

EB/CM/Tuvalu/10/1

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January 7, 2010

To: Members of the Committee on Membership—Tuvalu
(Mr. Mozhin, Chairman; Mr. Alazzaz, Mr. Lee, Ms. Lundsager, Mr. Pereira,
Mr. Rutayisire, Ms. Vongpradhip)

From: Susan Creane, Committee Secretary

Subject: **Tuvalu—Calculation of Quota**

The attached paper relating to the calculation of a quota for Tuvalu will be taken up for consideration on **Thursday, January 28, 2010** by the committee on membership, which was established under Rule D-1 (EBD/09/90, 12/17/09) and approved by the Executive Board on December 23, 2009 (EBM/09/130).

Questions may be referred to Mr. Jang (ext. 34169) and Mr. Syed (ext. 39967) in APD; Mr. Rossi, FIN (ext. 35651); and Ms. Creane (ext. 37294) and Mrs. Maxwell (ext. 34974) in SEC.

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INTERNATIONAL MONETARY FUND

TUVALU

Calculation of Quota

Prepared by the Asia and Pacific and Finance Departments
(In consultation with other departments)

Approved by Anoop Singh and Andrew Tweedie

January 6, 2010

- **Tuvalu applied for Fund membership on January 8, 2009 (EBD/09/3).** An initial courtesy visit was fielded by APD during March 17–19, and statistical advisors from Pacific Financial Technical Assistance Center (PFTAC) visited Funafuti in May and July to help resolve data issues related to the quota calculation.
- **A membership mission visited Funafuti during October 30–November 10 to explain to the authorities the procedures leading to membership and the rights and obligations of membership.** Data for the calculation of the initial quota were compiled and discussed with the authorities. The mission comprised Messrs. Jang (head) and Syed (both APD), Rossi (FIN), and Bergthaler (LEG). A World Bank membership mission overlapped with the Fund mission.
- **The mission met with senior government officials,** including Prime Minister Ielemia, Minister of Finance and Economic Planning Metia and other cabinet members, Speaker Latasi and members of parliament, banks, private sector representatives, and donors in Tuvalu and Fiji.
- **This report is a joint product of APD (Sections I–II) and FIN (Sections III–V).**

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I. INTRODUCTION

1. **Tuvalu applied for membership in the Fund on January 8, 2009.**¹ It was determined that Tuvalu is a “country” eligible for Fund membership in light of its recognition by the international community as an independent state.
2. **In light of its growing dependence on the global economy, Tuvalu would like to deepen its relationship with the international community.** Tuvalu has been a member of the Asian Development Bank (ADB) since 1993 and the United Nations since 2000. Membership in the Fund and World Bank would be a continuation of this process, which could provide Tuvalu with access to additional financial and technical assistance and policy advice to help address its development challenges.

II. BACKGROUND

A. Geography, Demography, and History

3. **Tuvalu is smaller than any Fund member and one of most remote countries in the world.**² Located midway between Hawaii and Australia in the South Pacific Ocean, Tuvalu consists of nine low-lying coral atolls with a population of about 12,000. It has a total land area of only 26 sq km—around one-tenth the size of Washington D.C.—but an exclusive economic zone of about 900,000 sq km. Nearly all (96 percent) of the population is Polynesian, and the remainder is Micronesian. With a highest elevation of just 3–5 meters above sea level, climate change looms as a major challenge in light of rising sea levels.³
4. **Formerly known as the Ellice Islands, Tuvalu gained independence from the United Kingdom in 1978.** Little is known about the history of Tuvalu before the first contact with European explorers in the late 18th century. The territory became part of a British protectorate called the Gilbert Islands in 1892 and was incorporated into the Gilbert and Ellice Islands colony in 1916. Following a vote for separation from the Gilbert Islands (which became modern day Kiribati), the Ellice Islands became the separate British colony of Tuvalu in 1975 and fully independent three years later.
5. **Tuvalu is a constitutional monarchy with a parliamentary form of government.** The British sovereign is the head of state, represented by a Tuvaluan Governor General. It has a 15-member unicameral parliament elected by universal suffrage every four years. The cabinet is headed by the Prime Minister, chosen by a majority of parliamentarians, and

¹ Tuvalu also applied for membership in the World Bank at the same time.

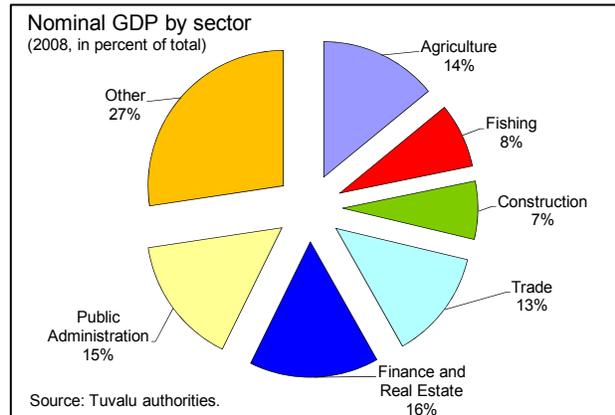
² Currently, the smallest Fund member in terms of population and quota is Palau with a population of around 21,000 and a quota of SDR 3.5 million.

³ Tuvalu is rated as extremely vulnerable on the region’s Environmental Vulnerability Index (EVI), developed by the South Pacific Applied GeoScience Commission and the United Nations Environment Program.

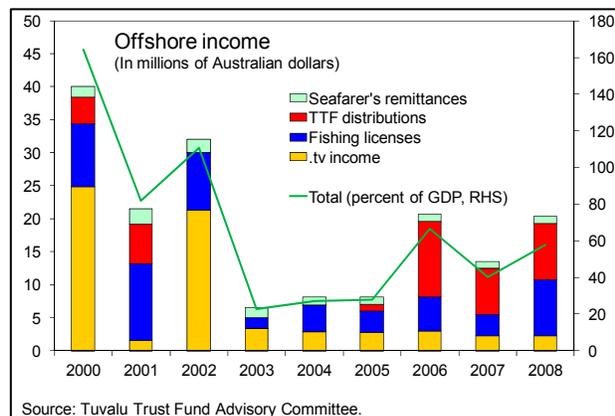
consists of up to nine ministers. With no organized parties, parliamentarians tend to align themselves fluidly, a practice that led to some political instability until the current government was formed in 2006. The next parliamentary elections are expected to take place in the summer of 2010.

B. Economic Setting

6. **Tuvalu, like many other Pacific islands, is characterized by a dual economy** (Figure 1 and Table 1). The outer islands operate on a semisubsistence basis, while the main island of Funafuti has a more developed cash economy, based on trade and government services. The domestic production base is limited, consisting primarily of subsistence farming and fishing, together with some handicrafts. The country's remoteness and limited air services also constrain tourism with only around 1,000 visitors each year.⁴



7. **Economic performance is largely determined by offshore earnings and government expenditure.** The former comes from the Tuvalu Trust Fund (TTF) established in 1987 by donor countries, fees from fishing licenses and the country's ".tv" internet domain name lease, workers' remittances, and official transfers. On a per capita basis, Tuvalu is the second-highest recipient of overseas development assistance in the world.⁵ Tuvalu's elevated gross national income (GNI), which is 75 percent higher than GDP, clearly indicates its dependence on the world economy despite its geographic remoteness (Table 2).

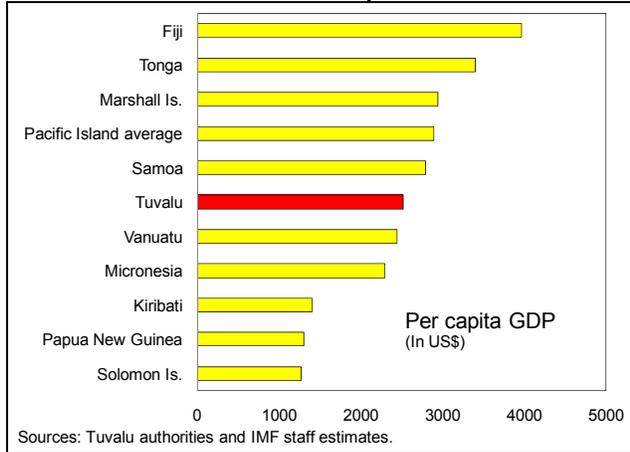


⁴ There is presently air service only from Suva, Fiji to Funafuti twice a week.

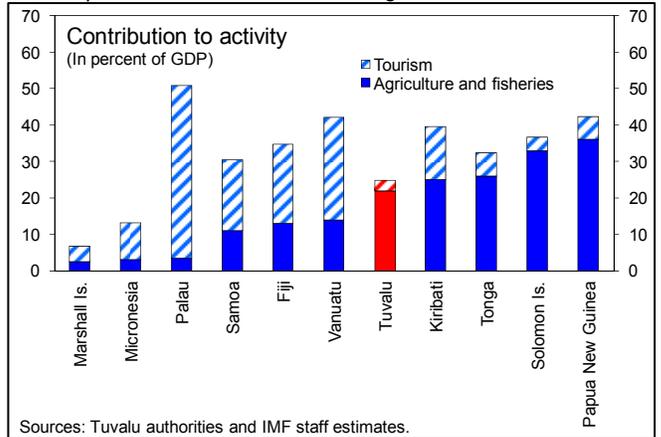
⁵ In recent years Tuvalu has received overseas development assistance from the UN development agencies, Australia, the E.U., Japan, New Zealand, and Taiwan Province of China.

Figure 1. Tuvalu: Basic Economic and Institutional Features

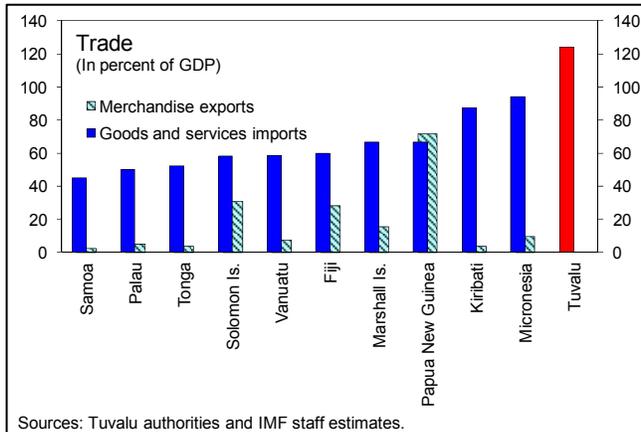
Tuvalu, one of the smallest and most remote countries in the world, is a lower middle-income country.



Subsistence agriculture and fishing are core activities, with tourism less important than elsewhere in the region.



Exports are negligible, while import dependency is high...

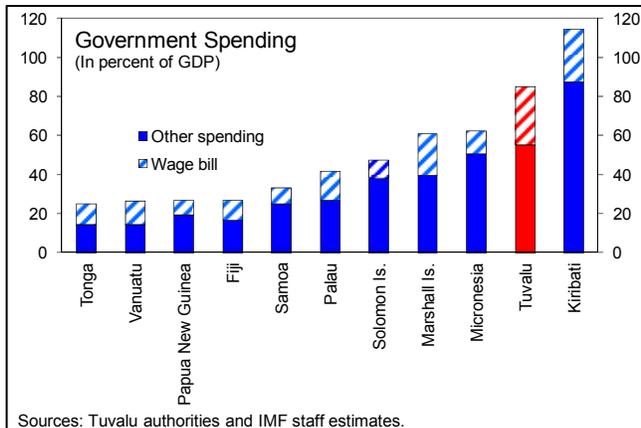


... as is reliance on offshore income—notably remittances, fishing license fees and ODA.

