



COMMONWEALTH OF THE BAHAMAS

SOURCES AND METHODS OF THE NATIONAL ACCOUNTS OF THE BAHAMAS 2003

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DEPARTMENT OF STATISTICS

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INTRODUCTION

1. This paper describes in detail the sources and methods used in the production of the Bahamian National Accounts (BNA) provisional and final estimates. Production of preliminary estimates is described under separate cover. In so far as local conditions permit, the BNA follow the revised 1993 United Nations System of National Accounts Manual.

2. At the outset, it cannot be over-emphasized that this paper is a description of present practices. It is not a prescription for the construction of the accounts into the future. While consistency of definitions and methods is important, as new sources and methods become available, as old sources disappear, and as new economic conditions demand different information for sensible interpretation, not only can and must the methodology be changed - and hopefully improved - but even definitional changes should never be completely excluded from the national accountant's arsenal. It must also be admitted at the outset that certain arbitrary assumptions employed in the present estimates, while rooted in economic theory and practical business experience, were also influenced by a desire to balance the accounts. These assumptions should be open to revision as information sources improve.

3. In conformity with UN recommendations, the major economic aggregates for the Bahamian national accounts are Gross Domestic Product at market prices (GDP) and Expenditure on Gross Domestic Product (GDE).

4. The source of the GDP estimate is, for the most part, the annual establishment survey. In 1992 the survey was expanded to include a greater proportion of the economy than in previous years. With the exception of production originating in government, agriculture, fishing and part of the finance industry, it is hoped to extend the coverage of establishment surveys to the remaining industries in the near future. Financial industries other than banks and insurers would be covered as well as software consultants, and computer related services.

5. While it would have been preferable to have independent sources for the estimation of GDE, this unfortunately is not possible. While expenditures on government goods and services are based on data from the government accounts and the export and import data for goods and services from merchandise trade data and the balance of payments, a significant proportion of the remainder of the expenditure side is also derived from the establishment survey. Note that estimates for consumer expenditure prior to 1989 were based on projections from a 1983 consumer expenditure survey.

6. The expenditure side of the national accounts is usually shown by final purchases by the main sectors - persons, government, businesses and the rest of the world. Within each sector, any amount of commodity and service detail can of course be shown (all final goods and services could of course be shown without a sector breakdown). The only other variation to the above might be a finer sector classification -e.g. by level of government, by socio-economic class of households or by households or non-profit institution by

incorporated or un-incorporated businesses etc.

7. The product side of the accounts can be shown in many more ways: i.e. by type of income or by institutions (not too common) or by 'production originating'. 'Production originating' can be shown in different ways: production originating by sector, production originating by function or production originating by industry. Production by sector would be akin to the one described above on the expenditure side, by industry would normally follow the rules laid down in the ISIC while the functional break-down is one usually only employed for the government sector.

8. Given the limited availability of data in the Bahamas, the production originating approach by industry will be used. In this approach the ISIC will be adhered to as much as possible. However, in the case of production originating in government, a mixture rather than a strictly ISIC approach is more efficient when analytical results are compared with the inputs required to achieve them. There are three ways of classifying product originating in government:

(a) the sector approach, where all activities of all government agencies are classified to the government.

(b) the functional approach where government activities are classified to their appropriate functions - i.e. schools and ministries of education, (general administration of education, the education function) to the industry education, hospitals and ministries of health to the health industry etc. Most of the department of agriculture would be classified to agriculture etc. Only broad general government functions such as Ministry of Finance would be left in the government classification.

(c) strict adherence to the ISIC structure where all administrative units such as the ministry of education, health ministry (but not schools and hospitals), the department of agriculture etc. would be included with general administration (government) rather than with the industry for which they perform their administrative function.

A compromise has been adopted for the GDP. In general the ISIC will be adhered to, with the exception of Education and Health. Here, the respective administrative activities for these functions will be included with the industries Education and Health rather than in the general government classification.

9. In addition to the GDP and GDE tables, a government sector income and expenditure account is, as in the past, included. In this table, a breakdown by broad function of government revenue and expenditure is provided. A foreign sector income and expenditure statement will also be provided.

Unfortunately, the prospects of establishing a personal sector income and expenditure account - are for the near future poor. In the absence of any reliable

information on investment income of persons and having so far no way of estimating the reliability of unincorporated net value added (assuming it can be separately tabulated in the establishment survey), the income side of the account cannot be completed, nor can an estimate of personal saving - which is a residual - be derived.

10. GDE and GDP are also available in Constant dollar estimates.

The indexes were used reflect the best indicators available and they are regularly updated when more appropriate data becomes available.

BUSINESS ESTABLISHMENT SURVEYS

11. The major source of data for the national accounts is the family of surveys within Business Establishment Survey. To best reflect the Bahamian economy, the following industries of the UN (ISIC) are used:

LIST INDUSTRIES

In a few instances, e.g. wholesale and retail trade, finer levels of industrial classification can be published if desired.

12. From the establishment surveys, details on gross operating income, as well as cost of goods sold, other expenses, value of change in inventories, labor cost, proprietor's income etc. are obtained. For each industry gross domestic product at factor cost (GDPf) is calculated by subtracting cost of goods sold and expenses net of depreciation from operating revenue.

i.e. Operating revenue
minus cost of goods sold
minus other expenses (net of depreciation
equals Gross value added (GDPf)
minus Salaries and wages

equals Gross operating surplus
 minus Interest paid
minus Depreciation
 equals Net operating surplus

13. From the above relationship, beginning with Gross operating surplus, one can use an alternative method to arrive at GDPf,

Gross operating surplus
minus Salaries and wages
 equals Gross value added (GDPf)

The GDPf thus calculated is composed of gross operating surplus and salaries and wages. Gross operating surplus differs from normal business accounting practices in that it is struck before deducting interest paid and depreciation. In regular business accounting these are considered as expenses.

14. According to standard SNA practices, interest expense is part of the value added by the paying industry. In other words interest is included in the value added by the industry *using* the capital, and not in that of the industry owning the capital.

Note that this is contrary to the treatment of net rent in the UNSNA where it is credited to the real estate owning industry and not in the real estate using industry.

15. International Standard Industrial Classification: From 1990 onwards, the ISIC revision 3 is used. There is, however, no discontinuity with earlier periods since the data are either published at a sufficiently broad level to encompass shifts within the categories of industry or data were not available prior to 1991 - the year in which the scope of the establishment survey was extended - and have been extrapolated to 1989 on existing related industries.

16. Fiscal Versus Calendar Year in the Establishment Accounts: The results of an establishment's entire fiscal year are recorded in the calendar year in which the fiscal year ends. This assumes that business fiscal year ends occurs evenly throughout the year, even for businesses that have a pronounced seasonal patterns – for example Private Education. While this may not be the case, in the absence of monthly or quarterly information with which to adjust the estimates, any other assumption would be even more arbitrary.

17. Public Corporation contribution to Industries: Public corporations are corporations owned or controlled by government and provide a public good – that is, they do not operate in a for-profit mode. The value-added by industry contains value added by public corporations in the industries covered by the establishment survey. The Department of Statistics obtains information on those corporations not in the survey either from published reports or from inquiries. The corporations and their industrial classification are as follows:

E - ELECTRICITY, GAS & WATER SUPPLY

Bahamas Electricity Corp.

Water & Sewerage Corporation (Water portion)

Note: there is no gas production in the Bahamas

Coverage: All Bahamas

H - HOTELS & RESTAURANTS

Hotel Corp. of the Bahamas

Coverage: All Bahamas

I - TRANSPORT, COMMUNICATION & STORAGE:

Coverage: New Providence & Grand Bahama

FROM PUBLIC CORP. REPORTS

BaTelCo, Bahamasair, Port and Marine and

Civil Aviation departments, Paradise Island

Bridge.

FROM TREASURY ACCOUNTS

Included in establishment survey, but data
obtained from Treasury Accounts.

i.e. Post Office.

J - REAL ESTATE AND BUSINESS ACTIVITIES.

Bahamas Agricultural & Industrial Corp.

**K - OTHER COMMUNITY, SOCIAL AND
PERSONAL ACTIVITIES**

Water and Sewerage Corp. (Sewerage portion).

Broadcasting Corporation of The Bahamas

GROSS DOMESTIC PRODUCT BY KIND OF ACTIVITY

18. The basic methodology for measuring the Gross Domestic Product at market prices (GDPm) in the Bahamas is to sum the gross value added in each industry to arrive at Gross Domestic Product at factor cost (GDPf). Indirect taxes less subsidies are then added to this total to reach Gross Domestic Product at market prices. GDPf less Depreciation gives Net Domestic Product at factor cost (NDPf). The remainder of this section provides a detailed description of the sources and methods used to derive NDPf in each industry.

A. Agriculture, Hunting and Forestry

Main source of data:

The Department of Agriculture (DOA) is the main source of the data.

Current Prices:

Output¹ quantities of farms is estimated by the DOA, by types of vegetables and fruits produced on the basis of deliveries to packing houses as well as commercial wholesalers. The output of eggs, poultry and other meat products is based on reports from the large commercial producers and government abattoirs. Estimates of produce destined for exports are also obtained from the department.

The producer prices of agriculture crops are determined on a weekly basis through the Produce Exchange by the committee set up by the DOA. The DOA monitors the Export prices of agricultural crops to the United States of America particularly in the South Florida Market to determine export prices. Prices are then applied to the output quantities to arrive at a value for agricultural gross output.

The cost of inputs into the production of agricultural products is estimated at 34.3 percent of the value of gross output. This input/output ratio was provided by the DOA and was used to calculate intermediate consumption/inputs.

Salary and wage estimates are derived in two steps. Based on the Census 2000 percentage breakdown of Agriculture and Fisheries workers (after first removing the government workers and owners) a ratio of farm to fishery workers is established. This proportions is then applied to the Labor Force count in all other years (1989 to 2001) to get separate counts for Agriculture and Fisheries workers. From the Census of Population results, it is estimated that the Agriculture workers earn \$150 per week and this factor is

¹ Based on the 1993/1994 Agricultural Census results, the DOA has revised its estimates of the quantities and values of Agricultural Crops from 1989 forward.

applied to the Labor force counts for farm workers.

