	GNDY-C	GNDY-C	
SPR	GPRDY-CP	-	
SGAP	I-SN	I-SN	

"*" signifies data is available and "-" signifies data is not available.

Notes: (1) Pre-93 values of gross capital formation, non-buildings are calculated as the residual of gross fixed capital formation and gross capital formation, buildings. Gross fixed capital formation is not readily available for this series.

(2) For the continuity purpose, some of the Post-93 value added series are the result of a specific calculation as detailed in section 2.4.1. For example:

VAPUS = a · VAEDU + b · VAHSW + c · VAPDE + d · VAPOE

VAPRS = a · VAEWS + b · VAWHL + c · VATRA + d · VAFIN + e · VAREN + f · VACSP + g · VAHOR + h · VAEDU + I · VAHSW + j · VAHSH

where a,b,....j are specific proportions.

C. Deflation to constant series

Owing to the absence of Palestinian adequate deflators relevant to the specificities of the Palestinian economy, the pre-93 data cannot be expressed in a straightforward way in constant 97$. The World Bank provides implicit 95$ deflators for Israel over the period under consideration. The general idea of moving to the 97$ figures is to derive complete 95$ series using these World Bank implicit deflators, and to apply backward the growth rate of constant 95US$ data to the values of the year 1994 (expressed in 97$) to derive constant 97$ series. The process is detailed in the following section.

1. Derivation of real 1995$ series

The approach explained in this and the following sections relates only to the pre-93 data, as the post-93 data is already expressed in constant 97$. Optimally, deflators should be

specific to the variable that need to be deflated (e.g. Exports and Imports require different deflators in order to preserve the changes in the terms of trade changes). To reflect this in the dataset, as far as the data allows, Palestinian pre-93 series are deflated using Israeli deflators obtained from the World Bank data on Israel for the following nine series: exports of goods and services; final consumption expenditure; GDP; general government final consumption expenditure; gross capital formation; gross fixed capital formation; gross national expenditure; household final consumption expenditure; and imports of goods and services.[2] An Israeli-specific 95$ deflator is chosen to deflate the relevant Palestinian series. The choice is based on theoretical knowledge, but when there is no suitable deflator for a specific variable, it is the general GDP deflator that is applied to convert from current to constant dollars. Table 3 presents the Israeli deflators chosen to deflate each Palestinian pre-93 series. Note that aggregated series in real terms (such as GDP) are the sum of their real variables and not the result of deflating the aggregated nominal values.

The derivation of the deflators and deflation process is carried as follows:

The Israeli deflator D of variable X_i in year t is derived from the ratio of the nominal value over the real value in 95$ in that year:

$$D95_{it} = (X_{it} / X95_{it})$$

The real value of the Palestinian variable XP_i in year t in 95$ is derived by dividing its nominal value by the above deflator for the same year:

$$XP95_{it} = (XP_{it} / D95_{it}) , \text{ for all } t < 1994$$

As for the period 1994 – 2000, the real 95$ values are derived as follows:

$$XP95_{it} = XP_{i95} \cdot (XP97_{it} / XP97_{i95}) , \text{ for all } t > 1993$$

However, for "public owned enterprises intermediate consumption" and "public owned enterprises value added" data do not exist for the pre-93 period. Therefore, their real values in 95$ during that period are derived as ratios to real GDP at market prices in 95$ similar to their shares in nominal GDP.

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[2] Calculation of these implicit deflators in file: WrldBk NAcc 5may.xls using the implicit deflator of the corresponding years. The deflator in question should of course be appropriate to the serie that is considered. Only two series are concerned: the Public owned enterprises intermediate consumption and the Public owned enterprises value added. The most adequate available deflator here is the general GDP deflator.

Table 3: Israeli deflators for Palestinian pre-93 series

Palestinian series	Israeli deflator
Household final consumption	Household final consumption expenditure
Government final consumption	General government final consumption expenditure
Gross capital formation, Buildings	Gross fixed capital formation
Gross fixed capital formation	Gross fixed capital formation
Private Investment	Gross capital formation
Government investment	Gross capital formation
Exports	Exports of goods and services
Imports	Imports of goods and services
VA Public services	General government final consumption expenditure
VA Private services	GDP
VA Industry	GDP
VA Agriculture and fishing	GDP
VA Construction	Gross fixed capital formation
Net ind. Tax - subsidies	GDP
Factor Payments to abroad	GDP
Factor payments from abroad	GDP
Net current transfers	GDP
Ind. taxes & transfer to government	GDP
Transfers from government	GDP
Gross private disposable income	GDP

2. Derivation of real 1997$ series

Values in constant 97$ for pre-93 variables are derived by applying the growth rates of the same variables measured in constant 95$ as follows:

$$XP97_{it} = XP97_{i97} \cdot (XP95_{it} / XP95_{i97}), \text{ for all } t < 1994$$

However, the classifications of private investment and public investment were dropped in the post-93 dataset. Their real values in 97$ for the period 1972 – 1993 are calculated from the total real investment in 97$ based on their ratios to total investment in nominal terms. Similarly, "net indirect tax – subsidies", "indirect taxes and transfers to the government" and "transfers from the government" were also dropped in the post-93 dataset, their values in 97$ were calculated based on the ratios of their nominal relative to nominal GDP, which are then applied to real GDP in 97$.[3]

Finally, it should be noted that GDP at market prices and GDP at factor cost are not necessarily equal. This is owing to the fact that they are aggregates of different sets of real variables, each deflated by different deflators. To maintain the consistency of the data, the discrepancy between the two GDP series is allocated to the "net errors and omissions item". However, this discrepancy is not very significant.