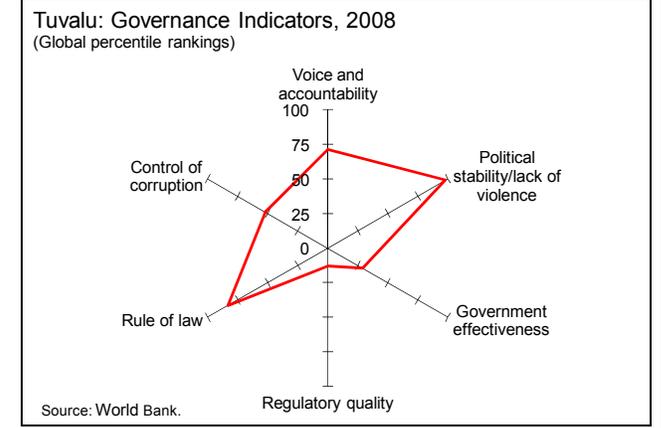
	Remittances (Percent of GDP)	Fishing Licenses (Percent of GDP)	ODA (Per capita, U.S. dollars)
	(latest year available)		
Micronesia	1.0	6.7	1,034
Palau	...	0.7	1,100
Marshall Islands	0.6	5.1	879
Kiribati	6.7	42.8	285
Fiji	7.0	0.0	69
Tonga	33.6	0.1	304
Samoa	14.2	0.1	197
Papua New Guinea	0.2	0.2	50
Vanuatu	1.7	0.1	251
Solomon Islands	0.0	0.1	500
Tuvalu	7.9	23.8	1,115

Sources: AusAid, UNDP, and IMF staff estimates.

The public sector dominates the economy due to the narrow production base and barriers to private activity...



...and while Tuvalu performs well on some governance indicators, government effectiveness and regulation are weak.



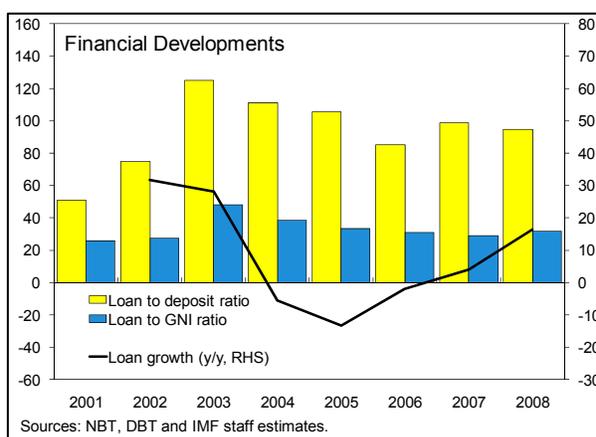
8. **The public sector dominates the economy**, accounting for nearly 70 percent of employment (Tables 3 and 4). The sector expanded rapidly during the 1990s, reflecting both pay and employment increases.

	Share of employment	Share of gross salaries
Public sector	68.2	80.0
General Government	56.5	66.0
Public enterprises	11.7	14.0
Private sector	29.4	16.7
Construction	10.3	1.2
Wholesale and retail	9.9	10.8
NGOs	2.4	3.3

Source: ADB.

9. **Most public enterprises are in a weak financial position.** Over the last four years, apart from one commercial bank (the National Bank of Tuvalu (NBT)), none of the other seven public enterprises⁶ has registered a consistent profit and some have fallen into negative equity. At the same time, the total debt of the sector has risen from around 75 percent of GDP in 2004 to over 110 percent in 2007, with additional government liabilities (including guarantees) estimated at around 18 percent of GDP. Structural inefficiencies, government arrears and very low tariff structures are the major impediments to sound balance sheets. The ADB is providing technical assistance to reform the sector.

10. **The financial sector is underdeveloped and lending constrained**, following rapid credit growth in the early 2000s (Table 5). The financial sector consists of the NBT and one development bank, both of which are government-owned.⁷ The Australian dollar circulates as legal tender. There is no central bank, and the NBT performs some monetary functions, including the holding of government accounts and foreign assets. Interest rates on lending have changed little in recent years, reflecting limited competition in the financial system. There is no banking legislation or regulation, although a Banking Bill has recently been tabled in parliament.



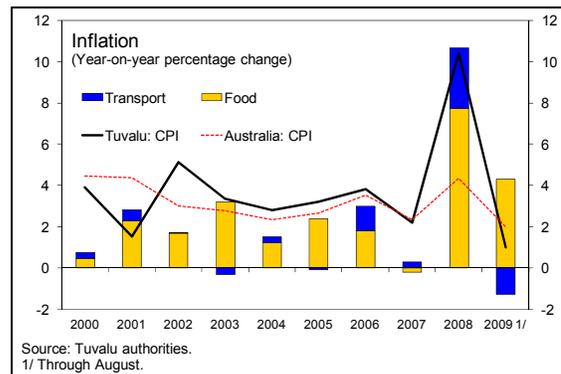
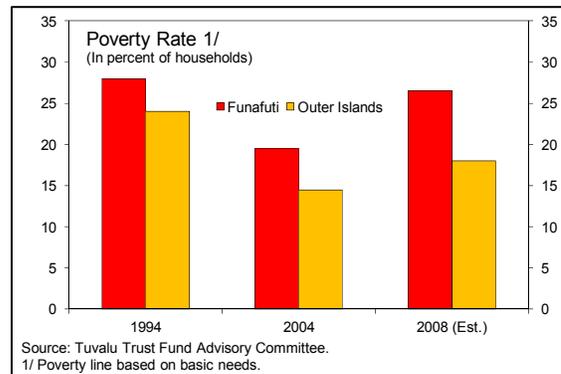
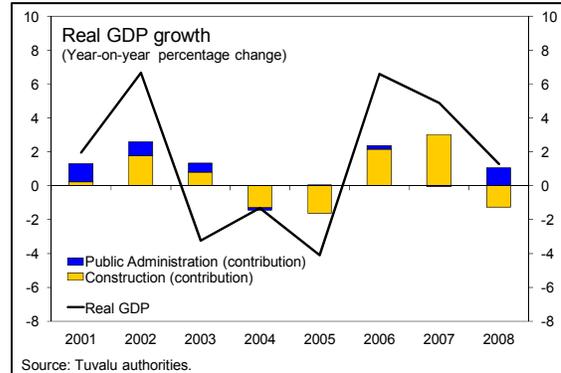
11. **Tuvalu administers its exchange and trade system quite liberally in practice.** There are no nontariff import restrictions other than those imposed for security and health reasons. While the exchange control regulations are quite restrictive and prescribe approval requirements from the NBT or the Minister of Finance for most payments or transfers, in practice, no approval is required and transactions are administered liberally (Annex I).

⁶ These are the Development Bank of Tuvalu, Tuvalu Electricity Corporation, Tuvalu Telecommunications Corporation, National Fishing Company of Tuvalu, Vaiaku Lagi Hotel, Philatelic Bureau, and Tuvalu Marine Training Institute.

⁷ The Tuvalu National Provident Fund also provides some personal loans to its members.

12. **Given the many constraints faced by Tuvalu, economic performance has been broadly favorable in recent years** (Figure 2). As highlighted by last year's food and fuel crisis, however, Tuvalu is very vulnerable to external shocks.

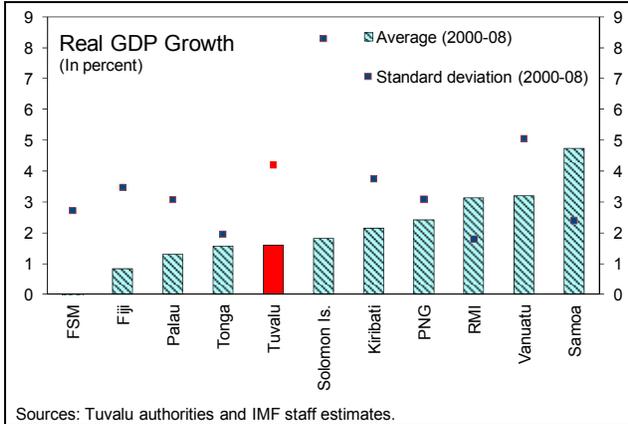
- Growth.** After averaging around 5 percent in the 1990s, led by public construction and an expansion in government ministries, growth has slowed to an average of around 1¾ percent since 2000 and has been volatile. The social costs of last year's surge in global commodity prices were also significant, with almost 27 percent of households on Funafuti falling below the poverty line, compared to around 20 percent in 2004–05.
- Inflation.** Given high import dependency, inflation has tended to track developments in Tuvalu's major trading partners as well as in global food and fuel prices. The use of the stable Australian dollar has helped keep inflation low, except in 2008 when it reached over 10 percent due to high international food and fuel prices.
- Fiscal performance.** Fiscal management has not been very prudent in recent years as windfall revenue from the TTF and fishing licenses has tended to be immediately spent on major public construction projects (Box 1). Some of the expenditure was also recurrent and has been hard to reverse as revenues have fallen, contributing to persistent budget deficits over the last four years. With the global financial crisis, the contribution from the TTF to the budget is being curtailed and no contribution is expected over the next few years, which will constrain the authorities' fiscal management capacity in the period ahead.⁸



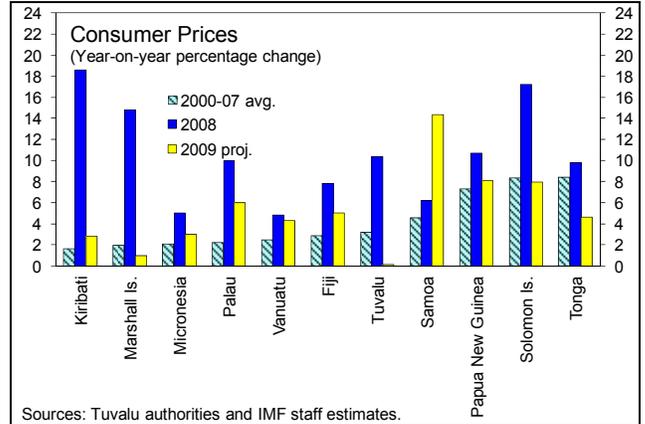
⁸ In years when the market value of the TTF exceeds its targeted maintained value, the surplus is distributed into the Consolidated Investment Fund (CIF) and, subject to some informal minimum balance targets, is available for budgetary spending. As of September 2009, the TTF's market value was \$A 96 million compared with the maintained value of \$A 113 million. Since 2008, TTF's market value has been below its targeted value.

Figure 2. Tuvalu: Recent Economic Developments in the Regional Context

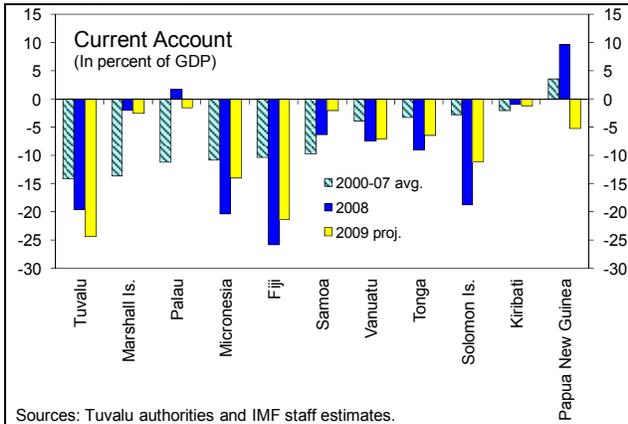
In recent years, growth has been low on average and volatile...



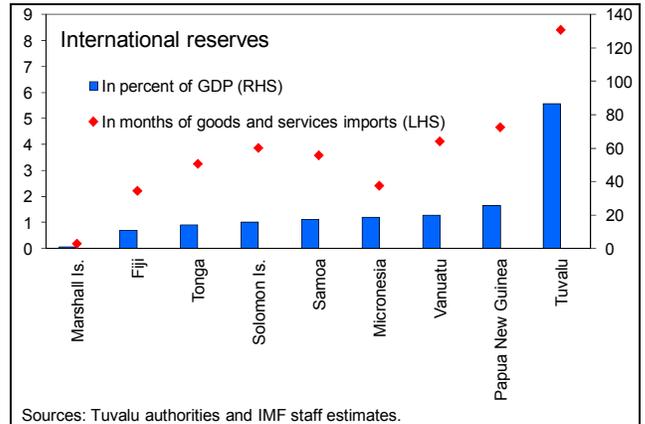
...while high import dependency has left domestic prices vulnerable to external shocks.



