

Monetary and exchange rate policy issues in Pacific island countries

Richard Wood

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ABSTRACT

Against the backdrop of the global economic crisis, this paper reviews the recent application of monetary and exchange rate policies for a group of Pacific island countries that have their own currencies. These countries are Papua New Guinea, Fiji, Solomon Islands, Samoa, Tonga and Vanuatu.

The global economic crisis impacted Pacific island countries principally through inflation, commodity prices and trade channels, and in some cases through remittances and tourism as well. Banking crises in the countries surveyed were avoided. High volatility in cross-border capital flows — evident in the East Asian region and elsewhere — was largely absent, and not a disruptive influence for most Pacific island countries.

During the global economic crisis, monetary policies in the surveyed Pacific island countries addressed multiple problems including high inflation, substantial changes in the terms-of-trade, exchange rate overvaluation, falling foreign currency reserves, balance of payments difficulties, rapidly changing liquidity and falling output. One of the objectives in this paper is to explore how monetary policy instruments were assigned to deal with these interrelated problems and the roles played by different exchange rate regimes in the context of short-term economic stabilisation.

A number of Pacific island countries with fixed exchange rates suffered a loss of exchange rate competitiveness and a fall in exports during the global economic crisis. One question that arises, therefore, is whether greater flexibility in exchange rates could have acted as a shock absorber in the short-term, and have enabled these countries to cope better with the crisis. It is concluded that greater downward exchange rate flexibility could have avoided a loss of competitiveness and currency overvaluation which would have worked to protect exports. However, greater exchange rate flexibility in response to the shock represented by the global economic recession may not have strongly countered the recession-induced decline in exports in the short-term, but could be expected to have favourable impacts over the medium to longer term.

For two countries — Fiji and Solomon Islands — exchange rates became substantially overvalued as the global recession exposed deeper underlying structural balance of payments difficulties. These countries face the challenge of restoring adequate and sustained internal and external balance in the period ahead. Policy options and assignment issues are reviewed.

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1. INTRODUCTION

In recent years monetary and exchange rate policies in Pacific island countries have been applied in response to a series of substantial external economic shocks — the sharp upsurge in international fuel and food prices (2007), the global financial crisis (2008) and the global economic recession (2009).¹ As well, some Pacific island countries also experienced climate-related disasters and internal shocks — floods, cyclones, political difficulties and, for Samoa and Tonga, a major tsunami in late 2009.

The economic performance of Pacific island countries during the global economic crisis has been mixed. Chart 1 illustrates changes in inflation and GDP, while Chart 2 shows levels of tourism, exports and remittances:

