

Technical Report

on

Sources and Methods of GDP Compilation

Base Year 2003

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I. Abbreviations

- **BoP**- Balance of Payments
- **CPI**- Consumer Price Index
- **DNP**- Department of National Planning
- **ES**- Economic Survey
- **FISIM**- Financial Intermediation Services Indirectly Measured
- **GDP**- Gross Domestic Product
- **GVA**- Gross Value Added
- **ISIC**-United Nations International Standard Industrial Classification, Revision .3
- **HIES**- Household Income and Expenditure Survey
- **SES**- Small Establishment Survey 2002/2003
- **SNA**- System of National Accounts
- **STELCO**- State Electric Company
- **STO**- State Trading Organization
- **SUT**- Supply and Use Table
- **LES**- Large Establishment Survey 2004
- **MEB**- Macro Economic Budget Extrapolation
- **MMA**- Maldives Monetary Authority
- **MTCC**- Maldives Transport and Contracting Company
- **MWSC**- Male' Water and Sewerage Company
- **NA** – National Accounts Unit (Statistic Division)
- **PPI**- Producer Price Index
- **QNA**- Quarterly National Accounts
- **UVI** – Unit Value Index
- **VPA** –Vulnerability and Poverty Assessment

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1. Introduction

The purpose of this report is to provide a detailed description of the procedures used in the “Macro Economic Budget Extrapolation” (MEB) approach to calculating GDP , and the data sources and methods used in the compilation of the annual national accounts estimates of Maldives.

The national accounts series has been rebased to the year 2003 using the base year estimates from a Supply and Use Table (SUT) compiled for Maldives for the year 2003. This paper provides a description of how the base year estimates were compiled and the data sources and methodologies used in the series to produce estimates for the subsequent years. Since the basic methodology used are to a large extent the same as for the 1995 series, this document should serve as an updated version of the sources and methods paper for the 1995 series. Nevertheless significant changes in methodology and computation are incorporated into the 2003 series, most notable being the compilation and publication of annual GDP at current prices.

This document first outlines the general procedures used in the MEB approach and then goes on to a comprehensive explanation of the data sources and compilation methods used for the individual sectors and activities. For each activity, the calculation of base year estimates, and how the constant price and current price estimates are derived are explained in detail.

1.1 Introduction to the First revision of the ‘Technical Report on the Sources and Methods of GDP compilation –Base year 2003’

The purpose of this first revision to the technical report is to update some of the methodological changes that have been brought to the MEB system, to correct some of the errors in the document and to elaborate on some of the explanations from the original document.

While two of the chapters (chapter 3 &5) have been significantly re-worked, in the rest of the chapters there are only minor changes made to the text, which are highlighted in grey.

2. Macro- Economic Budget Extrapolation approach

The compilation framework used for the new series is the same as that for the 1995 series which is the “*Macro-Economic Budget*” (MEB).

2.1 The Macro-economic Budget Equation

As point of departure in our approach we use the macro-economic supply and demand equation:

$$(1) O + M = IC + C + GFCF + ChS + X$$

O = output

M = import

IC = intermediate consumption

C = Final consumption expenditure

GFCF = Gross Fixed Capital Formation

ChS = Change in Stocks

X = Export

The macro-economic budget consists of two parts:

- The origins of the realised supply of products
- The realised demand of supplied products.

The realised total value of supply of products (O+M) has to be equal to realised total value of demand. This identity will be achieved in economic reality through the price mechanism (price adaptations and volume adaptations) and changes in stocks. Equation (1) gives a non-consolidated description of the economy in a certain period. In the consolidated description the variable IC is omitted. Subtracting IC gives:

$$(2) O + M - IC = C + GFCF + ChS + X$$

In economic theory, the difference between Output (O) and Intermediate consumption (IC) is called “Value Added”, see equation (3)

$$(3) Y = O - IC$$

$Y = \text{Sum of Value Added or GDP}$

Substitution of equation (3) in (2) gives:

$$(4) Y + M = C + GFCF + ChS + X$$

For the economy as a whole Y it is called “Gross Domestic Product” (GDP). The term gross has here the meaning of Domestic Product including the “Consumption of fixed capital”. NDP (Net Domestic Product) is GDP minus consumption of fixed capital. The expenditure categories (right hand side) of Equation 4 are often named final expenditure categories. The term ‘final’ indicates that the expenditures are not designated for direct and complete use in the production process. Therefore, gross fixed capital formation also belongs to the final expenditures.

2.2 The Macro-economic Budget Extrapolation Approach

The Macro-economic Budget Extrapolation approach is presented in Table 1, the ‘*Industry value added extrapolation sheet*’ and Table 2, the ‘*Macroeconomic budget extrapolation sheet*’. The Table 1 presents the extrapolation of value added at current prices by industrial sectors. In the Table 2, the same categories are depicted as in Equation 4, but some details have been added to comply with the national accounts definitions and to enrich the budget equation. To comply with the accounting concepts the taxes and subsidies on production, such as import duties, sales taxes, excise duties, etc. have been added. This enables us to arrive at GDP at market prices. The last item in the supply part is imports valued at free on board¹ (fob²). GDP at market prices plus imports gives total supply at market prices. The next group of variables in Table 2 describes the final expenditures. The exports are valued at fob. The final expenditure category “final consumption” has been split in final consumption of government and final consumption of households. The latter contains also the “final consumption of private non-profit institutions serving households”(PNPISH) that is rather small in the Maldives. The last final expenditure category is the change in stocks.

¹ In reality we will use a cif valuation (value of the goods at the border of the importing country, thus including the costs of transport and insurance)

² fob is the value of the exported goods at the border of the exporting country (thus excluding costs of transport and insurance)

Table 1: Industry Value Added Extrapolation Sheet

Population Estimates (mid-year)		285,066					
Industry/item		Gross					
Number	Description	Val.add 2003	Ch. Value	Value 2004	Ch. Value	Value 2005	Ch. Value
		2003	%	2004	%	2005	2006
		mln Rf		mln Rf		mln Rf	mln Rf
MARKET INDUSTRIES							
1:3 & 5	Agriculture, Forestry and Mining	314.5					
4	Fishery	412.9					
	Manufacturing						
6	- Fish preparation	370.2					
7	- Food products	11.2					
8	- Beverages	35.6					
10	- Wearing Apparel	138.9					
11&12	- Wood planing & Furniture	39.7					
13	- Paper, Printing & publishing	20.2					
14	- Soaps & Detergents	0.0					
15	- Cement products	5.6					
17	- Shipbuilding & repair	15.3					
18	- Other manufacturing	80.0					
19	Electricity Generation & distribution	162.9					
20	Collection, purific.&distr. Water	91.1					
21	Construction	710.0					
22	Trade	456.7					
23&24	Hotels & restaurants						
	- Resorts	3,739.1					
	- Other hotels & rest.	189.9					
25	Land transport	57.4					
26	Water transport	154.4					
27	Air transport	158.6					
28	Aux. Transport						
	- Maldives airport	320.5					
	- Maldives Port	95.7					
	- Others	227.1					
29	Post & telecom.						
	- Dhiraagu / Wataniya	752.1					
	- Maldives Post	10.1					
30	Mald. Mon. Auth.	41.0					
31a	Deposit & other banks	280.2					
31b	Insurance	16.1					
32a	Real estate	227.1					
33	Rent of Transport, mach.&equip	71.4					
34	Business activities	71.1					
a	Total Business	9,276.4					
	o.w. with indicator	8,810.7					
	o.w. with indicator (forward)	8,810.7					
32b	Imputed rent of owner-occupied dwellings	1,387.3					
35	Public. Adm. & Def.	1,061.4					
36	Education	395.6					
37	Health	175.6					
38	Oth.com,soc&pers serv.	117.1					
b	Total Non-business	3,137.0					
c	Fisim	-255.1					
d=a:c	GDP basic prices	12,158.3					

Table 2: Macro-economic Budget Extrapolation Sheet

		Value 2003 mln Rf	Ch. Price %	Value 2004 mln Rf	Ch. Price %	Value 2005 mln Rf	Ch. Price %	Value 2006 mln Rf
ORIGINS OF SUPPLY								
1=2+3-4+5	GDP market prices (gross)	13,359.6						
2	Import duties	841.1						
3	Taxes on products	364.4						
4	Subsidies on products	4.2						
5=d	GDP basic prices	12,158.3						
6=7-9	Import good and services (c.i.f.)	6,905.7						
7	o.w. apparel for re-export	259.2						
8	o.w. other import of goods	5,987.9						
9	o.w. other import of services	658.7						
10=6+1	Total avail. for final expenditure	20,265.4						
FINAL EXPENDITURE								
11=12+17	Exports of goods & services (f.o.b.)	9,734.5						
12=13-16	o.w. Goods (incl. Re-exports)	1,880.0						
13	o.w. apparel	462.4						
14	o.w. Fish, incl. Fillets, frozen	347.5						
15	o.w. Other (processed) fish	712.3						
16	o.w. Other goods (incl. Re-exports)	357.8						
17=18 & 19	o.w. Services	7,854.5						
18	o.w. Tourism services	7,245.6						
19	o.w. other services	608.9						
20	Government fin. cons. expenditure	2,347.3						
21	Households' final expenditure	4,844.3						
22=23-26	Gross fixed capital formation	3,455.6						
23	o.w. Construction	1,812.7						
24	o.w. Ship building	296.6						
25	o.w. Machinery and Equipment	1,346.2						
26	Change in stocks	-116.4						
27=11+20-22+26	Total final expenditure	20,265.3						
	Discrepancy	0.0						
	in percentage	0.0						

3. General Procedures used in GDP Estimation

This chapter of the document has been re-written for this revision

3.1 Introduction

The benchmark data for 2003 are taken from the Maldives SUT 2003. The actual time series for the new series starts at 2001 so that an overlap with the old series is available. In addition to the constant price series compiled so far, it also includes a full series of GDP estimates in current prices. Developments in current and constant prices can now be compared to ensure that more accurate estimates are produced.

The database for the new GDP series have been enhanced compared to the 1995 series, providing a much improved coverage of the economy. The new series include price indexes, such as the producer price index and unit value indexes for external trade. A range of new monthly indicators that has become available has also been integrated into the system. Another significant improvement is the estimation of current price performance of some industries based on the actual performance of these sectors, instead of relying solely on the indicators used in the constant-price series.

3.2 General procedures

The MEB framework has been developed in an Excel spreadsheet environment, consisting of a number of *data input sheets*, with links to intermediate *work sheets* and *final estimation sheets*. With the input of data into the system, their input results in the automatic update of estimates, directly and indirectly.

3.2.1 Data entry

The data in the MEB framework is entered onto a number of specialised spreadsheets. These include sheets for; short term indicators, gross output and value added from company financial statements, budget figures, additional information, PPI, Unit value indexes of external trade, and BOP. The figure below shows a snapshot of the framework with the aforementioned sheets.

Figure 1– National Accounts compilation framework

MEB-2001-16-writeup																								
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
4	Table 1 A	Deflators																						
5	Referer cities	Industry/cities																						
6	Number	Description	Gross Val.ad 2001 (index)	Ch. Price %	Value 2002 (index)	Ch. Price %	Value 2003 (=100)	Ch. Price %	Value 2004 (index)	Ch. Price %	Value 2005 (index)	Ch. Price %	Value 2006 (index)	Ch. Price %	Value 2007 (index)	Ch. Price %	Value 2008 (index)	Ch. Price %	Value 2009 (index)	Ch. Price %	Value 2009 (index)	Ch. Price %	Value 2009 (index)	Ch. Price %
7	MARKET INDUSTRIES																							
10	12	Agriculture	99.0	-0.5	98.5	1.6	100.0	10.2	110.2	6.7	117.6	4.8	123.3	4.3	128.6	5.3	135.4	-1.9	132.					
12	14	Fishery																						
14	16	Manufacturing																						
16	18	- Fish preparation																						
18	20	- Food products																						
20	22	- Beverages																						
22	24	- Apparel																						
24	26	11&12 - Wood planing & Furniture																						
26	28	13 - Paper, Printing & publishing																						
28	30	14 - Soaps & Detergents																						
30	32	15 - Cement products																						
32	34	17 - Shipbuilding & repair																						
34	36	18 - Other manufacturing																						
36	38	19 - Electricity Generation & distribution																						
38	40	20 Collection, purific & distr. Water																						
40	42	21 Construction																						
42	44	22 Trade																						
44	46	23&24 Hotels & restaurants																						
46	48	- Resorts																						
48	50	- Other hotels & rest.																						
50	52	25 Land transport																						
52	54	26 Water transport																						
54	56	27 Air transport																						
56	58	28 AUX. Transport																						
58	60	- Maldives airport																						
60	62	- Maldives Port																						
62	64	- Others																						
64	66	29 Post & telecom.																						
66	68	- Dhiraagu																						
68	70	- Maldives Post																						
70	72	30 Mald. Mon. Auth.																						
72	74	31a Deposit & other banks																						
74	76	31b Insurance																						
76	78	32a Real estate																						
Ready H SUTQ3 Curr_Pr Deflators Defl3 Const_Pr Det1 Det2 Det3 AddInfo Budget AnAcc-VA AnAcc-GO IP PPI ImportUV ExportUV MTFE-estimates STAnnual 100%																								

Of the data entry sheets in the MEB framework, two of the main data sheets and their sources of data are elaborated in this section. One of these is the *short term indicators* sheet. Short term indicators are monthly indicators of the performance of the economy and the major sectors of production. Most of the sectoral indicators are proxy indicators of the *volume* of production- such as tourist bed nights, and monthly fish catch. Other short term indicators in this data sheet includes, monthly external trade data and monthly data for a selection of price indexes taken from the consumer price index (CPI)

The monthly short term indicators are initially entered onto the *short term indicators (STIndict)* sheet, shown below in figure 2. In the next step, the monthly data is expressed as a proportion of the average monthly value for the indicator in 2003. From this step onwards the modified figures are used for further computations.

