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**INTERNATIONAL MONETARY FUND**

Statistics Department



**TUVALU**

**REPORT ON THE NATIONAL ACCOUNTS MISSION**

**July 7-16, 2009**

**Prepared by Michael Andrews(Expert)**

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**ACRONYMS**

<i>1993 SNA</i>	<i>System of National Accounts 1993</i>
BS	Business Survey
COFOG	Classification of the Functions of Government
CPI	Consumers Price Index
CSD	Central Statistics Division
GDP	Gross Domestic Product
GFS	Government Finance Statistics
GNDI	Gross National Disposable Income
GNI	Gross National Income
HIES	Household Income and Expenditure Survey
IRD	Inland Revenue Department
NPISH	Non-profit Institution Serving Households
PFTAC	Pacific Financial Technical Assistance Centre
RMSA	Regional Multi-sector Statistics Advisor
TNPF	Tuvalu National Provident Fund

## EXECUTIVE SUMMARY

- **At the request of the Tuvalu authorities, the mission visited Funafuti during July 7-16, 2009.** The mission followed a joint Balance of Payments (BOP)/National Accounts (NA) evaluation mission by the Regional Multisector Statistics Advisor (RMSA)<sup>1</sup> from the IMF Pacific Financial Technical Assistance Centre (PFTAC)<sup>2</sup> who worked with the authorities in compiling BOP estimates and to begin collecting the data needed for NA compilation. The RMSA made a number of recommendations on improving resources for the NA. The mission reviewed the authorities' progress against the MSA's recommendations and updated the action plan.
- **The mission reviewed progress on data collection for use in the NA, incorporated all data available and compiled estimates for years 2000 to 2007, with provisional estimates for 2008.** The mission incorporated the latest available source data, i.e. 2004/05 HIES and the revised CPI, and made a number of other methodology improvements. The mission also rebased the constant price estimates to 2005. Some significant data gaps remained at the end of the mission, however, preventing finalization of the estimates, particularly for 2008.
- **The mission provided on-the-job training in a range of national accounting skills, particularly in the use of administrative data and analysis of business accounts.** Counterparts showed enthusiasm to learn new skills, and to build their capacity to compile the estimates in future with minimal assistance. A regional NA training course two weeks after the mission should reinforce this knowledge development.
- **Senior Government officials are supportive of the Central Statistics Division (CSD).** However, whether this will translate into the increase in resources needed to sustain ongoing NA compilation remains to be seen. Fortunately, an experienced officer has returned to the CSD following studies overseas, increasing staff numbers.
- **This report presents the main conclusions of the mission, its recommendations and suggestions for continuing development.** Sections I to IV introduce the development of the NA in Tuvalu and reviews progress against the agreed action plan from the RMSA's mission. Section V describes the methodology used in the estimates and presents the results, and section VI specifies what needs to be done to continue the improvements in the accounts.

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<sup>1</sup> Mr. Zia Abbasi is the Regional Multisector Statistics Advisor, based at PFTAC in Suva, Fiji. Refer to the PFTAC website at [www.PFTAC.org](http://www.PFTAC.org) for further information.

<sup>2</sup> PFTAC is a part of a network of IMF Regional Technical Assistance Centres and is supported by several donors. The donors include the Asian Development Bank, Australia, Japan, Korea and New Zealand. PFTAC TA is provided to Cook Islands, Federated States of Micronesia, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tokelau, Tonga, Tuvalu and Vanuatu.

## I. TRANSITION PLAN

This section sets out in tabular form a Prioritized Transition Plan for the development of Tuvalu national accounts statistics. The Plan specifies the task, the responsible agency, indicative starting and completion dates and comments on the required measures. Updates of progress since the July mission are shown in italics.

### Project Objectives

Objective	Verifiable Indicators	Completion Date	Assumptions
Improve the coverage, reliability and timeliness of BOP and NA statistics.	Improved quality of BOP and NA statistics, and institutional infrastructure and operational capacity to compile these statistics.	06/30/2010	The authorities ensure that appropriate staff and other resources are available to implement this action plan.

### Project Outputs

DQAF	Priority	Outputs	Verifiable Indicators	Completion Date	Assumptions/Implementation Status
0.2.1	H	Improve institutional infrastructure and operational capacity to compile BOP and NA statistics.	Institutional infrastructure and operational capacity to compile balance of payments and national accounts statistics improved.		
0.2.1.1	H	Recruit two additional statisticians as recommended by the RMSA.	CSD operating effectively with all five establishment positions filled.	06/30/2008	Appropriate support of the authorities is required.
0.2.1.2	H	Increase access to computers, Internet, telephone, printers, back-up server, offsite archiving, and transport as recommended by the RMSA.	CSD operating effectively with infrastructure that is commensurate with operational workloads.	06/30/2008	<i>One staff has returned from overseas studies.</i> Appropriate support of the authorities is required. <i>No progress.</i>
0.2.1.3	H	Secure additional funding in order for a second CSD staff member to attend the PFTAC NAS Seminar.	Two CSD staff participating in the PFTAC NAS Seminar.	07/31/2009	Appropriate support of the authorities is required.
0.2.1.4	H	Secure UNDP technical assistance to strengthen BOP and NA statistics	UNDP technical assistance secured by the authorities.	06/30/2009	<i>Achieved.</i> The authorities should approach UNDP as soon as possible for technical assistance.

DQAF	Priority	Outputs	Verifiable Indicators	Completion Date	Assumptions/Implementation Status
		capacity.			<i>Awaiting appointment of project manager in Tivahu Planning Office.</i>
<b>3.2.1</b>	<b>H</b>	<b>Improve the availability, coverage and quality of source data required to compile BOP and NA statistics.</b>	<b>The availability, coverage and quality of source data required to compile BOP and NA statistics improved.</b>		
3.2.1.1	H	Complete collection of the high priority data specified in Appendix II.	High priority data collected.	06/30/2009	Appropriate support of the authorities is required.  <i>Most data had been collected, but some major gaps remained even by end of the mission.</i>
3.2.1.2	H	Establish effective coordination mechanisms and administrative data collection from Government (central and local) agencies, departments and state-owned enterprises.	Coordination and administrative data collection from governments and state-owned enterprises significantly improved.	12/31/2009	CSD has to have appropriate staff and staff has to have adequate access to Internet, telephones and vehicles. UNDP expert to provide assistance.
3.2.1.3	H	Improve access to, and regular reporting of annual Tax Department industry level and business registration data.	Tax Department providing timely industry level and business registration data on an annual and quarterly basis.	12/31/2009	Support of the authorities is required. UNDP expert to provide assistance.  <i>Tax and other data were obtained, although they were incomplete.</i>
3.2.1.4	H	Implement tailored BOP and NA surveys for data that are not available from existing source data.	BOP and NA surveys designed and implemented.	12/31/2009	Appropriate staff and staff have adequate access to Internet, telephones and vehicles. UNDP expert to provide assistance.
3.2.1.5	H	Review Population Census 2002 and HIES 2004-05 detailed data for use in BOP and NA statistics compilation.	Population Census 2002 and HIES 2004-05 detailed data reviewed for use in NA statistics compilation.	07/31/2009	PFTAC RMSA and expert to provide assistance.  <i>Census and HIES data were incorporated into the NA estimates.</i>
3.2.1.6	H	Review high priority data collected for use in compiling BOP estimates.	High priority data reviewed.	07/16/2009	PFTAC RMSA to provide assistance.
3.2.1.7	H	Review high priority data collected for use in compiling NA estimates.	High priority data reviewed.	07/16/2009	PFTAC expert to provide assistance.  <i>Review of collected data completed.</i>

