

# Recent shocks and long-term change in the Samoan economy

John Gibson

The strengths exhibited by the Samoan economy during the period of steady growth from 1998 to 2007 have since been tested by considerable volatility in economic activity, declining employment, rapidly rising prices, the global financial crisis, and the September 2009 tsunami. The economy has done reasonably well in the face of these challenges with key economic support in the form of aid, remittances and tourism. Questions are raised about the future viability of these forms of support.

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The economy of Samoa has been subjected to severe shocks since the most recent economic update, in 2007. At the time of that update, Samoa had benefited from a decade of annual growth in real GDP—averaging 3 per cent—accompanied by prudent fiscal and monetary policies. Yet, in a remarkably prescient caveat to this good performance, it was noted that

Samoa remains a small, geographically isolated and highly vulnerable island economy. Potential fiscal pressures from natural disasters, an ageing and diabetes-prone population, and possible resource flow constraints from effective graduation out of the least developed country status in 2010, are major medium-term risks facing the Samoan economy (Vaai 2007:1).

The constraints of smallness and remoteness are fundamental for Samoa, although greater integration into industrialised-country labour markets through both settlement and seasonal migration provide some access to the higher paid work that scale and agglomeration economies allow. Samoa is ranked 207 of the 219 least economically accessible countries in the world—calculated in terms of the distance to every other country and weighting these distances in terms of GDP (Gibson 2007). Thus, even as Samoa follows the recent advice of development experts for small, isolated and island countries to integrate more closely with their nearest large market (World Bank 2009), this integration process is unlikely to overcome fully the fundamental constraints of lack of scale and high distance costs.

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Events in 2008, in the form of the global financial crisis (GFC), and in 2009, in the form of the devastating tsunami, also underscore the potential vulnerability of the Samoan economy. Critics of Pacific island countries' closer integration—both amongst themselves and with the wider world economy—might consider the imported effects of a crisis that started with sub-prime mortgages in the United States as *prima facie* evidence of why freer movement of capital, goods and labour should be discouraged. Yet the impact of the GFC on economic activity in Samoa was relatively muted, with more of the recent volatility in economic activity, employment and fiscal outcomes reflecting domestic factors.

Moreover, the engagement of Samoa with the world economy helped considerably in dealing with the economic effects of the second major shock: the 2009 tsunami. While the generous response of aid donors—who contributed more than ST50 million—is most apparent, there was also important support provided by the two other main legs of the Samoan economy: remittances and tourism. In the year after the tsunami, there was only a small decline in tourism receipts, despite the devastation to some of the most iconic tourism destinations. The diaspora of overseas Samoans also responded very generously to Samoa's needs following the tsunami, with remittances in the December quarter of 2009, immediately following the disaster, approximately ST25 million higher than the usual quarterly inflow of remittances. The tsunami affected approximately 5,000 people, so were these remittances to be received only by those affected they would amount to the replacement of one-third of average per capita income in the tsunami-affected region. While still a long way from full insurance, this ability of informal networks to respond to disasters reflects a fundamental strength of the Samoan economy and society.

Attention to these recent shocks—as important as they are—masks an important longer-term change. Economic activity in Samoa appears to be increasingly concentrated on construction, commerce, transport and communication, and public and private services. Much of this growth is centred on Apia and some also spills over into the Northwest Upolu region. Adjacent parts of this region appear as a continuation of the low-density, peri-urban settlement pattern of the Apia suburbs. These two areas—Apia and Northwest Upolu—also receive net inflows of people moving from elsewhere in Samoa. On the other hand, in Savaii and the rest of Upolu, average incomes appear lower and there is a net export of people to the rest of Samoa. It is not clear to what extent the tsunami damage and reconstruction effort will change this emerging gap.

### Economic growth

The growth performance of the Samoan economy has been volatile over the past five years. Even before the start of the GFC in late 2008 and the tsunami one year later, the rate of real GDP change varied between a low of -0.4 per cent in the June quarter of 2006 and a peak of 10.6 per cent in the September quarter of 2007 (Figure 1). This volatility reflected the positive impact on GDP of the 2007 South Pacific Games and several other major building projects. In fact, between September 2005 and December 2007, the rate of annual real growth in the construction sector averaged 13.2 per cent, while since March 2008 real GDP from construction has declined at an average rate of -2.2 per cent. The impact of this temporary boom is very clear—both from the new buildings in Apia and from the quarterly real GDP series in Figure 1, which went from ST264 million in March 2007 to ST290 million by December

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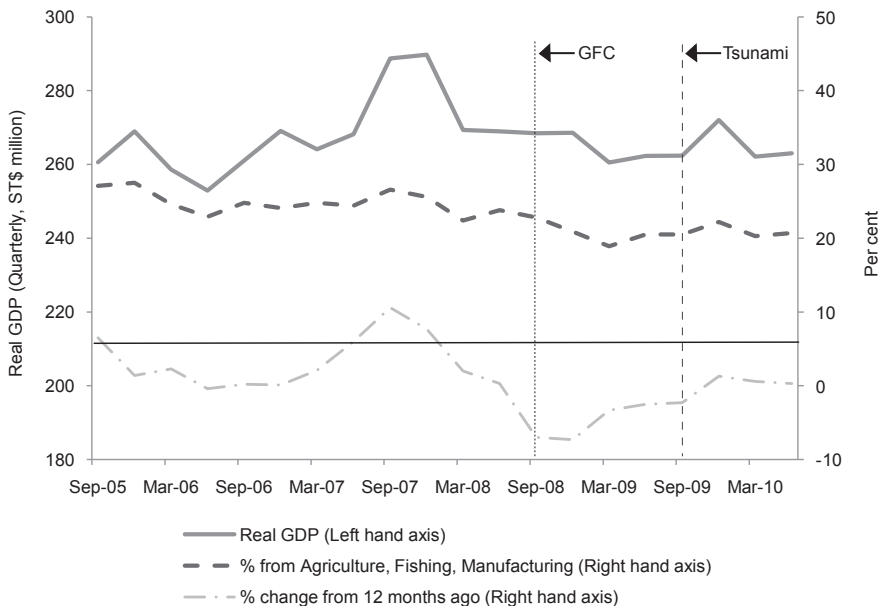
2007 and then fell back to ST269 million by March 2008.