For subsistence farming, an estimate of ten percent of Gross Output is used. Note, this same estimate for subsistence farming is included on the expenditure side. If, due to rising exports, agricultural value added increases significantly in the future, this percentage should be reviewed. Increased production for export does not imply increased subsistence farming.

As far as could be determined, there is no hunting or forestry industry in the Bahamas.

Constant Prices:

Agricultural Crops: The average producer prices per pound of each agricultural crop in 1991 is multiplied by the quantities produced for each year to arrive at constant price gross output for that crop for the year. The sum of the values of the agricultural crops at 1991 prices is taken as the gross output of agricultural crops for each year.

Poultry: The value of gross output in constant prices from slaughtered broilers for each year is obtained by multiplying the quantity in pounds by its corresponding average producer price in 1991. For eggs, the value of current output at 1991 prices is arrived at by multiplying the current output quantity by the average producer price per dozen in 1991. The sum of broilers and eggs give the total gross output for poultry.

Livestock: The value of gross output in constant prices from each type of animal is calculated by multiplying the total production weight of each animal type by its corresponding average producer prices in 1991.

Dairy products: the value of gross output in constant prices from this economic activity is calculated by multiplying the total quantity produced (gallons) for the current period by the average producer price per gallon in 1991.

The cost of production in constant prices for these product areas is calculated by applying the input/output ratio of 34.3 percent (provided by the DOA) to the gross output in constant prices. .

B. Fishing

Main sources of data:

- a. The Department of Fisheries provides information on value and quantity by type of Fish produced.
- b. Also included in fishing is a number of fish and/or seafood farming establishments. This industry called Mari-culture, is carried out on a small scale in The Bahamas. The usual establishment output and input information was obtained by establishment surveys for mari-culture.

Current prices:

A similar methodology to the one for Agriculture was employed to determine gross output for fishing. The Department of Fisheries provided information on the value of fish landings as reported to fish houses and other commercial establishments. This was confirmed by the value of fish export data. The gross output figure was then adjusted upward by:

- a) 25 percent to represent non-reported catches.
- b) 25 percent of production for local market to represent subsistence fishing.

Note, this same estimate for subsistence fishing is included on the expenditure side. If, due to rising exports, fishing value added increases significantly in the future, this percentage should be reviewed. Increased production for export does not imply increased subsistence fishing.

Since no input data are available, an arbitrary input ratio of 30 percent of Gross Output (based on the approach for agriculture) is used to estimate input costs. When the Department of Agriculture undertakes a census of fishermen, the above estimates will have to be re-examined and possibly revised based on those results

Salary and wage estimates are derived in two steps. Based on the Census 2000 percentage breakdown of Agriculture and Fisheries workers (after first removing the government workers and owners) a ratio of farm to fishery workers is established. This proportions is then applied to the Labor Force count in all other years (1989 to 2001) to get separate counts for Agriculture and Fisheries workers. It is estimated that the Fisheries workers earn \$300 per week and this factor is applied to the Labor force counts for fishery workers.

The Department of Fisheries may eventually undertake a survey of sport fishing establishments. Note that such activities would be classified to level O - "other community, social and personal services activities" rather than to Fishing.

Constant prices:

Constant price estimates for gross output are determined by multiplying the average prices per pound of different types of fishery product for the year 1991 by the corresponding quantities for the current years. The products generated for each fishery product were added up to obtain the total value of fishery product landed for each year at 1991 prices for the period in question.

Mari culture: The value of gross output at current prices is deflated by the implicit price index of gross output from fishery product to arrive at a value for gross output in constant prices. The input /output ratio for the year 1991 has been applied to the value of gross output at 1991 prices to estimate intermediate consumption at 1991 prices for the period in question.

C. Mining and Quarrying

Main source of data:

Establishment Surveys for mining and quarrying are the main source of data.

Current Prices:

The value of gross output in current prices is based on pit-head prices. The pit-head price represents the value of the commodity/good per unit of quantity in the state in which it is extracted from the earth or sea, together with such processing which is usually carried out by the establishment before marketing.

For the period prior to 1997 establishment survey results were used. For the period 1997 to 2003, in absence of reliable aggregate results from the establishment survey for the value of production, the following process was used to estimate gross output. Annual U.S. market prices for solar salt were multiplied by the establishment survey reported production quantities. The resulting total was used as gross output.

Constant Prices:

The value of gross output in constant prices from Mining & Quarrying was determined by deflating the gross output in current prices from Mining & Quarrying at current producer prices using the combined Laspeyres Price Indexes for Aragonite and Solar Salt. These two product price indexes were combined and used because together they represented 71.8% of overall mining output in 1991.

The intermediate consumption at 1991 prices was calculated using input/output ratio for 1991 multiplied by the value of gross output at 1991 prices for each year.

The depreciation at 1991 prices was calculated using the depreciation/Gross Value Added ratio at current prices of each year multiplied by the gross value added at 1991 prices for each year.

D. Manufacturing

Main source of data:

Establishment Surveys for manufacturing are the main source of data.

Current Prices:

Industry gross output is compiled at the four-digit level and then converted to three-digit level of the ISIC Rev3. This includes the total revenue from sales of main products, by-products and services rendered to other establishments. Commodity taxes (i.e. excise duties) are indirect taxes levied by the Government on locally manufactured goods. All

import duties waived by the Government under the various Encouragement Acts are treated in National Accounts as subsidies.

Prior to 1999 and for 2002 & 2003, the results of the establishment surveys were used subsequent to an upwards adjustment to account for its under-coverage. The adjustment was based on the relation between the estimates for compensation for employment from the 2000 Census of Population and the compensation of employees from the establishment survey. A ratio was derived and applied to the gross output for the period 1989 through 1998.

For the period 1999 to 2001, in the absence of aggregate results from the establishment survey, the following process was used to estimate gross output. The 1998 establishment survey results were accepted to represent 100% of the target population. A match was done between the respondent units in 1998 and in subsequent years. For each year from 1999 to 2001, the change for the matched samples was determined and this change was then applied to the 1998 figures to estimate current year results.

Constant Prices:

Three different methods are used to determine a measure of gross output at constant prices for 1989 to 1999. The method used depends on the industry and the information available.

The first method uses a Laspeyres-type Producer Price Indexes for those four-digit level ISIC codes that have data on the quantity of goods sold and the equivalent value of sales. The ISIC codes for which the Laspeyres Producer Prices have been calculated are 1541 - Manufacture of Bakery Products, 1551 - Distilling Rectifying and Blending of Spirits and 1554 - Manufacture of Soft Drinks and Mineral Waters. These producer price indexes have been used to deflate the value of output at current producer prices on an establishment-by-establishment basis for those establishments which provided data on the "quantity" of goods sold and the corresponding value of sales at the four digit level. In the case of business establishments in ISIC codes 1551 and 1554, which did not provide data on the quantity of goods sold, the combined Laspeyres Producer Price Index numbers/Implicit Deflators derived from the establishments which provided the data on "quantity of goods sold" and the corresponding "value of sales" in the respective ISIC codes have been used to complete the deflation process for all establishments in these industries.

The second method uses an index based on the Number of persons employed at the four-digit level of ISIC with 1991 as the base year. Number of employees was chosen for these industries in the absence of a superior indicator. These indexes were used to extrapolate forward and backward, the 1991 dollar estimate of the output for the relevant ISIC codes at the four digit level. The results were taken as the value series of output at 1991 Producer Prices.

The third uses a combination of methods. Implicit Deflators derived from the output at current and constant producer prices of the four-digit level and volume indexes based on the number of persons employed were used to deflate the remaining industries.

The implicit deflators were used to deflate the value of output of goods produced at current prices for establishments in the remaining ISIC codes at the four-digit level. Where the resulting data did not look realistic or satisfactory, the estimates of the constant price output were prepared by using the index numbers of the number of persons engaged with 1991 as the base year.

The intermediate consumption at 1991 prices was calculated using input/output ratio for 1991 multiplied by the value of gross output at 1991 prices for each year.

The depreciation at 1991 prices was calculated using the depreciation/Gross Value Added ratio at current prices of each year multiplied by the gross value added at 1991 prices for each year.

The Commodity taxes and subsidies are deflated by the implicit deflator for Indirect taxes with 1991 = 100.

For 2000 to 2003, the percentages found by the matching process described earlier between survey respondents for output, Intermediate inputs, wages and salaries and depreciation are derived directly from the establishment surveys up to and including the year 1998. For 1999 onwards the ratio of these inputs to total output for 1998 were applied to the estimates for subsequent years to arrive at output, wages, intermediate inputs and depreciation.

E. Electricity and Water

Note no natural gas is produced in the Bahamas.

Main sources of data:

Establishment Surveys, the Bahamas Electricity Corporation's annual financial reports and the Water & Sewerage Corporation's annual financial reports are the main sources of data.

Current Prices:

Gross output is the sum of revenues from the sale of water, electricity and related services rendered.

Constant Prices:

Gross output in constant prices was determined by deflating the gross output in current prices using a Laspeyres Price index constructed from unit price information from the major producers.

The intermediate consumption at 1991 prices was calculated using input/output ratio for 1991 multiplied by the value of gross output at 1991 prices for each year.

The depreciation at 1991 prices was calculated using the depreciation/Gross Value Added ratio at current prices of each year multiplied by the gross value added at 1991 prices for each year

F. Construction Industry

Main source of data:

Establishment Surveys and the Central Bank are the main sources of data.

Current Prices:

From 1992 to 1998, the establishment survey results were used subsequent to an upwards adjustment to account for its under-coverage. The adjustment was based on the relation between the estimates for compensation for employment from the 2000 Census of Population and the compensation of employees from the establishment survey. A ratio was derived and applied to the gross output for the period 1989 through 1998.

For the period 1989 to 1991, estimates of value added for 1992 were back-cast on the basis of the year-to-year change in the total value of selected Imports that are regularly used in the construction Industry.