DQAF	Priority	Outputs	Verifiable Indicators	Completion Date	Assumptions/Implementation Status
3.2.1.8	H	Review data collected under tasks 3.2.1.1 to 3.2.1.4 for ongoing BOP and NA statistics compilation.	Data collected under tasks 3.2.1.1 to 3.2.1.4 reviewed for use in ongoing BOP and NA statistics compilation.	03/31/2010	UNDP expert to provide assistance. Access to detailed data required.
<b>3.3.2</b>	<b>H</b>	<b>Significantly improve compilation methods for BOP and NA statistics.</b>	<b>Compilation methods for producing BOP and NA statistics significantly improved.</b>		
3.3.2.1	H	Improve compilation methodology and finalize provisional BOP estimates for 2001 to 2008.	Compilation methodology improved and provisional BOP estimates for 2001 to 2008 finalized for release.	07/24/2009	PFTAC RMSA to provide assistance.
3.3.2.2	H	Improve compilation methodology and finalize provisional NA estimates for 2001 to 2008.	Compilation methodology improved and provisional NA estimates for 2001 to 2008 finalized for release.	07/31/2009	PFTAC expert to provide assistance. <i>A number of improvements were made to the methodology. Estimates were compiled for 2000-08, although 2008 is provisional.</i>
3.3.2.3	H	Improve use of price deflators and volume measures, and rebase GDP constant price estimates to 2005 prices.	Use of price deflators and volume measures improved and constant 2005 price GDP estimates produced.	07/31/2009	PFTAC expert to provide assistance. <i>Series rebased to 2005 and deflation is done at a lower level.</i>
3.3.2.4	H	Improve the BOP compilation methodology and system to make best use of available source data.	BOP compilation methodology and system redeveloped to make best use of available source data.	04/30/2010	UNDP expert to provide assistance.
3.3.2.5	H	Improve the NA compilation methodology and system to make best use of available source data.	NA compilation methodology and system redeveloped to make best use of available source data.	04/30/2010	UNDP expert to provide assistance.
<b>5.1.1</b>	<b>H</b>	<b>Dissemination of regular and timely annual BOP and NA statistics.</b>	<b>Dissemination of BOP and NA statistics significantly improved.</b>		
5.1.1.1	H	Disseminate provisional BOP estimates for 2001 to 2008.	Provisional BOP estimates for 2001 to 2008 released via the CSD and SPC PRISM websites, and	08/07/2009	PFTAC RMSA to provide assistance.



DQAF	Priority	Outputs	Verifiable Indicators	Completion Date	Assumptions/Implementation Status
5.1.1.2	H	Disseminate provisional NA estimates for 2001 to 2008.	submitted for inclusion in the IMF BOPS Yearbook. Provisional NA estimates for 2001 to 2008 released via the CSD and SPC PRISM websites, and submitted for inclusion in the IMF IFS Yearbook.	08/07/2009	PFTAC expert to provide assistance. <i>Tables and analysis of results were drafted ready for publication.</i>
5.1.1.3	H	Improve data dissemination, including regular and timely release of comprehensive annual BOP and NA statistics via the CSD Biannual Statistics Bulletin.	Regular and timely release of comprehensive annual BOP and NA statistics via the CSD Biannual Statistics Bulletin.	04/30/2010	UNDP expert to provide assistance.
5.1.1.4	H	Establish procedures to ensure dissemination of annual BOP and NA statistics through the CSD and SPC PRISM Websites.	Timely dissemination of annual BOP and NA statistics through the CSD and SPC PRISM Websites.	04/30/2010	UNDP expert to provide assistance.
5.1.1.5	H	Establish procedures to ensure annual BOP and NA estimates are submitted for inclusion in the IMF BOPS and IFS Yearbooks.	Annual BOP and NA estimates submitted for inclusion in the IMF BOPS and IFS Yearbooks.	04/30/2010	UNDP expert to provide assistance.

**Priority Scale**

H - High M - Medium O - Other

## II. INTRODUCTION

1. The mission was requested by the Authorities to assist in the compilation of national accounts (NA) statistics. The last estimates were for 2002 and there is a strong need from several sources for updated estimates. The PFTAC RMSA visited Tuvalu in May 2009 to assess the current capacity of the Central Statistics Division (CSD) for compiling balance of payments (BOP) and NA statistics. The RMSA and the Authorities agreed on a transition plan, including tasks to collect a range of data needed to improve the BOP and to compile NA estimates.
2. The mission reviewed progress by CSD on the previous mission's recommendations and found some progress, mainly on data collection, although some gaps remained. One staff returned from study overseas, increasing the capacity of the CSD. However, insufficient computers require the use of their own PCs for two staff. A proposed long-term TA funded by UNDP is waiting for the appointment of a project manager in the Planning Office.
3. The mission reviewed methodology used in the previous series, improved it where possible, incorporated the latest available data including the 2004/05 HIES and the 2002 population census, and compiled estimates for 2000 to 2008. A three year overlap with the previous series is provided. The 2008 estimates remain weaker than prior years due to missing data for some of the largest enterprises. The constant price series were rebased to the 2005 base year, incorporating the rebased CPI, and improving the deflation methodology. The series compiled are for production measure of GDP in current and constant, 2005, prices.
4. The RMSA's mission in May included compilation of provisional BOP series from 2001 to 2008. These data enabled the development of estimates of Gross National Income (GNI) and Gross National Disposable Income (GNDI). The compilation of GNI and GNDI highlighted some data issues in the source data used in the BOP, also identified in the RMSA's report.
5. The mission conducted hands-on training in NA concepts and techniques as they are applied to the Tuvalu NAs. In particular, training was provided in analyzing business financial accounts and using taxation data.

## III. STATISTICAL PREREQUISITES

6. The RMSA's previous mission made a number of recommendations on increasing resources of the CSD on economic statistics. One significant change is that one staff member returned from overseas study. One additional staff is still required to provide sufficient capacity for ongoing compilation of BOP and NA. Senior government officials voiced strong support for the CSD, recognizing the importance of the BOP and NA for Tuvalu's development and offering assistance where required. Whether this translates into increased resources remains to be seen. There is an urgent need for at least two new computers as two staff do not have access to CSD PCs and use their personal machines.
7. The planned UNDP-funded long-term TA is still in the planning stages. UNDP are seeking the expert and the Authorities are yet to appoint the required project manager in the Planning Office. Draft TOR were prepared by the RMSA in May.

8. In general the CSD has a good level of cooperation from other government agencies from which data are collected. However, some of those agencies have made changes in their processes which hinder access to data (presumably unintentionally). Similarly, some public enterprises and administrative agencies seem to be having difficulties with their computer systems preventing timely supply of data to the CSD. The UNDP TA will need to work with CSD to improve this situation.

#### **IV. CAPACITY BUILDING**

9. The mission spent considerable time training counterparts on analyzing business accounts. These were obtained either directly from the enterprises or from the collection of data by the Tax Authorities (the latter were generally limited to the income statement). Counterparts subsequently compiled production accounts for a number of the enterprises for which data were available.

10. Training was also conducted on the sequence of calculations used to estimate the GVA of those enterprises for which accounts were not available. These were estimated using their contributions to the Tuvalu National Provident Fund (TNPF), adjusted to GVA by ratios derived from the sampled enterprises' accounts.

11. While teaching the NA data analysis and other processes some training in spreadsheet techniques was also provided. This included guidance in setting up a form for collecting foreign exchange transactions data needed for the BOP.