Figure 2: Monthly Short Term Indicators Sheet

CM14		235.058																																																																																									
A	B	C	D	E	F	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP																																																																										
1	Monthly series of Short-term indicators			Rows	to 62																																																																																						
2	1st block: Monthly indicators as received	DATA		69 to 123																																																																																							
3	2nd block: Number of months data in last year	Calculated		129 to 143																																																																																							
4	3rd block: Indices to base period	Calculated		129 to 143																																																																																							
5																																																																																											
6	Line		Unit	Average	January	February	March	April	May	June	July	August	September	October	November	December																																																																											
7	#	Indicator		2003	1	2	3	4	5	6	7	8	9	10	11	12																																																																											
8	1	Resorts & hotel bednights	(in '000)	392	478	456	462	411	295	231	319	426	351	391	431	47																																																																											
9	2	Fish catch	(in '000 Metric tons)	12	11.56	12.73	12.32	16.58	12.30	12.03	10.46	9.80	12.11	13.07	15.22	17																																																																											
10	3	Electricity production by public sector	(in '000 kwh)	13,057	12,250	11,913	13,423	13,349	13,652	12,894	13,306	13,564	12,972	13,922	12,525	13.5																																																																											
11	4	Water distribution	(in '000 Metric tons)	135	119	108	134	132	132	121	124	132	135	111	136	111																																																																											
12	5	Expatriate workers in the construction industry	Number	5,804	5,043	4,976	5,401	5,457	5,593	5,627	6,059	6,057	6,136	6,385	6,411	65																																																																											
13	6	Area of buildings approved for construction	Total floor area (sqm)	17,468	9,393	6,998	13,777	24,276	12,522	26,351	29,586	15,339	16,455	15,014	13,848	25.7																																																																											
14	7	Area of buildings completed	Total floor area (sqm)	4,705	3,996	4,844	3,532	3,209	2,086	6,070	10,591	24,341	5,592	4,682	2,213	33																																																																											
15	8	Aircraft movement at Male' international airport	International	7,655	7,858	7,984	8,488	7,771	8,488	7,771	8,488	7,771	8,488	7,771	8,488	7,771																																																																											
16	9	Aircraft movement at Male' international airport	Domestic	4,212	5,222	5,016	5,102	4,149	3,230	2,437	3,115	4,246	3,873	4,192	4,665	55																																																																											
17	10	Air international cargo – Total	(In Metric tons)	1,765	1,985	1,846	2,102	1,774	1,440	1,360	1,421	1,569	1,705	1,839	1,907	2.3																																																																											
18	11	Air international cargo – International	(In Metric tons)	1,743	1,963	1,828	1,993	1,753	1,421	1,347	1,398	1,543	1,681	1,818	1,882	2.5																																																																											
19	12	Air international cargo – Domestic	(In Metric tons)	21	9	22	18	21	19	13	23	26	25	21	25																																																																												
20	13	Freight throughput	(in '000 Freight Tons)	7,605	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000																																																																											
21	14	Mail handled at male' international airport by mon	International	6,401	7,231	5,573	6,152	5,748	6,349	6,505	6,151	6,706	5,957	6,497	6,585	7.8																																																																											
22	15	Mail handled at male' international airport by mon	Domestic	1,962	1,938	1,915	1,991	1,952	1,850	1,890	1,406	1,953	2,079	2,137	2,104	2.3																																																																											
23	16	Telecommunications: minutes of international ca	(In thousands)	598	608	634	558	597	582	581	554	584	631	605	604	6																																																																											
24	17	Telecommunications: minutes of local calls	(In thousands)	11,415	12,379	10,900	11,419	11,318	11,501	11,267	11,540	11,159	11,114	10,878	10,700	10																																																																											
25	18	Telecommunications: minutes of mobile calls	(In thousands)	8,072	7,870	7,429	7,262	7,421	7,552	7,757	8,005	8,581	8,484	8,706	8,526	9.9																																																																											
26	19	IMPORTS – Total	(Value in R000)	502,169	462,517	376,631	498,030	507,589	381,643	507,697	476,915	500,516	530,444	498,554	650,281	635.2																																																																											
27	20	IMPORTS – Building Materials	(Value in R000)	76,027	55,388	37,619	53,811	64,612	65,361	80,338	98,016	92,789	87,321	90,008	101,537	85.5																																																																											
28	21	IMPORTS – Capital Goods	(Value in R000)	63,839	116,919	43,921	58,110	55,315	42,548	132,106	59,727	70,833	88,206	62,507	194,258	81.6																																																																											
29	22	IMPORTS – Cars	(Value in R000)	58	58	550	58	1,102	1,048	178	1,097	547	395	766	2,493	1,317																																																																											
30	23	IMPORTS – Petrol	(Value in R000)	5,437	774	6,174	10,170	4,330	171	10,908	4,608	1,826	9,009	4,189	5,693	7.7																																																																											
31	24	IMPORTS – Household consumption goods	(Value in R000)	175,129	162,377	154,383	179,175	189,480	147,239	142,657	154,288	176,298	169,415	201,899	186,209	238.1																																																																											
32	25	IMPORTS – Intermediate consumption goods	(Value in R000)	160,902	126,991	133,985	195,661	192,804	126,146	150,592	155,595	158,374	175,727	137,457	161,267	222.7																																																																											
33	26	IMPORT DUTIES – Building Materials	(Value in R000)	10,747	8,122	5,956	8,154	9,562	8,429	12,640	11,947	12,437	13,508	12,515	14,524	11.6																																																																											
34	27	IMPORT DUTIES – Building Materials	(Value in R000)	10,747	8,122	5,956	8,154	9,562	8,429	12,640	11,947	12,437	13,508	12,515	14,524	11.6																																																																											
35	28	IMPORT DUTIES – Capital Goods	(Value in R000)	10,210	24,300	5,309	7,037	7,991	7,062	8,930	7,290	9,797	12,054	10,234	11,031	9.9																																																																											
36	29	TOTAL IMPORTS – Capital Goods	(Value in R000)	96,240	142,659	50,388	67,734	64,032	50,664	143,266	68,070	82,996	103,884	74,755	213,144	92.3																																																																											
37	30	IMPORT DUTIES – Household goods excl. tourism	(Value in R000)	127,372	116,488	110,080	128,487	145,222	111,459	113,724	117,187	129,972	125,792	150,863	131,331	145.6																																																																											
38	31	IMPORT DUTIES – Household goods excl. tourism	(Value in R000)	20,949	19,850	19,334	19,708	21,721	20,564	19,677	19,790	22,271	20,532	24,162	20,600	23.5																																																																											
39	32	Total imports of household goods x tourism(116 - 126)	(Value in R000)	148,321	139,338	129,418	148,199	166,943	132,023	133,401	136,467	152,269	144,332	175,044	151,931	169.1																																																																											
40	33	Imports - Const Br - Petrol - Petrol - Building Materials - Capital Goods - Total	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA	ADD=NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,NA,

Figure 3: Annual Short term Indicators Sheet

I135		=AVERAGE(STIndicatIAE135:AP135)														
Annual series of Short-term indicators																
A. First block: Annual summaries		SUM OF DATA														
B. 2 nd block: Annual indices, unedited		Calculated														
C. 3 rd block: Indices, estimated growth restrained (generally 25% first and 10% following years, sometimes tighter ranges)		Calculated														
Line	Indicator	Unit	2002	2002	2003	2003	2004	2004	2005	2005	2006	2006	2007	2007		
131	2 Fish catch	(in '000 Metric tons)	0.99	0.7	1.00	0.4	1.00	17.3	1.19	0.7	1.19	22.0	0.92	7.3		
135	6 Electricity production by public sector	(in '000 kwh)	0.90	0.2	1.00	13.0	1.13	14.9	1.30	14.7	1.49	15.5	1.72	11.6		
136	7 Water distribution	(in '000 Metric tons)	0.90	10.5	1.00	16.8	1.17	20.5	1.41	9.3	1.54	13.8	1.75	19.0		
137	8 Expatriate workers in the construction industry	Number	0.83	20.3	1.00	25.0	1.26	33.0	1.68	39.4	2.33	64.6	3.83	41.8		
138	9 Area of buildings approved for construction	Total floor area (sqm)	0.86	16.1	1.00	45.1	1.45	25.8	1.08	59.6	1.72	22.2	1.34	45.7		
139	10 Area of buildings completed	Total floor area (sqm)	0.94	6.9	1.00	37.5	0.63	5.6	0.66	57.6	1.04	35.0	0.68	57.0		
140	11 Aircraft movement at Male' international airport	Domestic	0.95	5.4	1.00	20.4	1.20	17.4	0.99	14.7	1.14	20.9	1.38	6.5		
141	12 Aircraft movement at Male' international airport	International	0.83	21.2	1.00	22.8	1.23	24.3	0.93	43.5	1.33	13.7	1.52	1.7		
142	13 Air international cargo – Total	(in Metric tons)	0.95	5.5	1.00	21.8	1.22	9.5	1.33	26.6	1.69	3.1	1.74	5.9		
143	14 Air international cargo – Incoming	(in Metric tons)	0.95	5.5	1.00	21.9	1.22	9.8	1.34	26.7	1.70	2.8	1.74	6.4		
144	15 Air international cargo – Outgoing	(in Metric tons)	0.92	9.1	1.00	11.8	1.12	9.7	1.01	13.7	1.15	39.9	1.60	31.4		
145	16 Cargo throughput by sea	(in '000 Freight Tons)	0.87	14.9	1.00	33.1	1.33	21.3	1.51	11.1	1.79	20.3	2.16	4.9		
146	17 Mail handled at male' international airport by month	International	0.94	6.3	1.00	1.7	1.02	1.8	1.04	8.1	1.12	4.1	1.07	14.7		
147	18 Mail handled at male' international airport by month	Domestic	0.83	20.7	1.00	0.8	1.01	4.7	0.96	9.2	1.05	15.7	1.21	46.0		
148	19 Telecommunications: minutes of international calls	(in thousands)	0.98	2.2	1.00	9.7	1.10	13.2	1.24	35.1	1.68	16.1	1.98	37.7		
149	20 Telecommunications: minutes of local calls	(in thousands)	1.30	22.9	1.00	20.2	0.80	40.7	0.47	31.9	0.32	15.0	0.27	13.8		
150	21 Telecommunications: minutes of mobile calls	(in thousands)	0.84	9.4	1.00	22.6	1.45	29.2	2.30	12.8	2.89	11.7	3.56	52.6		
151	101 IMPORTS – Total	(Value in RF000)	0.83	20.2	1.00	36.3	1.36	16.1	1.58	27.0	2.01	15.9	2.33	26.6		
152	102 IMPORTS – Building Materials	(Value in RF000)	0.87	14.9	1.00	73.9	1.74	31.3	2.28	10.4	2.52	42.2	3.58	3.3		
153	103 IMPORTS – Capital goods	(Value in RF000)	0.53	88.0	1.00	11.9	1.12	62.8	1.82	5.2	1.91	9.3	2.09	43.7		
154	104 IMPORTS – Cars	(Value in RF000)	0.66	50.8	1.00	81.1	1.81	6.6	1.69	71.1	2.89	8.5	2.65	10.7		
155	105 IMPORTS – Petrol	(Value in RF000)	1.06	5.3	1.00	118.3	2.18	36.0	2.97	31.7	3.91	23.3	4.82	1.9		
156	106 IMPORTS – Household consumption goods	(Value in RF000)	0.91	10.3	1.00	23.7	1.24	2.2	1.26	28.3	1.62	17.1	1.90	25.4		
157	107 IMPORTS – Intermediate consumption goods	(Value in RF000)	0.88	13.3	1.00	42.1	1.42	0.3	1.42	52.3	2.17	3.2	2.24	39.0		
158	122 IMPORT DUTIES – Building Materials	(Value in RF000)	0.84	18.8	1.00	71.9	1.72	13.6	1.95	13.1	2.21	39.8	3.09	12.0		
159	132 TOTAL IMPORTS – Building Materials	(Value in RF000)	0.91	9.4	1.00	88.7	1.89	25.4	2.37	53.5	3.63	41.9	5.15	4.3		
160	123 IMPORT DUTIES – Capital Goods	(Value in RF000)	0.60	69.9	1.00	29.6	1.30	23.9	1.81	29.5	2.08	34.0	2.79	6.9		
161	133 TOTAL IMPORTS – Capital Goods	(Value in RF000)	0.54	85.3	1.00	15.6	1.16	61.9	1.87	1.0	1.89	12.2	2.12	38.6		
162	116 IMPORTS – Household goods excl. tourism	(Value in RF000)	0.93	8.1	1.00	16.3	1.16	7.0	1.24	16.9	1.45	21.0	1.76	27.9		
163	126 IMPORT DUTIES – Household goods excl. tourism	(Value in RF000)	0.93	8.1	1.00	16.3	1.16	7.4	1.25	13.5	1.41	26.8	1.79	16.3		
164	136 Total imports of hhold goods x tourism(116 + 126)	(Value in RF000)	0.93	8.1	1.00	16.3	1.16	7.0	1.24	16.4	1.45	21.8	1.76	26.2		
165	201 EXPORTS – Total	(Value in RF000)	0.80	24.4	1.00	8.8	1.09	15.1	0.92	30.1	1.20	20.2	0.96	16.8		

Another important source of data, incorporated into the new MEB framework is the data from company financial statements. The *value added* and *gross output*, gathered from the analysis of company annual accounts ([Annex II](#)) are entered into their respective spreadsheets in the MEB framework; *AnAcc-VA* sheet and *AnAcc-GO* sheet. Figure 4 below shows a snapshot of the value added sheet.

Figure 4: Value Added Sheet

Gross value added from the annual accounts		All values in MILLIONS OF RUFYIAA														
Serial Numb	Company	Industry	2000	% change 2000 to 2001	2001	% change 2001 to 2002	2002	% change 2002 to 2003	2003	% change 2003 to 2004	2004	% change 2004 to 2005	2005	% change 2005 to 2006	2006	% change 2006 to 2007
Start	CONSTRUCTION															
1	COMPANY A	CONSTRUCTION														
2	COMPANY B	CONSTRUCTION														
3	COMPANY C	CONSTRUCTION														
4	COMPANY D	CONSTRUCTION														
5	COMPANY E	CONSTRUCTION														
6	COMPANY F	CONSTRUCTION														
7	COMPANY G	CONSTRUCTION														
8	COMPANY H	CONSTRUCTION														
9	COMPANY I	CONSTRUCTION														
10	COMPANY J	CONSTRUCTION														
11	COMPANY K	CONSTRUCTION														
12	COMPANY L	CONSTRUCTION														
13	COMPANY M	CONSTRUCTION														
14	COMPANY N	CONSTRUCTION														
15	COMPANY O	CONSTRUCTION														
16	COMPANY P	CONSTRUCTION														
End	CONSTRUCTION															
Total	CONSTRUCTION															
Start	HOTEL AND RESORTS															
1	COMPANY A	TOURISM														
2	COMPANY B	TOURISM														
3	COMPANY C	TOURISM														
4	COMPANY D	TOURISM														
5	COMPANY E	TOURISM														
6	COMPANY F	TOURISM														
7	COMPANY G	TOURISM														
8	COMPANY H	TOURISM														
9	COMPANY I	TOURISM														
10	COMPANY J	TOURISM														
11	COMPANY K	TOURISM														
12	COMPANY L	TOURISM														
13	COMPANY M	TOURISM														
14	COMPANY N	TOURISM														
15	COMPANY O	TOURISM														

Some of the activities covered include construction, hotels and resorts, banking and insurance, auxiliary transport services, air transport, telecommunication, electricity and water. For each of these activities a representative sample of companies is taken and their annual financial statements are analysed. From the analysed data, the Value Added and Goss Output are entered onto their respective sheets. The annual growth rate is derived as the changes in the sum of the value added (or gross output) for an industry, between two years.