To establish a value of gross output for the construction industry, the results of the establishment survey for the value of construction revenues must be expanded to include a value for contracting done by individuals on their own behalf. It is assumed that people who construct their own houses employ 50 percent of the sub-contracting trades reported as expenditure by general construction contractors in the establishment survey. The activity of these sub-contractors, it is assumed, would not be caught by the establishment survey. It is further assumed that the payment by self-contractors to these sub-trades is for labor only. Hence, the value added in own-account construction must be increased by the same proportion of value as the sub-trades hired by general contractors.

On both the production and expenditure sides, an estimate is made for the Family Islands Residential Construction. It is based on the Family Island's percentage of the number of Building Permits approved.

To properly measure construction put-in-place in terms of the Gross Output, the Construction estimates must also include the Imported Construction Services as prepared

by the Central Bank in the Balance of Payments. Since 1993 this has become quite significant, reflecting the value of major renovations and construction of Hotels in the Bahamas.

The estimates of intermediate consumption, depreciation, wages and salaries are based on the percentage these items represent of the Gross Output for the Construction results as obtained by the Establishment survey. These same percentages are applied to the Gross Output for Imported Construction Services.

Constant Prices:

The value of gross output at current prices for each year was deflated using the Bahamas Building Construction Index rebased to 1991. This series was started in 1995 so the 1989 to 1994 figures were estimated by applying the CPI Housing Index from 1989 to 1994 to the 1995 Building Index and worked backwards.

The intermediate consumption at 1991 prices was calculated by deflating the current price figures using the USA Export Price Index for Construction materials

The depreciation at 1991 prices was calculated using the depreciation/Gross Value Added ratio at current prices of each year multiplied by the gross value added at 1991 prices for each year

G. Wholesale & Retail Trade

Main source of data:

Establishment Surveys are the main source of data.

Current Prices:

The gross output is the total of reported sales less the cost of goods sold plus other revenues/incomes generated by the establishment for 1989 to 2003 (NP & GB) for the Wholesale Trade Industry and for Retail Trade prior to 1999 (NP & GB) and 2000 to 2003(NP). For the period 1999 onwards for GB Retail Trade, in absence of aggregate results from the establishment survey, the following process was used to estimate gross output. The 1998 establishment survey results were based on 100% response rate. A match was done between the survey respondent units in 1998 and in subsequent years. For each year, the change in revenues for the matched samples was determined and this change was then applied to the 1998 revenue figure to estimate current year revenues.

Straw market. (Part of Retail Trade): Straw market vendors are not covered in the establishment survey. This deficiency will be remedied in the future. There is a straw market in Nassau, three straw markets on Grand Bahama and one on Exuma.

Prior to 1995, estimates of income originating was taken as one third of the sales by straw vendors as reported in the Ministry of Tourism survey results.

In 1995 the presentation of the data changed. Straw market purchases were combined with other purchases by tourists into new item called Handicrafts and Shopping. Therefore, a percentage was applied to this group based on the previous years' data. It was determined that 1.25% represented the straw market Gross Output. Cost of Goods Sold, and wages & salaries for the straw market, are derived using the percentage these items represent of the Retail Trade Gross Output. However, in the case of the straw market, only rent is considered as part of intermediate consumption as that is the main operating expense paid by the straw market vendors. Therefore, to determine the Intermediate Consumption the percentage rent represents of Output for the Retail Trade industry is used.

Constant Prices:

The data series for sales from Wholesale and Retail Trade at 1991 market prices was calculated by projecting the total sales from Wholesale and Retail Trade at selling prices for the year 1991 forward and backward using a combined weighted index for CPI NP Food & Beverages, clothing, footwear and furniture, using the 1995 CPI weights, which was then rebased to 1991.

The Cost of Sales at 1991 prices is calculated by finding the ratio of Cost of sales to Sales for current prices in 1991 and applying this ratio to the gross output series at 1991 prices.

The intermediate consumption at 1991 prices was calculated by applying a specially constructed price index to intermediate consumption in current prices. The special index used CPI prices for electricity, water, telephone/telex and rents and weighted to an aggregate index using consumption patterns of units responding to the establishment survey in 1991.

The depreciation at 1991 prices was calculated using the depreciation/Gross Value Added ratio at current prices of each year multiplied by the gross value added at 1991 prices for each year

H. Hotels and Restaurants

Main source of data:

Establishment Surveys and Government Treasury Accounts are the main sources of data.

Current Prices:

Gross output for hotels and restaurants is the revenue from sales minus the cost of goods sold plus other revenues/incomes generated by the establishment. For the Hotel Industry prior to 1999 (NP & GB) and 1999 to 2003(NP) and in the Restaurant Industry prior to 1999(NP & GB), 1999 to 2002 (GB) and 2003(NP & GB), the estimates came directly from the establishment survey results subsequent to an upward adjustment to account for its under-coverage. The adjustment was based on the relation between the estimates for compensation for employment from the 2000 Census of Population and the compensation of employees from the establishment survey in 2000. A ratio was derived and applied to the gross output for the period 1989 through 1998.

For the Hotel Industry 1999 onwards for GB and Restaurants Industry 1999 to 2001(NP), in absence of aggregate results from the establishment survey, the following process was used to estimate gross output. The 1998 establishment survey results were based on 100% response rate. A match was done between the survey respondent units in 1998 and in subsequent years. For each year, the change in revenues for the matched samples was determined and this change was then applied to the 1998 revenue figures to estimate current year revenues. The 2002 (NP) estimate was an average of 2001 & 2003(NP) to allow for a smooth transition of data estimates between these two periods.

The cost of goods sold is taken as a fixed proportion of the gross output. Indirect taxes are sourced from the treasury account for the Hotel Occupancy tax which is 4% of room sales. The subsidies given under the Hotel Encouragement Act are basically a refund of import duties levied by the government.

The calculation of gross output for Family Island Restaurants used the population for the family Islands divided by the total population as representative of the proportion total gross output produced in the family island restaurants.

Constant Prices:

The gross output at 1991 prices for the Hotel Industry is calculated by deflating output in current prices by a specially constructed price index. The index was based on the change in the number of Stopovers and weighted by the average expenditure of stopover visitors in 1991. The Restaurant Industry's output is deflated using the CPI for food & beverages consumed outside the home (NP).

The Cost of Sales at 1991 prices is calculated by calculating the ratio of Cost of sales/Sales for current prices, and applying this ratio to the gross output at constant prices.

The intermediate consumption at 1991 prices was calculated by deflating intermediate consumption in current prices. A special price index was constructed for the deflation using CPI prices for electricity, water and telephones/telex with weights originating

from the establishment survey for hotels in 1991.

The depreciation at 1991 prices was calculated using the depreciation/Gross Value Added ratio at current prices of each year multiplied by the gross value added at 1991 prices for each year.

The indirect taxes (Hotel Occupancy tax) at 1991 prices is calculated by projecting the tax in 1991 by the Visitor-Nights Index. The subsidies were deflated using the Implicit Deflator of overall indirect taxes.

I. Transport, Storage and Communication

Transportation:

Main source of data:

Establishment Surveys, Road traffic department data, The Bahamas Handbook, the financial statements of Bahamas Air and Paradise Island Bridge Authority are the main sources of data.

Current prices:

The methodology for the production of estimates for transportation is presented separately for each of Land, Marine and Air modes.

Land transportation includes Jitneys, taxis, trucking, car rentals, tour buses and the Paradise Island Bridge. The results of the annual surveys of taxis, jitneys and trucking provide an average revenue/sale for each island every year. This annual average revenue/sale value is then multiplied the adjusted number of registered vehicles (by type) with the Road traffic Department for that island for that year. The result is a measure of gross output for transportation for each island.

An adjustment is made for the number of registered of jitneys and trucking vehicles because not all of the jitneys and private trucks registered at the road traffic department² are used in commercial operations. On the basis of the 1993 establishment survey, it is assumed that fifty percent of the jitneys registered is used for public transportation.

With respect to trucking, a larger proportion of private trucks registered annually at the road traffic department are owned by individuals who use these trucks as their means of transport and not for commercial freight transport.

The response to the 1993 establishment survey was very high. The data are

² As published in the annual Bahamas Handbook

therefore used as the basis to determine the proportions of registered vehicles engaged in the commercial operation of jitneys, taxis, trucking, car rental and Tour buses. As well, the 1993 survey provided the proportions of total output used to estimate the values of intermediate consumption, wages and depreciation in subsequent years.

With respect to Car rental and tour operators/buses, the response from the establishments engaged in these economic activities is sufficiently robust to provide aggregates for the production accounts for these activities. Thus, the revenue data provided by the respective establishments have been taken as the value of gross output at current prices.

One final adjustment was made to the above results for the period 1989 through 2002 to account for under-coverage. The adjustment was based on the relation between the estimates for compensation for employment from the 2000 Census of Population and the compensation of employees from the establishment survey. A ratio was derived and applied to the gross output for the period.

Gross output for the Paradise Island Bridge is derived from the annual financial statements produced by the Paradise Island Bridge Authority. Detailed information on revenue received from the tolls collected at the bridge, current operating expenses and the balance sheet are found therein.

Marine transportation includes data on shipping and services allied to shipping. Data are sourced from the Establishment Surveys. The sum of revenues from freight charges, passengers, charters and other revenue is taken as the value of gross output at current prices. To this sum is added the revenue made by the Department of Port and Marine.

Similarly, intermediate consumption and depreciation are estimated from the Establishment Survey.

Air transportation covers domestic and foreign airlines and services allied to air transport. The sum of the various categories of revenue/sales for both domestic and foreign airlines is taken as the value of gross output at current market prices. Data are sourced from the Establishment surveys, the annual financial statement of Bahamas Air (a government corporation) and the Treasury department information on the Department of Civil Aviation.

Constant prices:

Land transport is deflated using:

- a) New Providence Consumer Price Index for Jitney fares for Jitneys,
- b) New Providence Consumer Price Index for Taxi fares and car rental revenues

- c) Number of tourist days for Tour operators/buses revenues
- d) Consumer Price Index of Bridge tolls for the Paradise Island Bridge
- e) Cargo landed at Nassau Harbor (tons) for trucking revenues.

Marine transport

Gross output in constant prices is estimated for marine transport by extrapolating the 1991 value for gross output using a volume index of cargo landed at Nassau Harbor.