As a result of this construction-led growth, Samoa is a somewhat unexpected case where the volatility of real output has been less in the period since the GFC than it was before. The coefficient of variation (the standard deviation over the mean) of quarterly real output was 4.1 per cent from September 2005 until June 2008 and it has been only 1.6 per cent since then. Official documents such as the *Fiscal Strategy Statement, Budget 2009/2010–2011/2012* attribute the negative growth rate in 2008–09 to the GFC adversely affecting fish exports and labour demand and exports from the EDS/Yazaki motor vehicle harness factory. But the two quarters when declines in real

GDP were sharpest—with changes of –7 and –7.3 per cent, respectively, from 12 months earlier—were September and December 2008, before there had been much impact from the GFC on the real sector of most economies. Hence, there also appear to be some home-grown contributors to the declining real GDP growth rates in Samoa.

The other recent feature of overall economic activity in Samoa is the declining importance of agriculture, fishing and manufacturing. The combined share for these sectors has fallen from about 27 per cent of real GDP in 2005 to just 20 per cent in 2010 (Figure 1). Since the starting and ending levels of real GDP were almost the same (ST261 million in the September quarter of 2005 and ST263 million in the June

Figure 1 Real GDP, annual real GDP growth rate, and composition of real GDP, Samoa, 2005–10 (constant 2002 prices)



Source: Samoa Bureau of Statistics (SBS), 2010. *Gross Domestic Product June 2010, October*, Samoa Bureau of Statistics, Apia.

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quarter of 2010), this trend marks a decline in absolute terms. Thus, activity in the Samoan economy appears to be increasingly concentrated on construction, commerce, transport and communication, and public and private services. Casual observation suggests that this growth is centred largely on Apia and hence needs to be funded from something other than the export of goods, since agriculture, fishing and manufacturing are the main providers of goods exports and these sectors are declining.

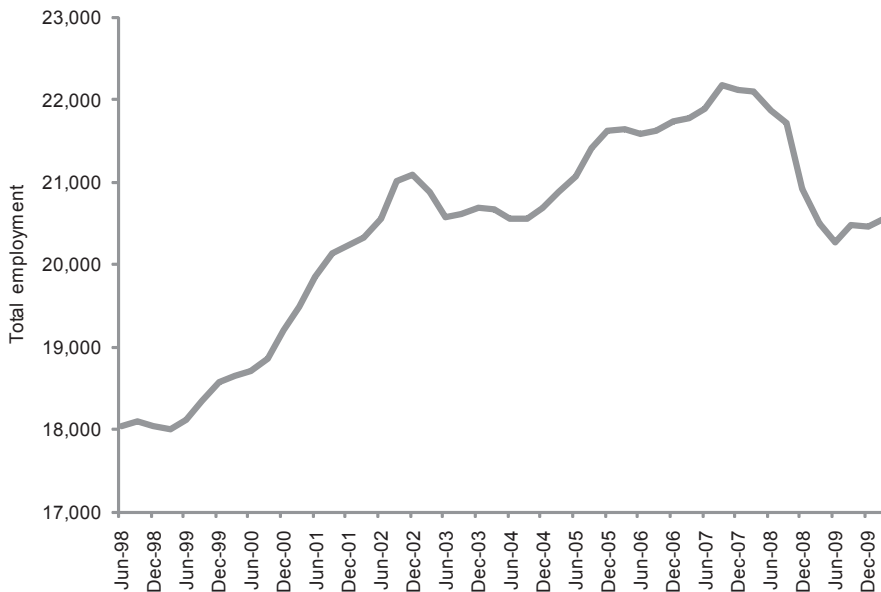
### Employment and prices

The trend in formal employment largely tells a similar story to the real GDP figures, with a long period of expansion that came to an end a full year before the effects of the GFC hit the labour market (Figure 2).

Between the June quarter of 1998 and the September quarter of 2007, just more than 4,000 formal-sector jobs were added to the Samoan economy. With the exception of some volatility about 2002, this rise in formal employment was largely on a smooth upward trend. Overall, this decade of rising employment from 1998 reflected a growth rate of 0.5 per cent per quarter, implying a doubling in formal employment every 35 years. While this might appear to be a slow growth rate, it matches the population growth rate recorded between the 2001 Census and the 2006 Census (SBS 2008).

Approximately one-half of the decade-long employment increase was undone in the two years after September 2007, when approximately 2,000 jobs were lost. There has been minimal employment growth since the recent low point in June 2009.

Figure 2 Formal employment in Samoa



Sources: Central Bank of Samoa (CBS), various years (b). *Selected Economic Indicators Report*, various issues, Central Bank of Samoa, Apia.