In the MEB framework, for some of the industries, current price estimates are initially compiled on the basis of short term indicators used in constant price estimation, with a relevant price index to inflate it. As soon as an adequate coverage of financial accounts are obtained (more than half the companies in an activity or, when the total GVA for the particular year is more than 75 percent of the total GVA for the industry in the base year -2003) the estimates based on short-term indicators and price indexes are replaced by the actual performance reflected in the financial accounts. As the availability of annual reports lags by two to three years, the GDP estimates for the last two to three years continue to be based on short-term indicators, but are anchored in the latest available year with full information for the relevant sectors.

3.2.2 Estimation procedures

This section summarises some of the methodologies used in the estimation of actual figures in the system. Broadly defining, there are three main procedures for estimating constant and current price values in the system; estimating constant price values first and inflating the value to estimate the current price figure, estimating current price value first and deflating the values to estimate constant price figure and estimation based on automatic indicators. Refer to [chapter 4](#) for a detailed activity wise description of the methodology.

Constant price to current price

In some cases the short term indicators are proxies for volume growth in value added or final expenditure that could be used to move the constant price estimates. The year-on-year change in the indicator is derived by dividing the current year value by that of the previous year's value and expressing it as a percentage, as illustrated below in formula (1).

$$\text{Percentage Change}_{(\text{volume indicator})} = \left[\frac{I_t}{I_{t-1}} - 1 \right] \times 100 \quad (1)$$

; where I is the indicator and t is the current year

The constant price value is calculated by the multiplication of its previous period's value with the volume growth, derived in the formula (1).

To calculate the current price value, a current price growth rate is derived using the change in the volume indicator and the change in the relevant price index, illustrated below in formula (2). The year on year change in the price index is obtained in the same way as the change in the volume indicator, described in formula (1).

$$\text{Percentage Change}_{(\text{current prices})} = \left[\frac{(\text{change in volume indicator} + 100) \times (\text{change in deflator} + 100)}{100} \right] - 100 \quad (2)$$

The current price value is calculated by the multiplication of its previous period value with the percentage change derived in formula (2)

To illustrate an example of the process above; it is assumed that fish catch in tonnage is a good indicator of the volume of output (and therefore of value added in constant prices) for the fisheries sector. The rate of change in the volume of fish catch is therefore used as the rate of growth in constant price value of

production. The Producer Price Index for Fishing is used to inflate the production for the sector. The rate of change in the current price value is derived by multiplication of the change in production volume by the change in the deflator.

Current price to constant price

On the other hand some of the short term indicators used in the system are in current prices. The rate of change for the indicator is measured in the same way as formula (1), above. The current price value is calculated by the multiplication of its previous period's value with the rate of change in the indicator, derived in the previous step.

Using the change in the short term indicator and the change in the relevant price index, a constant price growth rate is derived, as illustrated in formula (3).

$$\text{Percentage Change}_{(constant\ prices)} = \left[\frac{(\text{change}_{current\ price\ indicator} + 100)}{(\text{change}_{deflator} + 100)} - 1 \right] * 100 \quad (3)$$

Finally the constant price values are obtained by multiplication of the previous period's values with the constant price rate of change derived in formula (3).

An example in this case would be the derivation of value added for the construction industry. The change in total imports of building materials are one of the indicators used to move the value added for the industry. The import values are the annual import data collected by the Maldives Customs. Since these figures are in current prices, the unit-value index of imports, are used to deflate the figures to derive the constant price estimates.

Automatic estimation

For economic activities that are not independently estimated, two generalised procedures are incorporated into the system. The first method is based on the change in population, refined in some instances with income elasticity. Generally income elasticity has been kept constant (at 1.0). The second procedure pertains to the use of average growth rate for the reference year or the growth rate of "Business GDP". "Business GDP" includes all production activities except government administration, health, social services and imputed rent of owner occupied dwellings.

4 Specific methods used in GDP estimation- Industrial value added extrapolation

4.1 Agriculture, Forestry and Mining

In the national accounts framework, this industry is made up of a combination of two major categories of activities in ISIC; section *A - Agriculture, hunting and forestry* ; inclusive of activities relating to livestock herding and animal husbandry , and section *C - Mining and quarrying*. The activities were combined, as individually each industry was relatively minor in their overall contribution to the economy.

Baseline estimates

- *Agriculture, forestry and live stock*

The main source of data available for the estimation of agriculture, forestry and livestock were the SES 2002/2003 data, where SES mostly covered the production at household level. In the sample there were no household units that engaged exclusively in livestock production and only one unit that engaged in forestry.

In the estimation process, it was assumed that all livestock and forestry related activities were conducted exclusively at household level and only crop agriculture (horticulture) were carried out on a larger scale. But the LES coverage of large scale production on agricultural islands was limited to one respondent. Given these data limitations, more information was needed to measure a concrete estimate of production. So information from other surveys, including SES 1998/1999, HIES and VPA and data from agricultural sector of other countries were incorporated into the estimates to fill the data gaps. The HIES and VPA data on the origins of all expenditure items (local or imported) and value of own account production were particularly useful for the estimation of domestic production.

- *Mining*

In the Maldives this industry encompasses the activities related to sand and coral mining. The activity is often carried out at the household level, in working groups of 3 to 7 men. Thus the data was exclusively taken from SES 2002/2003. This traditional activity is on the decline, and only carried out on a very limited scale, with the activity also being restricted to a number of sanctioned zones. A more important reason for the decline lies in the gradual substitution of sand and corals with imported gravel and river sand in building and construction.

Extrapolation

- o *Current Price*

Estimates for Agriculture and Forestry are measured by inflating the constant price estimates for Agriculture and Forestry (refer below) on the basis of *CPI(food -excluding fish) for Male*'. The

current price estimate for Mining is calculated by inflating its constant price estimate (refer below) with the *Unit Value Index of imported building materials*.

o **Constant Price**

Agriculture – estimates are moved by *half* the growth rate of *Other hotels, restaurants and guesthouses* (refer to 4.7). Given the lack of monthly or annual volume indicators of production, such as area of cultivated land or quantity produced, it was decided that the only indicator that could be linked to the sectors growth could be the growth in tourism industry, which would in theory influence local production of agriculture, marketed to the resorts and restaurant operators. The reason for using the relatively lower growth of *Other hotels, restaurants and guesthouses*, rather than the growth rate of *Resorts* industry, is to avoid the possibility of over estimating the production of this sector.

Forestry – Again, in this component, given the lack of volume indicators to move the estimates, such as number of trees felled, it was decided to maintain the same level of production for the whole series.

Mining- Moved on the basis of the *half* the growth rate of *average monthly imports of building material per year* (a proxy for the demand of building materials in the Maldives) deflated with the growth in the *Unit Value Index of imports of building materials*. Despite the decline in usage, the production of sand and coral mining, are still believed to be closely tied to the construction industry.

4.2 **Fisheries**

This industry is classified under ISIC section **B-Fishing**.

Baseline estimates

Since this activity was not covered in the SES 2002/2003 the output for the sector was derived from the fisheries statistics compiled by the Ministry of Fisheries and Agriculture. Output was measured on the basis of total value of fish catch. This figure is derived from the total volume of fish catch multiplied by the average fish prices. The table below summarizes the derivation of the total output.

Table 3- Estimation of Gross Output of Fisheries sector, Supply and Use Table 2003

Type	Price per kg		Price per MT		Fish catch in MT		
	Male'	Atolls	Male'	Atolls	Male'	Atolls	Total
Skipjack	10.34	2.40	10,341	2,400	6,169	102,160	108,329
Tuna	12.50	4.00	12,501	4,000	3,422	24,595	28,017
Little Tuna	9.40	1.00	9,397	1,000	51	2,355	2,406
Reef fish	11.98	3.20	11,983	3,200	1,642	15,022	16,664
Total					11,283	144,132	155,415

Data source: Supply and Use Table 2003-Handbook

The Ministry of Fisheries, collects monthly data on volume of fish catch by locality, including the Exclusive Economic Zone (EEZ). To calculate the value of fish production, the average fish prices for Male' were derived from the daily consumer prices offered at the Male' Fish Market and, the commercial prices offered by MIFCO for the purchase of fish were taken as the average fish prices for the atolls. Of the total catch, approximately 93% were from the atolls while only 7% were from Male', but nearly a quarter of the total output was generated in Male', with the higher average prices.

The data used to derive the input structure for the sector is very weak as it was derived from a fisheries baseline survey for the fishing boat (masdhoani) owners from HA atoll. The total fisheries income by locality is derived by multiplying the average income per metric ton of fish caught calculated from the survey, by the quantity of fish caught. Next, the cost to income ratios are derived from the survey and applied to the total income to estimate the intermediate input structure for the industry. Adjustments were made to the intermediate use of petroleum products based on the quantity and value of sales reported by STO.

Extrapolation

o *Current Price*

Estimates are moved on the basis of constant price growth rate of Fisheries (refer below) inflated by *average change in PPI for fishing*.

o *Constant Price*

The growth of *average monthly fish catch per year* is used as a volume indicator to move the constant price estimate.

The monthly fish catch data, based on the daily and monthly reports by fishing boats to island offices are believed to suffer from possible over-reporting , as well as under-reporting of data. For one, it is believed that since the Maldivian fisheries has been traditionally concentrated on tuna fisheries, the data collection system developed to record this aspect of the industry , might not adequately capture some fisheries data , such as reef fishing . Since the data is only collected for vessels, the estimates would also exclude fish caught by individuals. Slack in data collection and negligence by the data collectors are also a possible sources of under reporting.

It is also believed that the daily reports of fish catch might be inflated by the boat captains in order to satisfy licensing rules regarding the minimum number of fishing trips and fish catch. Plus, the catch is generally reported in gross terms, with no adjustments to losses due to wastage and marketing problems. Currently there are no adjustments made to account for the reporting errors in the fisheries data. In the future, an adjustment factor need to be calculated based on consultation with the relevant authorities and scientific data to account for these net coverage lapses.

4.3 Manufacturing

The manufacturing industry in the Maldives is relatively small. It is therefore not possible to classify the activity at the detailed 3- 4 digit ISIC breakdown. Instead, some of the important activities have been separately presented, while other activities have been grouped in a logical way based on type of products ,the number of units and the value of output, to maximise the analytical value of the activities. Three main sources of data are used for the estimation of this sector; namely, Large Establishment Survey (LES) 2004, Small Establishment Survey (SES) 2002/2003 and Financial Statement of companies (FS).In the MEB framework, the ISIC activity section ***D-Manufacturing*** has been further divided into the following sub-categories:

<i>ISIC sub categories</i>	<i>Activity description</i>
1512	Processing and preserving of fish and fish products.
154	Manufacture of food products (excluding fish)
155	Manufacture of beverages
181	Manufacture of wearing apparel
201/3610	Wood planing and Manufacture of furniture
221/222	Publishing and Printing and services related to printing
2695	Manufacture of cement products
351	Ship building and repair
	Other Manufacturing activities

4.3.1 Processing and preserving of fish and fish products

Baseline Estimates

Fish preparation consists of large scale fish processing and canning operations by enterprises and small scale traditional fish drying/smoking and fish paste production in the various fishing islands. In the base year Maldives Industrial Fisheries Company (MIFCO) was the leading company in the preparation and processing of fish and fish products. The data for MIFCO was taken from their financial accounts. The small scale processing and preservation of fish were covered from SES 2002/2003 which collected data from 18 establishments engaged in the activity. Further adjustments were made after comparing to the use side (exports and household final consumption expenditure of prepared fish products).

Extrapolation

o Current Price

A significant portion of the output of fish processing industry is exported, with the rest being consumed locally.

$GO = \Sigma \text{ export of prepared or preserved fish} + \Sigma \text{ value of processed fish consumed locally.}$

The value added for the exported component is moved on the basis of the *growth in average monthly exports of prepared and preserved fish per year* and the *average monthly export of fish fillets per year*.

The value added for the domestically consumed portion of production is moved by the product of population growth, elasticity of 1, and an inflation factor of *average change in PPI for fishing*.

o Constant Price

Calculated by deflating the Current Price estimate (above) with the *average PPI of fish preparation*

4.3.2 Manufacture of food products (excluding fish)

Baseline Estimates

Of the data sources used in the baseline estimation, 78 establishments were taken from SES 2002/2003. Only one establishment was covered in LES. Manufacture of food products are largely operated on a small scale in the Maldives. Hence the larger coverage in SES compared to LES

Extrapolation

o Current Price

Value added moved using the constant price growth (refer below) , inflated by the *change in PPI of other food products*.

o Constant Price

Since no direct measure is available, estimates are moved using population **growth** multiplied by the elasticity of 1.0

4.3.3 Manufacture of beverages

Baseline Estimates

The beverages industry is made up of establishments engaged in the manufacture of drinks flavoured with fruit juices, syrups, or other materials. In the base year the industry was made up of one major company and a few small establishments. Male' Aerated Water Company (MAWC), which is involved in bottling of *Coca-Cola* brand of soft drinks and mineral water, was the main producer in the industry. Of the large

establishments that were covered, company financial accounts were used to compile data for MAWC, while another company was covered in LES.

Extrapolation

o Current Price

Estimates are moved on the basis of constant price growth in production (refer below) inflated by the *change in PPI of beverages*

o Constant Price

The production of beverages has been linked partly to the development of the tourism industry and partly to the development in the local market. The value added is moved on the basis of *bed nights*, reflecting the consumption by the tourists, and with *population growth multiplied by an elasticity of 1.1*, reflecting the local consumption. The elasticity of 1.1 is used as the product is considered 'luxury' consumption good.

4.3.4 Manufacture of wearing apparel

Baseline Estimates

In the base year, this industry was made up of two main parts, namely, apparel production in a handful of large scale garment factories, catering to the export market, and the small scale production in the numerous tailor shops that serve the local market. Three of the large factories were covered in the analysis of company financial statements. Most of the large factories operating in the industry at the time were foreign-owned and mostly used expatriate labour. They operated in the Maldives to get access to the US market, using the country's export quota under the MFA³. Since most of their output was exported, commodity flow method was used to estimate the output of these factories.

Only one large establishment that catered to the domestic market in Male' was covered in LES. To estimate the production by the small scale producers of wearing apparel, the data from SES were used. In total 356 small establishments were covered in SES.

Extrapolation

o Current Price

As described above, the industry is divided into two parts; apparel production in large scale garment factories, for the export market, and production by small tailor shops, for the local market.

³ Multi Fibre Arrangement (MFA); is an international trade agreement on textile and clothing that was active from 1974 till 2004. The agreement set quotas on the amount that developing countries could export in the form of yarn, fabric and clothing to developed countries

The constant price value of local production (refer below) is inflated using *PPI of wearing apparel* and the constant price estimate of export production (refer below) is inflated by the *Unit Value index of garment exports*.

o Constant Price

The baseline estimates for large scale, export production are moved on the basis of the change in *average monthly exports of apparel per year*. It must be noted that with the abolition of the MFA quota system at the end of 2005, the rationale for operating garment factories in the Maldives has gone and the factories have ceased their operations.