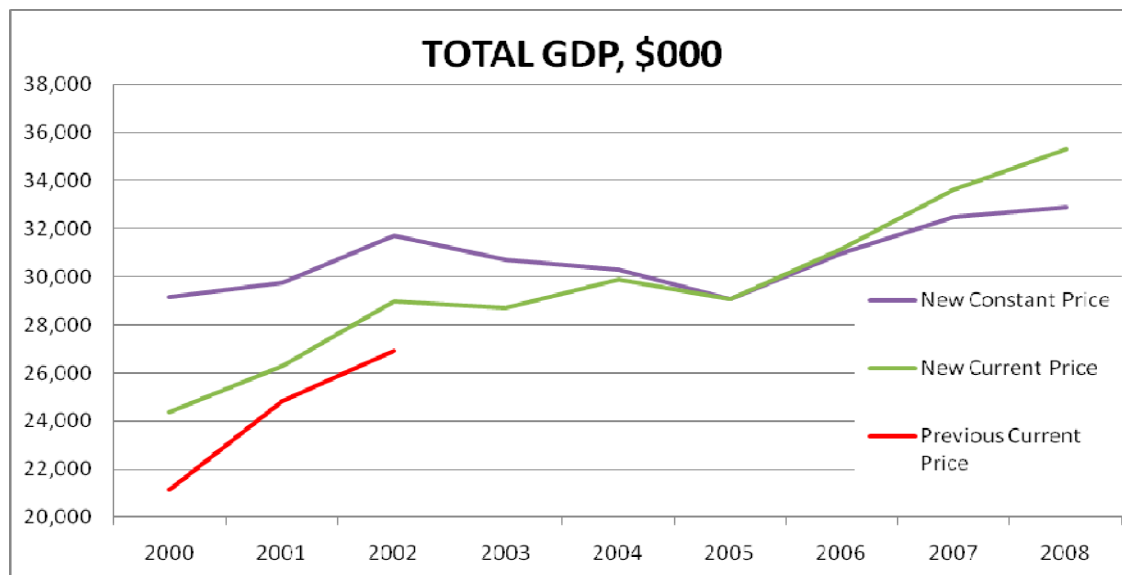
## V. ANNUAL GDP BY PRODUCTION

### Summary

12. A summary table of the main aggregates of the provisional GDP series is shown below.

\$000	2000	2001	2002	2003	2004	2005	2006	2007	2008
<b>GDP - Current Prices</b>	<b>24,387</b>	<b>26,297</b>	<b>28,998</b>	<b>28,723</b>	<b>29,876</b>	<b>29,053</b>	<b>31,156</b>	<b>33,650</b>	<b>35,322</b>
Growth rates		7.8%	10.3%	-0.9%	4.0%	-2.8%	7.2%	8.0%	5.0%
<b>GDP - Constant (2005) Prices</b>	<b>29,167</b>	<b>29,742</b>	<b>31,725</b>	<b>30,698</b>	<b>30,295</b>	<b>29,053</b>	<b>30,970</b>	<b>32,481</b>	<b>32,897</b>
Growth rates		2.0%	6.7%	-3.2%	-1.3%	-4.1%	6.6%	4.9%	1.3%
<b>Gross National Income</b>		<b>46,511</b>	<b>57,226</b>	<b>41,943</b>	<b>49,665</b>	<b>49,273</b>	<b>52,051</b>	<b>58,099</b>	<b>61,876</b>
<b>Gross National Disposable Income</b>		<b>49,858</b>	<b>63,890</b>	<b>49,014</b>	<b>56,798</b>	<b>54,666</b>	<b>59,892</b>	<b>64,759</b>	<b>68,613</b>
Growth rates			28.1%	-23.3%	15.9%	-3.8%	9.6%	8.1%	6.0%
Previous GDP - Current Prices	21,151	24,823	26,944						
Revision - revised less previous	3,236	1,474	2,054						
Revision as percent of previous	15%	6%	8%						

13. The following graph shows the levels and growth of current and constant price GDP estimates, and compares the provisional current price with the previously published series up to 2002.



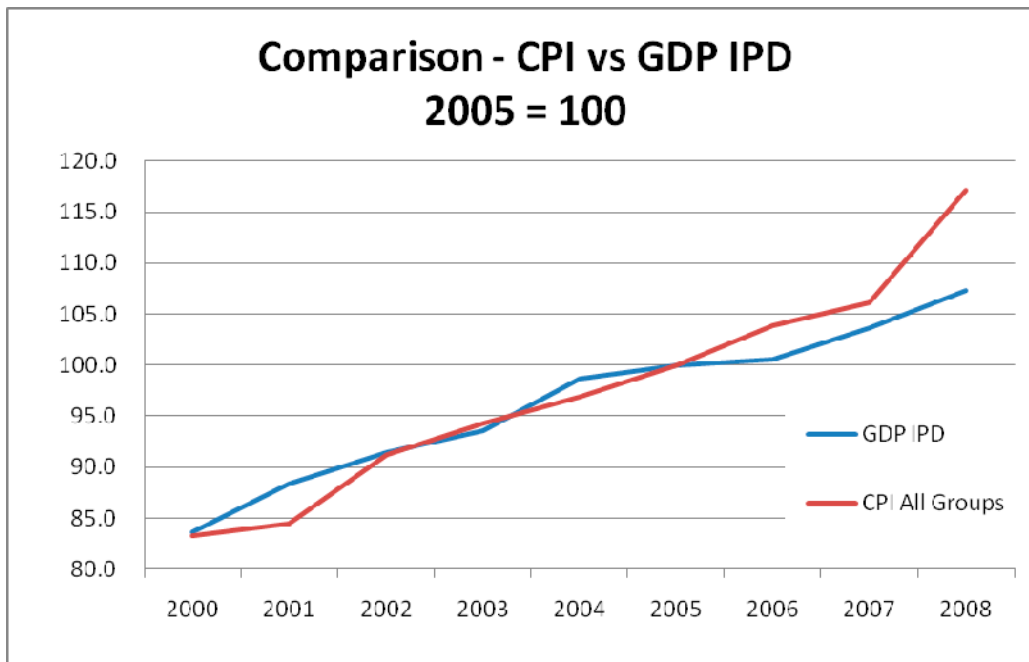
14. It should be noted that due to data constraints some components have been estimated by simple extrapolation for 2008. Therefore, both current and constant price estimates for 2008 are of lower quality than earlier years.

15. There are also some weaknesses in the estimates due to data limitations for some components of the constant price series, in particular for telecommunications and government services. Therefore, the current price series is considered more reliable than the constant price series. For telecommunications, the lack of volume data forced the use of price deflation of the current price series which shows extreme volatility, partly relating to reliability and availability of services. The resulting constant price may not provide a good indicator of the volume of service actually produced. For government services, two employment series were considered: Tuvalu National Provident Fund (TNPF) data included large and volatile numbers of casual and temporary workers which invalidated the data as an indicator of service provision; budget reports of established posts was actually used, although this is a very stable series and unlikely to closely match the service provision in volume terms, due to actual staff numbers varying (staff on study leave are included in the count of established posts whether replaced temporarily or not, for example). The latter has been used in these NA estimates as it was considered more relevant than the TNPF data. For a labour indicator, the number of hours worked, separately for full time and part time workers, would be preferred to a number of employees indicator. It is recommended that CSD investigate whether the TNPF collects data on number of hours worked, and if not, whether this could be added to the TNPF collection process.

16. An implicit price deflator (IPD)<sup>3</sup> provides an alternative indicator of price change and the IPD for GDP provides an indicator of economy-wide inflation. The following graph compares the IPD for GDP with the all groups CPI, both expressed as average 2005 equals 1000. The GDP deflator shows a lower rate of growth from 2005 to 2008, indicating that prices of some components of GDP, for example wage rates, are growing more slowly than the average of the items measured in the CPI.

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<sup>3</sup> The IPD for GDP is derived by dividing the current price GDP series by the constant price GDP series and expressing the result as an index.



17. More detailed tables of the estimates are included in Appendix I.

18. Note that several large enterprises have been estimated because their accounts were not available to the mission. Two of these enterprises are particularly significant in the small scale of the Tuvalu economy and seriously affect the robustness of the GDP estimate, while the others have a smaller impact.

### **Large Private Formal Sector and State Owned Enterprises – Current Prices**

19. Current price estimates for all large private and state owned enterprises were estimated directly from their financial statements. These were obtained either directly from the enterprises or indirectly from the Customs and Taxation Control Office. These statements generally provided enough detail to accurately calculate production accounts. The calculations were done in spreadsheets to which the GDP summary spreadsheet links in order to make data transfer simple, to ensure consistency and to minimize the risk of data transfer error.

20. For the National Bank of Tuvalu, the production account was calculated from the financial statements. Output was calculated as the sum of actual fees and charges plus an estimate of the value of intermediation services for which the bank charges implicitly by the margin between lending and borrowing interest rates. The value of intermediation services, or bank service charge, is estimated as the value of interest received minus interest paid. Insufficient data are available to compile the preferred measure, Financial Intermediation Services Indirectly Measured.

21. No data were available for the only insurance corporation operating in Tuvalu. It is a branch of an international corporation and has proven unwilling or unable to provide data for either BOP or NA purposes. Insurance is not commonly purchased in Tuvalu, and until data become available the insurance industry's contribution to GDP is measured using TNPf data as described below.

### Small Private Formal Sector Enterprises – Current Prices

22. For smaller enterprises two data sources were used. The first was from the Tax Office, with the tax assessments of all enterprises which had submitted tax returns. The second was from the TNPF, containing summary information on employment and the value of contributions to the TNPF on behalf of employees.