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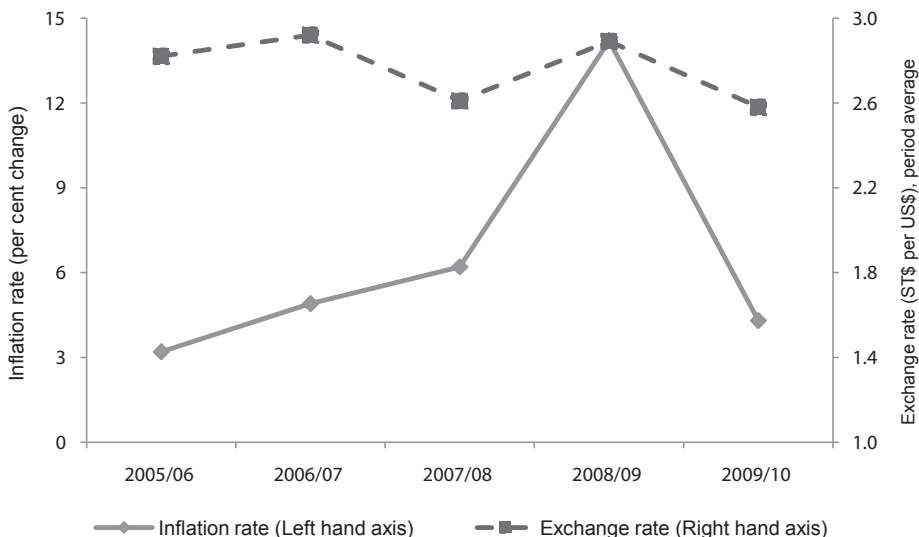
One factor that could undermine future employment increases such as those seen between 1998 and 2007 is that several of the major donor-funded construction projects, such as the new government office building and convention centre in Apia and the new Ministry of Health headquarters, now have almost no impact on the local labour market. The reason is that the donor—the Chinese government in this case—is also importing the workforce (from China) along with most of the non-labour inputs. This model of donor-funded projects can best be thought of as a shock to the physical-capital stock of the country, with almost no direct impacts on production or employment.

The target inflation rate in Samoa is for consumer price index (CPI) increases to be no higher than 3–4 per cent per annum.

This target has been breached for most of the period under review (Figure 3). The annual average rate of CPI change increased from 5 per cent in 2006–07 to 14 per cent in 2008–09. Some of the very high inflation in 2008 reflected high world commodity prices, especially for food and fuel—although these were quickly reversed after the GFC in late 2008. At least some of the high inflation, however, also reflects a rapid expansion of credit to the private sector, which had a year-on-year rate of change that peaked at almost 30 per cent in late 2006 (IMF 2010).

The inflation rate fell sharply in 2009–10, and for several months the CPI was lower than it had been 12 months earlier. Whether this low rate of inflation can be maintained—in the face of expansionary conditions from the projected large balance-of-payments

Figure 3 Annual inflation rate (per cent) and average exchange rate (ST per US\$)



**Source:** For annual average inflation rates, Government of Samoa, n.d. *Fiscal Strategy Statement Budget 2009/10–2011/12*, Ministry of Finance, Government of Samoa, Apia; Central Bank of Samoa (CBS), various years(b). *Selected Economic Indicators Report*, various issues, Central Bank of Samoa, Apia; and for annual average exchange rates: oanda.com.

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deficits during the tsunami recovery—remains to be seen. As of November 2010, food prices are again rising rapidly in world markets, with a profile similar to that seen in early 2008 when staple food prices tripled in some countries. It will require considerable discipline for monetary policy to maintain low inflation in this environment.

The volatile inflation rates over the period under review did not cause any fundamental realignment in the value of the tala (Figure 3). Relative to the US dollar, the tala traded at average prices that varied from ST2.6 to ST2.9 per US\$1. This stability suggests that, despite the substantial shocks the Samoan economy has weathered, the basket peg exchange rate regime remains credible. It is, however, not known to what extent the appreciation of the real exchange rate is responsible for the poor recent performance of goods exports. This real exchange rate appreciation has resulted from the combination of a relatively stable nominal exchange rate and more rapid inflation in Samoa than elsewhere.

## The external sector

Samoa's merchandise exports over the past five years have contributed an average of just 4.7 per cent to real GDP, and in the most recent two years are contributing just 3 per cent of GDP. The most recent fiscal year figures from the Central Bank of Samoa suggest that in the 2009–10 fiscal year, exports were worth just ST30 million (on a free-on-board basis). In contrast, merchandise imports cost ST650 million, which is equivalent to 50 per cent of GDP.

Hence, a point of continuity with the previous economic survey of Samoa is that the balance-of-payments structure continues to feature persistent trade deficits and a high dependence on current account receipts from tourism services and private transfers (remittances). The current account balance deteriorated substantially from 2007 onwards, coinciding with the temporary boost to economic activity from construction and the South Pacific Games (Table 1 and Figure 1). The 2006–07 current account deficit was equivalent to 10 per cent of GDP, although it was reduced sharply in 2008–09 (Table 1).

Table 1 Samoa: balance of payments, 2004–05 to 2008–09 (ST million)

	2004–05	2005–06	2006–07	2007–08	2008–09
Exports (fob)	35	30	31	32	28
Imports (cif)	465	550	617	593	626
Trade balance	–430	–520	–585	–561	–598
Net services	110	169	201	127	227
Net transfers	260	288	256	293	314
Current account balance	–60	–62	–128	–140	–58
Capital account (net)	149	70	125	55	95
Overall balance	89	7	–3	–86	38

Sources: Central Bank of Samoa (CBS), various years (a). *Balance of Payments*, Central Bank of Samoa, Apia; and International Monetary Fund (IMF), 2010. *Staff Report for the 2010 Article IV Consultation*, International Monetary Fund, Washington, DC.