The value added of small scale production for the local market is extrapolated using *population growth multiplied by an elasticity of 1*. Although purchases of apparel increase with income, the elasticity has been put at unity as it was assumed that with increase in incomes, there is also a shift from locally produced clothing to (imported) ready-made products.

4.3.5 Wood Planing and Manufacture of furniture

Baseline Estimates

The wood planing industry was dominated by a number of small establishments, which were mostly engaged in carpentry work. 88 establishments engaged in *wood planing* were covered in SES 2002/2003. 265 small establishments involved in the *manufacture of furniture* on a small scale were also covered. Data for one large scale producer was gathered from their financial statements.

Extrapolation

o Current Price

The product mix of this (combined) industry group is not known. Its development has therefore been linked to the *growth of construction industry* (refer to [4.5](#)) A substantial part of local production of carpentry and joinery is often linked to new construction activities.

o Constant Price

The constant price estimates are moved using **half** the *constant price growth of construction industry* (refer to [4.5](#))

4.3.6 Publishing and Printing and services related to printing

Baseline Estimates

To estimate the production of printing and publishing industry, data were taken for two of the large companies from LES and for another two from their financial accounts. 18 small establishments were covered in SES 2002/2003.

Extrapolation

o Current Price

Estimates are moved by the constant price growth rate (refer below) multiplied by the change in *PPI for Publishing and Printing*.

o Constant Price

Moved using *population growth multiplied by the elasticity of 1.0*

4.3.7 Manufacture of cement products

Baseline Estimates

The accounts of Lafarge Maldives Cement Private Limited were analysed for the manufacture of cement products. 27 establishments from SES were engaged in the manufacture of cement products, such as bricks.

o Current Price

Since the activity provides products which are used exclusively in construction, the growth of the industry is directly linked to the *growth rate of the construction industry* (refer to [4.5](#)).

o Constant Price

The constant price growth is also linked to the *growth rate of the construction industry* (refer to [4.5](#)).

4.3.8 Ship Building and Repair

Baseline Estimates

Building and repair of marine vessels were carried out in the small and large scale. While 73 small establishments were covered in SES 2002/2003, of the large establishments in the sector, one company was covered in LES and the data for another was taken from their financial accounts.

Extrapolation

o Current Price

Estimated using the constant price growth of the industry (refer below), inflated by the change in *PPI for boat building*.

o Constant Price

The constant price growth is linked to the annual *change in number of registered vessels*.

4.3.9 Other Manufacturing

Baseline Estimates

This activity is a mix of all manufacturing activities not classified elsewhere .174 establishments involved in various other manufacturing activities were covered in SES. These include a number of establishments involved in the manufacture of jewellery and other articles such as souvenirs. Two large establishments, namely Maldives Gas and Male' Industrial Gases, were also covered in this sector using information taken from their financial statements. These two establishments were included in the manufacturing sector and not in electricity, water and gas production sector since they are engaged in the bottling and sale of gas, rather than distribute through mains.

Extrapolation

o Current Price

The industry growth is linked to the average *change in business GDP* at current prices.

o Constant Price

Growth linked to the average *change in business GDP* at constant prices.

4.4 Electricity and Water Supply

This activity comes under the ISIC classification section *E- Electricity, gas and water supply*. From the groups under the activity, two are relevant for Maldives

- 401 – Production, collection and distribution of electricity
- 410 - Collection, purification and distribution of water

4.4.1 Electricity generation & distribution

Baseline Estimates

The activity “electricity generation and distribution” consists of electricity production in Male' and atolls. The value of electricity generated by the resorts has been included in the cost structure of the tourism

industry and is not included here. The State Electric Company (STELCO) is the main public body for generation and distribution of electricity. In 2003, STELCO was not only responsible for operating power stations in Male' (Male', Villingili, Hulhule-Airport and Hulhumale') but also in Thinadhoo, Kulhudhuffushi, Gan, Hithadhoo, Thulusdhoo, Fuvahmulah, Hanimaadhoo, Hulhudhuffaaruu, G.A.Villingili, Dhidhdhoo, Gadhdhoo, Naifaru, Eydhafushi and a few other islands. Data gathered from the annual financial accounts of STELCO fully covered most of the production activities in Male' and the atolls, till 2009. Islands where electricity was generated by private individuals, the community or voluntary organisations were not included due to the lack of information.

In 2009, the atoll operations of STELCO has been separated and allocated to the newly created utility companies, operating in the six provinces of the country.

Extrapolation

o Current Price

The initial estimates are extrapolated by the change in *average monthly electricity production per year* by the public sector.

When the annual accounts for STELCO becomes available, the value added for the enterprise is calculated, using the value of output and material inputs from the income statement and the notes to the statement. The *change in value added* is then linked to the growth of the industry.

In the future, to improve the value added calculation for the industry, data from annual accounts of the other six utility companies are planned be included in the value added analysis.

o Constant Price

Estimates are moved using the *change in average monthly electricity production per year* by STELCO. In the future, electricity production from the regional utility companies are planned to be included to make a more comprehensive estimate.

4.4.2 Collection, purification & distribution of Water

Baseline Estimates

In the base year, Male' Water and Sewerage Company (MWSC) was engaged in the production and distribution of desalinated water to Male', Villingilli and Hulhumale'. The estimates for production and distribution of water have been obtained directly from the financial statements of MWSC for 2003.

Extrapolation

o Current Price

Initially the estimates for the industry are made by extrapolating the production by the change in *average monthly distribution of water per year*.

For those years in which annual reports are available for MWSC, value added is calculated from the financial reports of MWSC. Then, the *change in value added* is used to move production forward.

o Constant Price

Estimates are moved using the change in *average monthly distribution of water per year*.

4.5 Construction

This activity is classified under section ***F- Construction*** of, ISIC. The specific activities included in this section are:

- 4510 Site preparation
- 4520 Building of complete constructions or parts thereof; civil engineering
- 4530 Building installation
- 4540 Building completion
- 4550 Renting of construction or demolition equipment with operator

Baseline Estimates

Four main sources of data are used for the estimation of this sector. That is, the Large Establishment Survey (LES) 2004, Financial Statement of companies (FS), Small Establishment Survey (SES) 2002/2003 and administrative data from Maldives Customs.

A total of 45 large establishments were covered from LES/FS; which was about five percent of the total establishment population. To raise the data to industry levels total employment was used. To obtain an estimate of the number of locals employed in the industry, the information of the Population Censuses 2000 and 2006 was interpolated. The average expatriate labour force in construction was obtained from administrative records. The total number of workers employed in the industry during 2003 was estimated at 10,710, consisting of 5,804 expatriates and 4,906 locals.

Extrapolation

o Current Price

The initial estimates are calculated by extrapolating with the *change in average monthly imports of building materials* per year. This is a good indicator of production as almost all of the construction materials in the country are imported.

For those years in which annual financial reports are available total value added is generated from the financial reports of a sample of enterprises active in the industry, including MTCC. The *change in value added* is then used to move the estimates forward.

o **Constant Price**

Constant price production is extrapolated based on the changes in a number of indicators; Total *imports of building materials, number of expatriate labour employed in construction and area of buildings approved for construction.*

Weights given to the indicators are as follows

- o Building material imports - 80%
- o Building approval – 10%
- o Expatriate labour- 10 %

The rate of change in the average monthly imports of building materials are deflated by the change in the Unit Value index for imports of building material.

4.6 **Trade**

The industry referred to as **Trade** in the system, comes under section **G - Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods** of the ISIC Rev.3 classification. The section is divided into three main divisions

- **51-** Sale, maintenance and repair of motor vehicles and motorcycles; retail sale of automotive fuel
- **52-** Wholesale trade and commission trade, except of motor vehicles and motorcycles
- **53-** Retail trade, except of motor vehicles and motorcycles; repair of personal and household goods

Baseline estimates

Under the System of National Accounts 1993, trading is treated as a service that facilitates the purchase of goods for customers, by storing and displaying goods in a convenient location from which the goods would be available. The output of the activity is measured by the *trade margins* realized from the goods purchased for resale. SNA 93 defines **trade margin** of a product as “ the difference between the actual or imputed price realized on a good purchased for resale and the price that would have to be paid by the distributor to replace the good at the time it is sold or otherwise disposed of ” (SNA 93, 6.110)

For the Maldives, the wholesale and retail trading sector is made up of a large number of small and medium sized retail establishments, and a handful of large enterprises engaging in both retail and wholesale trade. Those enterprises that engaged in both the activities were classified to wholesale or retail trade based on the principal activity of the enterprise. Two state owned enterprises, the State Trading Organisation (STO) and the Maldives Transport and Contacting Company (MTCC) were also active in the industry.

The main source of data for the retail sector was the SES, and the data for the wholesale component were taken mainly from the annual accounts of enterprises and from LES. The sample figures were raised to population levels on the basis of imports and employment.

To account for the retail sales of automotive fuel in the base year, details from the financial accounts of Fuel Supplies Maldives (FSM) were added to complement the SES data.

The establishments engaged in the maintenance and repair of vehicles were only small scale workshops and were exclusively based on SES data.

Extrapolation

o *Current Price*

The production of this sector is divided into two components; locally produced goods and imported goods - as these would be the products that would be traded in the market. The value added for trade in local products are extrapolated with the *population growth rate* multiplied by the *previous year's change in GDP at market prices*. The values added for trade in imported goods are extrapolated with the *change in average monthly imports* for the year.

It would be worth noting here a difference in the estimation of this industry in the 1995 series and the 2003 series. In the 1995 series the trade in imported goods were linked to the growth in a subset of imports, consisting of household consumer goods, rather than the total imports. From the past experience, it was decided that using total imports would better reflect the trade patterns in the economy as much more is spent outside household consumer goods.

o *Constant Price*

To calculate the constant price value of production, the current price estimates (refer above) are *deflated* with the *unit value index of imports*.

4.7 Hotels and Restaurants

In ISIC this industry comes under section, ***H - Hotels and restaurants***. This is further broken down into two main groups

- **551** - Hotels; camping sites and other provision of short-stay accommodation
- **552** - Restaurants, bars and canteens

In reflecting the nature of the industry for the Maldives, in the local national accounts framework this industry had been categorized under two independent divisions

- Resorts and Safari Vessels
- Other Hotels, Restaurant and Guest house services

Note-Classification of Tourism industry

In ISIC, there is no single activity classified as *Tourism*; which would be broader in scope than section H of ISIC. It would not only include the outputs of resorts, but also supporting activities such as hotels, excursions, transport, recreation and safari vessels as well. In the case of Maldives, if auxiliary activities are carried out by the companies operating the resorts, it is generally not possible to separate them and these are included as secondary activities of the enterprise that's principally engaged in hotels and restaurant service. However, when the information is available, these activities are classified in the proper ISIC groups.

Baseline Estimates

The industry comprises of resorts, hotels and restaurants, safari vessel and guest houses. With the bulk of the production coming from resorts, the main sources of data were the company annual accounts of enterprises and LES 2004. The data for safari vessels, hotels, guest houses, and restaurants were mostly taken from SES 2002/2003. Administrative data, including bed nights and bed taxes, provided by the Ministry of Tourism and Civil Aviation, Department of Inland Revenue and Ministry of Finance and Treasury complemented these sample data. The table below summarises the data sources and the coverage in terms of bed nights for each type of establishment. In total the combined sample data from SES, LES and Financial Statements accounted for around 65 percent of the total bed-nights, a significant improvement in coverage from the previous base year estimates.

Table 4- coverage of data in terms of bed-nights

Type of establishment	Number of establishments					Bed nights		Coverage
	SES	LES	FS	Reported	Total	Reported	Total	
Resorts	0	11	48	59	87	3,047,502	4,617,672	66%
Safari Vessels	52	0	12	64	113	6,967	39,826	17%
Hotels / Guest Houses	0	1	3	4	32	15,785	47,103	34%
Restaurants / Cafés	574	0	0	574	574			
Total	626	12	63	701	232	3,070,254	4,704,601	65%

Data source- Supply and Use Table 2003-Handbook

- **Resorts and safari vessels**

The coverage for resorts amounted to close to 66 percent of bed-nights. To calculate the gross output and intermediate inputs, the bed-nights figures were used to calculate the raising factors to scale the sample data to population levels. The implicit assumption here is that the production and cost structures for the establishments that were not covered in the sample had a similar structure as those that were included in the sample.

Up to this step, only aggregate figures had been calculated for output and intermediate inputs. The aggregate figures was allocated to their respective products based on the output-input structures of the activity, calculated based on a sub-sample of establishments from the LES, which provided this information in sufficient detail.

Further adjustments were made to the raised estimates of intermediate inputs to reflect the pattern of imported goods for the tourism sector in the base year. This data is available separately for the tourism sector from the Maldives Customs Services database.

In contrast to resorts, the coverage in terms of bed-nights for safari vessels was considerably less at only 17 percent. The output for safari was also calculated based on the sample of annual accounts and SES data, raised with the total bed nights.

- **Other Hotels, Restaurants and Guesthouse services**

There are two main types of establishments represented in this industry; Hotels and guesthouses and Restaurants. The output of hotels and guest houses were calculated based on a sample of annual accounts of the major hotels operating in Male', including Nasandhura Palace Hotel, a state run establishment. The coverage level for the sample amounted to around 34 percent of bed nights.

The data for the Restaurants sector were taken primarily from the SES data, as it covered the café's and restaurants that served the local population.

Extrapolation

Resorts and safari vessels

- o ***Current Price***

The initial current price estimates of production are based on the growth of the constant price estimates (refer below) inflated by the *change in PPI for Resorts and Hotels*.

The final estimates are based on the *growth rate of GVA* derived from a sample of annual accounts of enterprises engaged in the activity.

- o ***Constant Price***

The constant price estimates are based on two figures; one reflecting the volume growth of the industry and an adjustment for quality changes.

The first value, representing volume growth is extrapolated based on the *growth of average monthly bed nights* for the year.

The annual value of ***quality change*** is set at ***5 percent of the volume of production in the year plus the accumulated quality change of past years.***

The reason for including a figure for quality change lies in the fast changing nature of the industry. Over the years, many new luxury resorts have opened and existing resorts have upgraded their facilities. Simultaneously, room prices have gone up. If a measure for quality change is not included, the whole change in room rates would be attributed to inflation, which is incorrect. As currently there is no reliable data, such as a set classification and grading system, (such as a star

rating system), to differentiate the resorts by their properties and services, a direct estimate for quality change cannot be calculated. As a compromise, in the system a conservative estimate for quality changes has been set at 5 percent. In the future a better methodology to accounts for these quality changes need to be formulated to get more robust estimates.

Other Hotels, Restaurants and Guesthouse services

o Current Price

Current price estimates are moved with the growth rate of constant price estimates (refer below) inflated by the *growth of PPI for Resorts and Hotels*.

o Constant Price

The production for this sector is determined by the combination of three indicators, *constant price growth for the resort sector*, *constant price growth for the trade sector* (refer to [4.6](#)) and *population growth*. It is linked to the constant price growth of the resort sector to represent the production of hotels and guesthouses in Male' which provides overnight accommodation for arriving and departing guests, especially those travelling to the more distant resorts, and to capture the in-flight catering operations at the Male' International Airport. Constant price growth in trade is used as an approximation of the growth in hotel services provided for business related visitors. Lastly, population growth has been used as a proxy for growth in production of cafés and restaurant services, serving locals.