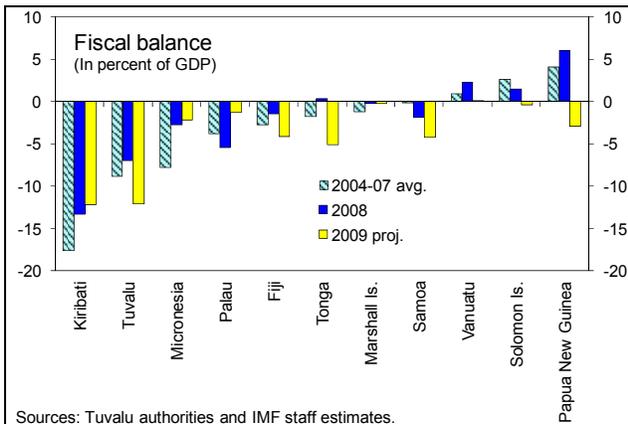
The current account has been in deficit, driven by the trade and services balance...



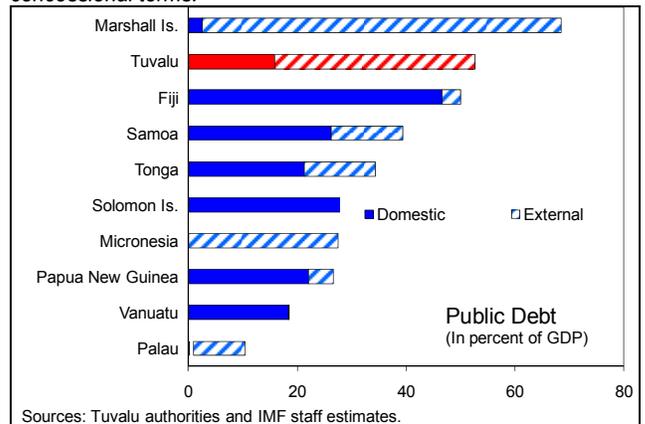
...but reserves remain at comfortable levels.



Fiscal balances have been in deficit...



...and overall debt is elevated, although external debt is on concessional terms.

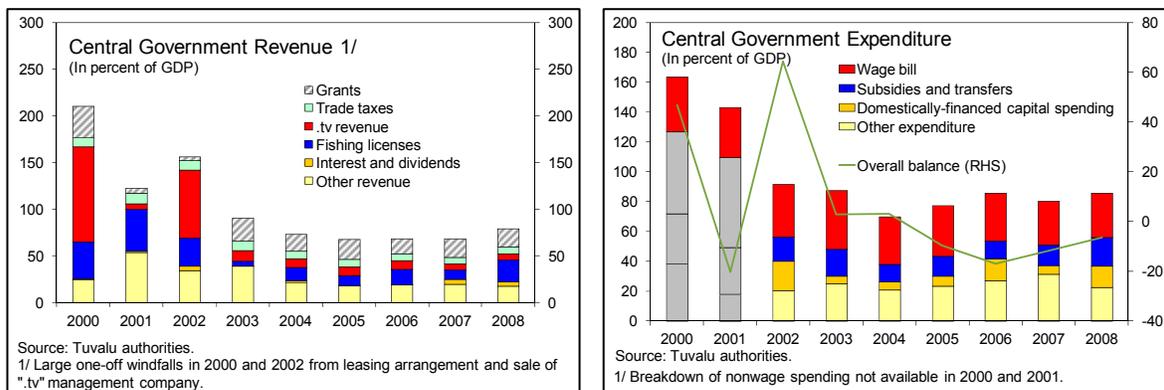


Box 1. Tuvalu: Budget Process and Developments

In the absence of its own currency and monetary policy, fiscal policy plays a key role in macroeconomic management in Tuvalu. It is also the main tool for provision of an enabling environment for growth through improvements in human capital and well-prioritized capital spending.

Budget process. Budgets are jointly prepared by the Ministry of Finance (MOF) and various committees. The Macroeconomic Policy Committee and the Development Coordinating Committee (DCC) exercise oversight before budget circulars are communicated to line ministries, who are normally given 4–6 weeks to prepare their budget submissions for the upcoming year. The Core Budget Committee (CBC) then consults with each ministry on their submissions, revises them and presents to the DCC for review. At the final stage, the budget proposal is sent to the cabinet for resolution of policy issues, discussed by parliament, and enacted through the Appropriations Bill in mid-November. During the execution phase, the Department of Planning and Budget of the MOF reviews budget performance on a quarterly basis.

Fiscal performance. Revenue is variable and government spending high. The budget balance has been volatile, ranging from surpluses of over 50 percent of GDP in the early 2000s to deficits of 10–15 percent of GDP in recent years. At around 18 percent of GDP, tax revenue is in line with the regional average. Unlike most Pacific islands, nontax revenues are substantial but highly volatile, especially TTF distributions and fishing license fees. On the expenditure side, the wage bill and subsidies and transfers—including for SOEs and the generous medical treatment and scholarship schemes—account for almost three-fifth of total outlays. Capital spending is more volatile, with the bulk financed externally and conducted off-budget.



Major weaknesses. They include lack of clarity in budget presentation, difficulties in budgeting volatile revenues, and weak expenditure control. Considerable spending occurs off-budget and is funded by external grants, with accurate recording of these flows difficult under the current system. Moreover, several definitions of the budget balance are used, based on whether or not these expenditures are included and whether distributions from the TTF into the CIF are counted as revenue or financing. More work is needed to ensure compliance with GFS standards. On the revenue side, budget projections are hampered by the volatility of key revenue items. Expenditure control is also problematic, with little systematic monitoring or timely reporting of outturns.

- **External developments.** Tuvalu exports little and is heavily dependent on imports (Table 6). A large trade and services deficit has contributed to the current account (excluding official grants) being persistently in the red, averaging -15 percent of GDP in this decade. With large offshore income and overseas grants, gross official reserves have remained comfortable in recent years, reaching more than 9½ months of imports in September 2009. At around 40 percent of GDP in recent years, Tuvalu’s external debt is high by regional standards but mostly on concessional terms, resulting in low debt servicing obligations.

13. **Despite its structural limitations, Tuvalu has made commendable strides in meeting the basic needs of its population and developing its infrastructure (Table 7).** Most social indicators compare favorably to regional peers—with access to basic health services and primary education almost universal and extreme poverty absent—and progress has been made on most Millennium Development Goals (MDGs).⁹ Basic infrastructure is also relatively well-developed and Tuvalu scores well on a number of governance indicators—particularly voice and accountability, absence of violence, and the rule of law—but government effectiveness and the quality of regulation are weak.

C. Outlook and Policy Challenges

14. **Despite its geographic remoteness, Tuvalu has not been immune to the global downturn.** Owing to lower offshore earnings (investment income and workers’ remittances) and the completion of major construction projects, the economy is expected to contract this year following average growth of about 4 percent during 2006–08. Inflation is likely to be low due to the strong Australian dollar and base effects. Official reserves are expected to remain comfortable at about 9½ months of imports of goods and services. With higher-than-expected fishing license fees and lower wages and salaries, this year’s budget outturn is expected to be better than projected earlier.

15. **Looking ahead, significant macroeconomic and social challenges exist.** The main challenge is to achieve sustained growth and create employment opportunities. Like most other Pacific islands, Tuvalu faces a number of geographic constraints to growth such as limited land area, poor soil, and geographic isolation. Moreover, considerable uncertainty remains about the strength and durability of the global recovery. Thus, with volatile government revenue, it will be crucial to put in place a medium-term fiscal framework that can contribute to fiscal sustainability, without sharp disruptive swings in government spending. To facilitate private sector growth, it will be equally important to create a more favorable business climate. Continued progress in strengthening the financial sector will also be critical for sustained growth.

⁹ However, infant mortality, female labor force participation and political representation, the spread of communicable diseases, and environmental protection are areas for improvement.

16. **The 2010 budget intends to provide continued support to the economy.** The deficit is projected to rise to about 20 percent of GDP, a sharp increase from this year's expected deficit of about 12 percent of GDP. Revenue projections (which are lower than this year's expected outturn) appear to be appropriately conservative given uncertain factors including offshore income. The budgeted spending in 2010 is the same as this year's expected outturn, but it could not be sustainable given revenue prospects over the medium term.

17. **A more prudent fiscal stance could be needed to ensure fiscal sustainability over the longer term.** In the absence of monetary policy, sound fiscal policy is key to maintaining macroeconomic stability. With no distributions from the TTF likely over the next few years, the government recognizes the need to prudently manage the buffer reserves maintained in the CIF. While not a formal commitment, *Te Kakeega II (The Tuvalu Vision 2015)* provides some useful anchors—particularly the targets to limit budget deficits to 2–3 percent of GDP,¹⁰ public debt to 60 percent of GDP, and subsidies to state-owned enterprises to 5 percent of GDP. However, the medium-term fiscal framework presented in the 2010 budget features somewhat larger deficits. Under this scenario, the CIF could be depleted within the next three years, which could result in a big, sudden decline in government spending. Thus the government may need to revisit its spending plan to create room for expenditure smoothing over the medium term.

18. **The government is implementing a bold reform agenda in light of the challenges faced by Tuvalu.** To address them, the government has announced its strategic priorities over the longer term—articulated in *Te Kakeega II*—which include public sector reform and fostering private sector development.¹¹ With the assistance of PFTAC and ADB, the authorities have embarked on wide-ranging reforms of the tax regime, debt management, state-owned enterprises, and the banking sector (Box 2). These are important steps that should facilitate sustained economic growth through improved fiscal management and business climate as well as greater private sector participation.

19. **Tuvalu will need technical assistance from the Fund, particularly to improve statistics necessary for surveillance.** Like in other countries facing similar resource and capacity constraints, there are data deficiencies, especially in the balance of payments statistics. The authorities have requested continued TA in the areas of statistics and public finance management and plan to provide more staff to the Statistics Department to improve data necessary for surveillance, should Tuvalu become a Fund member. In recent years, PFTAC has provided Tuvalu with some TA in the areas of statistics, tax policy and administration, and financial sector supervision.

¹⁰ The authorities' definition includes the "sustainable" distribution from the TTF to the CIF (equivalent to 4 percent of the maintained value of the TTF) as additional revenue, such that their measure of the deficit is smaller than that used by staff, which treats drawdowns from the CIF as a financing item.

¹¹ Eight strategic areas identified in *The Tuvalu Vision 2015*: good governance, macroeconomic stability, social development, outer islands development, employment and private sector development, human resource development, natural resources, and infrastructure and support services.