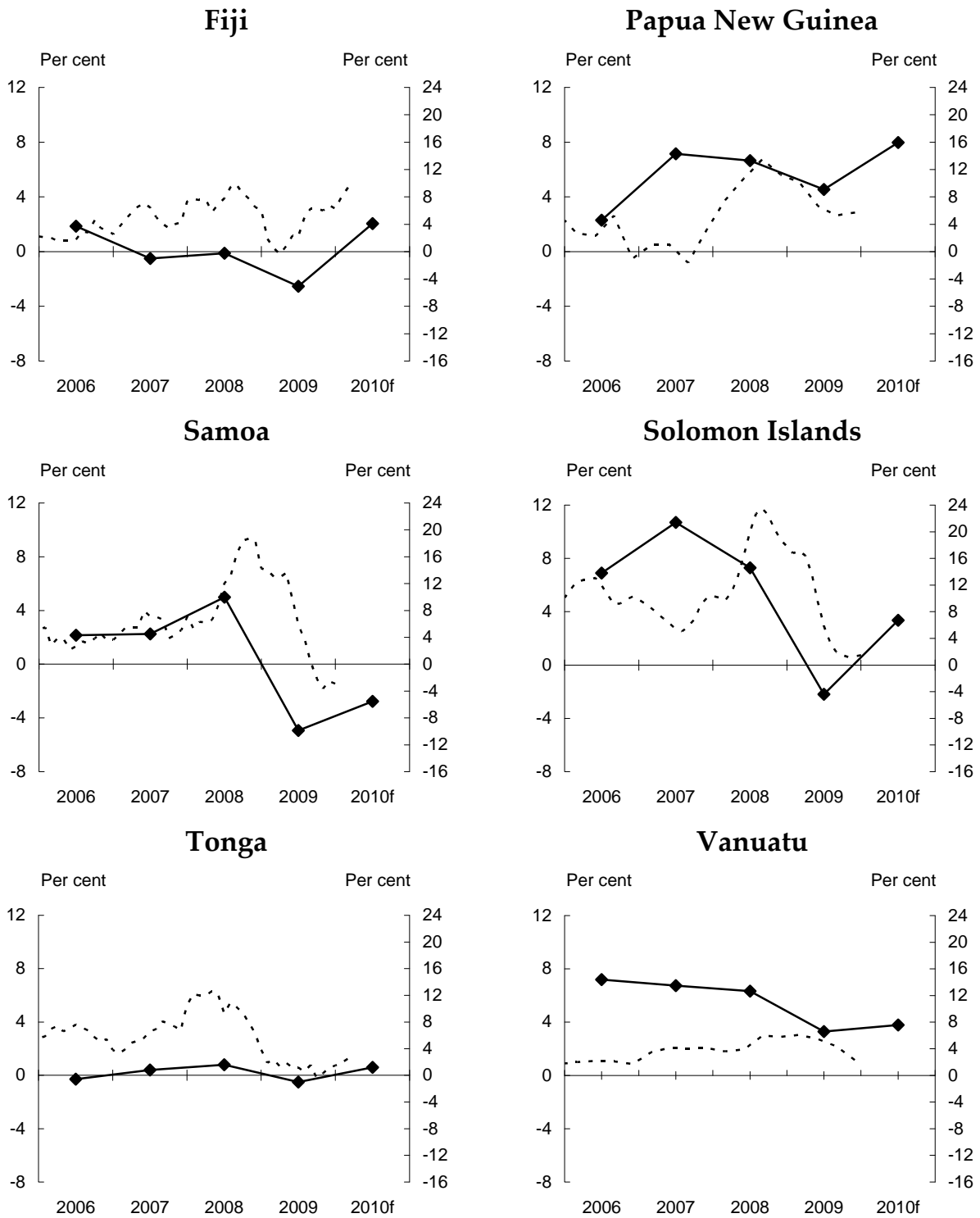
1. Inflation moved higher in most Pacific island countries during 2007 largely as a consequence of the upsurge in global food and fuel prices and strong credit growth. The inflation rate reached 24 per cent in Solomon Islands in mid-2008. Inflation then fell back sharply and substantially in most countries, particularly so in Solomon Islands and Samoa. Inflation increased again in Fiji during 2009 as a consequence of the 20 per cent currency devaluation earlier in that year.
2. Real GDP fell substantially in Samoa and Fiji and remained unchanged in Tonga. Real GDP growth slowed in other countries. Vanuatu and Papua New Guinea displayed very considerable resilience, both recording real GDP growth of around 4 per cent in 2009.
3. Except for Samoa, the value of exports generally strengthened during 2008, strongly so for Vanuatu and Solomon Islands. However, reflecting the global economic recession, exports contracted substantially across most countries during 2009, falling by between 22 per cent and 37 per cent.
4. Remittances were variable across countries, falling sharply in Fiji during 2008 but recovering during 2009. For Tonga, (where remittances are the equivalent of 36 per cent of GDP), the nominal value of remittances fell continuously, by 33 per cent through 2008 and 2009, due mainly to recessions in principal source countries, the USA (from where 60 per cent of remittances are derived) and New Zealand.

1 In this paper all three shocks, the food and fuel price upsurge, the global financial crisis and the global economic recession taken together are referred to as the global economic crisis.

5. Tourist arrivals fluctuated around a flat trend in Fiji but increased strongly in most other countries. Heavy discounting lowered earnings from tourism by 35 per cent for Fiji and Tonga.
6. The upsurge in food and fuel prices (which raised import costs in most countries), the global economic recession, a loss of key export market preferences, and appreciating real exchange rates (see Chart 3) all impacted adversely on balance of payments positions. Papua New Guinea experienced terms-of-trade volatility.