4.8 Transport and Communication

This industry is broadly categorized under ISIC, section *I - Transport, storage and communications*. The main divisions include

- 60 - Land transport; transport via pipelines
- 61 - Water transport
- 62 - Air transport
- 63 - Supporting and auxiliary transport activities; activities of travel agencies
- 64 - Post and telecommunications

4.8.1 Land Transport

Baseline estimate

The main source of data was the Land Transport Survey conducted in 2001. In the survey, income and expenditure values and their respective distribution were measured for a sample of commercially operated vehicles, by types of vehicle. With the average income and costs calculated for each type of vehicle, the

next step was to raise the sample data using the total number of vehicles operating in the year. Since no information was available to do otherwise, no adjustments were made to account for the vehicles especially larger vehicles, such as pickups and lorries, that were operated for their own use by establishments engaged in activities such as trade, manufacturing or construction. The estimates for intermediate consumption of fuel were adjusted based on the prevailing prices of petrol in the base year.

Extrapolation

o *Current Price*

The current price estimates are calculated based on constant price growth for the industry (refer below)

o *Constant Price*

The *number of registered taxis* has been selected as a volume indicator to move the constant price production estimates for this industry. The annual data is available from the Ministry of Transport, at the end of each year. The forecasts are based on the trend growth for the last 3 years.

4.8.2 Water Transport

Baseline estimates

In ISIC Water transport is further divided into two groups

- 611 - Sea and coastal water transport
- 612 - Inland water transport (Inter-island water transport)

The establishments representing the first group are the large shipping companies engaged in the transport of cargo. Their production in the base year was calculated, from a compilation of financial statements for 11 enterprises engaged in the activity; including the Maldives National Shipping Limited (MNSL), a public enterprise. The sample data was raised to population levels on the basis of employment.

The latter group includes the inter-island transport operators, dhoni operators and enterprises engaged in the rental of speedboats. The activities under this group are spread across the country, with particular concentration around Male' and the central atolls of the country. The inter-island water transport, production is mainly calculated based on a special survey on water transport conducted in 2001. Estimates were calculated on the basis of total number of vessels by type, operating in 2003. The necessary adjustments were made to account for the vessels used in the resorts, private companies and government for their own consumption. Additional data for this sector were available from the annual account analysis of MTCC transport section, which operated the main ferries in the Male' region and an expansive network of inter-island ferries.

Extrapolation

o *Current Price*

Moved on the basis of growth in constant price estimates for the activity (refer below) inflated with the change in *PPI for sea transport*.

o *Constant Price*

The *changes in the number of registered vessels* are used as a volume indicator to move the constant price estimates. The annual data is available from the Ministry of Transport, at the end of each year. The forecasts are calculated based on the trend growth for the last 3 years.

In the system, there are no indicators relating to the production of the internationally operating shipping companies based in the Maldives, which could be used to move the estimates of production for this component of the industry.

4.8.3 *Air Transport*

Baseline Estimates

The industry is made up of three enterprises in the base year, Island Aviation, Trans Maldivian Airways and Maldivian Air Taxi. The data was exclusively taken from the financial accounts of the three companies. Of these enterprises, Island Aviation, the successor, to the now defunct Air Maldives, mainly operates domestic flights to the regional airports, and a small international operation with scheduled flights to South India. They also provide some auxiliary services within the Male' International Airport. The other two airlines, Trans Maldivian Airways and Maldivian Air Taxi, operate a fleet of seaplanes that exclusively flies to and from resorts and the international airport, the services predominantly being used by tourists as well.

Extrapolation

o *Current Price*

The initial estimates are based on the *growth rate of Resorts and safari vessels* ([refer to 4.7](#)), as the production of this industry would be directly proportion to the growth of resorts sector, and the number of tourists visiting the country.

When the financial statements of the companies operating in the industry become available, final estimates are calculated with the *growth in the total GVA* of the companies.

o *Constant Price*

Constant price estimates are calculated by deflating the *current price value of production* (refer above), with the *PPI for Air Transport*.

4.8.4 Auxiliary Transport

This industry is made up of a broad group of activities, from cargo handling, support services for land, air and water transport of passengers and freight, such as terminal facilities, lights houses or air traffic controls to activities of travel agencies and tour operators, etc.

Baseline Estimates

To calculate the base year estimates, data from 20 companies engaged in the activity were taken from the LES and the analysis of company annual accounts; this included the production of the two public enterprises, Maldives Airports Company and the Maldives Ports Limited which made a prominent share of the industry. The remaining enterprises were all travel agencies. The productions of regional airports were taken from the actual budget data for 2003.

Extrapolation

The performance of this sector has been linked to three indicators, each representing the three main components that make up this sector in the Maldives.

- **Maldives Airports Company Limited**

- o ***Current Price***

Initial estimates are extrapolated by the *change in constant price estimates* of production for MACL (refer below). When annual financial accounts of Maldives Airports Company Ltd becomes available the *change in the value added* calculated from annual accounts are taken to move the current price estimates.

- o ***Constant Price***

As a volume indicator of production for MACL, the figures for aircraft movement and the air cargo tonnage handled, at the Male' International Airport are taken, with equal weights. More specifically a figure is estimated based on the *change in international flight movements* at MIA, *change in domestic flight movements* at MIA and on the *growth rate of air cargo handled at the airport*.

- **Maldives Ports Limited**

- o ***Current Price***

Initial current price estimates are calculated by moving the figures with the *growth rate of constant price estimates* of production for MPL (refer below). For those years for which annual reports of MPL is available the *change in value added*, calculated from annual accounts are used as the extrapolators.

- o ***Constant Price***

The *change in the total tonnage of cargo through put by sea* is used as the indicator of volume changes, used to move the constant price estimates.

- **Others**

- o ***Current Price***

Estimates are moved with the *growth rate of Resorts* ([refer to 4.7](#)), as the production of the travel agencies are proportional to the growth of the sector.

- o ***Constant Price***

The constant price estimates for this activity is derived by deflating the current price estimate by the *PPI for Resorts*.

4.8.5 Post and Telecommunication

Baseline Estimates

The base year estimates for 2003 are based on the annual financial statements of, two public enterprises active in the industry, Dhiraagu , the only telecommunications provider in the base year , and Maldives Post Limited , which provides domestic and international post and courier services .

No provisions have been made for the operation of the private courier service providers, such as DHL or TNT, due to a lack of data for these activities. Another exclusion, due to the lack of data is in the production of cable TV services, an industry which grew from a small base to cover a significant portion of the country, over the last decade.

In the years since the base year, the industry has undergone significant deregulation as well, with two more telecommunications providers currently active in the market; Wataniya Telecom, a mobile phone operator and Focus Infocom, an internet service provider.

The industry has seen tremendous growth and dynamism between the two base years, and continues to do so, in terms of the range of products and services available, and in terms of population coverage and total usage.

Extrapolation

In the framework, the industry is broken down into two sub-groups, Dhiraagu/Wataniya and Maldives Post Limited

- **Dhiraagu and Wataniya**

- o ***Current Price***

The initial estimates are moved with the growth rate of the constant price estimates for the activity (refer below) inflated with the *change in PPI of telecommunications*.

Final estimates are calculated with the *annual GVA growth for Dhiraagu*, derived from the analysis of their annual financial accounts. Since 2005, the financial data from Wataniya telecom is also included in calculating the GVA growth.

- o ***Constant Price***

The constant price estimates are moved on the basis of three volume indicators, covering the three main sales products of the industry. The volume change in, *international call minutes*, *domestic call minutes* and *mobile call minutes* are used to move their respective estimates of production.

- **Maldives Post Limited**

- o ***Current Price***

The initial estimates are based on the growth rate of the constant price estimates for the activity (refer below) inflated with the *change in CPI for postal services*.

Final estimates are calculated with the *annual GVA growth for Maldives Post Limited*, calculated from the analysis of their annual financial accounts.

- o ***Constant Price***

The *domestic and international mail handled at the Male' International Airport* are used as volume indicators to move their respective estimates of production.

4.9 Financial Intermediation

This industry is categorized under ISIC rev.3, section ***J – Financial Intermediation***. In the MEB framework the industry is categorized under three divisions.

- Maldives Monetary Authority
- Deposit and other Banks
- Insurance

“Some financial intermediaries are able to provide service for which they do not charge explicitly, by charging different rates of interest to borrowers and lenders” (SNA 93, 6.124). To capture this, SNA proposes an indirect measure - *financial intermediation services indirectly measure* (FISIM) - of the value of services for which intermediaries do not charge explicitly. FISIM is calculated as “the total property

income receivable by financial intermediaries less interest payable, excluding the value of any property income receivable from the investment of its own funds” (SNA 93, 6.125). Other output of financial intermediaries includes revenue from fees and commission charged for ancillary services, such as currency exchange and investment advice.

4.9.1 Maldives Monetary Authority

Baseline Estimates

The functions and services of the central bank are among the activities covered in this section. For the Maldives this function is carried out by the Maldives Monetary Authority (MMA). The financial intermediation services of the central bank are measured in the same way as any other financial intermediary. The base year estimates are calculated from the annual financial accounts of MMA for the year.

Extrapolation

o Current Price

Initially estimates are moved on the basis of *change in business GDP in current prices* ([refer to 4.11](#)).

When the annual financial statement for MMA becomes available, production is moved on the basis of *growth rate of GVA*.

o Constant Price

The constant price output growth is linked to the *change in business GDP at constant prices* ([refer to 4.11](#)).

4.9.2 Deposit and other banks

Baseline Estimates

In the base year this activity was represented by five commercial banks and a financial leasing firm. Gross value added is calculated from the annual financial accounts of, Bank of Maldives, State Bank of India, Bank of Ceylon, Habib Bank, HSBC and Maldives Financial Leasing Company

Extrapolation

o Current Price

Initial estimates are extrapolated on the basis of the *half the growth rate of GDP for Business Services at current prices* ([refer to section 4.11](#)).

When the financial statements for the companies become available, production is moved on the basis of *change in GVA for the Banking and Insurance firms*.

- o ***Constant Price***

Estimates are moved on the basis of a ***fifth*** of the *change in business GDP at constant prices* ([refer to section 4.11](#)).

4.9.3 Insurance

Baseline Estimates

The baseline estimates are calculated from the financial accounts of Allied Insurance Company, a public corporation and Sri Lanka Insurance Corporation. The main types of insurance services provided were non-life insurance services

Extrapolation

- o ***Current Price***

Estimates are measured on the basis of *change in business GDP at current prices* ([refer to section 4.11](#))

- o ***Constant Price***

The constant price output growth is linked to the *change in business GDP at constant prices* ([refer to section 4.11](#)).

Note –Volume indicators for Financial Intermediation

The need for volume measures to move the constant price estimates for the Financial Intermediation services, were identified in the 1995 series, and it continues to be the case . Possible indicators include the volume of check clearances or volume of bank deposits and loans. But there are issues in relying on these indicators. For example the amount of effort by a bank to sign a loan of Rf.100 and Rf 100 million is roughly the same. So the “volume” of the loans and deposits tells only so much. Also, what could be seen as a volume change could also be in fact a mixture of volume change and inflationary information. For example, a loan was issued for buying a motorbike ten years ago, when that bike cost Rf.20,000 , and now another loan is issued for a new bike now costing Rf.30,000. Here the volume of credits goes up by fifty percent without an underlying change in the lending.

Therefore as a substitute, in the system the constant price growth of the industry has been linked to the growth in business GDP. Linking the constant price banking activity to the growth in the business GDP assumes two things:

- a) The share of lending to the business sector remains the same; and
- b) The share of lending by the business sector in total financing remains the same.

Given the natural behaviour of businesses, where financing is from loans to the extent possible, the assumptions are expected to hold strongly, but more research on the business sector could clarify it further .

4.10 Real estate, Machinery & equipment rental, Business services

This industry is broadly categorized in ISIC rev.3, category *K - Real estate, renting and business activities*. The main activities include real estate activities, rental of machinery and equipment and other business services.

4.10.1 Real estate activities

Real estate consists of two components, renting of building and land and imputed services for owner occupied dwellings (refer to [4.10.4](#)).

Baseline estimate

For the base year, as most of the real estate activities in the corporate sector were carried out as secondary activities by construction companies, these could not be classified under this industry. As the SES and LES did not identify any establishments dedicated to this activity, it can be safely assumed that the real estate activities in Maldives are mainly done at household level. HIES 2002/2003 mainly provided estimates for rental of dwellings. The rental value for properties other than dwellings, were estimated indirectly, based on the intermediate use of the products reported by enterprises, government and households, using the commodity flow method. The input structure was calculated based on the SUT 1997.

Extrapolation

o *Current Price*

Estimates are measured on the basis of *half* the growth in business GDP at current prices ([refer to 4.11](#)).

o *Constant Price*

Estimates are moved on the basis of a *fifth* of the change in business GDP at constant prices ([refer to 4.11](#)).

4.10.2 Renting of transport, machinery and other equipment

Baseline estimate

The main sources of data for the estimation of production for the industry are the SES 2002/2003 and the financial reports of large enterprises. The sample data was raised to population levels using the estimates of total employment in the industry, derived from census data and expatriate labour data.

Extrapolation

o *Current Price*

Estimates are measured on the basis of **half** the *growth in business GDP at current prices* ([refer to 4.11](#)).

o *Constant Price*

Estimates are moved on a **quarter** of the *growth in business GDP at constant prices* ([refer to 4.11](#)).

4.10.3 Business activities

This industry is made up of two divisions of the ISIC section K of activities;

- 72 - Computer and related activities
- 74 - Other business activities

Baseline estimate

The first components of this industry; computer and related activities are made up of activities such as, computer and network installation and maintenance, hardware, and software development, and the maintenance and repair of computing machinery etc. Although there are a significant number of establishments engaged in the activity, most of the major establishment carried out this activity secondary to their principal activity, the retail sales of software and hardware. Therefore they were classified under Trading. Only a handful of mostly small establishments were exclusively engaged in the activity. The production of this activity was estimated based on the financial statement of companies and SES data.

Other business activities mainly consisted of service related to accounting, bookkeeping, auditing, architecture, engineering, advertising etc. Data from LES, SES and Financial Statements were used to estimate the production of this industry. The sample data were raised to population levels using estimates for employment, taken from Census data and the register of expatriates maintained by the Ministry of Human Resources.

Extrapolation

o *Current Price*

Estimates are measured on the basis of **half** the *growth in business GDP at current prices* ([refer to 4.11](#)).

o *Constant Price*

Estimates are measured on the basis of **half** the *growth in business GDP at constant prices* ([refer to 4.11](#)).