Box 2. Tuvalu: Key Reforms Underway

With the assistance of PFTAC and ADB, the government has embarked on the following reforms to improve financial management and facilitate greater private sector participation:

Tax and customs reform. With import duties falling under Tuvalu's ratification of the Pacific Island Countries Trade Agreement (PICTA) and commitments to the Pacific Agreement on Closer Economic Relations (PACER), revenue losses could eventually reach 14 percent of total tax revenue. Against this backdrop, Tuvalu is implementing a comprehensive package of tax and customs reforms, which are broadly in line with PFTAC TA recommendations. The impact on revenue would be neutral. While the customs reforms took full effect from July 2009, the tax reforms are being progressively implemented over a longer period:

- **Customs:** A new import tariff structure has come into effect, which (i) is based on the 2007 version of the Harmonized System; (ii) phases in reduced duty rates for PICTA, in line with the agreed timetable; (iii) includes excise duties on alcohol, tobacco, and some other selected items; and (iv) is based on c.i.f. rather than f.o.b. values.
- **Tax:** The reforms include: (i) the introduction of a VAT (called Tuvalu Consumption Tax, initially at a 3 percent rate with businesses with over \$A 100,000 annual turnover required to register; (ii) a move to a more progressive income tax structure by reducing personal income tax from 30 to 15 percent on incomes between \$A 4,000 and 6,000 per annum (currently, incomes under \$A 4,000 are exempt and any excess over \$A 4,000 taxed at 30 percent); and (iii) the introduction of a presumptive tax in lieu of income tax for small businesses and landlords (up to \$A 100,000 turnover per year), which will be a flat amount of \$A 100 per quarter (reduced to \$A 20 per quarter for the smallest businesses). Both (i) and (ii) have provisions for rates to be progressively increased in line with future customs duty reductions.

State-owned enterprise reform. The cabinet has recently endorsed a comprehensive policy to reform public enterprises with the following strategic priorities: (i) ensuring efficient service delivery by improving the performance and profitability of public enterprises; (ii) identification of strategic assets and position on ownership of each enterprise; (iii) reviewing the social and sustainability implications of changes in ownership of government assets; and (iv) identification of activities for possible transfer to the private sector.

Banking sector reform. At present, Tuvalu does not have banking legislation. A Banking Bill has been tabled in parliament to establish the legal framework for licensing, supervising, and regulating financial institutions. The framework will adhere to the Basle Core Principles of banking regulation.

Public debt management. In October, the government endorsed a Debt Risk Management and Mitigation Policy, designed to ensure that all future borrowing is subject to a detailed process involving financial analysis, consultation, Cabinet approval, and eventual approval by parliament. Timely and standardized reporting requirements have also been endorsed.

III. QUOTA CALCULATIONS AND SUGGESTED QUOTA RANGE

20. **This section considers the factors affecting the determination of an initial quota for Tuvalu and provides a suggested range for Tuvalu’s initial quota.** Section A provides background. Section B discusses data issues. Section C presents quota calculations. Section D compares Tuvalu’s calculated quota with quotas of members with similar characteristics. Section E concludes with a suggested range for Tuvalu’s initial quota for consideration by the Committee on Membership for Tuvalu (Membership Committee).

A. Background

21. **The initial quota of a new member should fit reasonably well into the existing structure of Fund quotas.** An initial calculated quota, based on the quota formula and data for the relevant variables, has in the past played an important role in determining new members’ initial quotas. At the same time, the initial quotas for new members have traditionally taken into account the quotas of members considered by the Fund to be broadly comparable in terms of economic size and characteristics. Reflecting this, it has been the practice to derive a suggested range for a new member’s quota by comparing quota calculations for a new member with the quota calculations and actual quotas of broadly comparable existing members. This is the approach staff followed for Tuvalu.

22. **The most recent country to become a Fund member was Kosovo in 2009.**¹² In Kosovo’s case, calculations were made using the current quota formula. A data set, comparable to that used for the calculation of the post second round ad-hoc quota increases approved by the Board of Governors in spring 2008, was used. Calculations for comparators, which were also based on post second-round quotas, were used to ensure that Kosovo’s quota would fit adequately into the existing structure of Fund’s quotas.

¹² Kosovo became the 186th member of the Fund on June 29, 2009. For quota calculations, see *Republic of Kosovo—Calculation of Quota* (EB/CM/Kosovo/09/1, 02/04/09).

B. Data Used for Quota Calculations

Available data

23. **In line with the standard procedures for determining quotas for new members, data used for the purpose of making quota calculations for Tuvalu are consistent with those used to compute quotas available for the membership as a whole.** Specifically, the data set is comparable to that used in the context of calculations of ad hoc quota increases under Resolution No. 63-2, and the updated data set through 2007.^{13 14 15} This provides a comprehensive data set on members' relative economic positions for the most recent period available.

24. **The relevant data for Tuvalu are presented in Text Table 1.** Notwithstanding recent improvements, the available economic data for Tuvalu in the period relevant for quota calculations present some deficiencies with regard to balance of payments statistics in the earlier years. Accordingly, staff has constructed the variability variable using a truncated data set.¹⁶ Also, estimates of PPP GDP are not available and have been derived based on Tuvalu's share in total market-based GDP.

Text Table 1. Tuvalu: Data for Quota Calculations 1/
(In millions of SDRs)

Gross Domestic Product at market exchange rates, average for 2005 - 2007	16.5
Gross Domestic Product at PPP exchange rates, average for 2005 - 2007 2/	20.2
Openness, average for 2003 - 2007	42.0
Variability of current receipts and net capital flows, 1995 - 2007 3/	5.1
Official Reserves, 2007	11.3

Sources: Tuvalu authorities and IMF.

1/ See Box 3 for definition of variables.

2/ PPP GDP is estimated by assuming Tuvalu's share of total PPP GDP is equal to its share of the total market-based GDP.

3/ Truncated data set.

¹³ *Reform of Quota and Voice in the International Monetary Fund—Report of the Executive Board to the Board of Governors* (SM/08/83, Supplement 1, 04/02/08). Resolution No. 63-2 on Reform of Quota and Voice in the International Monetary Fund was adopted on April 28, 2008.

¹⁴ Resolution No. 63-2 also proposes an amendment to the Articles of Agreement, currently being considered by the membership, to enhance the voice of low-income members, including through an increase in basic votes. The impact of admission of a new member to the proposed increase in basic votes is detailed in paragraphs 16–17 of SM/08/83, Supplement 1.

¹⁵ *Quotas—Updated Calculations and Quota Variables* (SM/09/227, 8/28/09, and Supplement 1).

¹⁶ A similar procedure was used to derive the variability variable for calculated quotas underlying the ad hoc increases proposed under Resolution No. 63-2 for three members for which at least five, but less than the full thirteen, years of observations were available.

Box 3. Availability and Quality of Data for Quota Calculations

Despite technical assistance from PFTAC, gaps in source data remain. Below are an assessment of the availability of data concerning the variables used in the quota formula and a brief discussion of possible remedies when necessary.¹

- **GDP at market prices** for three years (2005–07) converted into SDRs. Data are available.
- **PPP GDP** (GDP at purchasing power parity) for three years (2005–07). Tuvalu is not part of the International Comparison Project, and the World Bank has no PPP estimates available for Tuvalu. As was done for other countries with no PPP GDP data in compiling the data set through 2005 that provided the basis for the 2008 quota and voice reform and the updated data set through 2007, PPP GDP is estimated by assuming Tuvalu’s share of total PPP GDP is equal to its share of the total market-based GDP.
- **Current receipts** (goods, services, income, and transfers)² for 13 years (1995–2007). Current receipts are defined as the credit component of all economic transactions between resident and nonresident entities other than those relating to financial transactions and reserves. These data are inputs to the openness (2003–2007) and variability (1995–2007) variables. Available data appear broadly adequate, although, in the case of the variability variable, a truncated calculation (1996–2007) is required on the basis of a minimum of five years of data, as in other cases where historical data was limited.
- **Current payments** (goods, services, income and transfers) for five years (2003–07). Current payments are defined as the debit component of all economic transactions between resident and nonresident entities other than those relating to financial account transactions and reserves. These data are an input to the openness variable (2003–07). As with current receipts, comprehensive figures are available for the relevant period.
- **Net capital flows** for 13 years (1995–2007). Net capital flows relate to cross-border transactions of the financial account in all external financial assets and liabilities except reserve assets, Fund credit and loans, and exceptional financing. This measures net financial flows. These data are an input to the variability variable (1995–2007). As with current account data, comprehensive figures are not available and a truncated calculation of the variability variable is required.
- **Official reserves** (average over the 12 months of 2007). As customary, these are defined as the sum of foreign exchange, SDR holdings, reserve position in the Fund, and monetary gold valued at SDR 35 per fine troy ounce. Data are available.

¹ These remedies are consistent with the derivation of the data series used for the quota calculations in SM/09/227.

² The current *Balance of Payments Manual, fifth edition (BPM5)*, includes current transfers in the current account and capital transfers in the capital account, unlike the earlier fourth edition (*BPM4*), which included all transfers in the current account. Accordingly, to help ensure comparability with previous quota calculations, both current and capital transfers—excluding exceptional financing, to the extent possible—are included here in current receipts.

C. Quota Calculations

25. **Quota calculations, based on the quota formula and the data set discussed earlier, indicate that Tuvalu’s calculated quota share would be 0.0005 percent.** A nominal quota can be determined by applying this share to total quotas.¹⁷ Following the approach used in the case of Kosovo, quotas approved under Resolution No. 63-2 are used for this calculation.^{18 19}

26. **One question is whether the calculated quota should provide a sufficiently strong basis for determining a prospective member’s initial quota without other comparators.** The current quota formula provides a simpler and more transparent means of capturing members’ relative positions in the global economy and is expected to play a greater role in determining actual quotas going forward. In this context, the formula could be used on a stand-alone basis to determine a new member’s quota. On this basis, Tuvalu’s nominal quota would be SDR 1.2 million.²⁰

27. **Nonetheless, there remains a case for taking into account comparator groups to ensure that a prospective member’s initial quota fits reasonably well into the existing structure of Fund quotas.** The ratio of actual to calculated quota shares continues to exhibit a high variance across the membership, ranging from 0.4 to 20 following the 2008 Quota and Voice reform.²¹ As such, depending upon the specific characteristics of comparator groups, consideration of this ratio could continue to have an important effect on the prospective member’s initial quota. Comparator groups were used in considering the appropriate quota in the case of Kosovo.

D. Comparisons of Quota Calculations with Broadly Comparable Members

Comparison of Tuvalu with selected groups of members

28. **Text Table 2 shows illustrative actual quotas for Tuvalu based on the quotas of relevant comparators.** Illustrative quotas are defined to maintain the ratio of Tuvalu’s actual

¹⁷ See Annex II for the current quota formula and Annex III for how notional calculated quotas are derived.

¹⁸ For the two countries that have not yet consented to, and paid for, their quota increases proposed in the 11th General Review of Quotas, the 11th Review proposed quotas were used in all calculations.

¹⁹ This would ensure that Tuvalu’s quota is determined in light of the overall distribution of Fund quotas following the 2008 reform.

²⁰ This calculation allows for the increase in the total stock of quotas by the amount of Tuvalu’s quota and follows the convention used under the 2008 Reform of rounding quotas to the nearest multiple of SDR 0.1 million.

²¹ The simple average for this ratio is 1.72 for the membership based on agreed quotas. The weighted average of this ratio is equal to 1, by definition.

to calculated quota share broadly in line with that of comparator groups. Tuvalu is a very small country and the most relevant comparators are those members with small quotas.

Text Table 2. Tuvalu: Illustrative Initial Quota Calculations

	Average Ratio of Actual to Calculated Quota Shares 1/	Illustrative Quota for Tuvalu (in millions of SDRs)
Five members with very small quotas less than SDR 7 million	1.47	1.7
Fifteen members with small quotas less than SDR 11 million	1.26	1.5
Pacific Island Members	1.88	2.2
Memorandum Items:		
Tuvalu's calculated quota share (in percent)	0.0005	
Total Quotas (in millions of SDRs) 2/	238,387	

Source: Finance Department

1/ See Annex II for details on the methodology used in these calculations. Actual quota shares (excluding Tuvalu) and calculated quota shares (including Tuvalu) as shown in the last equation in Annex II.

2/ Actual quotas are equivalent to current actual quotas, ad hoc increases under Resolution No. 63-2, and proposed quotas for the two members that have not yet consented to, or paid for, their increases under the 11th review.