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[3] The 1994-2000 values are obtained directly from the PCBS original files: NmnlGDP2000.xls and CnstsGDP2000.xls. PCBS provides a rich disaggregation for post-93 value added data

D. Continuity of data

1.   Value added

In the pre-93 dataset, Sectoral GDP was divided into five value addeds: Agriculture; industry; construction; public services; and private services. However, in the post-93 dataset, the PCBS provides a much richer disaggregation of value added data with a large number of sectors (22) in line with the 1993 Revised Standard National Accounts (SNA) format. To reconcile the two datasets and have continuous value added series over the period 1972 - 2000, some of the sectors in the post-93 data were aggregated to reduce the total number to the five sectors of the pre-93 dataset. For agriculture and fishing, and construction it was a strait match as the two sectors appear in the pre-93 and post-93 datasets. As for the remaining sectors, it was not a trivial matter. Table 4 shows how the post-93 sectors are reconciled to match the pre-93 sectors. For the education, health and social work sectors, the reconciliation involved dividing them between the public services and private service in the pre-93 classification, as shown in the Table. It should mentioned that since the sectoral data for education, health and social work were available aggregated for both Gaza Strip (GS) and the remaining of the West Bank (RWB), it is assumed that GS and RWB show a similar pattern in terms of distribution of value added with respect to the three sub-sectors, and the reconciliation is preformed accordingly.[4]

Table 4 – Reconciling sectoral value added

| Post-93 sectors	Pre-93 sectors	Note
Mining and quarrying	Industry	
Manufacturing	Industry	
Electricity and water supply	Private services	(1)
Wholesale and retail trade	Private services	
Transport	Private services	
Financial intermediation	Private services	(2)
Real estate, renting and business services	Private services	
Community, social and personal services	Private services	
Hotels and restaurants	Private services	
Education	disaggregated	(3)
- Government	Private services	(4)
- Services	Public services	(4)
- UNRWA	Private services	(4)
Health and social work	disaggregated	
- Government	Private services	(4)
- Services	Public services	(4)
- UNRWA	Private services	(4)
Public administration and defense	Public services	
Households with employed persons	Private services	
Public owned enterprises	Public services	(5)

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[4] Calculations are performed in separate files: GS sectors ratios.xls and RWB sector ratios.xls. Source files: NmnlGDP.xls and CnstsGDP2000.xls.

According to PCBS methodology, as presented in page 29 of the Palestinian Central Bureau of Statistics. *"National Accounts: 1994 Preliminary Estimates"*.

(2) This series should a priori not be allocated exclusively to Private Services, because it includes Palestinian Monetary Authority's activities, as mentioned on p.33 of PCBS (previous source). There is no additional information on the data about the share of PMA activities in the Financial Intermediation sector. However, it is suggested in the same publication that the major part of this sector is private. Therefore, it is assumed that financial intermediation is part of private services.

(3) UNRWA: details in the Palestinian Central Bureau of Statistics: *"Statistical Abstract of Palestine, 2"*, November, 2001, p.47.

(4) Allocated pro-rata. Calculations in file GS Sector ratios.xls.

(5) Assumed to be part of public services.

2. Missing data

The buildings and non-buildings gross capital formation data were not reported for the years 1988-1993 in RWB, and for 1988 in GS. These missing values are estimated as a percentage of total investment based on the historical trend and it is assumed that this percentage evolves towards the 1993 level with a linear trend, as shown in Figure 3. The calculations are performed in the file "GDKF RWB.xls" and then exported as values to the database. This issue could be revisited in the future for future research.

Figure 3 – Rest of the West Bank Gross Fixed Capital Formation
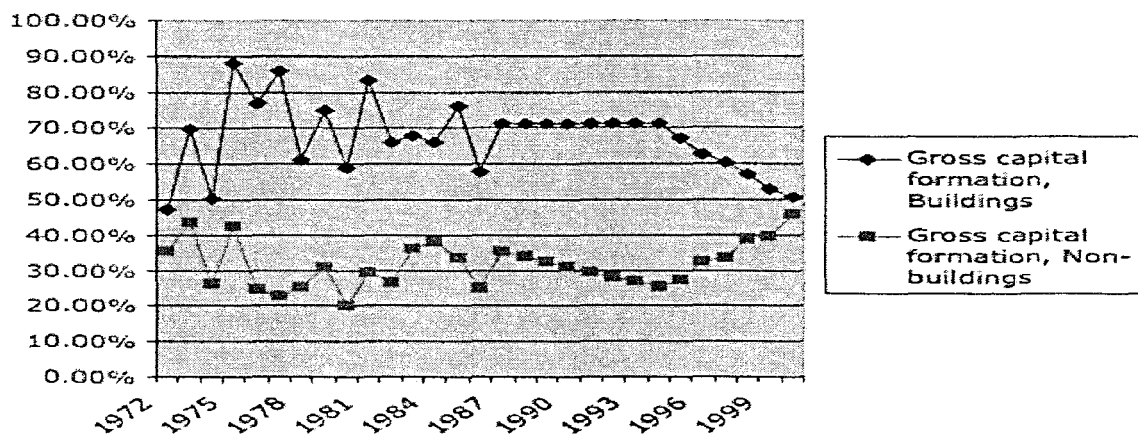
Gross private disposable income series is also not available for the post-93 period. The reason is that "indirect taxes and transfers to the government" and "transfers from the government" are reported in the new datasets. Historically, the trend of the ratio of the gross private disposable income relative to gross national disposable income (GPRDY/GNDY) was pretty stable over time. For the remaining West Bank data the ratio was about 0.93 during the period 1972-1993, except for 1988 and 1989, where it dropped to 0.75 as the growth of private disposable income presents a two-years delay with respect to the growth of national disposable income. Therefore it would be reasonable to assume that the trend of this ratio did not change significantly after 1994, and based on this assumption the values of GPRDY can be derived for the period 1994-2000 as a percentage of GNDY. Regarding Gaza Strip, this approach cannot be applied, as this ratio does not show a stable trend. Consequently, GPRDY in GS for 1994-2000 is reported as missing data, and the same applies to the aggregated Palestinian value of that variable. This could be further researched in the future.

II. TRADE DATA

Trade data present the value of exports and imports of goods and services between the Palestinian territory and abroad. The availability of trade variables in the per and post 93 periods is reported in Table A2 in the Annex. The level of details of trade by country and commodity depends on the source of the data as follows:

- **1972-94**: Total value of exports and imports of goods and services. Exports and imports of goods classified by country: Jordan, Israel and Rest Of the World (ROW).[5]
- **1995**: detailed data not reported.
- **1996-2000**: Value of exports and imports of goods and services. Exports and imports of goods classified by country: 14 Arab countries, Israel, USA, total of European countries and "other countries". Exports and imports of goods are classified by commodity according to the STIC standards (3-digit level). The 4-digit disaggregation is also available in the original sources but is not integrated in the present database. The data source is the PCBS 2003, (Unpublished data). It is worth noting that PCBS advises to use trade statistics with some caution as they could be under-reported due to the various sources, the political situation and border crossing reporting related issues. Besides, values less than $ 500 are considered null in the original data.