The intermediate consumption at constant prices is estimated by applying the input/output ratio for the year 1991 to the gross output series for marine transport in constant prices

Air transport

Gross output in constant prices is estimated for air transport by extrapolating 1991 revenues using a volume index of passenger miles run by Bahamasair.

The Intermediate consumption and Depreciation at 1991 prices were calculated by applying the input/output ratio for the year 1991 to the gross output series for air transport in constant prices.

Storage:

Main source of data:

The establishment surveys are the main source of data.

Current Prices:

The gross output for Storage is the sum of rental revenue and other revenue/income.

Intermediate consumption, wages and salaries and depreciation are also taken from the establishment survey data.

Constant Prices:

The gross output in current prices is deflated using an index based on the number of persons engaged in this activity to arrive at constant price gross output.

The intermediate consumption at 1991 prices was calculated using input/output ratio for 1991 multiplied by the value of gross output at 1991 prices for each year.

The depreciation at 1991 prices was calculated using the depreciation/Gross Value Added ratio at current prices of each year multiplied by the gross value added at 1991 prices for each year

Communications:

Main source of data:

Government Treasury Reports (Post Office), the BaTelCo financial statements and the Establishment surveys (which includes Bahamas Telecommunications Corporation, courier services and Cable Bahamas) are the main sources of data.

Current Prices:

Gross output, intermediate consumption and depreciation is calculated following the normal production approach.

Prior to 1996, establishment survey results were used. From 1996 onwards, in absence of aggregate results from the establishment survey, the following process was used to estimate gross output. The 1995 establishment survey results were taken to represent 100% of the target population. A match was done between the respondent units in 1995 and in subsequent years. For each year, the change in revenues for the matched samples was determined and this change was then applied to the 1995 revenue figure to estimate current year revenues.

Constant Prices:

The combined estimates of the value of gross output from BaTelCo and the Post Office constituted more than ninety percent of the overall value of gross output of the activity of Communications at current market prices. Information on the number of chargeable minutes of conversation (both national and international) is obtained from the BaTelCo. The information obtained from BaTelCo is used to construct Index numbers of chargeable minutes of conversation with 1991 = 100 and the index numbers are used to extrapolate the value of gross output from BaTelCo for the year 1991, to generate the value of gross output at 1991 prices.

The Post Office provided data on number of articles delivered locally in the Bahamas are used to calculate the index numbers with 1991 as base. These are used to extrapolate the value of gross output in 1991 to estimate the value of gross output at 1991 prices.

To arrive at the estimates of total value of gross output at 1991 prices for the economic activity of communications the sum of the value of gross output at 1991 prices for i) BaTelCo and ii) the National Post Office for each year is divided by the corresponding percentage share for BaTelCo and the National Post Office for the appropriate periods.

The intermediate consumption at 1991 prices was calculated using input/output ratio for 1991 multiplied by the value of gross output at 1991 prices for each year.

The depreciation at 1991 prices was calculated using the depreciation/Gross Value Added ratio at current prices of each year multiplied by the gross value added at 1991 prices for each year

J. Financial intermediation

In the financial intermediation Group (J) a variety of methods and sources are used to estimate gross value added.

Note: Credit Unions, moneylenders, Securities Commission of the Bahamas and The Bahamas Stock Exchange are not presently included in the estimates. This should change soon.

Banking

Main source of data:

Information comes from studies and regulatory reports of the Central Bank of The Bahamas, and from other Central Agency financial reports:

- the Bank Profitability Study (resident commercial banks and other local institutions)
- Annual financial Reports of the Central Bank of the Bahamas
- Annual financial Reports of:
 - Bahamas Development Bank
 - Bahamas Mortgage Corporation

Current prices:

The Value of Gross Output is taken to be the sum of:

- A) reported service-charge revenues and
- B) imputed service-charge revenues
- C) mutual funds revenues.

A) The components of reported service-charge revenues are the revenues obtained from:

- “Fee Income” i.e. commission/foreign exchange transactions
- service charges³/deposit account
- interest on loans
- rental income/safety deposit boxes.

³ The item “Foreign Exchange Profit/Loss “ from the “Bank Profitability Study” is not included in the value of gross output because it relates to the change in the exchange rate, is therefore classified as holding gains/losses and is shown in the “Revaluation account”. The effect of this adjustment in the Production Account is that the service charges and non-operating surplus will both be less by the amount of holding gains.

The detailed financial statements of the Central Bank of the Bahamas have been analyzed along with the "Bank Profitability Study". The data so analyzed have been used to prepare the estimates.

For the Bahamas Development Bank and the Bahamas Mortgage Corporation, there are other service charges such as

- Bond Sinking Fund Income
- Administrative Fees and
- Other Income.

These service charges have been included in the Production Account.

- B) Imputed Service Charges are estimated by deducting interest paid to depositors from the investment income. The Financial Intermediation Services Indirectly Imputed is based on Interest Income minus Interest Expense.

Mutual Funds figures for output are estimated at 2% of the Banking Industry output. The Intermediate Consumption, wages and depreciation are based on the current years ratios of these items to the Banking Interest Income.

Constant Prices:

The values of gross output, intermediate consumption and depreciation at 1991 market prices were derived using the Implicit GDP deflator for these items respectively, for all industries in the direct deflation of the current price series.

Insurance:

Main source of data:

The Registrar of Insurance is the main source for the data. Note that the data compiled by the Registrar does not distinguish life insurance and health insurance. In the short term, to minimize the burden on the Insurance Registrar, this detail will not be requested. Rather the Registrar will continue to provide a number of finer break-downs than are presently published. The Registrar of Insurance is working to gain approval for and implement a new questionnaire that should provide the data in the way needed by the SNA 1993.

Current Prices:

Independent insurance brokers and agents are not shown as a separate industry in the finance sector. While the agents and brokers should be canvassed separately to obtain the requisite data to prepare production accounts, this unfortunately has not yet happened. Their activity has only been covered in part. Their commissions are covered as intermediate inputs to the insurance activity and estimated as part of the line item 'wages and salaries' of the Insurers.

The following illustrates the calculations for Insurance Value of Output/Service:

1: Total Paid Premiums:

- a. Gross Premium Income from Life
- b. Gross Premium Income Other Than Life

plus

2: Total Premium Supplements:

- a. Local Investments Income
- b. Other Income Derived From Bahamas Operations

less

3. Claims Paid/Due:

- a. Claims & Amounts Paid to Policy Holders (Life Insurance)
- b. Claims Paid (Other than Life Insurance)
- c. Claims Outstanding (Other than Life Insurance)
- d. Claims Outstanding (Life Insurance)

less

4. Additions to Reserves:

- a. Increase in Life Fund/Reserves
- b. Unearned Premium Reserves

less

5. Reinsurance Ceded Externally

- a. Life Insurance
- b. Other Than Life Insurance

Intermediate consumption, is made up of the following compressed items:

- (I) Local Management Expenses
- (II) Management Expenses charged to Bahamas Operations and
- (III) Other Charges.

A proper estimate for intermediate consumption is therefore difficult to assess. So, to provide rough estimates for these variables, the Depreciation/Gross Value Added Ratio at current market prices for the Banking sub sector is calculated for each year and then multiplied by the corresponding Gross Value Added at current market prices from the Insurance Companies.

Wages and Salaries paid to employees cannot be obtained at the present time – again due to the compressed data that is available. In view of this, rough estimates for this variable are derived by multiplying the wages/Gross Value Added Ratio at current market prices for the Banking sub-sector for each year, to the corresponding Gross Value Added at current market prices from the Insurance Companies.

Constant Prices:

The value of gross output, intermediate consumption and depreciation at 1991 prices are calculated by deflating the current series using the Implicit Deflator of GDP.

K. Real Estate and Business Activities

Real Estate

Main source of data:

Bahamas Agricultural and Industrial Corporation Financial Report, the results from the Census of Population, along with data from the Central Bank, Registrar of Insurance, Establishment Surveys and Government Treasury Accounts are used for this sector.

Current Prices:

Real Estate covers the following:

- a) Gross Rents
- b) Real Estate Agents
- c) Bahamas Agricultural & Industrial Corporation

a) **Gross Rents:**

The largest contributing item to Real Estate is residential rental income or gross rents. Gross rents include the actual/paid and imputed residential rental income. Since gross paid and gross imputed residential rents are also required in consumer expenditure, starting the estimation with gross rents is the most efficient way to proceed.

From the 1990 and 2000 Census, gross rents paid as well as the total number of dwellings (rented and owner occupied separately) can be obtained. An average per rented dwelling's rent is then calculated and extrapolated for owner occupied dwellings. The rent so derived then becomes the gross imputed rent for owned dwellings for the census years. The gross rent (paid and imputed) for the census year are then projected forward for the inter-census years based on the year to year growth in the current population series.

Unlike interest income, rental income is credited to the owning rather than the using industry and any rental income accruing to owning industries will, in the establishment survey be counted as income originating in that industry. It should also be noted that if any residential property is owned by other than the real estate industry, there will be some

double counting. This is not considered to be a major problem since property owned by business establishments outside of the real estate group is, in the majority of cases, rented for commercial and industrial use and is therefore correctly counted as part of their income originating.

An estimate for **net rent** is derived by subtracting related expenses (mortgage interest and Real estate taxes) from gross rents and adding to gross rent an estimate for depreciation. Real estate taxes are obtained from the government sector accounts the residential portion is estimated as 50% of Real Property taxes. Total mortgages held by various institutions as well as information on interest rates are taken from the Central Bank. Private holdings of mortgages in the Bahamas are insignificant. The interest rates mentioned above are applied to outstanding mortgages to obtain mortgage interest expense. An estimate for residential fire insurance expense is taken as 60% of total Fire Insurance Premiums.

Reference to informed opinion suggested that depreciation is in the range of 2.5 percent of gross rents. This rate was used.

Repairs and Maintenance figures are estimated using a rate of 7.5% of gross rents. The results are then adjusted based on the relationship between the 2001 Bahamas Living Conditions Survey results for repairs to households and condo fees and maintenance, and the 2001 estimate for repairs and maintenance. The series from 1989 onwards was then adjusted using this ratio.