- One group consists of the smallest members, that is, countries that have a quota smaller than SDR 7 million.²² If the ratio of aggregate actual quota shares to calculated quota shares for the five members in this group (1.47) were applied to Tuvalu's calculated quota share, this would yield an initial quota of SDR 1.7 million.
- Another comparator group consists of small members with quotas less than SDR 11 million (Text Table 3). If the ratio of actual to calculated quota shares for the 15 members in this group (1.26) were applied to Tuvalu's calculated quota share, its illustrative actual quota would be SDR 1.5 million.
- Pacific island members form another relevant group of comparator countries.²³ If the ratio of actual quota shares to calculated quota shares for the 11 members in this group (1.88) were applied to Tuvalu's calculated quota share, its illustrative actual quota would be SDR 2.2 million.

²² Quotas approved under Resolution No. 63-2 are used for the calculation.

²³ This group includes 8 countries with quotas less than SDR 11 million plus Vanuatu (quota, SDR 17 million), Fiji (quota, SDR 70.3 million) and Papua New Guinea (quota, SDR 131.6 million).

Text Table 3. Tuvalu: Comparison of Economic Data with Those of Fund Members with Actual Quotas of less than SDR 11 million
(In SDR millions, unless otherwise indicated)

Country	Nominal Quota	Actual Quota Share (AQS)	Calculated Quota Share (CQS)	Ratio of AQS to CQS	GDP 1/	Population (in millions)	Per Capita GDP (In SDRs)	PPP GDP	Openness	Variability	Reserves
Seychelles	10.9	0.005	0.0054	0.851	477.0	0.09	5,219	854.7	1,149.2	32.2	55.7
Timor Leste	10.8	0.005	0.0050	0.908	258.8	n.a.	n.a.	1,528.4	695.4	34.5	138.7
Solomon Islands	10.4	0.004	0.0024	1.833	269.2	0.48	620	585.5	352.0	12.4	74.7
Maldives	10.0	0.004	0.0048	0.865	606.1	0.30	2,293	937.7	1,203.5	13.1	164.8
Comoros	8.9	0.004	0.0016	2.366	280.3	0.82	372	472.0	228.1	4.0	65.7
St. Kitts and Nevis	8.9	0.004	0.0022	1.692	324.4	0.05	6,917	450.8	417.2	8.0	60.5
Bhutan	8.5	0.004	0.0052	0.689	611.4	0.65	1,136	1,804.3	726.3	16.6	404.4
St. Vincent and the Grenadines	8.3	0.003	0.0025	1.388	334.6	0.12	3,039	637.9	427.4	10.7	53.3
Dominica	8.2	0.003	0.0018	1.866	212.8	0.07	3,258	437.5	279.6	9.6	41.1
Sao Tome and Principe	7.4	0.003	0.0011	2.784	85.7	0.16	613	159.1	90.1	10.3	23.2
Tonga	6.9	0.003	0.0014	2.103	162.2	0.10	1,669	355.0	218.3	5.9	34.7
Kiribati	5.6	0.002	0.0019	1.224	43.0	0.09	467	222.1	155.1	10.3	370.8
Micronesia, Fed. States of	5.1	0.002	0.0017	1.275	162.2	0.11	1,406	444.4	259.2	8.8	31.0
Marshall Islands	3.5	0.001	0.0010	1.499	96.8	n.a.	n.a.	283.8	158.1	4.7	1.9
Palau, Republic of	3.5	0.001	0.0010	1.399	103.5	n.a.	n.a.	188.8	192.9	5.7	1.9
Group Average:				1.257							
Tuvalu	1.2	--	0.0005	--	16.5	0.01	1,559	20.2	42.0	5.1	11.3

Source: Finance Department

1/ Average for 2005 - 2007.

Comparison of Tuvalu with individual members

29. **It has been the practice to compare the prospective member with individual existing member countries of broadly comparable economic size and characteristics.** Tuvalu's economic size, however, is exceptionally small and its structure unique. In fact, Tuvalu ranks last by a large margin in most of the variables usually used for comparison (except for variability and reserves). For example, Tuvalu's GDP is about one-third that of Kiribati (quota, SDR 5.6 million) and one-sixth that of the Marshall Islands and Palau (quota, SDR 3.5 million). It is also about one-fifth that of Sao Tome and Principe (quota, SDR 7.4 million).

E. Suggested Initial Quota Range

30. **Calculations based on the three country groupings described in the previous section yield a range for Tuvalu's quota from SDR 1.5 million to SDR 2.2 million.** It would seem reasonable to place the lower end of the quota range for Tuvalu at the level indicated by the average ratio of the 15 members with the smallest quotas, i.e. a quota of SDR 1.5 million. The upper end is given by the average ratios for Pacific island members. However, as noted, some of these members are significantly larger than Tuvalu and the average ratio for the five members with the smallest quotas, which may be most relevant, yields a quota of SDR 1.7 million. On balance, a suggested quota in the lower half of the SDR 1.5–2.2 million range, i.e., SDR 1.5–1.9 million is proposed for Tuvalu.

31. The Membership Committee may wish to take these considerations into account in reaching a judgment on an initial quota.

IV. INITIAL SUBSCRIPTION PAYMENT

32. **In September 1979, the Executive Board endorsed a set of guidelines for determining the proportion of the subscription that a new member should pay in reserve assets.**²⁴ Guideline 3 provides that this amount “shall be determined in the light of all the payments of reserve assets made by existing members and the country's external reserve position at the time of the membership.” According to Guideline 4, a reasonable approximation of the proportion of subscription paid in reserve assets in the past is considered to be the average of reserve assets actually paid by all members since their membership in terms of total quotas. To date, the proportion of reserve asset payments by all members for initial quotas and for quota increases amounts to 24 percent of total quotas.

33. **A reserve asset payment creates a reserve position in the Fund of the same amount, which earns interest and can be mobilized in case of balance of payments need**

²⁴ *Guidelines for Determining the Amount of Reserve Assets to be Paid in Connection with Subscriptions*, Executive Board Decision No. 6266 (79/156), adopted September 10, 1979.

at very short notice. Therefore, it results only in a change of the composition and not the level of a country's international reserves.

34. **Tuvalu's reserve position would be sufficient to make the implied quota subscription payment.** Reserves stood at SDR 16.5 million at end-September 2009. Nevertheless, in line with established practices, if there were difficulties in making a reserve asset payment of the required amount, Tuvalu, at its request, could use its SDR allocation, assuming that Tuvalu becomes a member in the SDR Department.

35. **It is proposed that Tuvalu be given six months after it becomes a member of the Fund to pay its quota subscription.** This would be consistent with past practice, and would give time to complete necessary legal and technical arrangements, including the designation of a fiscal agency and depository and the opening of accounts.

V. ALLOCATION OF SDRS UNDER THE FOURTH AMENDMENT

36. **In August 2009, the Articles of Agreement were amended to allow for a special one-time allocation of SDRs.** The special allocation, which became effective in September 2009, equalizes all members' ratios of cumulative allocations to quota (based on quotas following the Ninth General Review of Quotas) at a common benchmark (equivalent to about 29.3 percent) providing for a special one-time allocation of Special Drawing Rights.

37. **The amendment includes provision for allocation of SDRs to new Fund members in line with allocations to existing members.** Specifically, Section 2(a) of Schedule M accompanying the amendment provides that "...each country that becomes a participant in the Special Drawing Rights Department after September 10, 1997 but within three months of the date of its membership in the Fund shall receive allocation of special drawing rights...on the 30th day following the later of: (i) the date on which the new member becomes a participant in the Special Drawing Rights Department or (ii) the effective date of the fourth amendment to this Agreement."

38. **Schedule M also specifies that a future participant in the SDR Department will receive a special allocation** that will result in its ratio of net cumulative allocation to quota being equal to the benchmark ratio applied to the existing participants, adjusted downwards in proportion to the change in the total quotas of existing participants that has occurred since September 10, 1997.²⁵ Although Tuvalu would not be eligible to receive the recent general allocation of SDRs, its special allocation will therefore ensure that Tuvalu receives an SDR allocation comparable to those of existing participants.

²⁵ See Sections 2(b)(i), 2(b)(ii), and 2(c).

39. Based on this rule, the proposed one-time SDR allocation for Tuvalu under the Fourth Amendment would amount to about 94 percent of its quota, assuming current Fund quotas and no further SDR allocations will take place before Tuvalu joins the SDR Department.

Box 4. Tuvalu: Summary of Proposal

- **Proposed quota range:** SDR 1.5–1.9 million
- **Reserve asset payment:** 24 percent of quota
- **Payment of initial quota subscription:** proposed within six months after becoming a member
- **SDR allocation:** 94 percent of quota

Table 1. Tuvalu: Selected Social and Economic Indicators, 2004–2009

I. Social and Demographic Indicators						
GDP (2008):			Poverty rate (2006)			25.9
U.S. dollars (millions)	29.6		Life expectancy at birth (years, 2006)			64.5
Per capita	2,511		Total fertility rate (births per woman, 2007)			3.7
Population:			Infant mortality rate (per 1,000 live births, 2007)			30
Total (thousands, 2008)	11.8		Births attended by skilled personnel (percent, 2002)			100
Urban population (percent of total, 2005)	48.1		Adult literacy rate (2002)			99.0
			Unemployment rate (2004)			16.3
II. Economic Indicators 1/						
	2004	2005	2006	2007	2008	2009 Proj.
	(Percent change)					
Real sector						
Real GDP growth	-1.3	-4.1	6.6	4.9	1.3	-1.0
GDP deflator	5.4	1.4	0.6	3.0	3.6	0.5
Consumer prices (period average)	2.8	3.2	3.8	2.2	10.4	-0.1
Consumer prices (end of period) 2/	2.2	3.9	5.6	0.5	12.3	-4.1
	(In percent of total)					
Structure of economy						
Agriculture	18.2	20.0	21.1	21.6	21.8	21.9
Manufacturing	8.2	6.2	7.5	9.2	8.2	7.5
Services	73.6	73.9	71.3	69.2	70.1	70.6
	(In percent of GDP)					
Government finance 3/						
Total revenue and grants	72.6	67.4	68.2	68.4	78.8	77.5
Total expenditure and net lending	69.5	77.1	85.3	80.1	85.3	89.6
Overall balance	3.1	-9.7	-17.1	-11.7	-6.6	-12.1
	(Percent change, unless otherwise indicated)					
Money and credit						
Deposits	6.2	-8.6	21.2	-10.5	21.7	...
Credit to non-government	-5.5	-13.4	-2.1	4.0	16.5	...
Lending interest rate 4/	10.5	10.5	10.5	10.5	10.5	10.5
	(In millions of Australian dollars, unless otherwise indicated)					
Balance of payments						
Current account balance	-4.4	-1.7	1.4	-10.0	-6.9	-8.6
(In percent of GDP)	-14.9	-5.8	4.3	-29.8	-19.6	-24.3
Trade balance	-13.3	-13.6	-12.3	-13.9	-19.8	-13.8
Exports	0.4	0.4	0.6	0.5	0.6	0.5
Imports	13.7	14.0	12.8	14.4	20.4	14.3
Services balance	-18.1	-13.7	-15.1	-27.3	-20.5	-20.2
Credit	3.1	2.4	2.7	2.3	2.9	2.3
Debit	21.2	16.1	17.8	29.6	23.4	22.5
Income balance	19.8	20.2	20.9	24.4	26.6	18.6
Credit	20.5	21.0	21.7	25.3	27.2	19.3
Debit	0.7	0.8	0.8	0.8	0.7	0.7
Current transfers balance	7.1	5.4	7.8	6.7	6.7	6.8
Gross official reserves 5/	7.7	5.9	17.4	20.3	30.6	29.0
(In months of imports of goods and services)	2.7	2.3	6.8	5.5	8.4	9.5
Debt indicators						
Total government debt (including guarantees)	...	...	20.5	19.1	20.9	16.7
(In percent of GDP)	...	...	65.8	56.8	59.2	47.6
Of which: External	...	...	12.5	12.8	15.3	12.3
(In percent of GDP)	...	...	40.1	37.9	43.4	35.1
External debt service	...	...	0.2	0.2	0.5	0.6
(In percent of exports of goods and services)	...	...	4.7	5.7	14.2	22.6
Exchange rates						
Australian dollars per U.S. dollar						
Period average 6/	1.4	1.3	1.3	1.2	1.2	1.3
End-period 6/	1.3	1.4	1.3	1.1	1.4	1.1
Nominal GDP (In millions of Australian dollars)	29.9	29.1	31.2	33.6	35.3	35.2
Nominal GNI (In millions of Australian dollars)	49.7	49.3	52.1	58.1	61.9	53.8

Sources: Tuvalu authorities, PFTAC, Asian Development Bank, UNDP, CIA World Factbook, and IMF staff estimates.