A. Consistency

1. Internal consistency

To guarantee coherence, the sums of exports and imports by country equal their sums classified by STIC-3 code. In practice, marginal discrepancies are observed (less than 4%). In GS imports by country and by commodity show a discrepancy of about 3 per cent, while in RWB this discrepancy ranges between 5 per cent in 1997 and 1 per cent in 1998. To reconcile these discrepancies the following approach has been applied:

1. If the sum by country is larger than the sum of STIC-3 code, the discrepancy is allocated to the Exports/Imports of "commodities and transactions, not elsewhere specified" in the SITC classification.
2. If the sum by country is smaller than the sum of STIC-3 code, the discrepancy is allocated to the exports/imports of "other countries" in the country classification.

2. Consistency with national accounts

It is essential to maintain the consistency of exports and imports in both trade data and national account data. This requires, for example, the value of merchandise exports in the trade data to be equal to the value of exports of goods in national accounts. It should be noted, however, that in some years the details of trade data are not reported in the national accounts or trade data provided by the PCBS and ICBS, and therefore some missing data are listed in the database. To account for some of the missing data and ensure the consistency between the detailed trade data and that of the national accounts, the following has been applied:

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[5] Trade between Remaining West Bank and Israel not reported for the period 1988-1995.

- **1972-1987**: In the national accounts the goods and services disaggregation is unavailable for both exports and imports. However, trade data for RWB reports total exports of goods and thus allows the estimation of exports of services over the period. The same approach was applied for imports. For GS, imports from Jordan are not reported for the years 1977-1995, and therefore national accounts data cannot be completed for this period.

- **1988-1994**: For RWB, data on trade with Israel is unavailable and thus exports of goods are reported as missing. The only available external trade data are total exports and total imports. As for GS, data on trade with Israel is available, except for 1988.

- **1995**: Trade data is unavailable.

- **1996-2000**: The positive discrepancy between exports in the trade dataset and export of goods reported in the national account is allocated to "other countries" item. The latter also absorbs any underestimation in the trade dataset as compared to the national account figures.

In isolated cases, the aggregation of exports (FOB) and/or imports (CIF) of goods by commodities is larger than the value reported in the national accounts data. In such incidents, the discrepancy from the national accounts value is allocated to or deducted from "commodities and transactions, not elsewhere specified". This issue could be further researched in the future.

Figures 4 and 5 depict export data for both GS and RWB in 97$. As shown, in Gaza exports of services are fairly constant over time, while exports of goods drop between years 1987 and 1989. This is due to the decline in exports to Israel. In RWB, exports data reflect historical trends, with little fluctuation for the exports of both goods and service, despite the missing data of the period 1988-94.

B. Deflation

The methodology is similar to that applied to national accounts data and described in Section C of Chapter II. The approach for obtaining 97$ figures is to derive complete 95$ series using these World Bank implicit deflators, and apply the growth rate of constant 95$ data to arrive at the constant 97$ data.