23. As was done for large enterprises, the enterprise tax assessments were analysed into production accounts, including compensation of employees, and then summarized by industry. Average ratios for each industry of gross value added (GVA) to compensation of employees were derived. In practice, few industries had enough enterprises to enable this calculation. The largest number of enterprises included in the tax data was in the distribution industry.

24. The TNPF data was firstly classified to industry and to institutional sector. This had been done previously by the RMSA and CSD and was reviewed briefly by the mission. The data was annualized then summed for all combinations of industry and institutional sector.

25. The TNPF contributions comprise two parts. Employees contribute 10% of their wages and salaries and the employers contribute a matching 10%. Compensation of employees is defined to be actual wages and salaries plus the employers' contributions to the TNPF (plus wages in kind which are not captured by the TNPF data). Compensation of employees is estimated by multiplying the contributions by a factor of 5.5<sup>4</sup>.

26. Finally, GVA for each industry is estimated by applying the ratio of GVA by industry from the tax data to the contributions. This was done for private market producers. As noted above, the coverage of tax data was largely limited to distribution and the GVA to compensation of employees ratio for other industries was estimated.

27. The same process was applied to Non-profit Institutions Serving Households (NPISH), but with a GVA to COE ratio of 1.0.

### Formal Sector – Constant Prices

28. Most industries are estimated using price deflation. The CPI is the only price index compiled in Tuvalu and sub-indexes are used where appropriate or the all groups index as a last resort.

Industry	Deflator or Other Methodology
Manufacturing	All groups CPI.
Electricity	Volume extrapolation, using kilowatt hours of electricity generated.
Trade	Composite index of CPI sub-groups excluding services.
Vaiaku Lagi Hotel	Volume extrapolation, using visitor numbers
Hotels and restaurants	All groups CPI.
Transport	CPI sub-group private transport.
Communications	CPI Communications.
Finance, insurance	All groups CPI.

<sup>4</sup> Example. Wages = 100. Employees TNPF = 10. Employers TNPF = 10. Compensation of employees = 110. Total contributions = 20. Ratio of compensation of employees to contributions = 110/20 = 5.5.

and business services	
Education, except government	CPI Education.
Health	All groups CPI.
Community and Personal Services	All groups CPI.
Bank Service Charge	All groups CPI.
Taxes on Products	Composite index of CPI sub-groups excluding services.

### **Informal Sector**

29. Benchmark estimates of the values of production of animals and crops and fishing activities were derived separately for sale and for own consumption within the producing household. These estimates were largely based on HIES data. For the value of production for sale, HIES data on expenditure on locally produced commodities were used. For the value of production for own consumption, the values of own consumption from the HIES were used. The valuation of these data is as reported in the HIES and no adjustments were made.

30. The exception was for pigs for which the HIES produced an unrealistically low value. The reason was that the HIES was conducted in November 2004 on Funafuti and early the following year on the outer islands. However, pigs are only consumed on select occasions each year; i.e., Christmas/New Year, each island's "community day" and for births and deaths. Only pigs consumed to celebrate births and deaths occurring during the survey period would have been detected, omitting the other two occasions. An alternative estimate was developed, assuming that on average each household consumes (slaughters or provides as a gift) three animals per year. Using information on the average size and price for a whole pig and the number of households, a benchmark was derived.

31. Handicraft activities were estimated using HIES data in the same way as for animals and crops. Own-account construction activities were estimated using HIES expenditure on materials for construction, adjusted to exclude the amount assumed to be used for repairs and maintenance by households themselves (this value is included in intermediate consumption of the dwelling rental and owner-occupied dwellings industries). This value was increased to include the value of traditional materials used. The resulting value of output is extrapolated by the number of households and the CPI sub-index for house maintenance. Output is adjusted to value added using a fixed ratio.

32. The output of rental dwellings and owner-occupied dwellings activities were estimated separately using an average rental per month times the number of dwellings. The monthly rental was moved by the CPI rental sub-index. The rental prices for rented and owner-occupied dwellings were based on the values recorded in the HEIS for 2004. Intermediate consumption is estimated as part of the calculation of own-account construction output.

### **Government non-market sector**

33. Estimates for the central government sector are estimated directly from the public accounts data. Detailed data by account code were supplied to the mission and the relevant codes were mapped to value added. Separate estimates were made for public administration, education, health, marine department (transport industry), civil aviation (transport industry -



treated as a market producer since the revenue received as airport dues more than covered the operating costs), public works (construction industry) and the post office (communications industry).

34. Estimates for island councils (local government sector) are derived from accounts of the councils. However, the accounts were only available for a few councils and coverage is incomplete. The total value added estimate is made by using a ratio of compensation of employees to salaries and wages from the sum of the reporting councils<sup>5</sup>. The ratio is then applied to the total value of salaries and wages for all councils from the TNPF for island councils.

## **Data Sources**

### ***Taxation Data***

35. The Government Statistician has a good relationship with the Tax Office and has ready access to the Tax Office's data. The number of enterprises captured by the tax collection system is small, around 40, and is easily manageable as a manual collection process. Detailed income statements for each enterprise were used in the NA estimates. In some cases, the Tax Office revised the tax liability by reclassifying some of the items in the accounts and the Tax Office's version was generally used (e.g., some items were reclassified from current to capital).

36. A consumption tax was recently introduced in Tuvalu, having begun in July 2009. This will become a new data source in future, enabling improved methodology. CSD needs to become familiar with the processes involved with the tax to ensure that their data needs can be met. It is particularly important that the transition period to the new tax and its impact on source data and methodology be considered carefully.

### ***Tuvalu National Provident Fund Data***

37. As with the Tax Office, the GS has ready access to detailed data from the TNPF and years from 2002 to 2007 was provided to the mission. Changes in the computing system of the TNPF prevented the provision of the data for 2008 other than on hard copy, and these numbers seemed inconsistent with the previous years and was not used. These data need to be collected and incorporated into the accounts when available.

### ***Government Accounts***

38. The mission was provided with detailed data on expenditure and revenue at account code and department level for the central government budget sector. These data were used directly for estimating value added for all central government activities.

39. The Advisor to the Budget and Planning Office, Mr. Stephen Boland, has been doing some work to improve the analysis of the government accounts. This includes the compilation of draft Government Finance Statistics tables. The mission briefly discussed some aspects of the GFS but did not have time to review the draft tables.

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<sup>5</sup> The coverage of councils was relatively poor and the ratio was unstable over the years for which data were available. An average ratio across the sampled years was used for estimating all years.

40. The coverage of island councils was poor and the GD needs to work with other officials to improve the timeliness of preparation of accounts of the island councils.

***HIES and Population Census***

41. The HIES and population census were used extensively in the estimates. A few of issues of concern with data in these surveys were identified. In some cases these reflected the purpose of the surveys being insufficiently focused on collecting the data needed for NA estimation. In other cases, the timing of the survey affected the results. For future surveys it is recommended that the GS consider carefully the needs of NA when developing questionnaires and survey design.

## **VI. FUTURE DEVELOPMENTS**

### **Resources**

42. Counterparts were enthusiastic to learn the requirements of compiling the NA. However, an increase in staff numbers is needed to ensure enough time is spent to learn the methodology, to improve data sources and to maintain the annual NA compilation.
43. Other resource issues are assessed in the Transition Plan above. Two CSD staff will attend a one week NA training course in Fiji at the end of July.

### **UNDP Long-term TA**

44. UNDP have approved a long-term TA mission for NA development, as part of the Millennium Development Goals project. The project is waiting for the appointment of a project manager in the Planning Office and the appointment of the consultant. While the TA should lead to an increase in the capacity of the CSD in the medium term, since it is not going to begin for some time it is important the CSD staff continue to improve their own skills and source data development until the project begins.

### **Data and Methodology Improvements**

45. The constant price estimates are of lower quality than current prices, due to the reliance on price deflation and the range of deflators is limited to those available from the CPI. While the most detailed level of the CPI has been used there are prices not available for some items of the NA. CSD should consider adding some items to the price collection process to help improve the NA (these prices can be kept outside of the formal CPI regimen). These prices include: pigs, hotel accommodation, additional items of telecommunications expenditure (if volume indicators are not available) and handicrafts.
46. To further improve the constant price estimates attempts should be made to obtain and volume indicators for some of industries. The estimate for telecommunications is particularly weak, due to significant volatility in current price value added, due to price and reliability of service problems with the corporation. No volume indicators were available to the mission and the only deflator available is the CPI sub-index for communications which prices only two items.
47. Where the TNPF data are used for an employment indicator, the preferred measure of labour input is hours worked. CSD should investigate whether the TNPF collects hours worked data, and if not, if hours worked could be added to the TNPF data collection process.