1/ Tuvalu uses the Australian dollar as its currency. It has no central bank operations.

2/ Corresponds to November.

3/ Excludes extra-budgetary grants and matching capital expenditure.

4/ Rates for personal and business loans.

5/ In line with PFTAC TA recommendations, defined as sum of foreign assets of the National Bank of Tuvalu and Consolidated Investment Fund.

6/ Data for 2009 are as of end-November.

Table 2. Tuvalu: Gross Domestic Product by Economic Activity, 2004-2009
(In millions of Australian dollars)

	2004	2005	2006	2007	2008	2009 Proj.
	(In current prices)					
Agriculture	3.5	3.8	4.3	4.8	5.0	5.1
Fishing	1.9	2.0	2.3	2.5	2.7	2.6
Mining and Quarrying	0.0	0.0	0.0	0.0	0.0	0.0
Manufacturing	0.3	0.2	0.3	0.3	0.4	0.4
Electricity, gas and water	0.5	0.5	-0.3	0.2	0.2	0.2
Construction	2.1	1.5	2.0	2.8	2.5	2.2
Wholesale and retail trade	2.4	2.5	3.5	4.1	4.1	3.8
Hotels and restaurants	0.5	0.3	0.3	0.4	0.5	0.4
Transportation and communication	3.0	2.3	2.0	1.8	1.9	1.7
Finance and real estate	4.6	4.4	4.8	4.9	5.5	5.2
Public administration	4.9	4.9	5.1	5.0	5.4	5.8
Community and social services	4.8	4.8	5.1	5.0	5.1	5.3
Less: imputed Bank Services	1.5	1.1	1.0	0.8	1.1	0.9
GDP at factor cost	27.0	26.3	28.6	30.9	32.2	32.0
Plus: indirect taxes net of subsidies	2.9	2.8	2.6	2.8	3.2	3.2
GDP at Market Prices	29.9	29.1	31.2	33.6	35.3	35.2
(Percentage change)	4.0	-2.8	7.2	8.0	5.0	-0.5
	(In constant prices)					
Agriculture	3.7	3.8	4.0	4.2	4.2	4.4
Fishing	2.0	2.0	2.2	2.3	2.3	2.4
Mining and Quarrying	0.0	0.0	0.0	0.0	0.0	0.0
Manufacturing	0.3	0.2	0.3	0.2	0.3	0.3
Electricity, gas and water	0.5	0.5	0.5	0.5	0.5	0.4
Construction	2.0	1.5	2.1	3.1	2.7	2.4
Wholesale and retail trade	2.4	2.5	3.4	3.8	3.4	3.1
Hotels and restaurants	0.4	0.3	0.3	0.3	0.4	0.3
Transportation and communication	2.9	2.3	2.0	1.9	1.9	1.7
Finance and real estate	4.7	4.4	4.7	4.7	5.0	4.8
Public administration	4.9	4.9	5.0	5.0	5.3	5.3
Community and social services	4.9	4.8	4.8	4.8	5.3	5.3
Less: imputed Bank Services	1.6	1.1	0.9	0.8	0.9	0.7
GDP at factor cost	27.3	26.3	28.5	29.9	30.3	30.0
Plus: indirect taxes net of subsidies	3.0	2.8	2.5	2.6	2.6	2.6
GDP at Market Prices	30.3	29.1	31.0	32.5	32.9	32.6
(Percentage change)	-1.3	-4.1	6.6	4.9	1.3	-1.0
<i>Memorandum items:</i>						
GNI at Market Prices (Current)	49.7	49.3	52.1	58.1	61.9	53.8
GNDI at Market Prices (Current)	56.8	54.7	59.9	64.8	68.6	60.6

Sources: Tuvalu authorities, PFTAC, and IMF staff estimates.

Table 3. Tuvalu: Central Government Budget, 2004-10
(In millions of Australian dollars)

	2004	2005	2006	2007	2008	2009		2010
						Budget	Proj.	
Total revenue and grants	21.7	19.6	21.2	23.0	27.8	27.7	27.3	24.9
Current revenue	15.4	13.4	16.1	16.1	20.9	18.8	19.6	18.0
Taxes	5.9	5.6	5.1	6.6	6.0	6.7	6.0	6.4
Direct	3.0	2.7	2.5	3.7	2.7	2.8	2.7	2.6
Company	1.1	0.8	0.5	1.4	0.6	1.0	0.7	0.8
Personal	1.9	1.9	2.0	2.2	2.1	1.8	2.0	1.8
Indirect	3.0	2.9	2.7	2.9	3.3	3.9	3.3	3.9
Consumption 1/	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.3
Excise and others	0.2	0.3	0.2	0.3	0.3	0.8	0.6	1.1
Trade taxes 2/	2.4	2.3	2.2	2.2	2.6	2.8	2.4	2.5
Nontax revenue	9.5	7.8	11.0	9.5	14.9	12.1	13.6	11.5
Property income	7.6	5.9	8.2	7.3	12.2	8.7	11.1	8.4
Fishing license fees	4.2	3.1	5.2	3.3	8.4	5.6	8.2	5.6
Interest and dividends	0.5	0.0	0.0	1.7	1.5	0.9	0.7	0.6
.tv revenue	2.9	2.8	2.9	2.3	2.2	2.2	2.2	2.2
Other income	1.9	1.9	2.8	2.2	2.7	3.4	2.5	3.2
Capital revenue and grants	6.3	6.2	5.1	7.0	6.9	8.9	7.7	7.0
Total expenditure	20.8	22.4	26.6	27.0	30.1	33.1	31.5	32.6
Current expenditure	19.1	20.4	22.0	25.0	25.1	24.5	24.3	27.1
Wages and salaries	9.6	9.8	10.0	9.9	10.5	11.7	10.9	11.9
Purchase of goods and services	5.9	6.3	8.0	10.1	7.5	6.7	6.2	7.0
Subsidies and transfers 3/	3.5	3.9	3.7	4.7	6.8	5.7	6.8	7.8
Interest payments	0.2	0.4	0.3	0.3	0.3	0.4	0.4	0.4
Capital expenditure and net lending 4/	1.6	2.0	4.6	2.0	5.1	8.6	7.3	5.5
Overall balance 5/	0.9	-2.8	-5.3	-3.9	-2.3	-5.4	-4.3	-7.7
Statistical discrepancy	...	0.3	-4.0	0.3	0.0	0.0	0.0	0.0
Financing	...	3.1	1.4	4.2	2.3	5.4	4.3	7.7
Foreign (net)	2.5	0.0	0.0	0.0	-0.4	-0.3	-0.3	-0.4
Disbursements	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amortization	0.0	0.0	0.0	0.0	0.4	0.3	0.3	0.4
Domestic (net)	...	3.1	1.4	4.2	2.7	5.7	4.6	8.1
NBT	...	1.5	-2.8	0.4	-2.3	1.4	1.5	3.9
Consolidated Investment Fund (CIF)	1.8	1.6	4.2	3.8	5.0	4.4	3.1	4.2
<i>Memorandum items:</i>								
Overall balance (incl. CIF) 6/	4.3	0.7	-1.5	0.1	1.7	-1.0	0.1	-3.2
Primary balance	1.1	-2.4	-5.0	-3.6	-2.0	-5.0	-3.9	-7.3
Externally-financed extra-budgetary expenditure (XB) 7/	10.2	10.3	14.6	23.5	16.9	24.0	18.0	28.3
Total government debt (incl. guarantees)	...	...	20.5	19.1	20.9	16.7	14.5	12.9
Tuvalu Trust Fund (TTF) balance (market value) 8/	85.4	98.4	103.0	108.2	94.5	...	96.3	...
Donors' contribution	0.7	0.7	3.6	1.9	3.2	...	1.3	...
Authorities' contribution	0.0	0.0	1.2	0.0	1.0	...	1.0	...
CIF balance 8/	3.6	1.1	6.1	12.7	12.3	...	15.3	...
Nominal GDP	29.9	29.1	31.2	33.6	35.3	35.2	35.2	36.4

Sources: Tuvalu authorities and IMF staff estimates.

1/ Sales tax. From 2009 onwards, corresponds to Tuvalu consumption tax.

2/ From 2009 onwards, includes Tuvalu consumption tax on imports.

3/ Includes medical treatment scheme and scholarships.

4/ Domestically financed.

5/ Corresponds to underlying recurrent balance in government presentation of fiscal accounts.

6/ Authorities' definition. Includes sustainable distribution from TTF to CIF (4 percent of the maintained value of the TTF).

7/ Includes capital expenditure as well as in-kind and technical assistance.

8/ Annual reports of TTF and CIF are produced based on end-September balance.

Table 4. Tuvalu: Central Government Budget, 2004-10

	(In percent of GDP)							
	2004	2005	2006	2007	2008	2009		2010
						Budget	Proj.	
Total revenue and grants	72.6	67.4	68.2	68.4	78.8	78.7	77.5	68.4
Current revenue	51.6	46.1	51.8	47.8	59.2	53.4	55.6	49.3
Taxes	19.8	19.2	16.5	19.5	17.1	19.1	17.1	17.6
Direct	9.9	9.2	7.9	10.9	7.7	7.9	7.7	7.0
Company	3.6	2.6	1.5	4.2	1.7	2.7	2.0	2.1
Personal	6.3	6.6	6.3	6.7	6.1	5.2	5.7	5.0
Indirect	9.9	10.0	8.6	8.6	9.4	11.2	9.4	10.6
Consumption 1/	1.1	1.1	1.1	1.1	1.1	1.1	1.0	0.8
Excise and others	0.7	1.0	0.6	0.9	0.8	2.2	1.6	2.9
Trade taxes 2/	8.0	7.9	6.9	6.6	7.5	7.8	6.8	6.9
Nontax revenue	31.8	26.8	35.3	28.2	42.1	34.3	38.6	31.7
Property income	25.4	20.4	26.3	21.7	34.4	24.7	31.6	23.1
Fishing license fees	14.1	10.8	16.8	9.9	23.8	15.9	23.3	15.3
Interest and dividends	1.7	0.1	0.2	5.0	4.3	2.5	2.0	1.7
.tv revenue	9.7	9.6	9.3	6.8	6.3	6.3	6.3	6.0
Other income	6.4	6.4	9.0	6.5	7.7	9.7	7.0	8.7
Capital revenue and grants	21.0	21.3	16.4	20.7	19.5	25.3	21.9	19.1
Total expenditure	69.5	77.1	85.3	80.1	85.3	94.1	89.6	89.6
Current expenditure	64.0	70.4	70.6	74.2	71.0	69.7	69.0	74.5
Wages and salaries	32.0	33.7	32.0	29.5	29.8	33.3	31.0	32.6
Purchase of goods and services	19.7	21.8	25.7	30.0	21.2	19.0	17.6	19.3
Subsidies and transfers 3/	11.7	13.4	11.9	13.8	19.2	16.2	19.2	21.4
Interest payments	0.7	1.4	1.0	0.8	0.8	1.1	1.1	1.2
Capital expenditure and net lending 4/	5.5	6.7	14.7	5.9	14.3	24.4	20.6	15.0
Overall balance 5/	3.1	-9.7	-17.1	-11.7	-6.6	-15.4	-12.1	-21.1
Statistical discrepancy	...	1.0	-12.7	0.8	-0.1	0.0	0.0	0.0
Financing	...	10.7	4.4	12.5	6.5	15.4	12.1	21.1
Foreign (net)	8.4	0.0	0.0	0.0	-1.2	-0.9	-0.9	-1.2
Disbursements	8.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Amortization	0.0	0.0	0.0	0.0	1.2	0.9	0.9	1.2
Domestic (net)	...	10.7	4.4	12.5	7.6	16.3	13.0	22.3
NBT	...	5.2	-9.1	1.1	-6.5	3.9	4.2	10.8
Consolidated Investment Fund (CIF)	5.9	5.5	13.5	11.4	14.2	12.4	8.8	11.5
<i>Memorandum items:</i>								
Overall balance (incl. CIF) 6/	14.4	2.3	-4.8	0.2	4.7	-3.0	0.3	-8.7
Primary balance	3.7	-8.3	-16.2	-10.8	-5.8	-14.2	-11.0	-19.9
Externally-financed extra-budgetary expenditure (XB) 7/	34.1	35.3	47.0	69.8	47.9	68.4	51.2	77.7
Total government debt (incl. guarantees)	...	...	65.8	56.8	59.2	47.6	41.3	35.3
Tuvalu Trust Fund (TTF) balance (market value) 8/	285.9	338.7	330.5	321.5	267.5	...	274.0	...
CIF balance 8/	12.0	3.7	19.7	37.7	34.7	...	43.5	...