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The balance-of-payments projections for 2009–10 and 2010–11 recently published by the International Monetary Fund (IMF 2010) as part of its consultations with the Government of Samoa have, however, estimated that the current account deficits will be equivalent to 20 per cent of GDP in those two years. Less than one-quarter of the projected deficit on the current account in those years is forecast to be due to the tsunami-related reconstruction, which is estimated to contribute approximately US\$25 million to the deficit in each of 2009–10 and 2010–11 (IMF 2010). Another component of the forecast deficit is predicted lower tourism demand; although as of September 2010, tourist arrivals had not declined sharply so the balance of payments situation might not deteriorate as much as projected.

According to estimates of the earnings from tourism made by the Central Bank, in fiscal year 2009–10, these earnings were worth ST300 million (CBS various years[b]). This amount represents a (nominal) decline of 6 per cent from tourism earnings in the 2008–09 fiscal year, even though the number of tourist arrivals was approximately 4 per cent higher—at 131,000—for the 2009–10 year. Over the past seven years, the number of tourist arrivals has grown at an average annual rate of 5.7 per cent. Whether this healthy increase will translate into rising earnings from tourism depends on whether the average expenditure per tourist can be maintained, which was not the case in 2009–10, when average expenditures fell 9 per cent compared with 2008–09. Whether the decline in spending per tourist is due to the impact of the tsunami is unknown.

The other major source of finance helping to maintain balance in the face of the very large merchandise trade deficit is private remittances. According to estimates made by the Central Bank, in fiscal year 2009–10, these remittances were worth

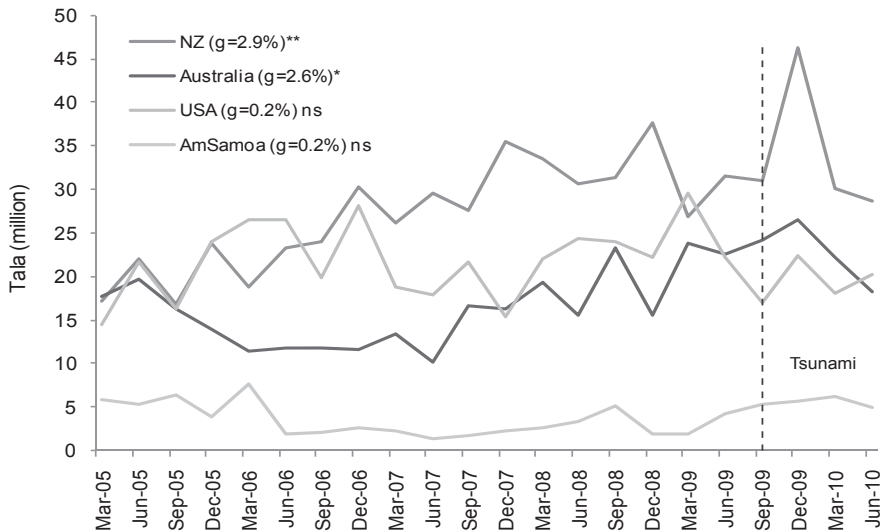
ST347 million. This represented a (nominal) decline of 5 per cent from remittances in the 2008–09 fiscal year, which were estimated to be worth ST366 million. Remittances are a potentially volatile source of external finance, since they can be affected by shocks to the labour markets of the main countries where the Samoan diaspora is located (especially New Zealand, Australia and the United States), as well as responding to shocks in Samoa. To examine this volatility, the quarterly trends in remittance receipts from New Zealand, Australia, the United States and American Samoa are examined (Figure 4).

Since 2008, remittances from these four countries have contributed 93 per cent of total remittances received in Samoa (37 per cent from New Zealand, 26 per cent from Australia, 24 per cent from the United States, and 6 per cent from American Samoa). The source of remittances is shifting increasingly to Australia and New Zealand and away from the United States, American Samoa, and all other sources. In tala terms, the trend rate of increase in remittances from New Zealand is 2.9 per cent per quarter (implying a doubling every six years) and from Australia the trend rate of increase is 2.6 per cent per quarter. The tala value of remittances from the United States and American Samoa has been static.

Another feature of the remittance trends in Figure 4 is the response to the tsunami that they reveal. To interpret the data on this response correctly, it must be noted that the December quarter always has higher remittances, particularly from New Zealand. This is due mainly to events in the Christmas period, which can see more money sent but also has Samoans coming home and exchanging cash in Samoa and this is recorded as a remittance. But it also reflects White Sunday in October, when many remittances for church fund-raising occur. Notwithstanding that pattern, there

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Figure 4 Quarterly remittances (and time trends)



\*\* time trend is statistically significant at the 1 per cent level

\* time trend is statistically significant at the 5 per cent level

**Source:** Author's calculation from unpublished data, Apia; Central Bank of Samoa (CBS), various years(b). *Selected Economic Indicators Report*, various issues, Central Bank of Samoa, Apia.

was a remarkable response to the tsunami by Samoan remitters in New Zealand: ST15 million more was received in remittances from New Zealand in the December quarter of 2009 than in either of the surrounding quarters, and ST9 million more than in the same quarter of 2008.

There were also significant responses from remittances in Australia and the United States, although they were not as large either absolutely or proportionately as the remittance response from New Zealand. In total, across the four countries examined in Figure 4, remittance receipts in the December quarter of 2009 were approximately ST25 million more than the remittances in either quarter immediately before or after, or in comparison with the December quarter of 2008. The network of

overseas Samoans providing remittances therefore appears to provide a response to natural disasters in Samoa that is both rapid and extremely large.

Another potential source of volatility in remittance earnings comes from the growing integration of seasonal labour markets in the form of New Zealand's Recognised Seasonal Employer (RSE) scheme and Australia's Pacific Seasonal Worker Pilot Scheme (PSWPS).<sup>1</sup> Samoa is providing more than 1,000 workers per annum under the New Zealand RSE scheme. On average, workers in the RSE scheme remit or repatriate approximately NZ\$5,000 per season (Gibson and McKenzie 2010), so this suggests a net input to the Samoan economy of about ST9 million per annum in the aggregate.