## APPENDIX I. REVISED GDP TABLES

Table 1 Current Prices (thousands of Australian Dollars)

	2000	2001	2002	2003	2004	2005	2006	2007	2008
<b>A</b> <b>Agriculture, Forestry and Fishing</b>	<b>4,224</b>	<b>4,649</b>	<b>4,917</b>	<b>4,861</b>	<b>5,443</b>	<b>5,801</b>	<b>6,584</b>	<b>7,268</b>	<b>7,693</b>
A.1 Crops	1,578	1,901	1,874	1,806	2,094	2,291	2,612	3,002	2,863
A.2 Animals	1,191	1,167	1,274	1,319	1,405	1,468	1,673	1,792	2,107
A.3 Forestry	-	-	-	-	-	-	-	-	-
A.4 Fishing	1,455	1,581	1,768	1,736	1,944	2,041	2,299	2,473	2,723
B    Mining and Quarrying	33	32	32	32	35	36	38	39	40
C    Manufacturing	193	195	250	345	277	236	269	251	388
D    Electricity, Gas and Water	-	39	227	23	178	461	512	311	200
E    Construction	1,525	1,628	2,138	2,450	2,132	1,520	2,040	2,809	2,452
<b>F</b> <b>Trade, Hotels and Restaurants</b>	<b>2,958</b>	<b>2,892</b>	<b>3,078</b>	<b>2,590</b>	<b>2,824</b>	<b>2,835</b>	<b>3,840</b>	<b>4,453</b>	<b>4,620</b>
F.1 Trade	2,726	2,491	2,721	2,169	2,354	2,522	3,525	4,055	4,130
F.2 Hotels and Restaurants	231	401	357	421	470	314	315	398	490
<b>G</b> <b>Transport and Communications</b>	<b>2,023</b>	<b>1,872</b>	<b>3,142</b>	<b>2,366</b>	<b>2,989</b>	<b>2,303</b>	<b>2,007</b>	<b>1,833</b>	<b>1,887</b>
G.1 Transport	597	798	1,037	1,114	1,317	1,137	1,059	1,235	1,309
G.2 Communications	1,426	1,073	2,105	1,251	1,672	1,166	948	597	578
<b>H</b> <b>Finance and Real Estate</b>	<b>3,942</b>	<b>3,852</b>	<b>5,099</b>	<b>5,018</b>	<b>4,650</b>	<b>4,412</b>	<b>4,846</b>	<b>4,864</b>	<b>5,467</b>
H.1 Banks	2,577	2,489	3,144	2,801	2,362	2,072	2,251	2,138	2,713
H.2 Insurance and Other Financial Inte	124	142	154	171	189	259	294	330	350
H.3 Owner-occupied Dwellings	873	858	1,317	1,479	1,545	1,559	1,672	1,721	1,728
H.4 Other Real Estate	175	172	263	296	309	312	334	344	346
H.5 Business Services	193	191	221	272	245	210	296	330	330
I    Public Administration	3,880	4,339	4,214	4,748	4,870	4,921	5,113	5,035	5,423
J    Education	2,326	2,519	2,427	2,586	2,666	2,762	2,986	2,927	3,096
K    Health	1,106	1,204	1,148	1,324	1,502	1,483	1,501	1,589	1,521
L    Community and Personal Services	288	366	447	597	679	565	596	466	433
less Bank Service Charge	991	989	1,295	1,595	1,526	1,120	953	849	1,064
Taxes less Subsidies on Products	2,921	3,512	3,425	3,224	2,875	2,788	2,600	2,765	3,165
<b>GDP</b>	<b>24,387</b>	<b>26,297</b>	<b>28,998</b>	<b>28,723</b>	<b>29,876</b>	<b>29,053</b>	<b>31,156</b>	<b>33,650</b>	<b>35,322</b>
<b>Informal Sector - Households</b>	<b>5,333</b>	<b>5,688</b>	<b>6,515</b>	<b>6,682</b>	<b>7,295</b>	<b>7,604</b>	<b>8,471</b>	<b>9,151</b>	<b>9,686</b>
Agriculture - crops	1,455	1,753	1,729	1,666	1,932	2,113	2,409	2,769	2,641
Agriculture - animals	1,137	1,105	1,211	1,253	1,331	1,387	1,576	1,676	1,981
Fishing	1,169	1,271	1,421	1,395	1,562	1,641	1,847	1,987	2,188
Mining	33	32	32	32	35	36	38	39	40
Manufacturing - Handicrafts	166	178	223	239	232	201	218	223	359
Construction - Own Account	325	319	319	322	350	356	377	392	403
Owner-occupied Dwellings	873	858	1,317	1,479	1,545	1,559	1,672	1,721	1,728
Other Real Estate	175	172	263	296	309	312	334	344	346
-	-	-	-	-	-	-	-	-	-
<b>NPISH</b>	<b>351</b>	<b>446</b>	<b>544</b>	<b>677</b>	<b>730</b>	<b>683</b>	<b>694</b>	<b>568</b>	<b>545</b>
Education	81	103	126	128	108	134	56	50	55
Health	22	28	34	38	58	50	58	99	105
Community and Personal Services	247	314	384	511	564	498	580	419	385
-	-	-	-	-	-	-	-	-	-
<b>Government - SOES</b>	<b>4,118</b>	<b>4,116</b>	<b>5,499</b>	<b>4,547</b>	<b>4,872</b>	<b>4,020</b>	<b>3,173</b>	<b>3,346</b>	<b>3,957</b>
<b>Government - non-market</b>	<b>7,937</b>	<b>8,868</b>	<b>8,934</b>	<b>9,823</b>	<b>10,366</b>	<b>10,180</b>	<b>10,518</b>	<b>10,450</b>	<b>11,001</b>
-	-	-	-	-	-	-	-	-	-
Taxes on Products less Imputed B	1,929	2,523	2,131	1,629	1,349	1,667	1,647	1,917	2,102
<b>Private Market Sector</b>	<b>4,705</b>	<b>4,656</b>	<b>5,376</b>	<b>5,366</b>	<b>5,263</b>	<b>4,899</b>	<b>6,653</b>	<b>8,218</b>	<b>8,032</b>