Intermediate Consumption is estimated by excluding depreciation and property tax from total expenses made on gross rent estimated for residential buildings.

b) Real Estate

Data for Real Estate Agents comes from the establishment surveys. The survey began in 1993 with a census of the industry and was conducted in New Providence and Grand Bahama where more than ninety five percent of the establishments engaged in this activity are based. Subsequently a small special survey of Real Estate Agents was undertaken and the establishment results for 1989-91 were revised accordingly. From 1993 to 1998, the establishment results were used. A subsequent upwards adjustment to account for under-coverage was applied to the series. The adjustment was based on the relation between the estimates for compensation for employment from the 2000 Census of Population and the compensation of employees from the establishment survey in 2000. A ratio was derived and applied to the gross output for the period 1989 through 1998 (NP & GB) and 1999 & 2003(NP).

For the years 2000 to 2001 (NP) & 1999 to 2003(GB), in absence of aggregate results from the establishment survey, the following process was used to estimate gross output. The 1998 establishment survey results were accepted as representing 100% of the target population. A match was done between the survey-respondent units in 1998 and in subsequent years. For each year, the change in revenues for the matched

samples was determined and this change was then applied to the 1998 revenue figure to estimate current year revenues. For 2002(NP), an average of 2001 & 2003 (NP) was used to allow for a smooth transition between the two data estimates.

For the years 1999 onwards for Grand Bahama, the year-to-year change in a specially constructed rent index⁴ was used to project the 2000 estimates for real estate revenues forward.

Intermediate consumption consists of current operating expenses however, this does not include donations paid out, bad debts, interest paid on borrowed capital, business license fees and property tax.

c) The Bahamas Agricultural and Industrial Corporation:

The Bahamas Agricultural & Industrial Corporation provide annual financial reports that offer information on their inputs and output items. Ninety percent of their revenue earned comes from Rent. The sum of the revenue from rents is taken as the value of gross output at current prices.

Constant Prices:

Gross Rents, Real Estate

The gross outputs at current prices for Gross Rents, Real Estate and the Bahamas Agricultural and Industrial Corporation are deflated using the corresponding New Providence Consumer Price Index for Rent Paid, re-based to 1991=100.

The Establishment Survey of Real Estate Agents does not collect information on the quantities of items purchased by businesses in this industry. So, an input/output ratio was established for the year 1991 and this ratio was applied to subsequent years' estimates of gross output in constant prices to derive constant price intermediate consumption estimates.

Business Services & Renting of Equipment

Business Services and Renting of Equipment covers activities such as legal, Accounting, Market Research, Architectural and Engineering, Advertising, Security, Photography etc.

Main Source of Data:

The establishment Survey is the main source of data.

⁴The rent index for this purpose was made up of the rents paid, net rent and value of owner occupied housing sub-indexes of the CPI.

Current Prices:

The results of the establishment survey of the legal, accounting and architectural professions in New Providence and Grand Bahama are taken to be representative of all business activities and are weighted to cover activities by data processing, software consultants, computer related activity etc. - see the ISIC for details. The estimates are further weighted upwards by 30 percent to take account of Renting of Equipment and Computer Services.

Prior to 1999(NP & GB) and 1999, 2002 & 2003(NP), the estimates came directly from the establishment survey results subsequent to an upwards adjustment to account for under-coverage. The adjustment was based on the relation between the estimates for compensation for employment from the 2000 Census of Population and the compensation of employees from the establishment survey in 2000. A ratio was derived and applied to the gross output for the period 1989 through 1998.

From 1999 onwards for GB and 2000(NP), in absence of aggregate results from the establishment survey, the following process was used to estimate gross output. The 1998 establishment survey results were accepted as representing 100% of the target population. A match was done between the survey-respondent units in 1998 and in subsequent years. For each year, the change in revenues for the matched samples was determined and this change was then applied to the 1998 revenue figure to estimate current year revenues. The 2001(NP) estimate was an average of 2002 & 20022(NP) to allow for a smooth transition between two data estimates.

Estimates for intermediate consumption and depreciation are also sourced from the establishment survey.

Constant Prices:

The gross output for Business Services and Renting of Equipment in current prices is deflated using the corresponding overall New Providence Consumer Price Index, re-based to 1991=100.

L. Public Administration and Defense

Main source of data:

Information on salaries and wages in this industry are taken from the Treasury accounts of the government of the Bahamas via the Central Bank of the Bahamas. The Treasury Department publishes government expenditures on a fiscal year basis. The Central Bank uses the treasury information and adjusts it to a calendar year basis. The Central Bank calendar-year data are used for the period 1996 to the present. The Treasury's fiscal-year information is used for prior periods. By and large the ISIC is followed here except that the administrative functions in the education and health industries are not included here.

Current Prices:

The value of gross output is the sum of i) intermediate consumption and ii) gross value added which comprises a) Wages and salaries and b) imputed depreciation of fixed assets.

In addition to salary and wage information, the above sources also furnish data for estimates of purchases of final goods and services by government on the expenditure side. Note that on the expenditure side, the data are based on the government as a sector and thus includes areas covered in industries M. (Education) and N. (Health and social work).

On the product side, depreciation is calculated using a straight-line method for purchases of furniture, motor vehicles, buildings and equipment.

Constant Prices:

The components of gross output i.e. gross value added and intermediate consumption, are converted to 1991 prices and then summed to obtain the value of gross output at 1991 prices.

The procedure for conversion to 1991 prices is as follows. First, the number of persons employed in Public Administration and Defense is calculated by deducting the number of persons employed by i) the Ministry of Education ii) the Ministry of Health, iii) the Post Office, iv) Civil Aviation Department and v) Port and Marine Department from the total number of persons employed by the Government of The Bahamas. An index based on the number of persons employed in Public Administration and Defense is then constructed with 1991 as the base year. This index is then used to extrapolate the components of gross value added for the year 1991 to the other years.

Intermediate consumption at current prices consists of current operating expenses. It is deflated using the combined price index of Intermediate Consumption⁵ for New Providence with 1991 = 100 to obtain intermediate consumption at 1991 prices.

The intermediate consumption at 1991 prices was calculated using input/output ratio for 1991 multiplied by the value of gross output at 1991 prices for each year.

The depreciation at 1991 prices was calculated using the depreciation/Gross Value Added ratio at current prices of each year multiplied by the gross value added at 1991 prices for each year.

M. Education

⁵ The Combined Index of Intermediate Consumption is constructed using sub-indexes of the Consumer Price Index

The methodologies for education are presented separately for public and private education.

Public Education:

Main source of data:

Government Treasury Accounts via the Central Bank are the main sources of data. The Treasury Department publishes government expenditures on a fiscal year basis. The Central Bank uses the treasury information and adjusts it to a calendar year basis. The Central Bank calendar-year data are used for the period 1996 to the present. The Treasury's fiscal-year information is used for prior periods.

Current Prices:

Gross output is the sum of intermediate consumption, and gross value added. Note the gross valued added includes these imputations:

- i) Wages and Salaries of technical assistance personnel
- ii) government contribution to the National Insurance Board and
- iii) depreciation of fixed assets.

Treasury department information on capital expenditures is used to calculate depreciation. A straight line method is used to depreciate the capital goods.

With the wages imputation it is assumed that donor government/institutions transfer funds to the government of the Bahamas which uses the funds to pay the wages and salaries

Constant Prices:

The value of gross output at 1991 prices is estimated for the period in question by extrapolating the value of gross output from the Public Sector Education for the year 1991 by an index based on the number of students enrolled in schools in the Public Sector. The intermediate consumption at current prices is deflated using the combined Index of Intermediate Consumption with 1991 as the base year.

Private Education:

Main source of data:

Establishment surveys conducted in New Providence and Grand Bahama are the main source of data. New Providence and Grand Bahama represent more than ninety percent of businesses engaged in this activity.

Current Prices:

In the Bahamas an important portion of education is provided by the private (mainly

religious) sector. The gross output includes school fees and other charges. The inputs consist of the normal current operating expenses as reported by businesses.

Prior to 1999(NP & GB) and 1999 & 2003(NP), the establishment survey results were used. From 1999 onwards for GB and 2000& 2001(NP), in the absence of aggregate results from the establishment survey, the following process was used to estimate gross output. The 1998 establishment survey results were accepted as representing 100% of the target population. A match was done between the survey respondent units in 1998 and in subsequent years. For each year, the change in revenues for the matched samples was determined and this change was then applied to the 1998 revenue figure to estimate current year revenues. The 2002(NP) an average of 2001 & 2003(NP) was used to allow for smoothing of the data between two data estimates.

Intermediate consumption and depreciation were also sourced from the establishment survey.

Constant Prices:

The current price estimates are deflated using the New Providence CPI for school fees and charges with 1991 as base year.

The intermediate consumption at 1991 prices was calculated using input/output ratio for 1991 multiplied by the value of gross output at 1991 prices for each year.

The depreciation at 1991 prices was calculated using the depreciation/Gross Value Added ratio at current prices of each year, multiplied by the gross value added at 1991 prices for each year.

N. Health and Social Work

The methodologies are presented separately for public and private Health and Social Work. The Treasury Department publishes government expenditures on a fiscal year basis. The Central Bank uses the treasury information and adjusts it to a calendar year basis. The Central Bank calendar-year data are used for the period 1996 to the present. The Treasury's fiscal-year information is used for prior periods.

Public Health:

Main source of data:

Government Treasury Accounts, the Central Bank and the Public Hospital Authority are the main sources of data.

Current Prices:

Remarks made in the respective write-ups on Public Administration and Education apply, in so far as this production originates in government.

The data for public health sourced directly from the Treasury Department are presented on a fiscal period from 1989 through 1995. From 1996 onward, the data are sourced from the Central Bank and are presented on a calendar basis.

Beginning in 2000, a new entity, the Public Hospital Authority was formed. Data for the authority are taken directly from its annual financial reports.

Constant Prices:

An index based on the overall number of employees in Ministry of Health with 1991 as the base year is used to extrapolate gross value added from 1991 to the period in question. The departments of government included are: Ministry of Health Administration, Dept. of Environmental Health, Rand Hospital, Princess Margaret Hospital, Sandilands Rehabilitation Center and Dept. of Public Health.