Samoa was, however, the supplying country that was most badly affected by the reduction in demand for Pacific seasonal workers in New Zealand in 2009–10. Calculations by Bedford and Bedford (2010) suggest that between 2008–09 and 2009–10 there was a reduction of 23 per cent in the number of Samoan seasonal workers hired, compared with reductions of about 10 per cent for Tongans and ni-Vanuatu. One reason was that about two-thirds of the Samoan seasonal workers, but only one-third of the workers from other Pacific countries, were employed in the Hawkes Bay region, and this particular region had a large number of unemployed New Zealanders, which made it difficult for the RSE employers there to recruit migrants.<sup>2</sup> Thus, even though the integration of regional labour markets provides great benefits to Samoa and other Pacific countries, it does mean exposure to a new source of volatility.

### Government finances

The target for fiscal policy in Samoa is for the overall fiscal balance (including grants) to be between –3.5 and +3.5 per cent of GDP. But from the 2008–09 fiscal year onwards, this target has not been met and is not forecast to be met for several years. Preliminary estimates suggest that the overall fiscal balance was equivalent to –3.8 per cent of GDP in 2008–09, and is forecast to be a deficit equivalent to about 10 per cent of GDP in the following two years. The expansionary fiscal stance reflects several factors—only some of which are due to the increased expenditure to support reconstruction following the September 2009 tsunami (Table 2).

With respect to government revenue and grants, tax revenue as a share of GDP is fairly stable—typically equivalent to about 22 per cent of GDP. External grants are more volatile—equivalent to about 7 per cent of

GDP in 2005–06 and 2007–08, which in each of these two years was an increase over the previous year by an amount equivalent to 1.5–2 per cent of GDP. The biggest increase in grants was in 2009–10, when the addition of tsunami-related grants equivalent to 5 per cent of GDP pushed the total contribution of external grants to an amount equivalent to 15 per cent of GDP.

There has been a general increase in recurrent government expenditure as a share of GDP, due in part to earlier public-sector wage increases. Development expenditures had a short-term peak in 2006–07 in the lead-up to the South Pacific Games, but are forecast to have had a much larger peak in 2009–10 at a level that is equivalent to more than one-fifth of GDP. Only a small part (equivalent to about 4 per cent of GDP in each of 2009–10 and 2010–11) of this high level of development expenditure is due to tsunami-related expenses. Instead, ongoing public-sector projects such as telecommunications and postal reform and the Second Infrastructure Asset Management Project are contributing to this high level of development expenditure.

### Poverty and regional inequality

A recent analysis of the 2008 Household Income and Expenditure Survey (SBS and UNDP 2010) provides a food poverty line of ST31.56 per capita per week as the cost of buying a ‘model diet’ designed by nutritional experts for the Samoan context. This diet is made up of (largely imported) store-bought foods, plus own production, gifts and purchases of local foods. The same diet cost ST24.68 in 2002 when the previous poverty estimates were made. One questionable feature of the food poverty line calculations is the assumption that food prices are the same in all areas of Samoa, since there is no attempt to price the model

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diet in each region.<sup>3</sup> In fact, imported foods are likely to be more expensive in Savaii and rural Upolu than they are elsewhere because of internal transport costs and the lower levels of local competition in those two regions than in the more economically dense Apia and Northwest Upolu areas.

The recent poverty study also created a 'basic needs' poverty line by adding an allowance for non-expenditure. To construct this allowance, the average level of actual non-food expenditure by households in the lowest three deciles in each of the four regions was used. This allowance varied from a high of ST28.39 per person per week in Apia to a low of ST17.90 in the rest of Upolu (outside Apia and Northwest Upolu). Putting the non-food allowance together with the food poverty line, the overall poverty line averaged ST53.59 per person per week across all four regions of Samoa. It was estimated that 27 per cent of

the Samoan population had expenditure levels (including own-produced and gifted items) below this poverty line in 2008. The poverty line that had been estimated in 2002, using similar methods, had 23 per cent of the population living below that level. Thus, poverty appears to have increased; however, no standard errors are reported, so this apparent increase in the head-count poverty rate could just reflect sampling variability.

With respect to the distribution of poverty, the joint SBS and UNDP (2010) report suggests that 24 per cent of the population in Apia, 27 per cent of those elsewhere in Upolu (that is, other than in Apia) and 29 per cent of the population of Savaii had weekly expenditure below the basic needs poverty line in 2008. These rates are slightly lower in Apia and Northwest Upolu than they were in 2002 and considerably higher in the rest of

Table 2 **Structure of government financial operations, 2005–06 to 2010–11**  
(percentage of GDP)

	2005–06	2006–07	2007–08	2008–09 <sup>P</sup>	2009–10 <sup>F</sup>	2010–11 <sup>F</sup>
Revenue and grants	31.8	36.4	30.9	32.0	39.5	33.7
Tax revenue	22.4	22.4	22.2	21.1	22.1	22.5
External grants	5.9	7.4	5.2	7.2	15.0	8.6
of which: tsunami-related	n.a.	n.a.	n.a.	n.a.	4.7	0.0
Expenditure and net lending	32.3	35.8	32.7	35.9	49.2	43.2
Current expenditure	24.1	25.0	25.7	23.2	27.1	28.1
Development expenditure	7.1	9.3	6.5	11.9	21.4	14.3
of which: tsunami-related					3.9	4.7
Overall fiscal balance	-0.5	0.6	-1.8	-3.8	-9.7	-9.5
Overall balance (excluding grants)	-6.4	-6.7	-7.1	-11.1	-24.7	-18.1

n.a. not applicable

<sup>P</sup> = preliminary

<sup>F</sup> = forecast

**Source:** International Monetary Fund (IMF), 2010. *Staff Report for the 2010 Article IV Consultation*, International Monetary Fund, Washington, DC.