Figure 4: Exports of goods and services in Gaza Strip (97$)
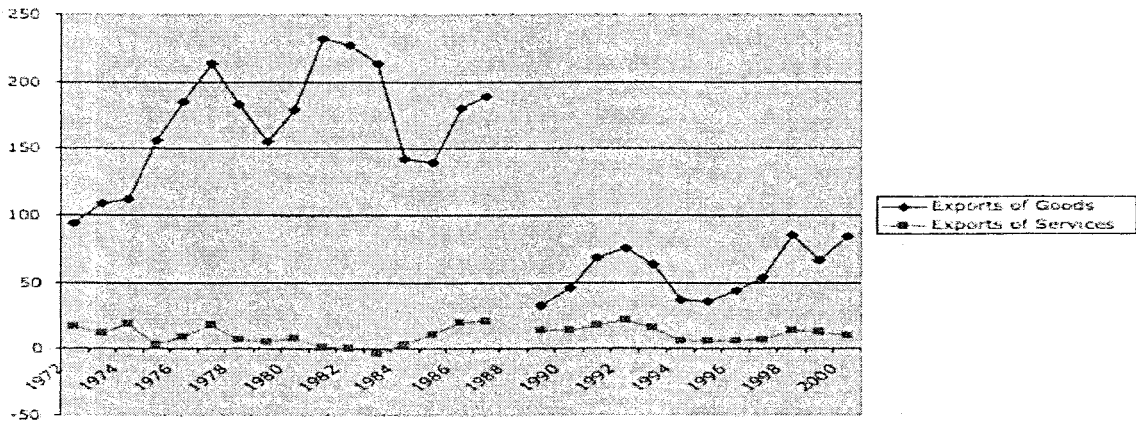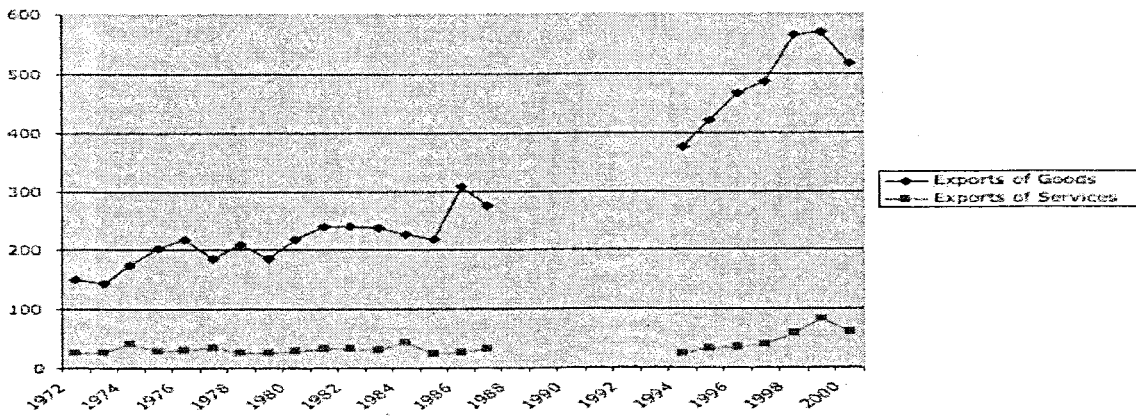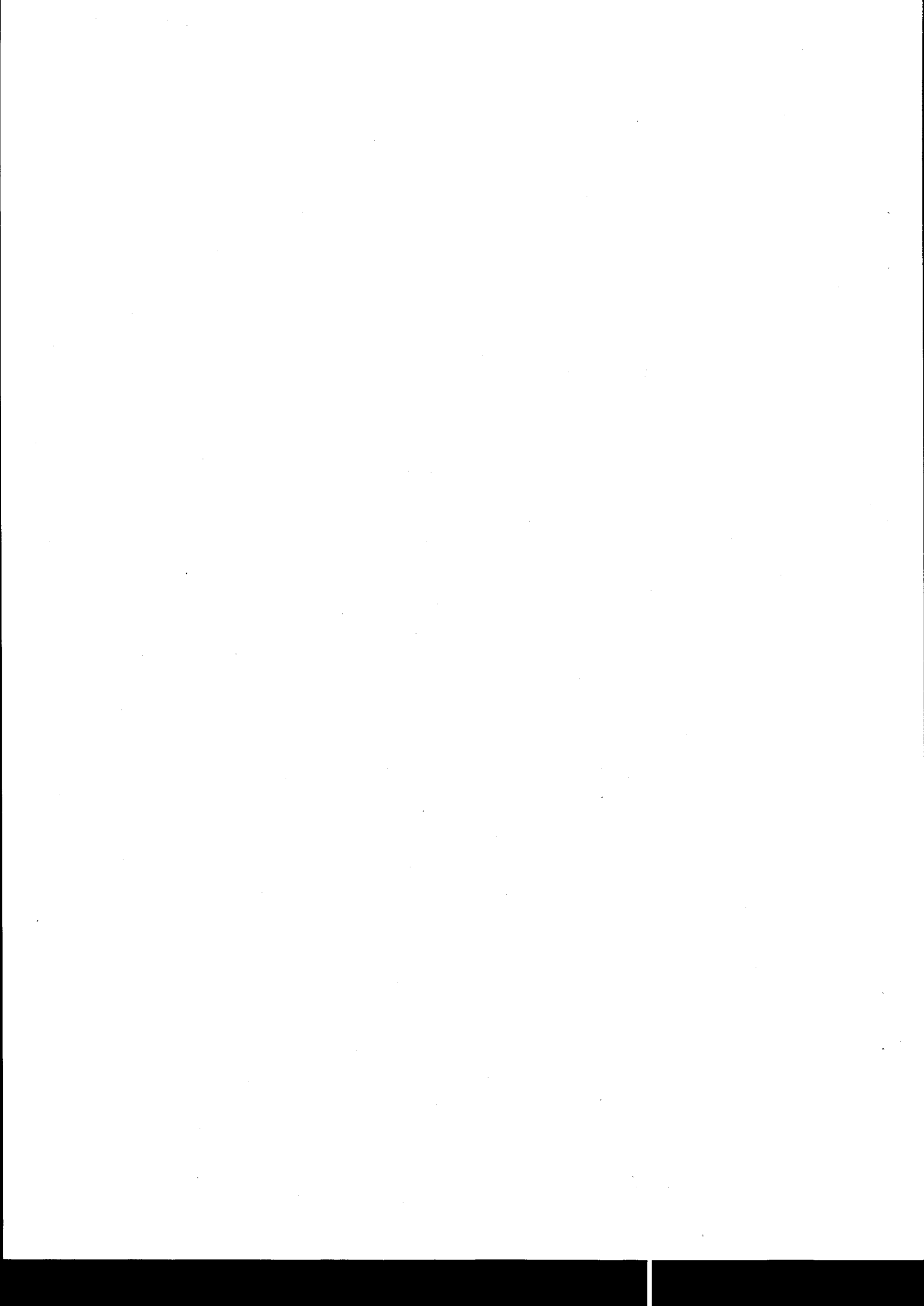

Figure 5: Exports of goods and services in Remaining West Bank (97$)

III.   LABOUR FORCE DATA

The labour force database is structured according to the set of definitions detailed hereafter. Original data is sometimes sparse or unclear in definitions, therefore a good part of the effort of merging pre-93 and post-93 data was dedicated to finding the adequate structure of the data. Regarding data quality and availability, pre-93 data source files (GZLF.xls and WBLF.xls) contain some incoherent values (e.g. a substantial unexpected increase in a single year), all of these were reported as missing in the database. Availability of labour force data is reported in Table A3 in the Annex.

A. Definitions

The labour force variables in database are in line with the International labour Organization (ILO) definitions and PCBS specifications.

1.   *International Labour Organization's Definitions*

The source for these definitions is ILO's Bulletin of Labour Statistics, 2002-2004.

- The working age population "is all persons above the age set by countries (usually 15-16 years) for the measurement of economic characteristics".
- The ILO international standard definition of unemployment is based on three criteria which should be satisfied simultaneously: "without work", "currently available for work" and "seeking work".
- The relaxed definition of unemployment includes people not seeking work.

2.   *Palestinian Central Bureau of Statistics specifications*

- The working age population is composed of all persons above the age of 15 years.
- Unemployment presented in the database according to the standard definition.
- According to PCBS, the unemployment rate is calculated by expressing the number of unemployed persons as a percentage of the total labour force, including all career and conscript members of the armed forces.
- The dependency ratio is the number of population divided by the number of employed persons (PCBS, Press release on Labour Force Survey Results (July-September, 2002).
- The economically active population or labour force is the sum of employed and unemployed in pre-93 data. It is the sum of employed and unemployed and underemployed in post-93 data.
- Underemployment exists when a person's employment is "inadequate in relation to alternative employment, account being taken of his/her occupational skills", according to the definition presented in the PCBS Statistical Abstract of Palestine, 2, November, 2001.
- The economically inactive population is calculated as the difference between total population of above 15-year of age and the labour force. The distribution of employed persons by type of skill is also available for year 2001 and partly available for years 1995-2000. The 7 categories are:

1. Legislators, senior officials & managers;
2. Professionals, technicians, associates and clerks;
3. Service, shop & market workers;
4. Skilled agricultural & fishery workers;
5. Craft and related trade workers;
6. Plant & machine operators & assemblers;
7. Elementary occupations.