4.10.4 Imputed rent of owner occupied dwellings

In SNA “heads of household who own the dwellings which the household occupy are formally treated as owners of unincorporated enterprises that produces housing services that are consumed by those same households” (SNA 93 , 6.89) . The housing services produced are deemed to be equivalent to the value of rent that would have been paid in the market for similar accommodation in terms of size, quality, type, location etc.

Baseline estimate

The imputed rent of owner occupied dwelling is measured from HIES 2003. The rent levels were estimated on the basis of reported rents paid for the different types of housing units. In Male’, housing units were grouped separately for houses and apartments, while for the atolls only houses were taken. Housing rents were analysed separately for Villingili, a satellite island of Male’. Estimates for the number of residential properties, by type of accommodation were obtained from the Population and Housing Census of 2000.

Extrapolation

o Current Price

Moved on the basis of a *fixed negative growth rate of -1.8 percent*, which is the rate of change between imputed rent for 2003, calculated from HIES and the imputed rent for 2004 estimated from VPA II.

o Constant Price

Current Price estimates (refer above) are deflated by **half** the change in overall CPI (excluding fish) for Male’.

4.11 Total Business GDP

The sum of value added generated by all the activities listed above with the exclusion of *imputed rents of owner occupied dwelling (industry 4.10.4)*, is the “Total business GDP”. The sum of activities that are separately estimated for each pair of years is derived by the aggregation of only the value added of those activities which have an explicit independent indicator in the system. The average percentage changes for the activities with the explicit indicators are then applied for all activities for which no explicit independent indicators have been identified, such as insurance or real estate activities.

4.12 Public administration and defence

The government produces a variety of non-market goods and services, including collective services such as public administration and defence or individual services such as education or health .Under SNA 93 the output of non-market goods and services produced by the government are valued as the sum of the costs

incurred in their production; Intermediate consumption, Compensation of employees, Consumption of fixed capital and Other taxes, less subsidies, on production

Baseline estimate

This industry comes under ISIC section ***L - Public administration and defense; compulsory social security***. The estimation for this sector was based on the consolidated government budget 2005, which provided the actual income and expenditure figures for 2003. The separate government institutions were divided to their respective industries according to ISIC rev.3. The budget provided details for the calculation of market output from sales of services and non-market output measured as the sum of total intermediate costs, compensation of employees' and imputed consumption of fixed capital. Imputed consumption of fixed capital is assessed using a Perpetual Inventory Model (PIM), based on a historical series of purchases of fixed assets, updated with changes in CPI.

Extrapolation

o *Current Price*

Total GVA is the sum of wages and salaries and consumption of fixed capital for the government establishments categorized under public administration and defense. The *change in the GVA*, is used to move the estimates.

o *Constant Price*

A wage index is used to deflate the figure for wages and salaries. With regards to formulating the wage index, adjustments need to be made for changes in general level of salaries, as this would be treated as a price change. Salary payments to additional staff, changes in the mix of staff grades, and the levels of annual increments are all treated as volume changes that need not be accounted for in the deflator.

The consumption of fixed capital is deflated, with the CPI (excluding fish) for Male'.

The *deflated GVA* is the sum of the deflated total wages and salaries and the deflated consumption of fixed capital. The *change in deflated GVA* is used to move the constant price estimates.

4.13 Education

Baseline estimate

This industry comes under section ***M-Education*** of ISIC. In the base year close to 90 percent of the production in the activity were carried out by the government. Thus the main source of data was the actual budget estimates taken from the 2005 government budget. The government budget covered all the government schools, Maldives College of Higher Education and most of the community schools. The private sector data were collected from SES, and imputations were made based on the administrative data from the Ministry of Education.

Extrapolation

The estimate of production for the industry is made up of two components; government production and private production.

o *Current Price*

Since the government production of education is a non-market service, offered without charge or at prices which are not economically significant, the gross value added is measured as the sum of wages and salaries and consumption of fixed capital. The *change in GVA* is used to move current price estimates of production.

The value of private production is calculated by inflating the constant price estimate (refer below) with the *PPI for Education*.

o *Constant Price*

To estimate the value of government production, the wages and salaries are deflated with the wage index and the consumption of fixed capital is deflated with the CPI (excluding fish) for Male'. The deflated GVA is measured as the sum of deflated wages and salaries and deflated consumption of fixed capital. The *change in deflated GVA* is used to move the constant price estimates for government production of the service.

The estimates for private production is moved with the growth rate, derived from the product of *elasticity of 1.1, population growth and change in CPI (excluding fish) for Male'*.

4.14 Health

Baseline estimate

This industry comes under ISIC section *N- Health and social work*. The data sources used for the base year estimation of production includes the government budget, SES and financial accounts. The budget covered all government owned establishments engaged in the activity. This includes, IGMH- the main public hospital in the country, and other regional and community health centers. The estimate for private sector is based on the financial statements of ADK, the biggest private producer in the industry and from SES, which covered the production of a sample of private clinics, which was later raised to population levels.

Extrapolation

The production of health services are divided into two components, government production and private production.

o ***Current Price***

Since the government production of health is a non-market service, offered without a charge or at prices which are not economically significant, the gross value added is calculated as the sum of total wages and salaries and consumption of fixed capital. The *change in GVA* is used to move current price estimates of production.

The value of private production is calculated by inflating the constant price estimate (refer below) with the *PPI for Health*.

o ***Constant Price***

To estimate government production wages and salaries are deflated with the wage index and the consumption of fixed capital is deflated with the CPI (excluding fish) for Male'. The deflated GVA is the sum of deflated wages and salaries and deflated consumption of fixed capital. The *growth rate of the deflated GVA* is used to move the constant price estimates for government production of the service.

The estimates for private production is moved with the growth rate, derived from the product of *elasticity of 1.1, population growth and change in CPI (excluding fish) for Male'*

4.15 Other Community, social and personal services

Baseline estimate

This industry comes under ISIC section ***O - Other community, social and personal service activities***. It is a broad industry consisting of four main divisions;

- 90 - Sewage and refuse disposal, sanitation and similar activities
- 91 - Activities of membership organizations n.e.c.
- 92 - Recreational, cultural and sporting activities
- 93 - Other service activities

The other community, social and personal services provided by the government, was estimated using the government budget. Institutions classified in this activity include, the Waste Management Section, National Library, Television Maldives etc. To estimate the production of NPISH, the financial statements of two of the country's biggest NGOs, Care Society and Society for Health Education were analyzed. SES 2002/2003 covered more of the smaller establishments active in the private sector

Extrapolation

Separate estimates are calculated for, government production and private production.

- o **Current Price**

Since the government production is a non-market service, offered without a charge or at prices which are not economically significant, the gross value added is made up of the total wages and salaries and consumption of fixed capital. The change in GVA is used to move current price estimates of production.

The value of private production is calculated by inflating the constant price estimate (refer below) with the *CPI (excluding fish), for Male'*.

- o **Constant Price**

To estimate government production, first both the figures for wages and salaries, and consumption of fixed capital need to be deflated. Wages and salaries are deflated with the wage index and consumption of fixed capital is deflated with CPI (excluding fish) for Male'. Deflated GVA is the sum of deflated wages and salaries and deflated consumption of fixed capital. The *growth rate of the deflated GVA* is used to move the constant price estimates for government production of the service.

The estimates for private production is moved with the growth rate, which is the product of *elasticity of 1.1, population growth and change in CPI (excluding fish) for Male'*

4.16 FISIM (Financial Intermediation Services indirectly Measured)

FISIM is a correction to GDP for the interest spread in the intermediate cost structure across industries, produced as an output of the financial sector. For the treatment of FISIM, a nominal industry was incorporated in the SUT 2003 of which the output was set to zero through the introduction of a negative operating surplus of the same total amount. This treatment is still in line with the recommendations of the 1993 SNA, although the SNA has a preference for FISIM to be allocated to the industries and final expenditure components on the basis of outstanding loans and deposits. The base line estimate of FISIM is the value added for the Nominal banking sector taken from SUT 2003. The base year estimates are a sum of FISIM for all the deposits banks, MMA and Maldives Financial Leasing Company.

Extrapolation

- o **Current Price**

The initial estimates are moved with the *change in Business GDP*.

After the annual accounts of MMA (section [4.9.1](#)) and Deposit and other banks (section [4.9.2](#)) are added into the system, the sum of their value added is calculated. The *annual change in this sum* is used to move the estimates.

o ***Constant Price***

The combined growth rate calculate by the products of *change in business GDP* (refer to section [4.11](#)) and *annual average monthly interest rate* , is used to move the constant price estimate of FISIM.

4.17 GDP in basic prices

As valuation of value added of all production activities was carried out in basic prices that is exclusive of net taxes on production, the summation of the results gives GDP in basic prices.

5 Specific methods used in GDP estimation - Macroeconomic budget extrapolation

This chapter of the document has been expanded for this revision

This section gives a detailed breakdown of specific methods used for the derivation of GDP at *market price* and estimates of GDP by *final expenditure components*. The SUT 2003 is the basis for the derivation of the figures for 2003 given in table 2, *Macroeconomic budget extrapolation sheet*. The methodology used in the derivation of this column is explained in the following text as well as the indicator used and the method used for the extrapolation of final expenditure components of GDP for the years 2004 onwards.

The estimate for GDP derived through the production approach as outlined in chapter 4 above, by means of the industry value added extrapolation (table 1), is independent from the estimate for GDP based on expenditure approach as outlined in this section below. Therefore, the two estimates can be different. This difference is reflected in the discrepancy (given in section [5.13](#) below), which is measured as total use minus resource.

It should be noted here that as of now, data generated from the macroeconomic budget extrapolation is not published.

5.1 GDP at market prices

In order to derive GDP at market prices, it is necessary to add import duties and taxes on products and deduct subsidies on products from GDP in basic prices. This has been shown in lines 1 to 5 of table 2, where the GDP in basic prices (line 5) is transferred from the last line (line d) of Table 1.

5.2 Import duties

Baseline

Import duties are reported in the annual Government budgets. This figure in SUT 2003 is MRf 841.1 million.

Extrapolation

o *Current Price*

Initial estimates are moved with the *change in average monthly imports* for the year.

As the budget data become available, the actual figures for import duties are entered into the system.

- o ***Constant Price***

Current price figures (above) are deflated by the *unit value index of total imports excluding fuel*

5.3 Taxes on products

Baseline

The taxes for the base year are taken from the government budget. Till recently the only form of taxes on products in the country were the bed tax taken on tourist resorts and import duties on goods

From January 2011, under the Tourism Goods and Services Tax (T-GST) Act of 2010, a 3.5 % tax was imposed on all goods and services purchased by tourists. The current bed taxes are set to continue for three years from the inception of the T-GST.

Under the new GST Act, GST is charged on the value of goods and services sold in the Maldives, since October 2011. This Act brings within its scope the former T-GST regime as well as a General goods and service tax (G-GST).

Extrapolation

- o ***Current Price***

Initial estimates for taxes on products are moved with the *change in average monthly bed nights* for the year.

As the budget data become available, the actual figures for bed taxes are entered into the system.

Since 2011, the tax collected from GST would be also added to the taxes on products.

- o ***Constant Price***

The current price figure for bed tax (above) is deflated using a *bed tax index*. The index compares the current tax rate with the base year (2003) tax rate. The most recent change came in 2004, when the tax rate was increased from 6 percent to 8 percent.

As of yet there are not deflators for GST data.

5.4 Subsidies on products

Baseline

The subsidies for the base year are taken from the government budget.

Extrapolation

o *Current Price*

The subsidies on food, medicine and electricity production are taken directly from the government budget and given only for years for which data is available.

o *Constant Price*

Change in business GDP (refer to section [4.11](#)) is used to move the constant price estimate of subsidies on products.

5.5 Imports of goods and services

Baseline

Imports of goods for 2003 were taken from the national customs database. BoP data was used to estimate the import of services, with adjustments being made through the commodity flow approach.

Extrapolation

As illustrated in table 2, imports of goods and services are the aggregate of, *apparel for re-export, other imports of goods* and *other imports of service*.

o *Current Price*

Sixty percent of total exports of apparel (refer to section [5.7](#)) is taken as import of material for export production. Since the conclusion of the Multi Fiber Agreement (MFA) and the closure of the large garment manufacturers, this component has become zero.

Other imports of goods are moved with the *change in average monthly imports of goods for the year*, taken from customs database.

Other imports of services are moved with the *change in imports of services*, taken from the BoP.

o *Constant Price*

A portion of exports of apparel is taken as the imports of material for export production. This proportion is set at the base year ratio of imports of material for export to total exports of apparel, which amounts to around *56 percent*.

The estimate for import of goods is moved with the *change in current price estimate of imports of goods* deflated by the *change in the unit value index of total imports*.

The imports of services in constant prices are moved with the product of *change in the business GDP* (refer to section [4.11](#)) to the *elasticity of 1.025*

5.6 Total available for final use

Total available for final expenditure is the sum of *GDP at market prices* (section [5.1](#)) and *imports of goods and services* (section [5.5](#))

5.7 Exports of goods

Baseline

The base year figure for the exports of goods is obtained from the Maldives Customs data. The re-export of jet fuel is taken from the sale of jet fuel from the Maldives Airports Company.

Extrapolation

Export of goods are the aggregate of a number of items that are independently estimated. These include the export of ; *apparel, fish (including frozen fillets), processed fish and other goods (including re-exports)*.

o Current Price

Exports of apparel are extrapolated with the *change in the average monthly export of garments* for a year. Since the conclusion of the MFA, there are no longer any exports of garments from the country.

The exports of, Fish (including frozen fillets) are moved with the *change in the average monthly exports of Fish (including frozen fillets)* for the year, taken from the Customs database.

The export of other processed fish is moved with the *change in the average monthly exports of all fish products excluding “Fish, incl. Fillets, frozen”*.

The exports of other goods are moved with the *change in the average monthly exports of all goods excluding apparel and all fish product*.

The re-export component is moved with the *change in estimated average monthly re-exports for the year*. The re-export component is made up mostly of the sale of jet fuel, by the Maldives Airports Company.

- o **Constant Price**

Constant price estimate for exports of apparel are moved with the *change in the average monthly exports of garments*, deflated by *change in the unit value index of exports of garments*.

Constant price estimate of export of “Fish, incl. Fillets, frozen” are moved with the change in the current price estimate (above) deflated by the *change in unit value index of exports of fish (live , fresh or frozen , but not prepared)*.

The constant price estimate of exports of other processed fish are moved with the change in current price estimate (above), deflated by the *change in the unit value index of exports of fish (prepared, fresh or preserved)*.

The exports of other goods are deflated with the *unit value index of total exports*.

The re-export component is deflated with the index of *annual average monthly crude oil prices*.

5.8 Exports of services

Baseline

For exports of services, BoP was used for the most part, but adjustments were made where necessary. The most important adjustments include the use of company annual accounts to derive the exports of resorts and export of air transport services provided by Trans Maldivian Airways (TMA) and Maldivian Air Taxi (MAT).

Extrapolation

Exports of services are divided into two components; tourism services and all other services.

- o **Current Price**

Initially the current price estimates of exports of tourism services are moved with the *change in the constant price estimates* (refer below), inflated with the *change in the PPI of resorts and hotels*.