**Table 2 Current Prices Growth Rates (Annual)**

	2001	2002	2003	2004	2005	2006	2007	2008	
<b>A</b>	<b>Agriculture, Forestry and Fishing</b>	<b>1.101</b>	<b>1.058</b>	<b>0.989</b>	<b>1.120</b>	<b>1.066</b>	<b>1.135</b>	<b>1.104</b>	<b>1.059</b>
	A.1 Crops	1.205	0.986	0.964	1.160	1.094	1.140	1.150	0.954
	A.2 Animals	0.980	1.092	1.035	1.065	1.045	1.140	1.071	1.175
	A.3 Forestry								
	A.4 Fishing	1.087	1.118	0.981	1.120	1.050	1.126	1.076	1.101
B	Mining and Quarrying	0.983	0.998	1.011	1.087	1.015	1.061	1.040	1.029
C	Manufacturing	1.008	1.283	1.380	0.802	0.854	1.140	0.931	1.550
D	Electricity, Gas and Water	5.804	0.103	7.630	2.589	1.112	0.608	0.642	1.000
E	Construction	1.067	1.314	1.146	0.870	0.713	1.342	1.377	0.873
<b>F</b>	<b>Trade, Hotels and Restaurants</b>	<b>0.978</b>	<b>1.065</b>	<b>0.841</b>	<b>1.091</b>	<b>1.004</b>	<b>1.354</b>	<b>1.160</b>	<b>1.038</b>
	F.1 Trade	0.914	1.093	0.797	1.085	1.071	1.398	1.150	1.018
	F.2 Hotels and Restaurants	1.734	0.891	1.178	1.118	0.667	1.004	1.264	1.232
<b>G</b>	<b>Transport and Communications</b>	<b>0.925</b>	<b>1.678</b>	<b>0.753</b>	<b>1.264</b>	<b>0.770</b>	<b>0.871</b>	<b>0.913</b>	<b>1.029</b>
	G.1 Transport	1.338	1.299	1.074	1.182	0.863	0.932	1.166	1.060
	G.2 Communications	0.753	1.961	0.595	1.336	0.697	0.813	0.630	0.967
<b>H</b>	<b>Finance and Real Estate</b>	<b>0.977</b>	<b>1.324</b>	<b>0.984</b>	<b>0.927</b>	<b>0.949</b>	<b>1.098</b>	<b>1.004</b>	<b>1.124</b>
	H.1 Banks	0.966	1.263	0.891	0.843	0.877	1.086	0.950	1.269
	H.2 Insurance and Other Financial Inte	1.152	1.085	1.108	1.105	1.371	1.135	1.122	1.061
	H.3 Owner-occupied Dwellings	0.983	1.535	1.123	1.045	1.009	1.072	1.030	1.004
	H.4 Other Real Estate	0.983	1.535	1.123	1.045	1.009	1.072	1.030	1.004
	H.5 Business Services	0.990	1.153	1.232	0.902	0.856	1.408	1.116	1.001
I	Public Administration	1.118	0.971	1.127	1.026	1.011	1.039	0.985	1.077
J	Education	1.083	0.963	1.066	1.031	1.036	1.081	0.980	1.058
K	Health	1.088	0.954	1.153	1.135	0.988	1.012	1.059	0.957
L	Community and Personal Services	1.270	1.221	1.337	1.138	0.831	1.056	0.781	0.930
	less Bank Service Charge	0.998	1.309	1.232	0.957	0.734	0.851	0.890	1.254
	Taxes less Subsidies on Products	1.202	0.975	0.941	0.892	0.970	0.933	1.064	1.145
<b>GDP</b>		<b>1.078</b>	<b>1.103</b>	<b>0.991</b>	<b>1.040</b>	<b>0.972</b>	<b>1.072</b>	<b>1.080</b>	<b>1.050</b>

<b>Informal Sector - Households</b>	<b>1.067</b>	<b>1.145</b>	<b>1.026</b>	<b>1.092</b>	<b>1.042</b>	<b>1.114</b>	<b>1.080</b>	<b>1.058</b>
Agriculture - crops	1.205	0.986	0.964	1.160	1.094	1.140	1.150	0.954
Agriculture - animals	0.972	1.097	1.034	1.062	1.042	1.136	1.063	1.182
Fishing	1.087	1.118	0.981	1.120	1.050	1.126	1.076	1.101
Mining	0.983	0.998	1.011	1.087	1.015	1.061	1.040	1.029
Manufacturing - Handicrafts	1.073	1.249	1.075	0.967	0.868	1.085	1.021	1.609
Construction - Own Account	0.983	0.998	1.011	1.087	1.015	1.061	1.040	1.029
Owner-occupied Dwellings	0.983	1.535	1.123	1.045	1.009	1.072	1.030	1.004
Other Real Estate	0.983	1.535	1.123	1.045	1.009	1.072	1.030	1.004
<b>NPISH</b>	<b>1.270</b>	<b>1.221</b>	<b>1.243</b>	<b>1.079</b>	<b>0.935</b>	<b>1.016</b>	<b>0.818</b>	<b>0.959</b>
Education	1.270	1.221	1.011	0.844	1.247	0.414	0.899	1.100
Health	1.270	1.221	1.110	1.529	0.857	1.164	1.699	1.058
Community and Personal Services	1.270	1.221	1.332	1.104	0.884	1.164	0.722	0.919
<b>Government - SOES</b>	<b>1.000</b>	<b>1.336</b>	<b>0.827</b>	<b>1.071</b>	<b>0.825</b>	<b>0.789</b>	<b>1.054</b>	<b>1.183</b>
<b>Government - non-market</b>	<b>1.117</b>	<b>1.007</b>	<b>1.099</b>	<b>1.055</b>	<b>0.982</b>	<b>1.033</b>	<b>0.994</b>	<b>1.053</b>
Taxes on Products less Imputed B:	1.308	0.845	0.765	0.828	1.236	0.988	1.164	1.096
<b>Private Market Sector</b>	<b>0.990</b>	<b>1.155</b>	<b>0.998</b>	<b>0.981</b>	<b>0.931</b>	<b>1.358</b>	<b>1.235</b>	<b>0.977</b>

**Table 3 Constant 2005 Prices (thousands of Australian Dollars)**

	2000	2001	2002	2003	2004	2005	2006	2007	2008	
<b>A</b>	<b>Agriculture, Forestry and Fishing</b>	<b>5,695</b>	<b>5,596</b>	<b>5,489</b>	<b>5,503</b>	<b>5,750</b>	<b>5,801</b>	<b>6,220</b>	<b>6,406</b>	<b>6,431</b>
A.1	Crops	2,249	2,210	2,168	2,173	2,271	2,291	2,457	2,530	2,540
A.2	Animals	1,441	1,416	1,389	1,393	1,455	1,468	1,574	1,621	1,628
A.3	Forestry	-	-	-	-	-	-	-	-	-
A.4	Fishing	2,004	1,969	1,932	1,937	2,023	2,041	2,189	2,254	2,263
B	Mining and Quarrying	35	34	34	34	35	36	38	39	39
C	Manufacturing	215	231	274	366	285	236	259	236	331
D	Electricity, Gas and Water	334	364	468	463	496	512	513	515	521
E	Construction	1,568	1,635	2,161	2,416	2,014	1,520	2,146	3,076	2,658
<b>F</b>	<b>Trade, Hotels and Restaurants</b>	<b>3,516</b>	<b>3,108</b>	<b>3,353</b>	<b>2,764</b>	<b>2,856</b>	<b>2,835</b>	<b>3,626</b>	<b>4,056</b>	<b>3,766</b>
F.1	Trade	3,150	2,752	2,959	2,299	2,436	2,522	3,361	3,774	3,368
F.2	Hotels and Restaurants	366	357	395	465	420	314	264	282	398
<b>G</b>	<b>Transport and Communications</b>	<b>2,189</b>	<b>2,031</b>	<b>2,677</b>	<b>2,391</b>	<b>2,878</b>	<b>2,303</b>	<b>2,037</b>	<b>1,925</b>	<b>1,909</b>
G.1	Transport	1,053	1,066	1,089	1,119	1,130	1,137	1,116	1,130	1,128
G.2	Communications	1,136	965	1,588	1,272	1,749	1,166	921	795	781
<b>H</b>	<b>Finance and Real Estate</b>	<b>5,309</b>	<b>5,148</b>	<b>5,628</b>	<b>5,216</b>	<b>4,740</b>	<b>4,412</b>	<b>4,749</b>	<b>4,715</b>	<b>4,999</b>
H.1	Banks	3,092	2,948	3,447	2,972	2,438	2,072	2,175	2,027	2,345
H.2	Insurance and Other Financial Inte	148	169	169	182	195	259	283	311	299
H.3	Owner-occupied Dwellings	1,530	1,504	1,475	1,479	1,545	1,559	1,672	1,721	1,728
H.4	Other Real Estate	306	301	295	296	309	312	334	344	346
H.5	Business Services	232	227	242	288	253	210	285	311	282
I	Public Administration	4,236	4,548	4,783	4,950	4,904	4,921	4,976	4,954	5,295
J	Education	2,263	2,585	2,743	2,764	2,744	2,762	2,778	2,814	3,235
K	Health	1,259	1,289	1,317	1,474	1,494	1,483	1,489	1,526	1,653
L	Community and Personal Services	346	433	490	634	701	565	574	439	370
	less Bank Service Charge	1,190	1,172	1,419	1,693	1,575	1,120	918	800	908
	Taxes less Subsidies on Products	3,391	3,911	3,728	3,418	2,974	2,788	2,482	2,578	2,597
<b>GDP</b>		<b>29,167</b>	<b>29,742</b>	<b>31,725</b>	<b>30,698</b>	<b>30,295</b>	<b>29,053</b>	<b>30,970</b>	<b>32,481</b>	<b>32,897</b>
<b>Informal Sector - Households</b>										
	Agriculture - crops	2,074	2,038	2,000	2,004	2,094	2,113	2,266	2,333	2,343
	Agriculture - animals	1,362	1,338	1,313	1,316	1,375	1,387	1,487	1,532	1,538
	Fishing	1,611	1,583	1,552	1,556	1,626	1,641	1,759	1,812	1,819
	Mining	35	34	34	34	35	36	38	39	39
	Manufacturing - Handicrafts	199	211	244	254	239	201	210	210	306
	Construction - Own Account	349	343	337	337	352	356	381	393	394
	Owner-occupied Dwellings	1,530	1,504	1,475	1,479	1,545	1,559	1,672	1,721	1,728
	Other Real Estate	306	301	295	296	309	312	334	344	346
	<b>NPISH</b>	<b>405</b>	<b>509</b>	<b>585</b>	<b>710</b>	<b>750</b>	<b>683</b>	<b>670</b>	<b>538</b>	<b>548</b>
	Education	81	103	126	128	108	134	56	50	130
	Health	27	33	38	40	60	50	56	93	89
	Community and Personal Services	297	372	421	542	582	498	559	395	329
	<b>Government - SOES</b>	<b>4,844</b>	<b>4,573</b>	<b>5,833</b>	<b>5,049</b>	<b>4,994</b>	<b>4,020</b>	<b>3,891</b>	<b>3,617</b>	<b>4,017</b>
	<b>Government - non-market</b>	<b>8,683</b>	<b>9,317</b>	<b>9,838</b>	<b>10,209</b>	<b>10,163</b>	<b>10,180</b>	<b>10,266</b>	<b>10,253</b>	<b>10,769</b>
	Taxes on Products less Imputed B	2,202	2,739	2,308	1,726	1,398	1,667	1,565	1,778	1,689
	<b>Private Market Sector</b>	<b>5,567</b>	<b>5,252</b>	<b>5,913</b>	<b>5,729</b>	<b>5,413</b>	<b>4,899</b>	<b>6,430</b>	<b>7,911</b>	<b>7,361</b>