CHART 1: REAL GDP GROWTH AND INFLATION

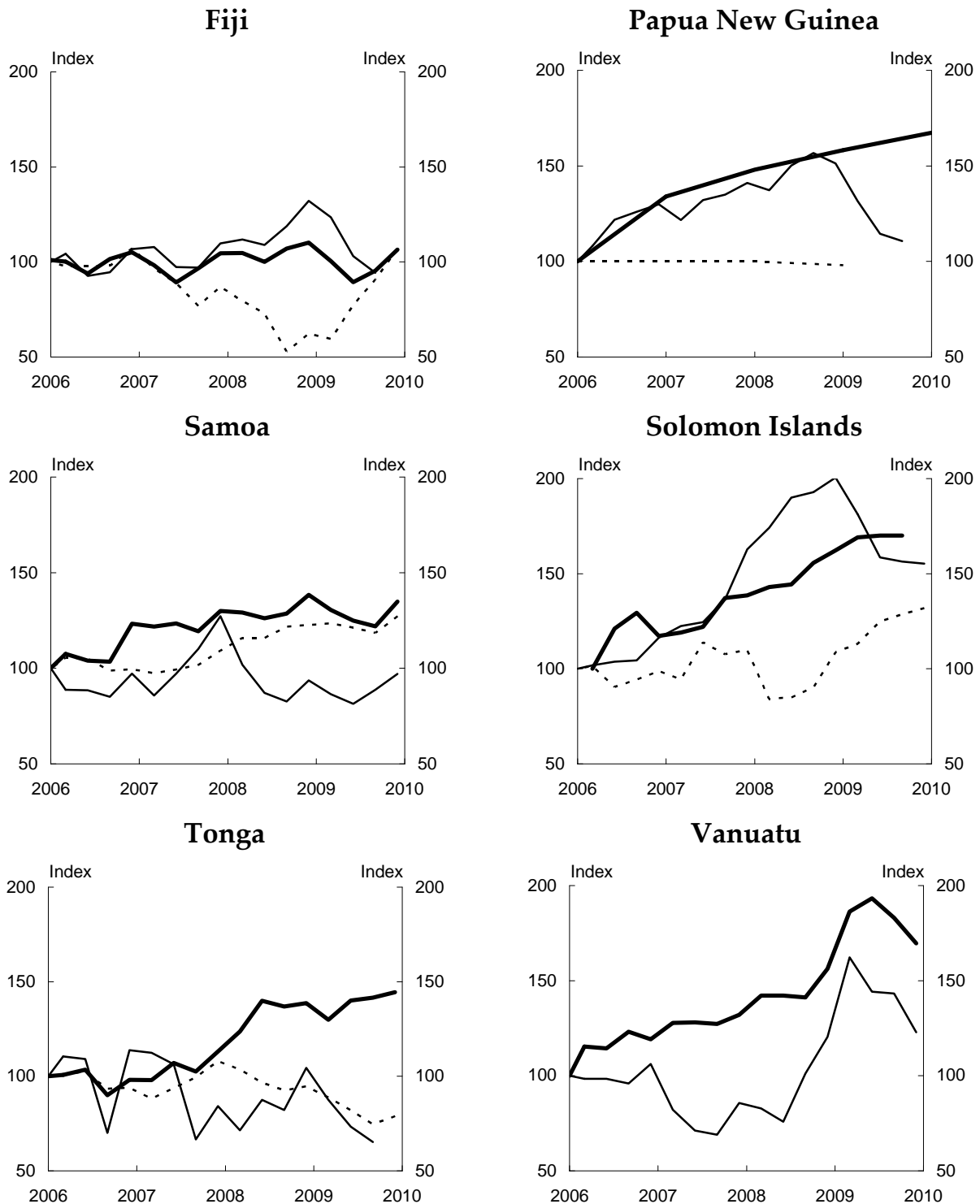
—◆— Real GDP growth (LHS) - - - - - Inflation (RHS)



Source: All GDP growth estimates have been sourced from the *IMF World Economic Outlook April 2010 Database*. Inflation estimates have been drawn from: *Reserve Bank of Fiji Economic Review*, April 2010; Reserve Bank of Papua New Guinea QEB database; *Solomon Islands National Statistics Office, Statistics Bulletin 2/2010*; Tonga Department of Statistics, March 2010; *Reserve Bank of Vanuatu, December 2009 Quarterly Review*; IMF IFS database. All inflation estimates are year-on-year percentage changes. Solomon Islands inflation is a 3-month moving average year-on-year percentage change.