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Upolu and in Savaii (by about 10 percentage points).

The inference that poverty rates are much the same everywhere in Samoa other than in Apia could, however, reflect a weakness in the method used to form the poverty lines for each region. By creating reference groups for the non-food allowance as the poorest 30 per cent separately in each region, inter-regional differences in living standards are transmitted into the poverty lines. For example, if living standards at the thirtieth percentile of expenditure in Apia are higher than those at the thirtieth percentile in Savaii, the non-food allowance calculated for Apia will be higher—not necessarily because Apia is more expensive but because it refers to a higher standard of living than it does in Savaii.<sup>4</sup> This violates the requirement for a poverty line to relate to the same basic-needs standard of living everywhere.

There are at least two empirical patterns that suggest a gap is emerging between the standard of living in Apia and Northwest Upolu, on the one hand, and that in Savaii and the rest of Upolu, on the other. First, internal migration patterns suggest that people are ‘voting with their feet’ by moving out of Savaii and the rest of Upolu and into Apia and Northwest Upolu. In the 2006 Census, the enumerated population of Apia included a net 7,000 internal migrants (that is, after taking account of all inflows and outflows) who had been born elsewhere in Samoa, while Northwest Upolu had a net gain of 9,600 from internal migration. In contrast, Savaii had a net loss of 8,600 people moving to elsewhere in Samoa while the rest of Upolu had a net loss of 2,900 people to elsewhere in Samoa.

The second empirical pattern, which suggests higher living standards in Apia and Northwest Upolu, is revealed by the pattern of household budget allocations—specifically the share of budgets (including

self-produced and gifted items) devoted to food. These food budget shares are 31.4 and 33.4 per cent in urban Apia and Northwest Upolu, respectively, but considerably higher in the rest of Upolu and Savaii—at 41.5 and 39.7 per cent, respectively. These higher food shares suggest higher living standards in Apia and Northwest Upolu, in line with Engel’s law of declining food shares as consumers become richer. The similarity of food shares in Apia and Northwest Upolu was not apparent in 2002, when the previous Household Income and Expenditure Survey was fielded. Instead, in 2002, the average food shares in Northwest Upolu and the rest of Upolu were the same, while in Apia they were almost 10 percentage points lower.<sup>5</sup>

It therefore appears that there has been some convergence of average living standards in Northwest Upolu with the higher standards in Apia. Indeed, much of Northwest Upolu now appears as a continuation of the low-density, peri-urban settlement pattern of the Apia suburbs. This development is particularly marked along the coastal road to the Faleolo airport, and also inland from that road in the new settlements in the Faleata area west of Apia. In the 2006 Census, this particular area recorded the largest net internal migration gain of any Faipule (electoral district), with 8,000 people living there who were born elsewhere in Samoa and only 1,600 people born there but living elsewhere in Samoa.

### The impact of the tsunami

The tsunami that hit Samoa on 29 September 2009 inflicted unprecedented damage on property and livelihoods, in addition to the deaths of 143 people and the injuries to more than 300 others. The report on the tsunami prepared by the Government of Samoa (GoS 2010) lists 850 households in 51 villages as being directly affected. Of these

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households, about 500 had their dwellings completely destroyed.

In addition, there was substantial damage to more than 50 beach fale tourism operators and half a dozen resorts, the loss of many fishing boats, and very substantial damage to public infrastructure (roads, water supply, electricity and telecommunications networks, seawalls, and wharfs). Estimates of the physical damage were in the order of US\$60 million (10 per cent of GDP), while the post-tsunami recovery plan is estimated to cost just more than US\$100 million (GoS 2010).

The report on the tsunami by the Government of Samoa gives a detailed inventory of the relief assistance consigned to the government, with descriptions of the contents of each shipping container or package. There are also details on the technical assistance received from each donor, along with details of each donation to the relief and rehabilitation fund. But this is mainly an accounting approach to monitoring and evaluation, which is unlikely to yield the insights that would be expected from a more thorough economic evaluation of the disaster and recovery.

Among the key questions that could be answered with an economically focused and comprehensive monitoring and evaluation approach to the tsunami relief and reconstruction effort are

- how much of the pledged aid was delivered
- of the delivered aid, how timely was the delivery
- of the delivered aid, how much reached the affected region and how much stayed in Apia
- of the aid that reached the affected region, how much reached the neediest households
- how large are the displacement effects of the aid, at macro and micro levels, in

terms of crowding-out private coping responses

- how large are the incentive effects of the aid in blunting investment responses to disaster risk?

Without understating the uniqueness of the tragedy and the human suffering, the September 2009 tsunami is an example of the kind of natural disaster to which Pacific island countries are highly vulnerable. It is therefore important to learn from the response to the tragedy so that relief and reconstruction responses to future disasters in the Pacific can be as useful as possible. The record in this respect is not good, with rumours of misappropriation of relief supplies following the Aitape, Papua New Guinea, tsunami in 1998 never able to be proven due to the lack of a formal monitoring effort. In the case of the food relief in Papua New Guinea following the 1997 drought and frosts, most aid arrived too late to be of value and might have disrupted the replanting of staple foods in the affected villages (Whitecross and Franklin 2001). This observation of late delivery of aid comes, however, from the pattern of private-sector activity (rice sales) rather than from a formal monitoring and evaluation of the relief effort, since there was, once again, no such evaluation.