However only categories 5 and 7 are available over the period 1995-2000, and therefore were included in the database. Other categories are too sparse to be included.

B. Continuity

1. Employment by sector

Pre-93 categorization of sectoral employed persons is different from that applied in the post-93 period. Pre-93 disaggregation includes agriculture, industry, construction and others. Post-93 categories are agriculture, manufacturing, construction and services. While, in pre-93 data persons employed in services are included under the category of "other", post-93 data explicitly include employment in "services" as a separate category, and does not report the category of "other". However, the sum of the four reported categories are less than the total number of employment reported. The difference between the two has been allocated to the "other" in the post-93 period in the database.[6] To show an example of the treatment of the sectoral employment of the entire period, Figure 6 presents sectoral employment in the RWB. In spite of the missing data in 1994, the series follow a time trend over the period of the database, except of employed in agriculture figures that dropped about 40% between 1993 and 1995. This observation needs to be assessed and explained at the modeling stage.

2. Other definitions

- Female participation rate equals to female labour force divided by female population aged 15 and over.
- Total labour force is equal to the sum of total unemployed and total employed.
- Economically inactive population is the difference between the Total population over 15 and the labour force. Most of these definitions are based on the ILO and PCBS conceptual framework.

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[6] This exercise is in the file LaborOct dec02.xls.

Figure 6: Labour force data: matching pre-93 and post-93 sectors
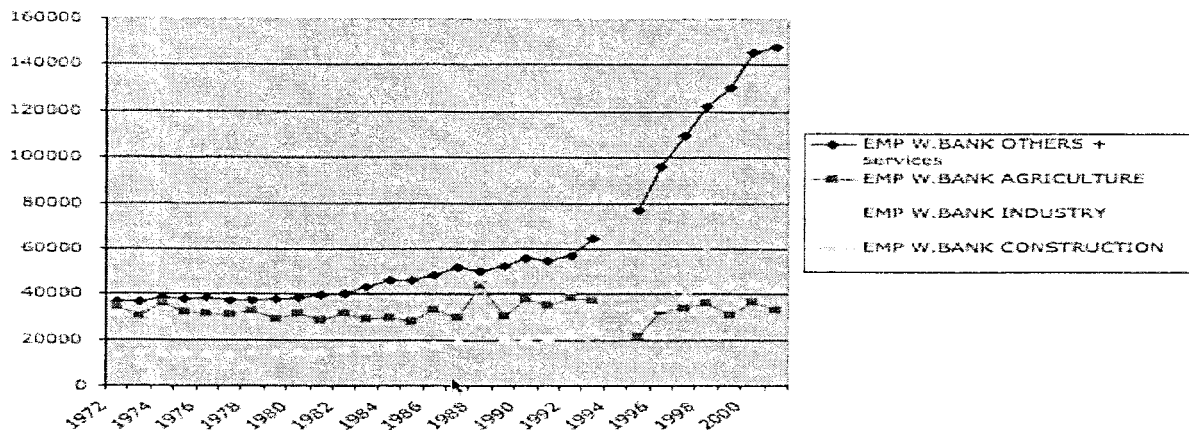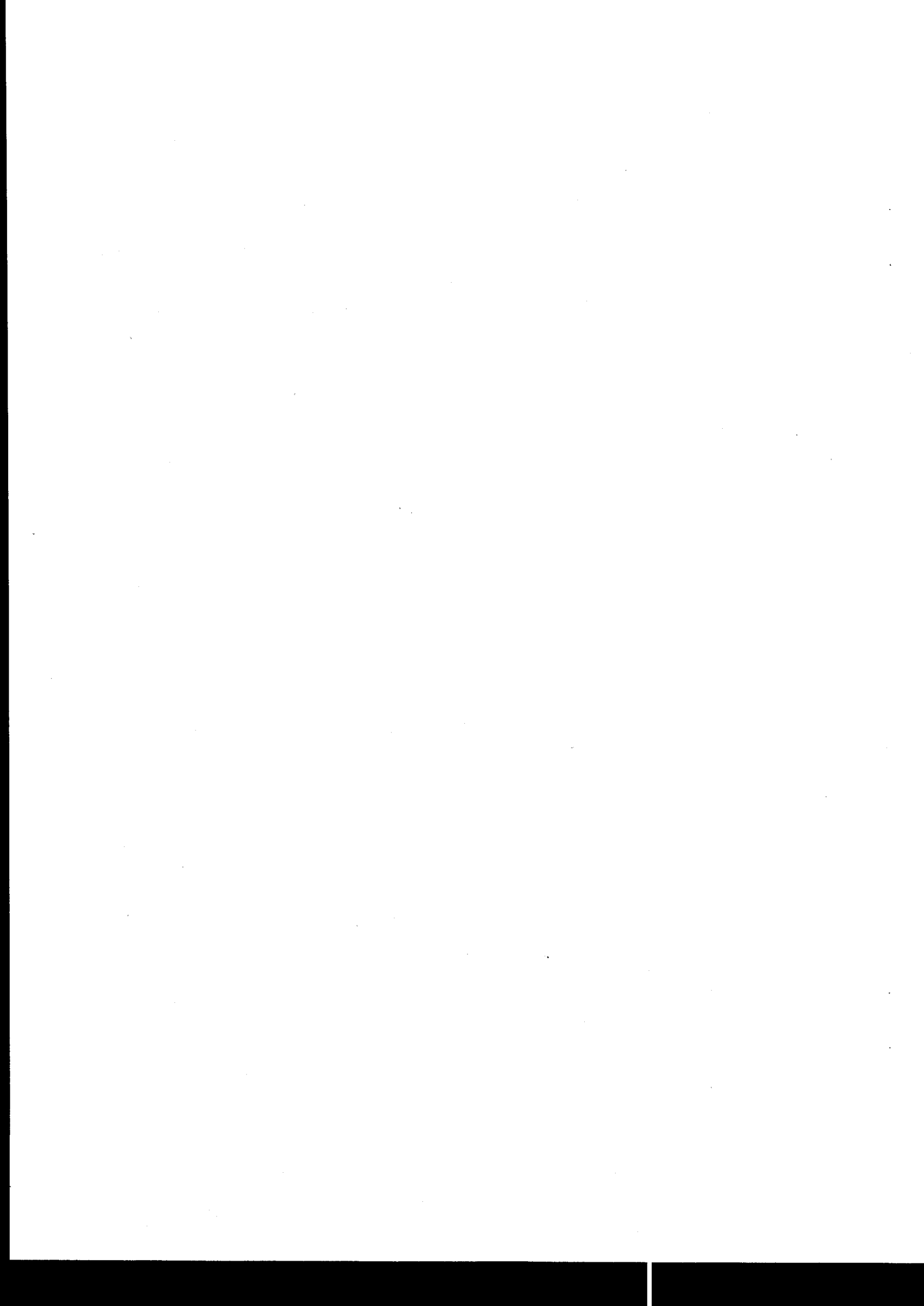
IV. DEMOGRAPHIC DATA