**Table 4 Constant 2005 Prices Growth Rates (Annual)**

	2001	2002	2003	2004	2005	2006	2007	2008	
<b>A</b>	<b>Agriculture, Forestry and Fishing</b>	<b>0.983</b>	<b>0.981</b>	<b>1.002</b>	<b>1.045</b>	<b>1.009</b>	<b>1.072</b>	<b>1.030</b>	<b>1.004</b>
	A.1 Crops	0.983	0.981	1.002	1.045	1.009	1.072	1.030	1.004
	A.2 Animals	0.983	0.981	1.002	1.045	1.009	1.072	1.030	1.004
	A.3 Forestry								
	A.4 Fishing	0.983	0.981	1.002	1.045	1.009	1.072	1.030	1.004
B	Mining and Quarrying	0.983	0.981	1.002	1.045	1.009	1.072	1.030	1.004
C	Manufacturing	1.074	1.187	1.336	0.780	0.827	1.098	0.911	1.403
D	Electricity, Gas and Water	1.089	1.284	0.990	1.071	1.033	1.002	1.004	1.012
E	Construction	1.043	1.322	1.118	0.834	0.755	1.412	1.433	0.864
<b>F</b>	<b>Trade, Hotels and Restaurants</b>	<b>0.884</b>	<b>1.079</b>	<b>0.824</b>	<b>1.033</b>	<b>0.993</b>	<b>1.279</b>	<b>1.119</b>	<b>0.929</b>
	F.1 Trade	0.873	1.075	0.777	1.059	1.035	1.333	1.123	0.892
	F.2 Hotels and Restaurants	0.975	1.106	1.178	0.904	0.746	0.843	1.067	1.413
<b>G</b>	<b>Transport and Communications</b>	<b>0.928</b>	<b>1.318</b>	<b>0.893</b>	<b>1.204</b>	<b>0.800</b>	<b>0.884</b>	<b>0.945</b>	<b>0.992</b>
	G.1 Transport	1.013	1.021	1.027	1.010	1.007	0.982	1.012	0.998
	G.2 Communications	0.850	1.645	0.801	1.375	0.667	0.789	0.864	0.982
<b>H</b>	<b>Finance and Real Estate</b>	<b>0.970</b>	<b>1.093</b>	<b>0.927</b>	<b>0.909</b>	<b>0.931</b>	<b>1.076</b>	<b>0.993</b>	<b>1.060</b>
	H.1 Banks	0.953	1.169	0.862	0.820	0.850	1.050	0.932	1.157
	H.2 Insurance and Other Financial Inte	1.138	1.004	1.072	1.075	1.328	1.093	1.098	0.961
	H.3 Owner-occupied Dwellings	0.983	0.981	1.002	1.045	1.009	1.072	1.030	1.004
	H.4 Other Real Estate	0.983	0.981	1.002	1.045	1.009	1.072	1.030	1.004
	H.5 Business Services	0.978	1.067	1.192	0.878	0.830	1.356	1.092	0.906
I	Public Administration	1.074	1.052	1.035	0.991	1.004	1.011	0.996	1.069
J	Education	1.142	1.061	1.007	0.993	1.007	1.006	1.013	1.149
K	Health	1.024	1.022	1.119	1.013	0.993	1.004	1.025	1.083
L	Community and Personal Services	1.254	1.130	1.293	1.107	0.805	1.017	0.765	0.842
	less Bank Service Charge	0.985	1.211	1.192	0.931	0.711	0.819	0.871	1.135
	Taxes less Subsidies on Products	1.153	0.953	0.917	0.870	0.938	0.890	1.039	1.007
<b>GDP</b>		<b>1.020</b>	<b>1.067</b>	<b>0.968</b>	<b>0.987</b>	<b>0.959</b>	<b>1.066</b>	<b>1.049</b>	<b>1.013</b>

<b>Informal Sector - Households</b>	<b>0.985</b>	<b>0.986</b>	<b>1.004</b>	<b>1.041</b>	<b>1.004</b>	<b>1.072</b>	<b>1.029</b>	<b>1.015</b>
Agriculture - crops	0.983	0.981	1.002	1.045	1.009	1.072	1.030	1.004
Agriculture - animals	0.983	0.981	1.002	1.045	1.009	1.072	1.030	1.004
Fishing	0.983	0.981	1.002	1.045	1.009	1.072	1.030	1.004
Mining	0.983	0.981	1.002	1.045	1.009	1.072	1.030	1.004
Manufacturing - Handicrafts	1.059	1.156	1.040	0.941	0.841	1.045	0.999	1.457
Construction - Own Account	0.983	0.981	1.002	1.045	1.009	1.072	1.030	1.004
Owner-occupied Dwellings	0.983	0.981	1.002	1.045	1.009	1.072	1.030	1.004
Other Real Estate	0.983	0.981	1.002	1.045	1.009	1.072	1.030	1.004
<b>NPISH</b>	<b>1.257</b>	<b>1.149</b>	<b>1.215</b>	<b>1.056</b>	<b>0.910</b>	<b>0.982</b>	<b>0.803</b>	<b>1.019</b>
Education	1.270	1.221	1.011	0.844	1.247	0.414	0.899	2.604
Health	1.254	1.130	1.074	1.487	0.830	1.121	1.663	0.958
Community and Personal Services	1.254	1.130	1.289	1.074	0.856	1.121	0.707	0.832
<b>Government - SOES</b>	<b>0.944</b>	<b>1.276</b>	<b>0.866</b>	<b>0.989</b>	<b>0.805</b>	<b>0.968</b>	<b>0.930</b>	<b>1.111</b>
<b>Government - non-market</b>	<b>1.073</b>	<b>1.056</b>	<b>1.038</b>	<b>0.996</b>	<b>1.002</b>	<b>1.008</b>	<b>0.999</b>	<b>1.050</b>
Taxes on Products less Imputed B:	1.244	0.843	0.748	0.810	1.192	0.938	1.137	0.950
<b>Private Market Sector</b>	<b>0.943</b>	<b>1.126</b>	<b>0.969</b>	<b>0.945</b>	<b>0.905</b>	<b>1.312</b>	<b>1.230</b>	<b>0.931</b>