The absolute tragedy of an event such as the 2009 tsunami should not be deemed grounds for ignoring the contribution that level-headed research can make to extracting lessons for dealing with other disasters in future. For example, research on mental health among survivors in Sumatra after the Boxing Day 2004 tsunami (Frankenberg, et al. 2008) showed that it was feasible to trace and interview a very high proportion of people who had previously resided in the affected areas. This research showed that the tsunami produced post-traumatic stress reactions, which could be ameliorated

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with counselling, not only among people directly affected but also among those living beyond the area of immediate impact. The broader research project that is monitoring the recovery effort after the Boxing Day tsunami also reveals the resiliency of the population, with much of the support in terms of money, goods and housing coming from existing social networks.<sup>6</sup> Monitoring and evaluation efforts that focus just on the formal recovery support, such as that offered by donors, could tend to ignore these informal sources of support and thus fail to identify the truly vulnerable.

In case a future monitoring effort is undertaken to understand better the economic impacts of the September 2009 tsunami and recovery, some baseline information is needed on the economic position of the population in the affected region before the disaster. Disaggregated estimates of annual household income and its components are available from the Samoa Labour Mobility Survey, which

was fielded only 10 months before the tsunami struck. This survey was designed to examine the impact on Samoan households of participating in seasonal and settlement migration. But it also provides a good basis for making inter-regional comparisons and for giving an indication of the economic position of the population in the tsunami-affected areas because it was fielded in 92 villages through Samoa.

Total household income averaged almost ST21,500 per household per annum at the time of the labour mobility survey (Table 3). The highest average incomes were in Apia and Northwest Upolu and were approximately ST6,000 higher than in the other two regions. These data are consistent with the evidence of net population movement out of Savaii and the rest of Upolu and into Apia and Northwest Upolu, and are also consistent with the pattern of food budget shares.

Earnings were the largest component of household income—accounting for

**Table 3 Household income estimates for main regions of Samoa and for areas affected by the September 2009 tsunami (tala)**

	Earnings	Ag/market income	Other income	Net remittance	Total income
Apia urban	18,082	750	745	2,484	24,046
Northwest Upolu	14,544	3,157	529	4,225	25,797
Rest of Upolu	6,046	4,457	638	2,839	18,589
Savaii	5,846	2,018	621	4,059	18,116
SAMOA	10,572	2,722	623	3,495	21,454
All tsunami-affected villages	4,597	2,292	628	3,503	15,613
Other	11,693	2,803	623	3,494	22,550
Tsunami-affected (10+ households)	5,905	1,879	663	2,086	14,825
Other	10,999	2,800	620	3,624	22,060

Note: Total income also includes the value of food that the household grew or caught.

Source: Author's calculation from Samoa Labour Mobility Survey data, with tsunami-affected areas shown in Figure 5.



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about one-half of the average, but being much less important in Savaii and the rest of Upolu. The net income from marketing crops, livestock, fish, handicraft activities, and other small-scale sales contributed just more than 12 per cent of total income, and was highest in the rest of Upolu. Net remittances—which take account of flows into and out of Samoa of both cash and goods—contributed just more than 16 per cent of total household income and were highest in Savaii at almost one-quarter of income. The other income component that is not reported in Table 3, but which is included in the totals, is household consumption of items that were produced or caught by the household. This source contributed just less than one-fifth of total household income, ranging from just more than 30 per cent in Savaii to just 8 per cent in Apia.

To establish which villages from the labour mobility survey were in the tsunami-affected region, the geographic coordinates of the survey villages were obtained and compared with the coordinates of the affected villages. The list of 51 tsunami-affected villages comes from the Government of Samoa report, since not all villages along the south coast of Upolu were affected by the tsunami, and some villages in other regions were affected. To allow for the approximate size of each village, a map was drawn with a 2.5 km buffer around the centre of the affected villages, and any survey villages (shown in Figure 5 by a ×) in that buffer are considered part of the affected region (Figure 5).

This procedure identified 11 of the villages from the labour mobility survey, containing 98 surveyed households, as part of the tsunami-affected region. The remaining region contains 81 villages with 522 surveyed households. These villages are not just along the south coast of Upolu. The average income of these households, prior to the tsunami, was approximately ST7,000

lower than the average for households in other areas of Samoa (Table 3). This gap was driven largely by lower earnings and by lower income from agriculture and informal-sector sales. Thus, it appears that the tsunami-affected villages were considerably poorer than the rest of Samoa and this must be borne in mind if subsequent surveys find that these villages remain poorer than average and attribute that to the tsunami or to an incomplete recovery and reconstruction effort.

Some villages contain only a few households affected by the tsunami, so as a robustness exercise the overlap between the group of tsunami-affected villages and the villages in the labour mobility survey was restricted to villages with at least 10 households affected by the tsunami. This restriction resulted in a much smaller subset of just 52 households from the labour mobility survey in these seriously affected villages. The gap in average income between this group and the households in the rest of Samoa was, however, just the same as before—about ST7,000. Thus, it appears clear that the tsunami-affected area was considerably poorer than average and was a region of considerable out-migration. These patterns need to be kept in mind for any future evaluation of the success of the reconstruction effort.