The set of demographic variables is simple in its structure and most series were included to the database with a minimum processing. The complete list of available demographic variables is presented in Tables A4 in the Annex. However, in some cases certain processing was necessary.

A. Definitions

Hereunder are general information and definitions of some variables, which in general follow PCBS publications:

- Population data are the mid year population;
- Crude birth rate is the number of births per 1000 persons in a given year; see PCBS Statistical Abstract of Palestine, 2, November 2001;
- Crude death rate is the number of deaths per 1000 persons in a given year; see PCBS Statistical Abstract of Palestine, 2, November 2001;
- General fertility rate is the number of live births per 1,000 females of childbearing age between the ages of 15-44 years; [7]
- Total fertility rate is the average number of children that would be born alive to a woman (or group of women) during her lifetime if she were to pass through her child bearing years conforming to the age-specific fertility rates of a given year;
- Natural increase is the surplus/deficit of births over deaths in a population in a given time period;
- Growth rate is the rate at which a population increases/decreases in a given year due to natural increase and net migration, expressed as a percentage of the base population.

B. Continuity

There are missing data for the mid year male and female populations in the period 1988-1992. These two variables were estimated based the historical relationship between the mid-year and end-of-year values of these variables. Historically, mid-year male and female population was 98.5% and 98.6% of end-of-year population of GS and RWB, respectively. Furthermore, in 1993 male population in GS was missing year 1993. This was estimated using its level in 1992 and the historical average annual growth rate of 5%. As for net migration, it could be estimated by subtracting population from its total growth. However, owing to missing data, this variable was not derived.

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[7] http://www.health.state.pa.us/hpa/stats/techassist/fertility.htm.

V. DATA UPDATING

Updating the database when new data points become available can be carried out in the development files: THE BASE 7.xls for the national accounts and trade data; and Labour & demogr DB.xls for the labour force and demographic data. As mentioned above, there are two types of variables in the database: dynamic and static data. While a static variable could be looked at as an element that cannot be derived from other variable (e.g. private consumption) based on an economic or conceptual relationship, a dynamic variable is calculated using one or several other variables, which could be either static or dynamic variable. For example, GDP per capita is dynamic variable obtained from the division of GDP by population, where population is static and GDP is the result of an aggregation and thus is considered to be a dynamic variable. Regarding the updating process, it differs depending on the type of data. Static data needs to be introduced manually in the database, while dynamic data is automatically calculated, as long as the formulas are copied in the corresponding cells.

Updating of the database will be carried out annually by UNCTAD secretariat in the light of availability of new published PCBS series.
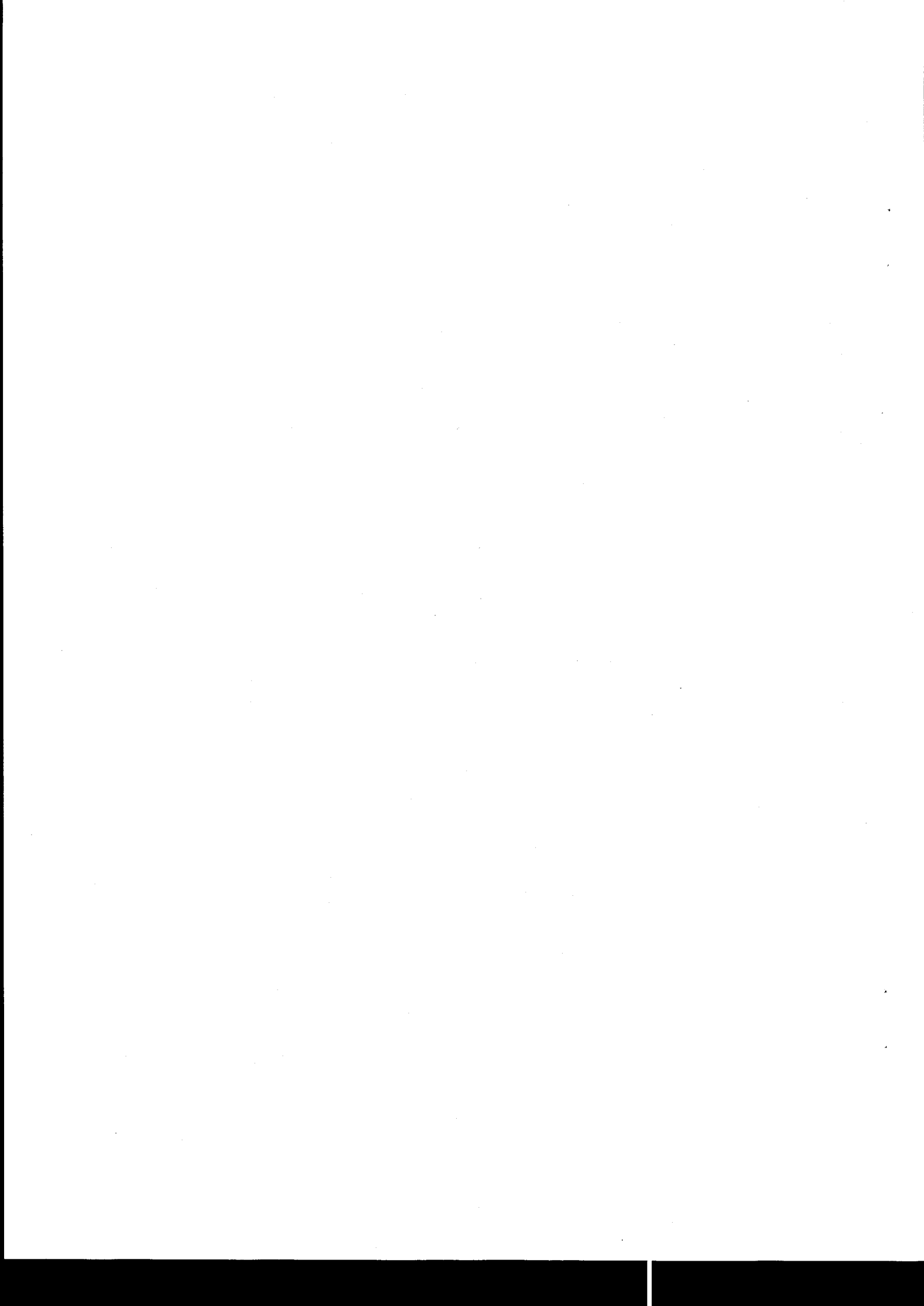
VI.   CONCLUDING REMARKS