After the company annual accounts becomes available ,the export of tourism services are estimated by moving the export figures with the *growth of Gross Output (GO)*, derived from a sample of enterprises in the hotels and resorts industry. The change in GO for the industry is calculated, similarly to GVA, when a certain threshold of accounts are entered on to the system.

Exports of other services are moved with the *change in the export of other services* taken from the BoP.

- o **Constant Price**

Export of tourism services are further divided into two components, the part that accounts for volume change in exports of tourism services, and the part of exports that could be attributed to quality change.

The volume of tourism services exported is extrapolated with the *change in average monthly bed nights for resorts and hotels* for the year. The quality change is set at *the rate of quality change in the value added of resorts and safari vessels* (refer to section [4.7](#))

The constant price estimate of export of other service is extrapolated with the *change in the total value added of transport and communication activities*. (refer to section [4.8](#))

5.9 Government final consumption expenditure

The final consumption expenditures of the general government consist of expenses incurred by the general government on individual consumption goods and services and collective consumption services (SNA 93 , 9.94).

Individual final consumption expenditures of government include individual goods and services that “are essentially” ‘private’, as distinct from ‘public’ goods. Included in individual goods and services are expenditures by general government for health services including public health, recreation, culture and religion, education, social security and welfare services, housing and sewerage services. Collective final consumption expenditures include only services. Included in collective services are the provision of security and defence, public administration, public research and development, maintenance and improvement of law and order, general administration including the setting and enforcement of policies, standards and regulation of individual services , such as public health, education, etc.

Baseline

The base year estimates for this sector was based on the consolidated government budget 2005, which provided the actual income and expenditure figures for 2003.

The output of the government is a non-market output. While there are no markets for collective services such as public administration and defence, even in the case of non-market education, health and other services provided to individual households, suitable prices may not be available. To ensure that the non-market output is valued consistently, the government output is valued by the sum of costs incurred in their production. That is the sum of: Intermediate consumption, Compensation of employees, Consumption of fixed capital and other taxes, less subsidies on production.

The government final consumption expenditure is the government output minus the market output of the government. The latter refers to the fees that government receives for the provision of services. The following diagram gives a breakdown of government final consumption expenditure, by products, taken from SUT 2003.

Table 5: Government final consumption expenditure by item, 2003

Code	Description	Total	Education	Health	Auxiliary	Social	Construction	Public admin & defence
+ D.1	Compensation of Employees	1,061.3	322.5	126.3	20.4	72.4	7.1	512.6
+ K.1	Consumption of Fixed Capital	568.1	10.41	9.74	5.55	14.72	31.20	496.49
+ P.2	Intermediate Consumption	890.3	79.2	107.3	8.7	40.2	3.9	651.0
= P.1	Government Output	2,519.7	412.1	243.3	34.7	127.3	42.1	1,660.1
- P.11	Receipts for services, fines etc.	172.4	4.6	35.8	2.0	12.1	4.0	113.9
= P.4	Final Consumption Expenditure	2,347.3	407.5	207.5	32.7	115.2	38.1	1,546.2

Extrapolation**o Current Price**

Gross Output less non- tax revenue, compiled from the government budget

o Constant Price

Deflated Gross Output less deflated non-tax revenue.

Deflated Gross Output is the sum of deflated values for Intermediate consumption, wages and salaries and consumption of fixed capital. Intermediate consumption is deflated with CPI (excluding Fish, for Male'), wages and salaries and non-tax revenue is deflated by the Salary index. The volume of consumption of fixed capital is imputed as a by-product of the Perpetual Inventory Method (PIM) , for the assessment of the government's capital stock .

5.10 Household final consumption expenditure**Base line**

Household final consumption expenditure estimates are taken from SUT 2003 which was derived from the HIES 2002/2003. In addition to their value, information on the source of the consumption items were also taken from HIES. Four different sources were identified, namely:

- Consumption from own production;
- Purchased locally produced goods and services;
- Purchased imported goods; and
- Gifts in kind received.

This detailed information allowed for the preparation of estimates for the production account of own-consumed produce, derived from item (a), as well as verification of the imports value of consumer goods and their trade margins by comparison of the values against item (c) with the imports and SES data on trade margins. As in SUT 2003, expenditure and consumption of NPISH has been incorporated into household final consumption.

Extrapolation

Household consumption is decomposed into two parts, namely, the consumption of goods and services and the consumption of housing services in owner occupied dwellings.

o **Current Price**

The consumption of goods and services by the household are extrapolated with the *change in the average monthly imports of household consumer goods*. The consumption of housing services in owner occupied dwellings, is the *value of imputed rents*

o **Constant Price**

Current price figure (above) is deflated by the value of *CPI (overall average) for Male'*

5.11 Gross Fixed Capital Formation

Gross Fixed Capital Formation (GFCF) is the total net additions to the non-financial assets (i.e. value of the acquisition less disposal of the non-financial assets). This category includes net additions made to electrical machinery and equipment, ships, metal products, non-electrical machinery and equipment, other transport equipment and construction.

Base line

For estimation of the gross fixed capital formation, four main sources of data were used; import statistics, government budget, SES 2002/2003 and financial reports of public companies.

The budget data for 2003 was used to estimate the gross fixed capital formation of the government, while SES and annual accounts data of public companies were used to estimate capital formation by the corporate sector. It was assumed that the difference between the overall estimate of gross fixed capital formation, derived through the commodity flow approach from import data and construction output was the capital formation of the household sector.

Extrapolation

Gross Fixed Capital Formation is divided in to the following categories in the MEB framework .

- Construction
- Ship Building
- Machinery and Equipment

o **Current Price**

Initially the *change in the average monthly imports of building materials* is used to extrapolate the GFCF for construction. After the company annual accounts become available, the growth rate is

replaced by the *change in the Gross Output (GO)*, derived from a sample of enterprises in the construction industry. The change in GO for the industry is calculated, similarly to GVA, when a certain threshold of accounts are entered on to the sheet.

Changes in business GDP (refer to section [4.11](#)) is used to move the GFCF for ship building.

GFCF for Machinery and Equipment are extrapolated with the *change in the average monthly imports of capital goods*.

o Constant Price

The GFCF for construction is extrapolated with the *change in the value added of construction* (section [4.5](#))

The constant price GFCF for ship building is extrapolated with the *change in the value added for ship building* (section [4.3.8](#))

The current price value for GFCF of Machinery and Equipment (refer above) is deflated by the *Unit Value index of imports of capital goods*.

5.12 Change in stock

Base line

Changes in inventories mostly take place in production and trading companies, as agriculture is of minor importance. To measure the changes inventory, only large establishments were taken, as generally small establishments don't maintain large stocks of material or goods for sale. The data were compiled from the annual reports of three public limited companies, all the government companies and most of the large companies operating in tourism, construction, sea transport, trade and manufacturing. No adjustments were made to adjust the reported changes for holding gains. Information to make such a correction was lacking, but this could be expected to be small as the level of inflation during 2003 was very low.

Extrapolation

Since no information is available on the changes in stocks, it is assumed that the level of stock is equal to zero, for both constant and current price estimates

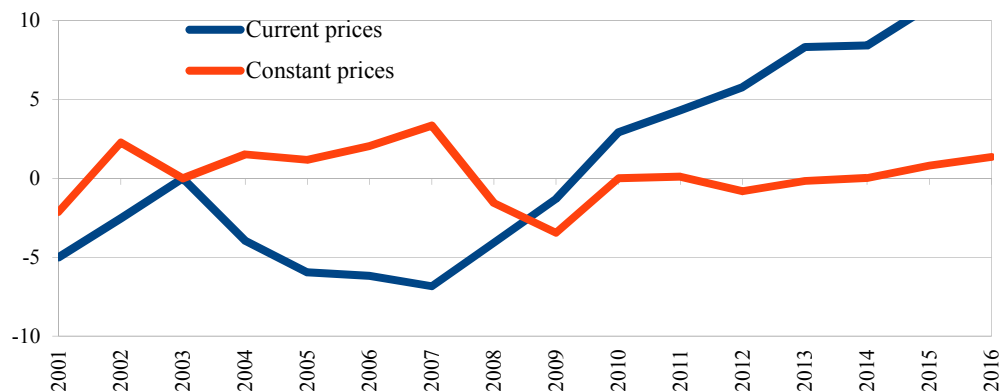
5.13 Discrepancy

The estimate of total resources available for final expenditure (item 10 of table 2), derived as the sum of GDP at market prices and imports of goods and services, is independent from the estimates of total use from final expenditure components in item 27. Therefore, the two estimates might be different. This difference is reflected in the discrepancy, which is measured as expenditures minus resources. By definition, there is no discrepancy in the base year.

In the current price series discrepancy initially falls under the negative, peaking at -6.8 percent of total final expenditure. With the current data set, since 2010, the discrepancy starts moving in the positive. This should be treated with caution as the estimates may vary with the availability of data.

In contrast with the constant price series shows the discrepancy moves positively and negatively from year to year and even becomes zero in some years. The discrepancy peaks at 3.4 percent of the total final expenditure. This is a good indicator of the consistency between the two estimates.

Figure 5- Comparison of discrepancy, between constant price series and current price series



Note: Please refer to the document *Rebased GDP 2003- Analysis*, for a detailed analysis of the differences between the 1995 and 2003 series.

Annex I - Macroeconomic Budget Framework

Industry Value Added Extrapolation

	Industry/Item	Current price	Constant price
4.1	<i>Agriculture, Forestry and Mining</i>		
	- <i>Agriculture</i>	Constant * CPI (food-excluding fish for Male')	$\frac{\Delta \text{ in GVA of other hotels restaurants and guesthouses}}{2}$
	- <i>Forestry</i>	Constant * CPI (food-excluding fish for Male')	Same level of production maintained
	- <i>Mining</i>	Constant * Unit Value index of imported building materials	$\frac{\Delta \text{ in average monthly imports of building materials}/2}{\Delta \text{ in unit value index of imported building materials}}$
4.2	<i>Fisheries</i>	Δ Constant * Δ PPI for Fishing	Δ in average monthly fish catch per year
4.3	<i>Manufacturing</i>		
4.3.1	- <i>Fish preparation</i>		
	• Production for export market	▪ Δ average monthly export of prepared and preserved fish (and) ▪ Δ average monthly export of fish fillets	$\frac{\text{Current}}{\text{PPI for fish preparation}}$
	• Production for domestic market	Δ Population * elasticity of 1.0 * Δ PPI for Fishing	

	Industry/Item	Current price	Constant price
4.3.2	- Food Products	$\Delta \text{ Constant} * \Delta \text{PPI for other food products}$	$\Delta \text{ Population} * \text{elasticity of 1.0}$
4.3.3	- Beverages		
	• Production for tourist market	$\Delta \text{ Constant} * \Delta \text{PPI for beverages}$	$\Delta \text{ in average monthly bed nights per year}$
	• Production for domestic market		$\Delta \text{ Population} * \text{elasticity of 1.1}$
4.3.4	- Wearing apparel		
	• Production for local market	$\text{Constant} * \text{PPI of wearing apparel}$	$\Delta \text{ Population} * \text{elasticity of 1.0}$
	• Production for export market	$\text{Constant} * \text{Unit Value index of garment exports}$	$\Delta \text{ in average monthly export of apparel per year}$
4.3.5	- Wood planning and manufacture of furniture	$\Delta \text{ Current price GVA of construction industry}$	$\frac{\Delta \text{ in constant price GVA of construction}}{2}$
4.3.6	- Publishing and printing; and services related to printing	$\Delta \text{ Constant} * \Delta \text{PPI for publishing and printing}$	$\Delta \text{ Population} * \text{elasticity of 1.0}$
4.3.7	- Cement products	$\Delta \text{ Current price GVA of construction industry}$	$\Delta \text{ Constant price GVA of construction industry}$
4.3.8	- Ship building and repair	$\Delta \text{ Constant} * \Delta \text{PPI for boat building}$	$\Delta \text{ number of registered vessels}$
4.3.9	- Other manufacturing	$\Delta \text{ business GDP at current prices}$	$\Delta \text{ business GDP at constant prices}$

	Industry/Item	Current price	Constant price
4.4	<i>Electricity and Water Supply</i>		
4.4.1	- <i>Electricity generation and distribution</i>	Δ in average monthly production of electricity by Stelco and other public utilities , per year or Δ in value added of Stelco and other utility companies	Δ in average monthly production of electricity by Stelco and other public utilities per year
4.4.2	- <i>Collection , purification and distribution of water</i>	Δ in average monthly distribution of water by MWSC, per year or Δ in value added of MWSC	Δ in average monthly distribution of water by MWSC per year
4.5	<i>Construction</i>	Δ in average annual monthly import of building materials per year or Δ in value added of the sample of enterprises engaged in construction activity	▪ $\frac{\Delta \text{ in average monthly imports of building materials per year}}{\Delta \text{ in the Unit Value index for imports of building material}}$ ▪ Δ in number of expatriate labor employed in construction ▪ Δ in area of buildings approved for construction
4.6	<i>Trade</i>		
	• Trade in locally produced goods	$\Delta \text{Population} * \Delta \text{ in GDP at market prices}_{t-1}$	$\frac{\text{Current}}{\text{Unit Value index of imports}}$
	• Trade in imported goods	Δ in average monthly imports of goods ,per year	

	Industry/Item	Current price	Constant price
4.7	Hotels and Restaurants		
	- Resorts and safari vessels		
	• Volume of production	$\Delta \text{ Constant} * \Delta \text{PPI for resorts and hotels}$	$\Delta \text{ in average monthly bed-nights per year}$
	• Quality factor	or $\Delta \text{ in value added of the sample of enterprises engaged in the activity}$	$5\% \times \left[\text{volume of production}_t + \sum_{i=1}^t \text{quality change} \right]$
	- Other hotels, restaurants and guest-house services	$\Delta \text{ Constant} * \Delta \text{PPI for resorts and hotels}$	▪ $\Delta \text{ constant price GVA for Resorts and safari vessels}$ (and) ▪ $\Delta \text{ constant price GVA for trade}$ (and) ▪ $\Delta \text{ in population}$
4.8	Transport and communication		
4.8.1	- Land Transport	$\Delta \text{ Constant}$	$\Delta \text{ in number of registered taxis}$
4.8.2	- Water Transport	$\Delta \text{ Constant} * \Delta \text{PPI for sea transport}$	$\Delta \text{ in number of registered vessels}$
4.8.3	- Air Transport	$\Delta \text{ current price GVA for Resorts and safari vessels}$ or $\Delta \text{ in value added of the enterprises engaged in the activity}$	$\frac{\text{Current}}{\text{PPI for Air Transport}}$