## Conclusions

For most of the decade from 1998 until 2007 the Samoan economy enjoyed steady rates of growth in GDP and employment, along with prudent fiscal and monetary policies and a growing engagement with external labour markets. Reforms in several parts of the economy had been either initiated or completed and the competent governance of these reforms had provided useful demonstration effects on

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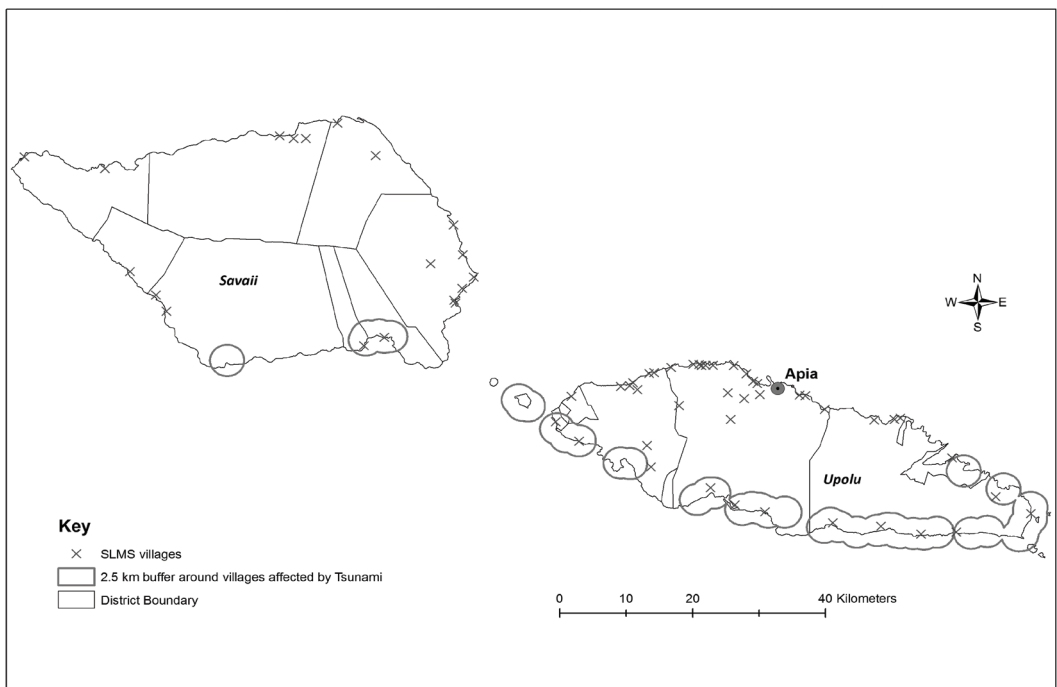
the feasibility of reform in other parts of the economy. Links with a key component of the Samoan economy—the Samoan diaspora overseas—had also been maintained or even strengthened due to reductions in the real cost of telecommunications and air transport, following the entry of private-sector competitors into these markets.

The strengths exhibited by the Samoan economy during this period of steady growth have been tested since 2007 by considerable volatility in economic activity, declining employment, rapidly rising prices, and major external economic and geographic shocks. The conventional responses in many larger economies faced with such shocks—of increased

indebtedness and fiscal adjustment along with a longer-term goal of promoting an export-led recovery—can be only partially transferred to the Samoan context. When goods exports are such a small share of overall economic activity—less than 5 per cent—the scope for increased export competitiveness to stimulate the wider economy will be limited.

Instead, the key supports of the Samoan economy remain aid, remittances and tourism. The strength of these supports was tested in a very rigorous manner by the shocks of 2008 and 2009. In all cases, the supports to the economy of Samoa appeared to withstand these challenges. Nevertheless, some key questions about the

Figure 5 Map of tsunami-affect areas and villages in the Samoa Labour Mobility Survey





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future viability of these supports remain, including

- can Samoa continue to benefit from donor engagement and competition, especially when models of aid delivery by some newly important donors result in positive shocks to stocks of public capital, such as government buildings, but have minimal impact on employment and economic activity
- will tourists continue to visit a destination that is vulnerable to natural disasters and that is becoming more expensive due to the real exchange rate appreciation created by a stable nominal currency and higher inflation than in several competitor countries
- for how long will the Samoan diaspora continue to remit and can technological developments introduce less-costly remittance services to maximise the development impact of the money sent to Samoa in case of future decay in the incidence or intensity of remitting by overseas Samoans?

## Notes

- <sup>1</sup> Money that is remitted to Samoa by seasonal workers while they are in New Zealand is captured by the remittance statistics gathered by the Central Bank of Samoa. Money that is brought back by the worker might be captured in the statistics if it is converted to tala at banks in Samoa. If instead the New Zealand dollars are converted to tala in New Zealand, they would not be captured by the remittance statistics. Estimates from the Samoa Labour Mobility Survey suggest that there is a 3:2 ratio of money remitted rather than repatriated; but the place of conversion for repatriated earnings is not known.
- <sup>2</sup> The RSE scheme is a 'New Zealanders first' scheme. Seasonal employers must demonstrate that no New Zealanders are available for the work before their application

to recruit RSE workers may be approved.

- <sup>3</sup> In an unnecessary complication, the per capita food poverty line is multiplied by the average household size in each region to create a region-specific household poverty line. Since larger households are poorer in per capita terms, there is always a systematic understatement of population-based poverty when results are presented in household terms. The 2008 poverty report uses both population-based and household-based poverty estimates, which is likely to be a source of future confusion.
- <sup>4</sup> The appropriate method would be to make a single reference group of the poorest 30 per cent irrespective of which region they are from, and where, ideally, inter-regional differences in the cost of living have already been taken account of before the ranking that identifies the poorest 30 per cent. If the resulting poverty rate turns out to be much different than 30 per cent, the process should be repeated, taking the initial poverty rate estimate as the proportion to use for forming the reference population (Pritchett, et al. 2001).
- <sup>5</sup> This comparison is based on Chart 6 of the report by SBS and UNDP (2010).
- <sup>6</sup> This observation is based on personal communications with Dr Jed Friedman of the World Bank.

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