Sources: Tuvalu authorities and IMF staff estimates.

1/ Sales tax. From 2009 onwards, corresponds to Tuvalu consumption tax.

2/ From 2009 onwards, includes Tuvalu consumption tax on imports.

3/ Includes medical treatment scheme and scholarships.

4/ Domestically financed.

5/ Corresponds to underlying recurrent balance in government presentation of fiscal accounts.

6/ Authorities' definition. Includes sustainable distribution from TTF to CIF (4 percent of the maintained value of the TTF).

7/ Includes capital expenditure as well as in-kind and technical assistance.

8/ Annual reports of TTF and CIF are produced based on end-September balance.

Table 5. Tuvalu: Assets and Liabilities of the Banking Sector, 2004-09

(In millions of Australian dollars)

	2004	2005	2006	2007	2008	2009		
						March	June	Sept
National Bank of Tuvalu								
Assets								
Bank reserves								
Cash	0.6	0.7	1.1	1.0	0.9	1.4	1.2	1.4
Deposits	1.1	4.1	8.6	9.7	12.4	12.5	14.6	11.4
Securities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Claims on government	2.4	4.4	5.0	4.9	3.6	1.8	2.8	2.7
Loans and advances 1/	18.6	15.8	14.7	14.0	15.1	13.3	13.5	13.6
Of which: nonperforming loans	...	...	...	...	...	6.5	6.3	6.2
Claims on other banks	3.0	0.7	2.5	0.6	2.2	1.0	0.9	3.0
Fixed assets	0.3	0.4	0.5	0.4	0.4	0.4	0.5	0.5
Other assets	1.6	1.8	2.1	2.1	2.3	6.4	4.7	4.6
Liabilities								
Government deposits	1.3	1.9	4.4	4.3	3.4	2.5	1.8	1.8
Other deposits								
Demand deposits	5.5	2.6	4.9	2.7	6.4	5.4	6.3	7.8
Time and savings deposits	10.9	13.0	12.4	12.1	12.2	12.8	13.5	12.6
Other deposits	0.7	0.0	1.4	1.5	1.3	1.9	2.0	0.1
Securities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Liabilities to other banks	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other liabilities	0.4	0.6	0.5	0.4	0.8	0.2	0.1	0.1
Capital								
Paid-up capital	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Retained earnings	3.1	3.3	3.4	4.1	5.1	5.7	5.4	5.4
Provision for credit impairment	5.3	6.2	6.7	6.9	7.4	7.4	7.5	7.5
Other	0.0	0.0	0.3	0.2	0.0	0.5	0.9	1.4
Development Bank of Tuvalu								
Assets								
Bank reserves								
Cash	0.1	0.0	0.1	0.2	0.3	...	...	...
Deposits	0.3	1.2	1.1	0.6	0.4	...	...	...
Securities	0.0	0.0	0.0	0.0	0.0	...	...	...
Claims on government	0.0	0.0	0.0	0.0	0.0	...	...	...
Loans and advances 1/	0.5	0.7	1.4	2.8	4.5	...	...	...
Claims on other banks	0.0	0.0	0.0	0.0	0.0	...	...	...
Fixed assets	0.1	0.1	0.1	0.1	0.0	...	...	...
Other assets	0.0	0.0	0.0	0.0	0.0	...	...	...
Liabilities								
Government deposits	0.0	0.0	0.0	0.0	0.0	...	...	...
Other deposits								
Demand deposits	0.0	0.0	0.0	0.0	0.0	...	...	...
Time and savings deposits	0.0	0.1	0.2	0.8	0.9	...	...	...
Other deposits	0.0	0.0	0.0	0.0	0.0	...	...	...
Securities	0.0	0.0	0.0	0.0	0.0	...	...	...
Liabilities to other banks 2/	0.9	1.4	1.4	1.4	2.3	...	...	...
Other liabilities	0.0	0.0	0.0	0.0	0.0	...	...	...
Capital								
Paid-up capital	1.4	1.9	2.6	2.9	3.3	...	...	...
Retained earnings	-1.4	-1.5	-1.7	-1.8	-2.0	...	...	...
Provision for credit impairment	0.1	0.1	0.1	0.4	0.8	...	...	...
Other	0.0	0.0	0.0	0.0	0.0	...	...	...

Sources: National Bank of Tuvalu and Development Bank of Tuvalu.

1/ Gross loans and advances.

2/ Loans from the European Investment Bank.

Table 6. Tuvalu: Balance of Payments, 2004-09
(In millions of Australian dollars, unless otherwise indicated)

	2004	2005	2006	2007	2008	2009 Proj.
Trade balance	-13.3	-13.6	-12.3	-13.9	-19.8	-13.8
Exports, f.o.b.	0.4	0.4	0.6	0.5	0.6	0.5
Imports, f.o.b.	-13.7	-14.0	-12.8	-14.4	-20.4	-14.3
Services (net)	-18.1	-13.7	-15.1	-27.3	-20.5	-20.2
Receipts	3.1	2.4	2.7	2.3	2.9	2.3
Travel	1.8	1.3	1.3	1.3	1.8	1.5
Payments	-21.2	-16.1	-17.8	-29.6	-23.4	-22.5
Transportation	-4.8	-4.3	-4.6	-7.2	-8.7	-8.0
Travel	-4.7	-4.8	-5.1	-5.7	-6.2	-6.0
Income (net)	19.8	20.2	20.9	24.4	26.6	18.6
Receipts	20.5	21.0	21.7	25.3	27.2	19.3
Compensation of employees	4.0	3.8	3.1	2.9	3.8	3.3
Investment income	9.1	10.9	9.9	16.3	12.0	5.0
Other property income	7.4	6.3	8.7	6.1	11.4	11.0
Payments	-0.7	-0.8	-0.8	-0.8	-0.7	-0.7
Compensation of employees	-0.2	-0.2	-0.3	-0.2	-0.2	-0.2
Investment income	-0.5	-0.5	-0.6	-0.6	-0.5	-0.5
Other property income	0.0	0.0	0.0	0.0	0.0	0.0
Current transfers	7.1	5.4	7.8	6.7	6.7	6.8
Private	0.4	-1.1	-2.0	-2.1	-1.6	-1.9
Inflows	3.5	3.2	2.5	2.6	2.8	2.5
Outflows 1/	-3.0	-4.3	-4.5	-4.7	-4.4	-4.4
Official	6.7	6.5	9.8	8.8	8.4	8.7
Inflows	7.3	7.0	10.2	9.4	9.2	9.7
Outflows 2/	-0.6	-0.5	-0.4	-0.7	-0.8	-1.0
Current account balance						
including official grants	-4.4	-1.7	1.4	-10.0	-6.9	-8.6
excluding official grants	-11.7	-8.7	-8.9	-19.4	-16.1	-18.3
Capital and financial account	7.0	1.4	10.9	17.8	14.5	6.2
Credits	7.7	1.2	4.3	12.7	10.1	8.5
Debits	-0.7	0.2	6.6	5.0	4.4	-2.3
Errors and omissions	-3.2	-1.5	-0.8	-4.9	2.7	0.0
Overall balance	-0.6	-1.8	11.5	2.9	10.3	-2.4
Financing	0.6	1.8	-11.5	-2.9	-10.3	2.4
Change in official reserves (increase -)	0.6	1.8	-11.5	-2.9	-10.3	1.5
National Bank of Tuvalu	-0.9	-0.7	-6.3	0.9	-4.2	1.5
Consolidated Investment Fund (CIF)	1.5	2.6	-5.2	-3.7	-6.1	0.1
Exceptional financing 3/	0.0	0.0	0.0	0.0	0.0	0.8
<i>Memorandum items:</i>						
Balance on goods and services (percent of GDP)	-31.4	-27.3	-27.4	-41.1	-40.2	-34.0
Current account balance (percent of GDP)						
including official grants	-14.9	-5.8	4.3	-29.8	-19.6	-24.3
excluding official grants	-39.2	-29.9	-28.5	-57.8	-45.6	-51.9
Gross official reserves (end-period)	7.7	5.9	17.4	20.3	30.6	29.0
(in months of imports of goods and services)	2.7	2.3	6.8	5.5	8.4	9.5
External debt	...	...	12.5	12.8	15.3	12.3
(in percent of GDP)	...	...	40.1	37.9	43.4	35.1
External debt service	...	...	0.2	0.2	0.5	0.6
(in percent of exports of goods and services)	...	...	4.7	5.7	14.2	22.6

Sources: Tuvalu authorities, PFTAC, and IMF staff estimates.

1/ Includes TA provided to the non-government sector.

2/ Includes government's overseas contributions.

3/ In 2009, part of the EIB loan to the Development Bank of Tuvalu (500,000 Euro) was converted to a grant.