The intermediate consumption at current prices is deflated by the Combined Index of Intermediate consumption with 1991 as the base year.

Private Health:

Main source of data:

Establishment surveys are the main source of data.

Current Prices:

Income originating in the private health and social work industry is mostly that of medical practitioners, dentists, two private hospitals and their employees. Information is collected by the Establishment survey. The estimates for years prior to the 1991 survey were back-cast, based on the movement of the public health sector. The hospitals data 1989 to 1992 was estimated as three times the per-bed expenditure of the government hospitals. This was done on the assumption that more services are performed in the private medical facilities than in the government one. Sixty percent of the total revenue was deemed to be salaries and wages and 12 percent was estimated to be gross profits.

Prior to 1999(NP & GB) and 1999 to 2003(NP), the establishment survey data was used. From 1999 onwards for GB, in absence of aggregate results from the establishment survey, the following process was used to estimate gross output. The 1998 establishment survey results were based on 100% of the target population. A match was done between the survey respondent units in 1998 and in subsequent years. For each year, the change in revenues for the matched samples was determined and this change was then applied to the 1998 revenue figure to estimate current year revenues.

Constant Prices:

The value of gross output at current prices is deflated using NP CPI for medical care and health with 1991 as the base year to give gross output at 1991 prices.

The intermediate consumption at current prices is calculated using input/output ratio for 1991 multiplied by the value of gross output at 1991 prices for each year.

O. Other Community Social and Personal Activities

Main source of data:

Establishment surveys and the Sewerage and Water Corporation reports are the main data sources.

Current Prices:

This category is truly "a mixed bag" both in terms of its contents and coverage. The Sewerage and Refuse Disposal group (90) is reasonably well covered by including here the sewerage portion of the Sewerage and Water Corporation.

In 1993, the Establishment Section surveyed septic tank companies, and therefore income originating and the amount spent by households for removing the content of septic tanks was obtained from the results.

The Sewerage and Water Corporation charges an \$8.00 fee for every septic tank truck unloaded at its facility. The number of loads is also available from this source. An average charge to consumers per truckload for this service was estimated at \$100 and includes the unloading fee. The product of this charge and the number of loads gives an estimate of the consumer expenditure for the service. Sixty per cent of it is assumed to be income originating in this industry.

Note, the water part of the corporation's business is covered in its appropriate industrial classification by the establishment surveys (Sector E).

The Activities of Membership Organizations Not Elsewhere Classified (91) is represented by the average annual income originating in a small, representative sample of religious and charitable organizations multiplied by the total known number of such organizations. Unions are also included here.

Radio and television activities are covered by including the income of Zenith National Service, the national communications radio and television broadcast service.

The remainder of Other community social and personal activities was covered by a special survey, for 1991. The results were extrapolated to 1989 and 1990 on the basis of data from the establishment survey. The special survey consisted of a census of the service groups in this industry in two census districts in New Providence (Centreville 3 and Shirlea 9). The results were multiplied by the ratio of the number of all establishments in this industry and the number in the special survey. (see original methodology). These service industries were subsequently included with the establishment survey in 1993.

Based on the 1992 establishment survey for funeral parlors, income originating in funeral parlors was deemed to be 60 per cent of revenues. The 1989 to 1991 estimates were estimated based on the Other Community Survey results from earlier years.

Sporting activities (excluding golf) are included here, with gross output estimated at 50 percent of total revenue, based on the 1992 survey.

Casino services are included here. The estimates are based on the casino's financial statements, which were obtained from the Gaming Board. The gross take of the casinos expenses of the casinos and tips of croupiers are obtained directly from the Gaming Board.

In 1992 the Establishment Section conducted a survey of the Other Communication Sector, and the Personal and Social services Sector.

The areas still estimated are Golf Clubs, Other Sports and Exterminators, Libraries, Labor Unions and Economic and Accounting Associations.

An estimate for the Informal Economy is included in the gross output of this sector. It is derived using the Labor Force Survey results from 1989 onwards – except for 2000, where the Census of Population data for employment from business operators without paid help, were used. This figure is assumed to represent mainly construction, retail trade, restaurant, local transport, real estate, business services, education and other industries. However, since adjustments are made using Census & BLCS data for manufacturing, construction, restaurants, land transportation, real estate, business services and education, the Informal Economy figure is adjusted to remove these industry influences.

Private Domestic workers' gross output is made up of salaries and wages of household employees. (This amount is also used in the estimate of consumer expenditure.) The figure for 1990 is based on a special census of household employees by income ranges. To arrive at the total, the mid point of each range was multiplied by the number of employees, with the figure of \$15,000 per annum assigned to the mid point of the open-ended highest paid group (a very small number indeed.) 1989 and 1991 figures are extrapolations of the 1990 results using on labor income in the hotel industry. The 1992 to present are projections of the 1991 estimates using the year to year change in the all-items New Providence Consumer Price Index.

Constant Prices:

The ideal situation would have price or volume indexes for the major areas in this category. However, until they are available the overall implicit deflators of all the economic activities excluding "Other Community, Social and Personal services at current prices is used.

These implicit deflators are calculated for gross output, intermediate consumption, indirect taxes, subsidies and depreciation and then are used to deflate the corresponding variables of the activity of Other Community, Social and Personal Services, domestic workers and informal economy.

P. Indirect Taxes and Subsidies

Main source of data:

Government Treasury Accounts via the Central Bank, Establishment surveys and reports from Public Corporations are the main sources of data.

Current Prices:

The government provides detail of all of the taxes paid and subsidies granted. The data obtained are used the appropriate ISIC code at the four-digit level.

The Treasury Department publishes government expenditures on a fiscal year basis. The Central Bank uses the treasury information and adjusts it to a calendar year basis. The Central Bank calendar-year data are used for the period 1996 to the present. The Treasury's fiscal-year information is used for prior periods.

Constant Prices:

The estimation procedure for Indirect Taxes in constant prices is based on the constant price outputs for Export duties, Hotel Occupancy Tax and Import duties and calculated in three steps.

First, the combined percentage share of i) Export Duties ii) Hotel Occupancy Tax and iii) Import Duties and stamp Tax from the Customs Department, in overall Indirect Taxes in current dollars is calculated. The proportion ranges between 69.4 percent and 85.1 percent from 1989 through 2002.

Second, estimates of i) Export Duties ii) Hotel Occupancy Tax and iii) Import Duties and stamp tax from Customs at 1991 prices are calculated separately and the results are summed for each year. The methods are described in subsequent paragraphs.

Third, the combined total of these three items at 1991 prices for each year is then divided by the corresponding combined percentage share to arrive at the estimates of

overall Indirect Taxes at 1991 prices.

Export Duties at 1991 prices is calculated as follows: the 1991 value of this item is extrapolated using the “Quantum Index of Commodity Exports” with the year 1991 as the base year. The index is calculated by dividing the Commodity Exports at constant prices in each year by the 1991 commodity export at constant prices.

The Hotel Occupancy Tax at 1991 Prices is prepared by extrapolating the 1991 Hotel Occupancy Tax figure with the Index of Visitor-Nights with 1991 as the base year (see paragraph on Hotels).

Import Duties and Stamp tax from Customs Department at 1991 prices is derived by deflating import duties and stamp tax with the USA Export Price Index commodities.

The estimates of the three components at 1991 prices are summed together to estimate the overall Indirect Taxes at 1991 prices for the period in question.

The Implicit Deflator of overall Indirect Taxes with 1991 = 100, is obtained by dividing i) the overall Indirect Taxes at current prices for each year by the corresponding Overall Indirect Taxes at 1991 prices and ii) by multiplying the quotient obtained by 100.

The current price estimates of Subsidies are deflated using the Implicit Deflators of Indirect Taxes with 1991 = 100 to obtain the estimates of Subsidies at 1991 prices.

Q. Extra-territorial organizations and bodies

There are three such bodies in the Bahamas:

1. the Inter-American Development Bank,
2. the Organization Of American States and
3. the Pan-American Health Organization.

The premises of these organizations are not considered to be extraterritorial in the same sense as those of embassies, which are considered part of their home countries. The earnings of the national employees of embassies are deemed to be part of the national and domestic income of their mother country.

International agencies have no home country as such and income originating in these organizations must thus be counted in their country of actual residence. Information on the salaries and wages paid by these organizations was obtained directly from the organizations.

EXPENDITURE ON THE GROSS DOMESTIC PRODUCT

In terms of terminology and composition of detail, the product side has by and large followed the International Standard Industrial Classification (ISIC). On the expenditure side it is desirable to follow the United Nations System of National Accounting (UNSNA) classification as closely as local circumstances permit and to the degree to which such terminology agrees with well-established local nomenclature.

A. Government Final Consumption Expenditure

Government Final Consumption Expenditure is presented for:

1. Collective Consumption Expenditure and
2. Individual Consumption Expenditure⁶

The purpose of this breakdown and the order in which it is shown is to permit the public to see and evaluate the portion of individual consumption provided by government. It permits true individual consumption to be shown, irrespective of the method of its financing or its institutional delivery. This presentation also permits international and inter-temporal comparisons without distortions due to differing institutional arrangements.

By presenting government consumption in this manner, total government consumption can be obtained by adding collective and individual government consumption expenditures or, if preferred, total individual consumption can be obtained by adding individual government consumption expenditure to the next item which is Private Final Consumption Expenditure.

In order to avoid any misunderstanding, however, it should be clearly pointed out that although government-financed individual consumption can be added to either government or private final expenditure, it cannot of course be added to both at the same time!

Main source in data:

Government Treasury Accounts, the Central Bank, The Ministry of Tourism, the Airport Authority, the College of the Bahamas and the Public Hospital Authority are the main sources of data.

Current Prices:

The main input items of government final consumption expenditure are compensation of employees, consumption of fixed capital and net purchases of goods and

⁶ Individual consumption expenditure consists of expenditure on Education and Health. When data permits this should also include social security and welfare, sports and culture.

services. The net here refers to purchases after the deduction of items sold to the public by government departments.

The Treasury Department publishes government expenditures on a fiscal year basis. The Central Bank uses the treasury information and adjusts it to a calendar year basis. The Central Bank calendar-year data are used for the period 1996 to the present. The Treasury's fiscal-year information is used for prior periods.