A. Available series

The data availability depends on four factors: (i) original sources; (ii) period considered - pre-93 or post-93; (iii) possibility of deriving unavailable series with the help of identities or definitions, and (iv) possibility of estimating missing data based on acceptable assumptions. Therefore, it is important to know whether series are obtained form the original source (PCBS and ICBS) or derived in the database itself. Tables A1 – A4 in the Annex lists the availability of all variables in the database. In these tables, the symbol "0" denotes original data, the "x" symbol denotes a derived variable, and a blank denotes an unavailable or missing data. It should be noted that the series that are calculated in a straightforward manner from original data (e.g. percentage of a total) are considered original data too. This means that derived variables are those which require some manipulation in their derivation. Complete series are highlighted in bold characters in the Tables. However some of the series that are generally available may still contain missing values in certain years. Note that the references to the original data file and sources, as well as all the details of the calculations, are mentioned in the database itself. Finally, the data are available for Remaining West Bank, Gaza Strip, and their sum.

B. Quality of the data

While for the post-93 period the data depended mainly on PCBS sources, the pre-93 data relied on the ICBS. In either case, variable specifications follow international standards[8]. Of course each dataset applied the international definitions available at the time of its development. Hence, the present database represents the first serious efforts to reconcile between the two datasets and any differences in variable definitions. The database preserves the qualities of the original data, with whatever limitations they may have. For example, as mentioned above, detailed trade data could be underestimated in the original source. Consequently, some of the trade categories remain underestimated in the present database, but the methodology applied in the development of the trade dataset ensures that the aggregates of trade are reconciled with the national accounts figures and that they are not underestimated in totals. Furthermore, any data in the original sources that is the result of estimation will of course remains so in this database.

To ensure the accuracy of the database, random checks against the original sources were performed. This approach has been applied to every block and leads to the conclusion that series are adequately accurate. The deflated real national accounts data were also checked through the comparison between the structure of the economy measured in nominal local currency, current US$ and constant US$. The structure of the economy should not change substantially with the change in the units of measurement and thus the share of the same sector in GDP should be roughly equal. Any difference in share should be owing to the deflator used to move from nominal to real data. This test could easily spot any incoherence in the national accounts data. National accounts variable in the database has satisfied this criterion, and therefore it is reasonable to say they reflect high degree of consistency. Finally data are verified on a global basis through a constant analysis of the variables against their historical trends, as well as through the team-work and internal double-checking. In conclusion, these checks confirm the overall good quality of the database.

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[8] For a technical evaluation of the ICBS data series, see "Sources of Economic and Social Statistics on the West Bank and Gaza Strip", UNCTAD/ECDC/SEU/10, 1996.

C. Further analysis

The database in its present form contains all the major available national accounts, trade, labour force and demographic variables. During the development process, it was found that a limited number of variables have missing values. Most straightforward estimations were performed to extrapolate and fill the missing data gaps. However, as indicated above, some situations require additional analysis to further improve the quality of the data. Furthermore, population natural increase and net migration were left as missing data due to an apparent incoherence in the unit of measurement in addition to the lack of documentation in the original sources. This made it impossible at the present stage to completely integrate these two variables in database.

Annex 1: Data availability

Table A1: Availability of national accounts data

Variable name	Pre-03	Post-93
Household final consumption	0	0
Government final consumption	0	0
NPISH final consumption	0	
Final consumption	x	x
Gross capital formation, Buildings	0	0
Gross capital formation, Non-buildings	x	0
Gross fixed capital formation	0	x
Private Investment	0	
Government investment	0	
Total investment	x	x
Changes in inventories	0	
Exports of Goods	x	0
Exports of Services	x	0
Exports	0	x
Imports of Goods	x	0
Imports of Services	x	0
Imports	0	x
Net exports of goods and services	x	X
Net errors and omissions	x	0
Gross Domestic Product (market price)	x	x
Intermediate consumption	0	
Agriculture and fishing		
Mining and quarrying	0	
Manufacturing	0	
Electricity and water supply	0	
Construction	0	
Wholesale and retail trade	0	
Transport	0	
Financial intermediation	0	
Real estate, renting and business services	0	
Community, social and personal services	0	
Hotels and restaurants	0	
Education	0	
Health and social work	0	
Other services	0	
Public administration and defense	0	
Public owned enterprises	0	
VA Public services	0	x
VA Private services	0	x
VA Industry		x
VA Agriculture and fishing	0	0
VA Construction	0	0
VA Manufacturing	0	
VA Electricity and water supply	0	