**Table 5 GDP, GNI and GNDI**  
**(thousands of Australian Dollars)**

Relations between Product, Income, Saving and Net Lending									
Aggregates									
	2000	2001	2002	2003	2004	2005	2006	2007	2008
S 000									
<b>GROSS DOMESTIC PRODUCT</b>	<b>24,387</b>	<b>26,297</b>	<b>28,998</b>	<b>28,723</b>	<b>29,876</b>	<b>29,053</b>	<b>31,156</b>	<b>33,650</b>	<b>35,322</b>
Plus: Compensation of employees - from and to the rest of the world, net	na	4,245	6,078	4,085	3,727	3,545	2,797	2,640	3,665
Plus: Compensation of employees - from the rest of the world		4,414	6,203	4,297	3,950	3,787	3,069	2,851	3,833
Less: Compensation of employees - to the rest of the world		168	125	212	223	242	272	211	168
Plus: Property income – from and to the rest of the world, net	na	15,969	22,150	9,134	16,062	16,675	18,098	21,810	22,889
Plus: Property income – from the rest of the world. Investment Income		2,568	2,260	4,624	9,094	10,908	9,946	16,264	12,005
Plus: Property income – from the rest of the world. Fishing Rents		11,795	8,695	1,449	4,186	3,145	5,232	3,322	8,397
Plus: Property income – from the rest of the world. Other		2,087	11,542	3,412	3,249	3,131	3,475	2,828	2,999
Less: Property income – to the rest of the world		481	347	350	467	509	554	604	511
<b>Equals: GROSS NATIONAL INCOME</b>	<b>na</b>	<b>46,511</b>	<b>57,226</b>	<b>41,943</b>	<b>49,665</b>	<b>49,273</b>	<b>52,051</b>	<b>58,099</b>	<b>61,876</b>
Plus: Current transfers – from and to the rest of the world, net	na	3,347	6,664	7,071	7,133	5,393	7,841	6,660	6,737
Plus: Current transfers - from the rest of the world - official aid		5,148	6,159	6,858	7,117	6,858	10,117	9,292	9,013
Plus: Current transfers - from the rest of the world - other		2,056	3,148	3,817	3,632	3,382	2,651	2,714	2,993
Less: Current transfers – to the rest of the world		3,857	2,644	3,605	3,617	4,846	4,927	5,346	5,269
<b>Equals: GROSS NATIONAL DISPOSABLE INCOME</b>	<b>na</b>	<b>49,858</b>	<b>63,890</b>	<b>49,014</b>	<b>56,798</b>	<b>54,666</b>	<b>59,892</b>	<b>64,759</b>	<b>68,613</b>
Ratio - GNDI to GDP		1.9	2.2	1.7	1.9	1.9	1.9	1.9	1.9



**Table 6 Implicit Price Deflators (2005 = 100)**

	2000	2001	2002	2003	2004	2005	2006	2007	2008
A Agriculture, Forestry and Fish	74	83	90	88	95	100	106	113	120
A.1 Crops	70	86	86	83	92	100	106	119	113
A.2 Animals	83	82	92	95	97	100	106	111	129
A.3 Forestry									
A.4 Fishing	73	80	92	90	96	100	105	110	120
B Mining and Quarrying	93	93	95	96	99	100	99	100	102
C Manufacturing	90	84	91	94	97	100	104	106	117
D Electricity, Gas and Water	12	62	5	38	93	100	61	39	38
E Construction	97	100	99	101	106	100	95	91	92
F Trade, Hotels and Restaurant	84	93	92	94	99	100	106	110	123
F.1 Trade	87	91	92	94	97	100	105	107	123
F.2 Hotels and Restaurants	63	112	90	90	112	100	119	141	123
G Transport and Communication	92	92	117	99	104	100	99	95	99
G.1 Transport	57	75	95	100	117	100	95	109	116
G.2 Communications	126	111	133	98	96	100	103	75	74
H Finance and Real Estate	74	75	91	96	98	100	102	103	109
H.1 Banks	83	84	91	94	97	100	103	105	116
H.2 Insurance and Other Financial	83	84	91	94	97	100	104	106	117
H.3 Owner-occupied Dwellings	57	57	89	100	100	100	100	100	100
H.4 Other Real Estate	57	57	89	100	100	100	100	100	100
H.5 Business Services	83	84	91	94	97	100	104	106	117
I Public Administration	92	95	88	96	99	100	103	102	102
J Education	103	97	88	94	97	100	108	104	96
K Health	88	93	87	90	101	100	101	104	92
L Community and Personal Services	83	84	91	94	97	100	104	106	117
less Bank Service Charge	83	84	91	94	97	100	104	106	117
Taxes less Subsidies on Products	86	90	92	94	97	100	105	107	122
GDP	84	88	91	94	99	100	101	104	107
Compared with CPI All Groups	83	84	91	94	97	100	104	106	117

**Table 7 Implicit Price Deflators Growth Rates (Annual)**

	2001	2002	2003	2004	2005	2006	2007	2008
A Agriculture, Forestry and Fish	<b>1.120</b>	<b>1.078</b>	<b>0.986</b>	<b>1.072</b>	<b>1.056</b>	<b>1.058</b>	<b>1.072</b>	<b>1.054</b>
A.1 Crops	1.226	1.005	0.961	1.110	1.084	1.063	1.116	0.950
A.2 Animals	0.997	1.113	1.033	1.019	1.036	1.063	1.040	1.171
A.3 Forestry								
A.4 Fishing	1.106	1.140	0.979	1.072	1.041	1.050	1.045	1.097
B Mining and Quarrying	1.000	1.018	1.008	1.040	1.006	0.989	1.010	1.025
C Manufacturing	0.939	1.080	1.033	1.028	1.032	1.038	1.022	1.104
D Electricity, Gas and Water	- 5.330	- 0.080	- 7.705	2.418	1.076	- 0.607	- 0.640	0.988
E Construction	1.024	0.994	1.025	1.043	0.945	0.950	0.961	1.010
F Trade, Hotels and Restaurant	<b>1.106</b>	<b>0.987</b>	<b>1.021</b>	<b>1.055</b>	<b>1.011</b>	<b>1.059</b>	<b>1.037</b>	<b>1.117</b>
F.1 Trade	1.046	1.016	1.026	1.024	1.035	1.049	1.024	1.141
F.2 Hotels and Restaurants	1.779	0.806	1.000	1.236	0.894	1.191	1.185	0.872
G Transport and Communication	<b>0.997</b>	<b>1.274</b>	<b>0.843</b>	<b>1.050</b>	<b>0.963</b>	<b>0.985</b>	<b>0.966</b>	<b>1.038</b>
G.1 Transport	1.321	1.272	1.046	1.171	0.858	0.949	1.152	1.061
G.2 Communications	0.886	1.192	0.742	0.972	1.046	1.029	0.730	0.984
H Finance and Real Estate	<b>1.008</b>	<b>1.211</b>	<b>1.062</b>	<b>1.020</b>	<b>1.019</b>	<b>1.021</b>	<b>1.011</b>	<b>1.060</b>
H.1 Banks	1.013	1.080	1.033	1.028	1.032	1.035	1.019	1.097
H.2 Insurance and Other Financial	1.013	1.080	1.033	1.028	1.032	1.038	1.022	1.104
H.3 Owner-occupied Dwellings	1.000	1.564	1.120	1.000	1.000	1.000	1.000	1.000
H.4 Other Real Estate	1.000	1.564	1.120	1.000	1.000	1.000	1.000	1.000
H.5 Business Services	1.013	1.080	1.033	1.028	1.032	1.038	1.022	1.104
I Public Administration	1.042	0.923	1.089	1.035	1.007	1.028	0.989	1.008
J Education	0.949	0.908	1.058	1.038	1.029	1.075	0.968	0.920
K Health	1.063	0.933	1.030	1.120	0.994	1.007	1.033	0.884
L Community and Personal Services	1.013	1.080	1.033	1.028	1.032	1.038	1.022	1.104
less Bank Service Charge	1.013	1.080	1.033	1.028	1.032	1.038	1.022	1.104
Taxes less Subsidies on Products	1.043	1.023	1.027	1.025	1.034	1.047	1.024	1.136
GDP	<b>1.057</b>	<b>1.034</b>	<b>1.024</b>	<b>1.054</b>	<b>1.014</b>	<b>1.006</b>	<b>1.030</b>	<b>1.036</b>
Compared with CPI All Groups	<b>1.013</b>	<b>1.080</b>	<b>1.033</b>	<b>1.028</b>	<b>1.032</b>	<b>1.038</b>	<b>1.022</b>	<b>1.104</b>