For the period 2000 onwards, the Treasury data do not include expenditures for the government business enterprises: Ministry of Tourism, the Airport Authority, the College of the Bahamas and the Public Hospital Authority. The annual reports of these enterprises are used to complete the final consumption expenditure estimates for government. The data for these government business enterprises are not converted from fiscal to calendar periods.

Note that all government expenditures are reported on a cash basis.

Constant Prices:

Some of the component series of government final expenditure in current prices are deflated using an appropriate price index (from the CPI or a specially formulated price index) to arrive directly at a constant price measure. For those components for which an appropriate price index does not exist, constant price measures are derived by projecting the 1991 value of the component using specially constructed volume price indexes.

B. Private Final Consumption Expenditure

Main source of data:

Establishment Surveys, Ministry of Tourism, Central Bank, registrar of Insurance, BaTelCo, Bahamas Electricity Corp., Post Office and Water & Sewerage are all sources for data.

Current Prices:

Expenditure by Households and Private Non-profit Institutions Serving Households is not presented separately as in previous publications because the underlying information is not deemed to be sufficiently reliable to support separate presentation.

Basically three methods can be used to measure private final consumption expenditure. There is the methodology anchored to a consumer expenditure survey, the methodology rooted in commodity flows or input/output tables, and the methodology tied

mainly to retail trade and related surveys. The choice basically depends on the availability and soundness of the data underlying each approach.

Up to 1989, Bahamian private consumption expenditure estimates were based on the consumer expenditure survey results. The fundamental drawback in this method is that;

- (a) the survey is considerably out of date (1983)⁷ and
- (b) no reliable measures exist with which to project the estimates forward.

The methodology rooted in commodity flows requires a great number of industrial surveys with a large supply of detailed information. Such detail is not currently available for the Bahamas.

Thus, the remaining option was to base private consumption expenditure on retail trade and related surveys. Nevertheless, it does require that the surveys be adjusted; for items not bought by consumers and for expenditures by consumers not covered by such surveys.

The starting point to estimate Private Final Consumption Expenditure is the total of *Retail Trade Sales* from the establishment survey. Minor adjustments to eliminate business purchases were made. Then a number of other consumer expenditures not covered by the retail trade survey were added to arrive at an estimate of Private Final Consumption Expenditure. The adjustments made to the Retail Trade Sales data were as follows:

- Business purchases are deemed to be 95 percent of sale of lumberyard stores; these are removed from retail sales. Such purchases are either mainly made to business (building contractors) or if bought by individuals are purchased by them as homeowners, that is businesspersons.
- The same reasoning applies to a portion of sales of
 - office and business machine equipment (35%)
 - hardware businesses (1%)
 - retail of food, beverages and tobacco in specialized stores (7%)
 - retail of pharmaceuticals (5%)
 - retail of textiles, clothing etc (.25%)
 - retail of appliances (5%)
- Car care and servicing was taken from the 2001 Bahamas Living Conditions Survey.
- In the Bahamas, there are one or two retailers selling specialized kitchen equipment almost exclusively to caterers and so this is also eliminated (further reasonable contributions to this list of exclusions are welcome).

⁷ In 1994, a consumer expenditure survey was conducted. Private consumption expenditure derived using the retail trade and related surveys was carefully evaluated against it. The estimates for PFCE were not very different from the household expenditure survey results for that year.

If the result is to deduct a little too much for these enterprises, that is, if they sell some goods to final consumers and not just to businesses, this will in all likelihood be counterbalanced by sales to business on the part of stationers, hardware and furniture stores and other establishments which include some businesses in their roster of clients.

Sales of imported new cars and imported used cars should be omitted from sales of car dealers. Since many persons (and probably also some businesses) import cars directly from the USA (and other countries) reliance on retail sales of automobiles is not recommended. Consequently, an estimate for consumer expenditures on New and Used Cars is needed.

The relevant imports of cars - particularly from the USA - comprise both new and used cars since imported used cars have not been previously counted in Bahamian GDP and are "new" to the Bahamian economy.

The total value of the imports of vehicles is divided between passenger cars and other vehicles. Arbitrarily, 80 percent of passenger vehicles is allocated to household consumption, and the remainder together with all commercial vehicles is included in gross fixed capital formation. An estimate of import duties and transport and trade mark-up are added to these figures.

Note that sales of car dealers is therefore adjusted to consist of sale of parts and services to private individuals as such. At the moment, this adjustment is rather arbitrary and is based on the same relationships as was used to estimate imports of cars to individuals and businesses. If a differentiation between sales of imported used cars and Bahamian used cars, could be made, only the mark-up on the latter, should be included with car dealer sales.

It is also assumed that Bahamian used cars are only sold by car dealers to Bahamians – that is, there are no business to individual sales of used cars (and vice versa). Furthermore, it is assumed that intra-personal sector transactions cancel each other. An adjustment in the opposite direction that is, final purchases by consumers from wholesalers was also made. This was determined adjustment was based on the Retail Sales of Wholesalers as obtained from the Establishment survey.

The Retail Sales of certain Manufacturing Industries were adjusted to reflect the sales to private individuals. The proportions were: tailoring 100%; bakery 10%; ceramic and floral arts 100%; batteries 60%; jewelry and related articles 100%.

Water purification services to individuals were estimated from the 2001 Bahamas Living Conditions Survey and then using the year to year changes in the original series, was used to calculate consumption for individuals data from 1989 to 1998.

An estimate for subsistence farming and fishing is included here. It assumes ten

percent of Gross Output of farms goes to farm consumption and twenty five percent of the Gross Output of Fishing local production goes to fishers' personal consumption.

A portion of sales of restaurants (98%) and gross revenue of hotels (98%), must be added to personal consumption expenditure to represent Bahamian expenditures on these services. However, the greater portion of such sales are made to tourists and the convention is to count tourist expenditures as part of exports.

Hence, tourist expenditures must be removed from personal consumption expenditure. However, in order to subtract the tourist portion we must make sure that all possible expenditures are included in the first place in the total personal consumption expenditure.

Since a survey of the straw market has never been taken, and since it is unlikely that residents buy significant quantities of goods from these vendors, these sales were added to final private consumption expenditure figures. Also included is an estimate of spending on sports activities (less expenditure on golf counted in other services) as reported in the tourist expenditure data.

In a modern economy, a large portion of final personal consumption consists of services. Expenditure on medical services (including dental and veterinary services) from the establishment surveys are added.

Before being included in the establishment survey, the revenue of private hospitals was estimated as three times the per-bed expenditure of the government hospitals. This was done on the assumption that more services are performed in the private medical facilities than in the government one.

Transportation services consumed by individuals were also estimated from the establishment survey results. The survey results were reduced somewhat to account for sales of services to businesses. The percentages of gross output assigned to persons were as follows:

Land Transportation

- a) motor vehicle transportation – 80%
- b) Car Rentals – 100%
- c) Tour operators – 100%
- d) Paradise island Bridge – 80%

Air Transportation

- a) Foreign Air transportation – 25%
- b) Local Air transportation – 80%

Marine Transport

- a) Marine transportation – 20%

Storage

- a) Storage use – 10%

A certain proportion of business services are consumed as personal services. The establishment survey's measure of the gross revenue of photographers was estimated to include 20 percent as services to consumers. Although the establishment survey asks these establishments for their source of revenue (business, government, and persons), the data still needs some refining. The lawyers and architects services, personal services, domestic services and beauty and barber estimates were taken from the 2001 Bahamas Living Conditions Survey results and projected forwards and backwards, using the year to year percentage changes from the establishment survey for these areas.

In the past, expenditures on other personal services were based on a small survey of two census districts in New Providence. The results of the survey for the two districts was adjusted by 5% for under-coverage and then weighted by the total number of all such businesses in the Bahamas.

In 1992 the Business Services Establishment survey was expanded to form a properly structured survey in this area. The 1989 to 1991 data were adjusted subsequently re-adjusted based on better information.

A separate estimate for consumer final expenditure on funerals was also included. In 1992 a survey was conducted from which an average price for funerals was determined. This average price was then multiplied by the number of deaths (obtained from vital statistics) to arrive at a total funeral services expenditure figure. Since that time, the Other Community, Social & Personal Services survey has included funeral homes, and the expenditure figure is taken from there.

Expenditures on the services of golf clubs is based on reference to informed opinion.

Expenditure in casinos is taken directly from the reports of the Gaming Board of the Bahamas and is equal to the gross income of the casinos. This gross income (including a small portion of miscellaneous revenue) is basically the money gambled by persons minus their winnings paid out by the casinos. Tips to croupiers (again obtained from the Gaming Board) are also included here.

Expenditure by persons on electricity and communication is reported as services to persons and to others by the respective suppliers and obtained directly from them.

Expenditure by persons on water for 1989 to 1998 is derived from the figures received from the service providers for 1999 to 2002. An average of the proportions reported as sales to consumers for 1999 to 2002 - (48%) - was applied to the total service figures provided for the period 1989 to 1998.

Expenditure on private septic tank services was derived in the following manner. The Sewerage and Water Corporation charges an \$8.00 fee for every septic tank truck

unloaded at its facility. The number of loads is also available from this source. An average charge to consumers per truckload for this service was estimated at \$100 and includes the unloading fee. The product of this charge and the number of loads gives an estimate of the consumer expenditure for the service.

Expenditure by persons on postal services is a direct (arbitrary) estimate by the DOS at 40% of the total postal services..

Estimates of expenditures on household employees is included in consumer expenditure. Salaries and wages of household employees for 1990 is based on a special census of household employees by income ranges. To arrive at the total, the mid point of each range was multiplied by the number of employees, with the figure of \$15,000 per annum assigned to the mid point of the open-ended highest paid group (a very small number indeed.) 1989 and 1991 figures are extrapolations of the 1990 results using on labor income in the hotel industry. The 1992 to present are projections of the 1991 estimates using the year to year change in the all-items New Providence Consumer Price.

Private final consumption expenditure on gross rents, including the imputed portion of personal expenditures on financial services of banks, (imputation – banking service on consumer debt) and the purchase of insurance services are described on the product side.

The expenditures abroad by Bahamian residents are taken from the Central Bank's Balance of Payments.