Variable name	Pre-03	Post-93
VA Mining and quarrying	0	
VA Wholesale and retail trade	0	
VA Transport	0	
VA Financial intermediation	0	
VA Real estate, renting and business services	0	
VA Community, social and personal services	0	
VA Hotels and restaurants	0	
VA Education		0
VA Health and social work	0	
VA Other services	0	
VA Public administration and defense	0	
VA Households with employed persons		
VA Public owned enterprises		0
GDP at factor cost	x	x
Net indirect Tax - subsidies	0	x
Financial Intermediary Services Indirectly Measured	0	
Customs duties	0	
VAT on imports, net	0	
Gross Domestic Product (market price)	x	x
Net factor payments, Labour	0	
Net factor payments, Property income	0	
Factor Payments to abroad	0	
Factor payments from abroad	0	
Net factor payments	x	x
Gross National Product x	x	
Gross National Income x	x	
Net current transfers	0	0
Gross National Disposable Income	x	x
Gross Private Disposable Income	x	x
Indirect taxes & transfer to government	0	
Transfers from Government		0
National Saving	x	x
Private saving	x	x
Investment-saving Gap	x	x

x = dynamic variable   *0 = static variable*

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Table A2: Availability of trade data

Variable name	Pre-93	Post-93
Total Value of Re-exports	0	
Total Value of National Exports	0	
Total of Exports, Jordan	0	0
Total of Exports, Arab Asian Countries (10 countries)	x	
Total of Exports, Egypt	0	
Total of Exports, Morocco	0	
Total of Exports, Comoros	0	
Total of Exports, Total of Arab African countries	x	
Total of Exports, Israel	0	0
Total of Exports, U.S.A	0	
Total of Exports, Total of European Union countries		0
Total of Exports, Other countries	x	
Total of Exports, ROW	x	x
Total Exports of goods	x	x
Total of Imports, Jordan	0	0
Total of Imports, Arab Asian Countries (10 countries)	x	
Total of Imports, Egypt	0	
Total of Imports, Morocco	0	
Total of Imports, Comoros	0	
Total of Imports, Total of Arab African countries	x	
Total of Imports, Israel	0	0
Total of Imports, U.S.A.	0	
Total of Imports, Total of European Union countries		0
Total of Imports, Other countries	x	
Total of Imports, ROW	x	x
Total Imports of goods	x	x
Total of Exports by commodity (STIC-3)	0	
Total of Imports by commodity (STIC-3)	0	

x = dynamic variable   *0 = static variable*

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Table A3: Availability of labour force data

Variable name	Pre-93	Post-93
Labour force, total	x	x
Migration balance	0	
Net migration	0	
Population movement	0	
Dependency ratios	x	x
Female labour force	0	
Male labour force	0	
Employment: West Bank others + services	0	x
West Bank others	x	
West Bank agriculture	0	0
West Bank industry	0	0
West Bank construction	0	0
West Bank services	0	
West Bank total	x	x
Gaza others + services	0	x
Gaza others	x	
Gaza agriculture	0	0
Gaza industry	0	0
Gaza construction	0	0
Gaza services	0	
Gaza total	x	x
Employed in Israel others	0	
Employed in Israel agriculture	0	
Employed in Israel industry	0	
Employed in Israel construction	0	
Employed in Israel total	x	x
Employed in Israel (% lf)	x	0
Total employed females	0	
Total employed males	0	
Total employed	x	x
Employment: All others (GS + ISR)	0	
Agriculture (GS + ISR)	0	
Industry (GS + ISR)	0	
Construction (GS + ISR)	0	
Trade, restaurant, hotels (GS + ISR)	0	
Transportation, storage, communication (GS + ISR)	0	
Community & social service (GS + ISR)	0	
Total unemployed females	0	
Total unemployed males	0	
TOTAL UNEMPLOYED	x	0
Econ. inactive females	0	
Econ. inactive males	0	
Econ. inactive population	x	x
Labour force participation rate, males	x	

Variable name	Pre-93	Post-93
Labour force participation rate, females	x	
Labour force participation rate	x	x
Full employment rate	x	x
Unemployment rate	x	x
Average monthly work days *	0	
Average weekly work hours *	0	
Median daily net wage (nis) *	0	
Employers	0	
Self-employed	0	
Wage employees	0	
Unpaid family members	0	
Elementary occupation workers	0	
Craft and related trade workers	0	
Total underemployed	0	
Underemployment rate	x	

x = dynamic variable   *0 = static variable*

Table A4: Availability of demographic data

Variable name	Pre-93	Post-93
Birth rate, mother 15-19	0	
Birth rate, mother 20-24	0	
Birth rate, mother 25-29	0	
Birth rate, mother 30-34	0	
Birth rate, mother 35-39	0	
Birth rate, mother 40-44	0	
Birth rate, mother 45+	0	
Births, females	0	
Births, males	0	
Births	x	x
Crude birth rate	x	0
Deaths	x	x
Crude death rate	x	0
Natural increase	0	0
Female population, 65 +	0	x
Female population	x	x
Female population, 00-14	x	x
Female population, 15-64	x	x
Female population 15+	x	x
Female population, 00-04	0	
Female population, 05-09	0	
Female population, 10-14	0	
Female population, 15-19	0	
Female population, 20-24	0	
Female population, 25-29	0	
Female population, 30-34	0	
Female population, 35-39	x	
Female population, 40-44	x	
Female population, 45-49	x	
Female population, 50-54	x	
Female population, 55-59	x	
Female population, 60-64	x	
Female population (eoy)	x	
Male population, 65 +	0	x
Male population	x	x
Male population, 00-14	x	x
Male population, 15-64	x	x
Male population 15+	x	x
Male population, 00-04	0	
Male population, 05-09	0	
Male population, 10-14	0	
Male population, 15-19	0	
Male population, 20-24	0	
Male population, 25-29	0	
Male population, 30-34	0	
Male population, 35-39	0	

Variable name	Pre-93	Post-93
Male population, 40-44	0	
Male population, 45-49	0	
Male population, 50-54	0	
Male population, 55-59	0	
Male population, 60-64	0	
Male population (eoy)	0	
Total population, 65 +	x	x
Total population	x	x
Total population, 00-14	x	x
Total population, 15-64	x	x
Total population 15+	x	x
Total population (same age classes)	x	
Total population (eoy)	x	
Population beginning year	0	
Males per 100 females	x	x
Total fertility rate	0	
General fertility rate	0	
Sex ratio at birth (m/f)	0	
Median age	0	
Number of marriage contracts	0	
Crude marriage rate	0	
Number of divorce contracts	0	
Crude divorce rate	0	
Doubling time	0	
Life expectancy at birth, males	0	
Life expectancy at birth, females	0	
Life expectancy at birth, both sexes	0	

x = dynamic variable   *0 = static variable*