Table 7. Tuvalu: Social Indicators

Millennium Development Goals	Baseline		Latest Data	
Millennium Development Goals				
(2015 target = halve 1990 \$1 a day poverty and malnutrition rates)				
Eradicate extreme poverty and hunger 1/ Population below \$1 per day (in percent)	17.0	(1994)	...	
Population below national poverty line (in percent)	29.0	(1994)	25.9	(2006)
Poverty gap at \$1 per day (in percent)	13.0	(1994)	...	
Percentage share of income or consumption held by poorest 20 percent	7.0	(1994)	10.0	(2005)
Prevalence of child malnutrition (in percent of children under 5)	0.0	(1997)	...	
Population below minimum level of dietary energy consumption (in percent)	...		0.0	(2004)
(2015 target = net enrollment to 100)				
Achieve universal primary education 2/ Net primary enrollment ratio (in percent of relevant age group)	98.0	(1992)	99.9	(2002)
Percentage of cohort reaching grade 5 (in percent)	72.7	(2000)	62.6	(2001)
Youth literacy rate (in percent of ages 15–24)	95.0	(1991)	99.0	(2002)
(2015 target = education rate to 100)				
Promote gender equality 3/ Ratio of girls to boys in primary education (in percent)	1.02	(1999)	0.99	(2006)
Ratio of young literate females to males (in percent of ages 15–24)	0.96	(1991)	1.00	(2002)
Share of women employed in the nonagricultural sector (in percent)	38.0	(1991)	44.0	(2002)
Proportion of seats held by women in national parliament (in percent)	8.0	(1990)	0.0	(2004)
(2015 target = reduce 1990 under 5 mortality by two thirds)				
Reduce child mortality 4/ Under 5 mortality rate (per 1,000 live births)	53.0	(1990)	37.0	(2007)
Infant mortality rate (per 1,000 live births)	42.0	(1990)	30.0	(2007)
Immunization, measles (in percent of children under 12 months)	95.0	(1990)	95.0	(2007)
(2015 target = reduce 1990 maternal mortality by three fourths)				
Improved maternal health 5/ Maternal mortality ratio (modeled estimate, per 100,000 live births)	434.8	(1990)	418.4	(2003)
Births attended by skilled health staff (in percent of total)	95.0	(1990)	100.0	(2002)
(2015 target = halt, and begin to reverse, AIDS, etc.)				
Combat HIV/AIDS, malaria, and other diseases 6/ Prevalence of HIV, female (in percent of ages 15–24)	0.0	(1990)	...	
Contraceptive prevalence rate (in percent of women ages 15–49)	39.0	(1990)	32.0	(2002)
Number of children orphaned by HIV/AIDS	0.0	(1990)	...	
Incidence of tuberculosis (per 100,000 people)	297.0	(1990)	166.0	(2007)
Tuberculosis cases detected and successfully treated under DOTS (in percent)	...		75.0	(2006)
(2015 target = various, see notes)				
Ensure environmental sustainability 7/ Forest area (in percent of total land area)	33.3	(1990)	33.3	(2005)
Nationally protected areas (in percent of total land area)	0.2	(1996)	0.2	(2008)
GDP per unit of energy use (PPP\$ per kg. oil equivalent)	0.2	(1993)	0.2	(1999)
CO2 emissions (metric tons per capita)	0.2	(1993)	0.2	(1999)
Use of solid fuels (in percent of households)	70.0	(1991)	32.0	(2002)
Access to an improved water source (in percent of population)	90.0	(1990)	93.0	(2006)
Access to improved sanitation (in percent of population)	78.0	(1990)	89.0	(2006)
Access to secure tenure (in percent of population)	...		...
(2015 target = various, see notes)				
Develop a global partnership for development 8/ Youth unemployment rate (in percent of total labor force ages 15–24)	3.0	(1991)	24.0	(2002)
Telephone lines (per 100 people)	1.3	(1990)	12.2	(2007)
Cellular subscriptions (per 100 people)	4.8	(2000)	16.8	(2008)
Internet user (per 100 people)	4.9	(1995)	37.4	(2008)
Same Region/Income group				
East Asia				
	Tuvalu	and Pacific	Lower-Middle Income	
Other indicators				
Population (millions)	0.01	1,931	3,702	
Urban (percent of total)	48.1	44.1	41.3	
GNI per capita (in U.S. dollars)	4,398	2,515	2,015	
Adult literacy rate (in percent of people ages 15 and over)	99.0	92.8	82.6	
Life expectancy at birth (in years)	64.5	72.0	68.0	
Total fertility rate (births per woman)	3.7	1.9	2.5	

Sources: Tuvalu authorities, Asian Development Bank, UNDP, and World Bank.

1/ Goal 1 targets: Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day. Halve, between 1990 and 2015, the proportion of people who suffer from hunger.

2/ Goal 2 targets: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.

3/ Goal 3 targets: Eliminate gender disparity in primary and secondary education preferably by 2005 and to all levels of education no later than 2015.

4/ Goal 4 targets: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate.

5/ Goal 5 targets: Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio.

6/ Goal 6 targets: Halt by 2015, and begin to reverse, the spread of HIV/AIDS. Halt by 2015, and begin to reverse, the incidence of malaria and other

resources. Reduce biodiversity loss, achieving, by 2010, a significant reduction in the rate of loss. Halve, by 2015, the proportion of people without sustainable access to safe drinking water. By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers.

8/ Goal 8 targets: Develop further an open, rule-based, predictable, non-discriminatory trading and financial system. Address the Special Needs of the Least Developed Countries. Address the Special Needs of landlocked countries and small island developing states. Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term. In cooperation with developing countries, develop and implement strategies for decent and productive work for youth. In cooperation with pharmaceutical companies, provide access to affordable, essential drugs in developing countries. In cooperation with the private sector, make available the benefits of new technologies, especially information and communications.

ANNEX I: TUVALU—EXCHANGE AND TRADE SYSTEM

Exchange arrangements

1. Tuvalu's legal tender is the Australian dollar. There is no central monetary institution. The legal framework for the exchange and trade system is the Exchange Control Law of 1981 and the Exchange Control Regulations of 1983, as amended. While the Exchange Control Regulations are quite restrictive and prescribe approval requirements from the National Bank of Tuvalu ("NBT") or the Minister of Finance for most payments or transfers, in practice, no approval is required and transactions are administered liberally.¹

2. The NBT is the only bank in Tuvalu handling foreign exchange transactions.² The NBT buys and sells foreign exchange at rates determined daily by the NBT's board on the basis of rates quoted in the international markets plus specific spreads dependent on the specific foreign currency.

Prescription of currency

3. Both outward and inward payments may be settled in Australian currency or in any convertible currency.

Imports and import payments

4. Imports are not subject to any import licensing requirements and in principle, any person in Tuvalu is authorized to effect imports subject to certain restrictions. Import prohibitions for security and health reasons for certain goods apply as set out in the Customs Act.

Exports and export proceeds

5. There are no surrender requirements for export proceeds. Exports are not subject to licensing requirements.

6. In practice, there are no restrictions on payments for or receipts from invisibles.

¹ The authorities recognized that their laws are outdated and inconsistent with the practice and envisage updating the Exchange Control Regulations to align them with current practice. Staff have started work on these issues.

² There is one more bank in Tuvalu—Development Bank of Tuvalu, which does not handle foreign exchange transactions.

Other current and capital transactions

7. The Foreign Direct Investment Act applies to foreign investment only in circumstances where the investment proposal (i) relates to a joint venture with the government, (ii) requests a government exemption or special dispensation from laws or regulations, or (iii) requires the granting of a license under an applicable law. Under the scheme of the Foreign Direct Investment Act, a Foreign Investment Facilitation Board is established which must consider the above investment proposals and may negotiate non-binding terms and conditions for any such proposal. The Board reports to the Finance Minister and if the Finance Minister accepts the Board's recommendations, he/she shall grant approval of the licenses under his/her authority or instruct the Board to liaise with appropriate Ministries to grant timely approvals or licenses.
8. The Native Lands Act and Native Lands Regulations apply to all land in Tuvalu. Although there is no distinction between residents and nonresidents, only natives, that is indigenous inhabitants of Tuvalu or descendants of indigenous inhabitants, are eligible to own land. Nonnatives are able to lease land for up to 25 years, and these leases must be approved by the Finance Minister. The transfer of non-native leases to non-natives also requires the approval of the Finance Minister. By contract, native leases and the transfer of native leases are done through the Lands Court.
9. The Companies Act and the Companies and Business Registration Act apply to both residents and non-residents in a non-discriminatory manner, save that under Section 10(4) of the Companies Act non-citizens who wish to register a company must provide financial, character and security information as prescribed by the Finance Minister.
10. In practice, there are no restrictions on the repatriation of profit or capital.

ANNEX II. THE QUOTA FORMULA AND RELEVANT DATA PERIODS

The current quota formula includes four quota variables (GDP, openness, variability, and reserves), expressed in shares of global totals with the variables assigned weights totaling 1.0. The formula also includes a compression factor that reduces dispersion in calculated quota shares.

The formula is:

$$\text{CQS} = (0.5*Y + 0.3*O + 0.15*V + 0.05*R)^k$$

Where CQS = calculated quota share;

Y = a blend of GDP converted at market exchange rates and PPP exchange rates averaged over a three year period (2003–05). The weights of market-based and PPP GDP are 0.60 and 0.40, respectively;

O = the annual average of the sum of current payments and current receipts (goods, services, income, and transfers) for a five year period (2001–05);

V = variability of current receipts and net capital flows, measured as a standard deviation from the centered three-year trend over a thirteen year period (1993–2005);

R = twelve month average over a year (2005) of official reserves (foreign exchange, SDR holdings, reserve position in the Fund, and monetary gold); and

k = a compression factor of 0.95. The compression factor is applied to the uncompressed calculated quota shares which are then rescaled to sum to 100.

ANNEX III. NOTIONAL CALCULATED QUOTAS AND THE CURRENT FORMULA

The current, share-based formula has implications for the methodology for calculating proposed initial quotas for a new member. The current quota formula no longer produces a nominal quota as a direct output. However, it is possible to derive a notional calculated quota for members using the following formula:

$$\text{Notional calculated quota} = \text{Calculated quota share} * \text{Total actual quotas (including the new member)}^1$$

This methodology produces notional calculated quotas directly comparable across the membership with no need for further transformations to offset systematic level differences. For the new member, an initial quota based on the notional calculated quota ensures it is neither over- nor under-represented relative to the formula. The use of comparators to determine an initial quota may continue to have important implications, however, given substantial variation in the degree of out-of-lineness between calculated quotas and actual quotas across the membership.

Under the current share-based formula, it is relatively straightforward to calculate illustrative quotas for the new member based on comparators using *ex post* ratios of actual quota shares to calculated quota shares such that:²

$$AQS_{NEP}/CQS_{NEP} = AQS_{CEP}/CQS_{CEP}$$

where:

AQS_{NEP} = New member's actual quota share, ex post

CQS_{NEP} = New member's calculated quota share, ex post

AQS_{CEP} = Comparators' aggregate actual quota share, ex post

CQS_{CEP} = Comparators' aggregate calculated quota share, ex post

The illustrative quota share for the new member can be expressed as:

$$AQS_{NEP} = CQS_{NEP} * (AQS_{CEP}/CQS_{CEP})$$

¹ The calculation assumes that the new member's actual quota equals its calculated quota.

² Use of *ex ante* ratios of comparators' actual quota shares to calculated quota shares would imply a marginal difference in *ex post* ratios of the new member and comparators.

AQS_{CEP} can be derived as:

$$AQS_{CEP} = AQS_{CEA} * (1 - AQS_{NEP})$$

where: AQS_{CEA} = Comparators' aggregate actual quota share, ex ante

and:

$$AQS_{NEP} = CQS_{NEP} * (AQS_{CEA} * (1 - AQS_{NEP}) / CQS_{CEP})^3$$

To derive an indicative initial quota for the new member (AQ_{NEP}), the new member's actual ex post quota share can then be applied to the stock of total quotas including the new member.

$$AQ_{NEP} = CQS_{NEP} * (AQS_{CEA} * (1 - AQS_{NEP}) / CQS_{CEP}) * AQ_{TEA} / (1 - AQS_{NEP})$$

Where:

AQ_{TEA} = Total quotas before the new member

AQ_{TEA} / (1 - AQS_{NEP}) = Total quotas including the new member

Simplified to:

$$AQ_{NEP} = CQS_{NEP} * (AQS_{CEA} / CQS_{CEP}) * AQ_{TEA}$$

or:⁴

*Indicative initial quota = New member's calculated quota share * Comparators' average ratio of actual quota shares to calculated quota shares (calculated quota shares with the new member) * Total quotas (before new member)*

³ While there is no need in this methodology to derive AQS_{NEP}, this is possible using the following formula:
 $AQS_{NEP} = (CQS_{NEP} * AQS_{CEA}) / (CQS_{CEP} + CQS_{NEP} * AQS_{CEA})$.

⁴ This is the approach used in the last case, Kosovo—June 29, 2009 to reflect the outcome of the current formula.