Consumer expenditure also includes the total payment for goods and services of all associations of individuals serving households. These are, charitable, religious and private educational institutions.

The Establishment Survey first covered this area, in 1992. Both religious and private institutions play a very important role in the social and economic fabric of the Bahamas. However, this survey was discontinued in 1993. Since that time the data has been estimated based on the CPI. These estimates also cover Associations, Libraries, sporting activities and Health clubs.

But, for religious organizations, charitable organizations and educational institutions, data are taken from the Bahamas Living Conditions Survey for 2001 and for 1989 to 1998, the year to year changes in the earlier series are used to back cast the 2001 results. The religious organization and charitable institutions donations made by businesses is taken from the Establishment survey and added here.

The same general remarks apply to labor unions of which, according to the Department of Labor, there are about 40 in the Bahamas. The membership in the union is about 26,000. Based on known membership fees, the total income of the unions and therefore personal expenditures on union fees is \$5 million. It is also assumed that 80

percent i.e. \$4 million of these expenses goes towards the remuneration of union officers and employees.

Since there is no income tax in the Bahamas and few indirect taxes except import duties, there is likely to be little "*underground*" activity. Underground activity is here defined as economic activity hidden from government's (and probably the statistician's) view in order to escape taxation.

However, the informal economy defined as small-scale entrepreneurship with its base in the home and mainly as a secondary economic activity is alive and doing well in the Bahamas. An estimate for expenditures in the Informal Economy is derived using the Labor Force Survey results from 1989 onwards – except for 2000, where the Census of Population data for employment from business operators without paid help, were used. This figure is assumed to represent many construction, retail trade, restaurant, local transport, real estate, business services, education and other industries.

The last element of the private final consumption expenditure pertains to foreign sector adjustments. Since final private consumption expenditure estimates up to this point includes the sales of all goods and services in the Bahamas both to residents and foreign visitors, sales to the latter group must be deducted from all sales to final consumers and included as exports. The basic data for such sales come from the Ministry of Tourism and are based on their exit survey of departing tourists.

Government purchases (net) is also taken from the total for Private Final Consumption Expenditure because these purchases would have also needed to be deducted from the various Industries Sales as was done for the businesses.

Constant Prices:

The Personal Final Consumption Expenditure is deflated using the New Providence CPI all items index re-based to 1991.

C. Gross Capital Formation

Main source of data:

Establishment surveys, Central Bank, DOS External Trade Report, Public Corporations and USA Statistical Abstract are the sources of the data.

Current Prices:

Gross Capital Formation is composed of:
Change in Stocks⁸ and
Gross Fixed Capital Formation.

⁸ It might be noted here that this is the only instance where there is a departure from UN terminology. However, the term Change in Stocks is considered to be more neutral and meaningful than "Increase in Stocks".

Gross Fixed Capital Formation is composed of Residential Building Construction, Other Construction⁹, and Machinery and Equipment¹⁰ and Transportation Equipment.

The value of the *change in stocks* is the weakest estimate. It is drawn from the change in stocks reported by government corporations and by retail and wholesale trade. In general, the response to the change in values question in the Establishment surveys of other industries was not considered reliable and is assumed to be reasonably insignificant. It should also be noted, that the value change in inventories reported in the establishment survey contains no information on inventory valuation practices by the respondents.

Since there is only a retail price index available, the value of the change of stocks could not be adjusted to reflect the physical change in the value of inventories. Consequently, the change here is exactly as presented - the change in the value of inventories. Significant improvement will be made to this item in the future.

The Residential and Other Construction data is obtained from the Establishment survey of the construction industry. The residential & non-residential revenue data is adjusted to include Insurance Fees:

Fire insurance premiums times an estimate of the proportion of the number of buildings in scope, computed as: % Residential & Non-Residential represent of total buildings. i.e. # of Res. & Non-Residential completed divided by # of buildings (figure from Census 1990 adjusted in each year for new buildings constructed).

The Residential construction data from the Establishment Survey must be adjusted to account for the value of Residential Construction put in place in the Family Islands. This is calculated by applying the inverse of the ratio of Building Permits approved in the Family Island to the total Building Permits approved, to the Establishment Survey results.

Government construction is already counted in residential & non-residential construction items since the Establishment Survey data is based on receipts by construction firms who also do work for government. The only construction done by government is carried out by ministry of works and this is on roads /bridges etc. Therefore, it is assumed that twenty percent of the figure from the Government Treasury for "Other Construction" represents the work done by Min. of Works. The other eighty percent is assumed to be outsourced to private contractors and caught in the Establishment Survey.

The total construction estimates for 1991 were interpolated back to 1989 and 1990 on the basis of year-to-year changes in building material imports (excluding cement¹¹).

⁹ The term "Other Construction" is used because the UN distinction between "non-residential buildings" and "other construction and land improvements" cannot be made from the information available.

¹⁰ The term Machinery and Equipment is more meaningful than the U.N term "other".

¹¹ Import data for cement for the period were deemed unreliable.

The value of Machinery & Equipment and Transportation equipment is taken directly as the value of all relevant imports. These imports are adjusted upwards to include:

i) Import duties paid:

In 1998 data were tabulated for the amount of duty paid in 1998 by the finest trade category detail. These were used directly in the 1998 estimates.

For 1999, the proportion of total imports for machinery and equipment and transportation equipment represented by the Import Duty in 1998 for Machinery & Equipment and Transport equipment, were applied to the 1999 import data to calculate a value for duty paid in 1999.

For the period 1997 back to 1989, the 1998 figure for duty paid was adjusted by the year to year change in External trade Import data of Machinery & Equipment and Transport equipment.

ii) Stamp Tax paid:

The Central Bank Report reports total stamp taxes paid on import. The relative proportion of total imports represented by Machinery & Equipment and Transport equipment imports was applied to the total stamp taxes paid on imports to determine the total duty paid on machinery and equipment and transport equipment.

iii) Estimated mark-up by the importer:

Mark-up by importers was estimated at 38% certain on Transport items and 60 % on all other items.

Certain items (i.e., such as cars, as previously described) can be either consumer expenditures or capital expenditures. The value for expenditures on these items is split between capital formation and implicit consumption expenditure, on the basis of local judgment.

Constant Prices:

The Construction Expenditures are deflated using the Bahamas Construction Building Materials cost indexes. The Change in stock is deflated using NP all items CPI (re-based to 1991=100). The Machinery and Transport equipment is deflated using the USA Export Price Indexes for the machinery and transport equipment, again re-based to 1991=100.

D. Exports and Imports of Goods and Services

Main source of data:

Department of Statistics External Trade Report, the Ministry of Tourism, the Central Bank and the USA statistical abstract.

Current Prices:

The value of international trade in services is taken from the Balance of Payments published by the Central Bank of the Bahamas. The balance of merchandise trade is estimated by the Department of Statistics and is taken directly from Customs Declarations for imports, exports and re-exports.

Constant Prices:

Imports of goods are deflated using the United States Export commodity price index adjusted to have 1991 as its base year. The majority of Bahamian commodity imports originate with the United States.

Exports of goods and services are deflated using a combined weighted index of Commodity Exports, and the index of average Expenditure per Tourist days.

The index of Commodity Exports is a Laspeyres unit-value price index of commodity exports, which is based on the major selected domestic produce exported. These include solar salt, Barcardi Rum, Crawfish, Sponges, Queen Helmet Shells, Avocado Pear, Grapefruit, Lemon, Lime, tomatoes, cucumbers, stone crab claws and conch meat.

The index of average expenditure of tourist days is based on the Tourist expenditure divided by the number of tourist days (i.e. average length of stay multiplied by number of visitors) and then each year's result is divided by 1991 as this is the base year.

GROSS NATIONAL PRODUCT:

Gross National Product is Gross Domestic Product less net property & entrepreneurial income received from abroad.

Net Property and Entrepreneurial Income Received From Abroad

Main source of data:

Central Bank and USA Statistical Abstract are the main sources of data.

Current Prices:

Net property & entrepreneurial income received from abroad is the sum of the net values of:

- i) official transactions
- ii) Royalty and License fees and

- iii) Other private interest and dividends, received from and sent abroad.

Constant Prices:

The portion received from abroad is deflated using the combined weighted Laspeyres price/unit value of commodity exports and the index of Average Expenditure per Tourist day.

The portion sent abroad is deflated using USA Export Price Index.

Statistical Discrepancy

Gross domestic Expenditure (GDE) measures output as the sum of final expenditures; consumer spending, private investment, net exports and government consumption and investment. Gross Domestic Product (GDP) measures output in the sum of the costs incurred and the incomes earned in the production of Gross Domestic Product. While in theory GDE should equal GDP, due to the fact that different data sources are used for each, and the respective components of GDE and GDP differ, the two rarely are equal. The difference between the two measures is called the 'Statistical Discrepancy'.

In the Bahamian System of National Accounts, the recording of the statistical discrepancy is presented in part as an entry in the GDE and in part as an entry in the GDP. This approach, which agrees with that of Canada and Ireland, differs from many other nations where the whole of the statistical discrepancy is recorded as an entry either in GDE or GDP. The choice of where (or how, for that matter) to record the statistical discrepancy is influenced by the assessment of the overall quality of the items used to construct the accounts.

In the case of the Bahamas, there is no clear indicator that one or the other accounts is of a superior quality. On the expenditure side, there is no Household Expenditure Survey upon which to anchor the largest component, Private Final Consumption Expenditure. On the production side, the coverage and quality of the establishment surveys is such that the final estimates are not sufficiently robust to carry the day. As a consequence, the statistical discrepancy is split between the two based on the expectation that the actual measure lies somewhere between the two.

When the first SNA data was prepared for the Bahamas, the decision to treat the statistical discrepancy in this manner was taken primarily for the same reason. If with subsequent releases there is empirical evidence upon which to base a decision to alter the treatment of the statistical discrepancy, the time series will have to somehow be adjusted so as to ensure consistency over time.

Treatment aside, the most important aspect of the statistical discrepancy is its size. Clearly, the smaller it is, the better. In future the Department of Statistics will

focus on improving the underpinnings to the accounts in an effort to minimize the statistical discrepancy.