	Industry/Item	Current price	Constant price
4.8.4	- <i>Supporting and auxiliary transport activities</i>		
	• Maldives Airport Company	Δ Constant or Δ in value added of MACL	▪ Δ in international flights movements MIA (and) ▪ Δ in domestic flights movements at MIA (and) ▪ Δ in air cargo handled at MIA
	• Maldives Ports Ltd	Δ Constant or Δ in value added of MPL	Δ in total cargo throughput by sea
	• Others	Δ current price GVA for Resorts and safari vessels	$\frac{\text{Current}}{\text{PPI for Resorts}}$
4.8.5	- <i>Post and telecommunication</i>		
	• Dhiraagu and Wataniya	Δ Constant * Δ in PPI for telecom or Δ in GVA for Dhiraagu and Wataniya	▪ Δ in international call minutes (and) ▪ Δ in domestic call minutes (and) ▪ Δ in mobile call minutes
	• Maldives Post Ltd	Δ Constant * Δ in CPI for postal services or Δ in GVA for Maldives Post Ltd	Δ in domestic and international mail handled at Male' international airport
4.9	Financial Intermediation		

	Industry/Item	Current price	Constant price
4.9.1	- <i>Maldives Monetary Authority</i>	Δ in business GDP at current price or Δ in GVA for MMA derived from annual account	Δ in business GDP at constant price
4.9.2	- <i>Deposit and other banks</i>	$\frac{\Delta \text{ in Business GDP at current price}}{2}$ or Δ in GVA enterprises engaged in banking and insurance	$\frac{\Delta \text{ in Business GDP at constant price}}{5}$
4.9.3	- <i>Insurance</i>	Δ in business GDP at current price	Δ in business GDP at constant price
4.10	<i>Real estate, machinery & equipment rental ,business services</i>		
4.10.1	- <i>Real estate activities</i>	$\frac{\Delta \text{ in Business GDP at current price}}{2}$	$\frac{\Delta \text{ in Business GDP at constant price}}{5}$
4.10.2	- <i>Renting of transport machinery and other equipment</i>	$\frac{\Delta \text{ in Business GDP at current price}}{2}$	$\frac{\Delta \text{ in Business GDP at constant price}}{4}$
4.10.3	- <i>Business activities</i>	$\frac{\Delta \text{ in Business GDP at current price}}{2}$	$\frac{\Delta \text{ in Business GDP at constant price}}{2}$
4.10.4	- <i>Imputed rent of owner occupied dwellings</i>	Moved on fixed growth rate of -1.8 percent	$\frac{\text{Current CPI for Male' (excluding fish)}}{2}$
4.11	<i>Total Business GDP</i>	Sum of GVA for all activities, excluding imputed rent	Sum of GVA for all activities, excluding imputed rent
4.12	<i>Public administration and defence</i>	Δ in GVA , calculated as a sum of costs (wages and salaries and consumption of fixed capital)	Δ in deflated GVA ; calculated as a sum of costs [Wages deflated by wage index , CFC deflated by CPI

	Industry/Item	Current price	Constant price (excluding fish)]
4.13	Education		
	- Govt. production	Δ in GVA , calculated as a sum of costs (wages and salaries and consumption of fixed capital)	Δ in deflated GVA ; calculated as a sum of costs [Wages deflated by wage index , CFC deflated by CPI (excluding fish)]
	- Private production	Constant * PPI of education	Δ Population * elasticity of 1.1* Δ in CPI (excluding fish) Male'
4.14	Health		
	- Govt. production	Δ in GVA , calculated as a sum of costs (wages and salaries and consumption of fixed capital)	Δ in deflated GVA ; calculated as a sum of costs [Wages deflated by wage index , CFC deflated by CPI (excluding fish)]
	- Private production	Constant * PPI of health	Δ Population * elasticity of 1.1* Δ in CPI (excluding fish) Male'
4.15	Other community social and personal services		
	- Govt. production	Δ in GVA , calculated as a sum of costs (wages and salaries and consumption of fixed capital)	Δ in deflated GVA ; calculated as a sum of costs [Wages deflated by wage index , CFC deflated by CPI (excluding fish)]
	- Private production	Constant * CPI (excluding fish) for Male'	Δ Population * elasticity of 1.1* Δ in CPI (excluding fish) Male'
4.16	FISIM	Δ in Business GDP or	Δ in Business GDP * average annual monthly interest rate

	Industry/Item	Current price	Constant price
		Δ in GVA of MMA and enterprises engaged in banking and insurance	
4.17	GDP at basic prices	Sum of GVA for all activities and FISIM	Sum of GVA for all activities and FISIM

Macroeconomic Budget Extrapolation

	Industry /Item	Current price	Constant price
5.1	GDP at market prices	GDP at basic prices + import duties and taxes on products – subsidies on products	GDP at basic prices + import duties and taxes on products – subsidies on products
5.2	Import duties	Δ in average monthly imports per year or actual figures taken from the government budget	$\frac{\text{Current}}{\text{Unit value index of imports of building material (excluding fuel)}}$
5.3	Taxes on products	Δ in average monthly bed nights per year or actual figures taken from the government budget	$\frac{\text{Current}}{\text{Bed tax index}}$
5.4	Subsidies on products	actual figures taken from the government budget	Δ in business GDP at constant price
5.5	Imports of goods and services		
	Imports of material for export production of apparel	60% of exports of apparel	$\frac{\text{Imports of material for apparel production}_{t=0}}{\text{exports of apparel}_{t=0}} \times \text{exports of apparel } t = i$ where 0= base year and i= current year

	Industry /Item	Current price	Constant price
	Other imports of goods	Δ in average monthly imports of goods per year	$\frac{\text{Current}}{\text{Unit value index of total imports}}$
	Imports of services	Δ in imports of services , taken from BoP	Δ in business GDP at constant prices * elasticity of 1.025
5.6	Total available for final use	GDP at market price + imports of goods and services	GDP at market price + imports of goods and services
5.7	Export of goods		
	Exports of apparel	Δ in average monthly exports of apparel per year	$\frac{\Delta \text{ in average monthly exports of apparel per year}}{\Delta \text{ in unit value index of exports of garments}}$
	Exports of fish (including processed fish)	Δ in average monthly exports of fish (including frozen fillets), per year	$\frac{\Delta \text{ in current price}}{\Delta \text{ in unit value index of exports of fish (live, fresh or forzen , but not prepared)}}$
	Exports of other processed fish	Δ in average monthly exports of all fish products [excluding , fish (including frozen fillets)], per year	$\frac{\Delta \text{ in current price}}{\Delta \text{ in unit value index of exports of fish (live, fresh or preserved)}}$
	Exports of other goods	Δ in average monthly exports of all goods (excluding , fish products and apparel) per year	$\frac{\text{current price}}{\text{unit value index of total exports}}$
	Re-export	Δ in average monthly re-exports per year	$\frac{\text{current price}}{\text{Index of avergae annual monthly crude oil prices}}$

	Industry /Item	Current price	Constant price
5.8	Export of services		
	- Export of tourism services		
	• Volume of production	Δ Constant * Δ PPI for resorts and hotel (or) Δ in gross output of the sample of enterprises engaged in the activity	Δ in average monthly bed-nights per year
	• Quality factor		Rate of quality change derived for the value added of resorts and safari vessels
	- Export of other services	Δ in export of other services taken from the BoP	Δ in gross value added of transport and communication
5.9	Government final consumption expenditure	Gross output (calculated as a sum of costs) less non tax revenue	Deflated Gross output (calculated as a sum of costs) less deflated non tax revenue
5.10	Household final consumption expenditure		
	• Consumption of goods and services	Δ in average monthly imports of household consumer goods per year	$\frac{\text{Current price}}{\text{CPI (overall average) for Male'}}$
	• Consumption of owner occupied housing services	Value of imputed rents	
5.11	Gross Fixed Capital Formation		
	• Construction	Δ in average monthly imports of building materials per year or Δ in gross output of the sample of enterprises engaged in the activity	Δ in gross value added of construction , in constant prices
	• Ship building	Δ in business GDP at current prices	Δ in gross value added of ship building , in constant

	Industry /Item	Current price	Constant price
			prices
	Machinery and Equipment	Δ in average monthly imports of capital goods per year	$\frac{\text{Current price}}{\text{Unit value index of imports of capital goods}}$
5.12	<i>Change in stock</i>	Set equal to zero	Set equal to zero
5.13	<i>Discrepancy</i>	Total resources available for final expenditure (-) Total final expenditure	Total resources available for final expenditure (-) Total final expenditure

Annex II – Company annual accounts analysis

Annual accounts are brought to the statistics division from the Ministry of Economic Development. DNP had maintained a close cooperation with the Ministry of Economic Development, with the data from the annual financial statements being shared with the DNP. To formalize this process, in 2009, DNP and MoED signed a data sharing MoU. At present under the MoU, DNP receives the annual accounts, on a need basis. The MoU guarantees strict data confidentiality and limits the data from being shared with any other agencies.

When annual accounts are received from MoED, they are scanned and then returned. The names of the companies are erased from the annual accounts and a unique code is given to each individual company for confidentiality. The accounts are then entered in to excel to convert into the system of national accounts format. Notes from each account are used to get the most detailed breakdown of incomes and expenditures. The income and expenditures components are given a SUT code and then consolidated to generate and input output table and the value added of the company is derived.

Information taken from annual accounts

The data compiled includes:

- Breakdown of inputs and outputs of the company
- Total outputs
- Total inputs
- Total gross value added
- Consumption of fixed capital
- Net value added
- Compensation of employees
- Operating surplus

Table 6: Value Added Table

Code	Description	2007
P.1	Output	15,754,370
P.2	Input	11,125,659
B.1g	Total Gross Value added/GDP	4,628,711
K.1	Consumption of fixed capital	303,125
B.1n	Net Value Added	4,325,586
D.1	Compensation of employees	302,102
	Taxes less subsidies on production	-
B.2n	Operating surplus (net)	4,023,484

Glossary

- **Gross Value Added-** Gross value added is the value of output less the value of intermediate consumption; it is a measure of the contribution to GDP made by an individual producer, industry or sector; gross value added is the source from which the primary incomes of the SNA are generated and is therefore carried forward into the primary distribution of income account. (SNA 93 , 1.6)
- **System of National Accounts** - The System of National Accounts (SNA) consists of a coherent, consistent and integrated set of macroeconomic accounts; balance sheets and tables based on a set of internationally agreed concepts, definitions, classifications and accounting rules. (SNA 93, 1.1)
- **GDP by Expenditure Approach** - total final expenditures at purchasers' prices (including the f.o.b. value of exports of goods and services), less the f.o.b. value of imports of goods and services. (SNA 93, 6.235)
- **GDP by income approach** - compensation of employees, plus taxes less subsidies on production and imports, plus gross mixed income, plus gross operating surplus. (SNA 93, 2.222)
- **GDP by Production approach** - is the sum of the gross values added of all resident producers at basic prices, plus all taxes less subsidies on products (SNA 93, 6.237)
- **Constant prices** - are obtained by directly factoring changes over time in the values of flows or stocks of goods and services into two components reflecting changes in the prices of the goods and services concerned and changes in their volumes (i.e. changes in "constant price terms"); the term "at constant prices" commonly refers to series which use a fixed-base Laspeyres formula. (SNA 93, 16.2)
- **Gross capital formation** - is measured by the total value of the gross fixed capital formation, changes in inventories and acquisitions less disposals of valuables for a unit or sector. (SNA 93, 10.27)
- **Household final consumption expenditure-** consists of the expenditure, including imputed expenditure, incurred by resident households on individual consumption goods and services, including those sold at prices that are not economically significant. (SNA 93, 9.45)
- **Government final consumption expenditure-** consists of expenditure, including imputed expenditure, incurred by general government on both individual consumption goods and services and collective consumption services. (SNA 93, 9.45)
- **Commodity Flow Approach-**Method used to estimate purchases of a commodity by intermediate or final users. The method generally begins with an estimate of the total supply of a commodity available for domestic uses; it then either attributes a fixed percentage of supply

to an intermediate or final use, or it adjusts for intermediate purchases and attributes the residual to final uses (Bureau of Economic Analysis, U.S Department of Commerce)

- **Consumer Price Index**-The consumer price index (CPI) measures changes over time in the general level of prices of goods and services that a reference population acquires, uses or pays for consumption. A consumer price index is estimated as a series of summary measures of the period-to-period proportional change in the prices of a fixed set of consumer goods and services of constant quantity and characteristics, acquired, used or paid for by the reference population. Each summary measure is constructed as a weighted average of a large number of elementary aggregate indices.(ILO,1987)
- **Consumption of Fixed Capital**- is the decline, during the course of the accounting period, in the current value of the stock of fixed assets owned and used by a producer as a result of physical deterioration, normal obsolescence or normal accidental damage.(SNA 93, 10.27)
- **Enterprise** - An enterprise is an institutional unit in its capacity as a producer of goods and services; an enterprise may be a corporation, a quasi- corporation, a non-profit institution, or an unincorporated enterprise.(SNA 93 , 5.17)
- **Establishments**-An establishment is an enterprise, or part of an enterprise, that is situated in a single location and in which only a single productive activity is carried out or in which the principal productive activity accounts for most of the value added.(SNA 93 , 5.21)
- **FISIM**- Financial intermediation services indirectly measured (FISIM) is an indirect measure of the value of financial intermediation services provided but for which financial institutions do not charge explicitly.(SNA 93, 6.124)
- **Imputed rent of owner occupied housing**- Owner occupied housing are dwellings owned by the households that live in them. The dwellings are fixed assets that their owners use to produce housing services for their own consumption. The imputed rents of these housing services should be valued at the estimated rent that a tenant pays for a dwelling of the same size and quality in a comparable location with similar neighbourhood amenities. (ILO , 2004)
- **NPISH** – legal entities which are principally engaged in the production of non-market services for households and whose main resources are voluntary contributions by households. (SNA 93 , 2.20)
- **Other non-market output**- Other non-market output consists of goods and individual or collective services produced by non- profit institutions serving households (NPISHs) or government that are supplied free, or at prices that are not economically significant, to other institutional units or the community as a whole.(SNA 93, 6.49)
- **Principal activities**- The principal activity of a producer unit is the activity whose value added exceeds that of any other activity carried out within the same unit (SNA 93, 15.16)
- **Producer Price Index**- A measure of the change in the prices of goods and services either as they leave their place of production or as they enter the production process. A measure of the

change in the prices received by domestic producers for their outputs or of the change in the prices paid by domestic producers for their intermediate inputs. (IMF , 2004)

- **Trade Margin-** A trade margin is the difference between the actual or imputed price realised on a good purchased for resale (either wholesale or retail) and the price that would have to be paid by the distributor to replace the good at the time it is sold or otherwise disposed of. (SNA 93,6.110)
- **Unit Value Index-** A unit value index is a “price” index which measures the change in the average value of units that are not homogeneous and which may therefore be affected by changes in the mix of items as well as by changes in their prices. (SNA 93, 16.13).
- **Wage Index-** An index of wages calculated by setting the base year wage rate equal to 100. The index treats changes in wages and salary payments that arise from the hiring of additional staff, changes in the mix of staff grades and the annual increments as volume changes and only measures the changes in the general levels of wages and salaries. (MPND, 2001)

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