CHART 2: REMITTANCES, TOURISM AND EXPORTS

..... Remittances — Exports (value) — Tourism (arrivals)



Sources: To reduce substantial short-term data volatility, all estimates are 3-quarter moving averages. IMF IFS database (Fiji exports, Samoa exports); World Bank staff estimates (PNG remittances); Central Bank of Samoa (all Samoa data); Central Bank of Solomon Islands, *Quarterly Bulletin December 2009*; National Reserve Bank of Tonga, *Quarterly Bulletin December 2009*; Reserve Bank of Fiji, *Economic Bulletin January 2010* (Fiji tourist arrivals, 2009); ADB Pacific Monitor database (Vanuatu exports, Fiji tourist arrivals, 2006-2008); World Bank, *EAP Update November 2009* (PNG remittances); Reserve Bank of Vanuatu, *Quarterly Review December 2009* (Vanuatu tourist arrivals); Reserve Bank of Papua New Guinea, *QEB database* (PNG exports). PNG remittances and tourist arrivals data are annual. Comprehensive remittances data for Vanuatu are not readily available.

2. MONETARY POLICIES DURING THE GLOBAL ECONOMIC CRISIS

Over many years the effectiveness of monetary policy in many Pacific island countries has been constrained by large subsistence sectors, shallow financial markets, limited private investment opportunities, sticky interest rates, limited financial arbitrage, oligopolistic commercial banking sectors, excessive levels of liquidity and, in some circumstances, pressure on central banks to finance budget deficits (monetisation).

Pacific island financial markets are not strongly or directly integrated into, or exposed to, international financial markets. The banking and financial sectors of Pacific island microstates² are relatively small, largely domestically funded and unsophisticated. The absence of bond and equity markets³ and strongly traded currencies means that during the global economic crisis Pacific island microstates were not subject to substantial changes in debt and equity cross-border capital flows. As well, the stability and continued strength of Australian commercial banks during the crisis meant that there were no substantial crisis-related financing, debt or credit implications for the offshore branches and subsidiaries of the Australian banks operating in the Pacific island region⁴. Reflecting these conditions, most Pacific island microstates surveyed in this article were largely immune from the worst transmission impacts of the second external economic shock, the *global financial crisis*.

Monetary policy authorities in most Pacific island countries adopted a generally cautious approach to monetary policy management during the global economic crisis. In line with the contemporary charters of central banks in Pacific island countries, the principal objectives of monetary policy during much of this period were to maintain an adequate level of foreign currency reserves and to contain and lower inflation. The scope to attempt a counter-cyclical monetary stimulus to lift economic activity — an objective not usually listed in central bank charters in these small island states — was largely precluded in 2008 and into 2009 by the need to address both of these higher priority problems (declining reserves and high inflation).

In pursuit of their objectives, central banks worked to change the growth in monetary and credit aggregates by selling or purchasing central bank securities in

2 Tonga, Samoa, Vanuatu, Fiji and Solomon Islands are classified as microstates, with populations less than 2 million persons, following P. Imam, 'Exchange Rate Choices of Microstates', *IMF Working Paper*, No. 10/12, 2010.

3 At end -2008, Papua New Guinea's Kina Securities Index was about 40 percent below its June peak, similar to the decline in international equity markets.

4 In the case of Tonga a weakening of bank balance sheets due to a worsening of credit quality coincided with the global economic crisis. As a consequence, banks maintained a tight lending stance following the loosening of monetary policy in 2009-2010 in order to strengthen their balance sheets.

open-market operations, changing requirements for commercial banks to hold funds in statutory reserve deposit and liquid asset accounts at central banks, and by imposing and removing credit ceilings. Some of these policy adjustments were designed to constrain aggregate demand and, through that channel, the demand for imports, taking pressure off the declining level of foreign currency reserves.

Changes in foreign currency reserve levels (see Box 1) not only have consequences for exchange rate pressures but they also have direct implications for the liquidity of the banking system⁵ and its management. In a managed exchange rate system foreign currency proceeds are sold to the central bank, with the domestic currency equivalent credited to the commercial banks' exchange settlement accounts, expanding the pool of funds available for lending. During the global economic crisis foreign currency receipts contracted and reserves fell in a number of Pacific island countries. As a result, the balances of exchange settlement accounts also fell and, in turn, fewer funds were injected into the banking system and demand deposits, resulting in lower liquidity. Injecting liquidity when reserves fell, and draining-off excess liquidity when it accumulated, proved to be a substantial function of monetary policy in Pacific island countries during the global economic crisis.

The management of interest rates also contributed to economic adjustment during the global economic crisis.⁶ However, the relatively large gap between lending and borrowing interest rates in some Pacific island countries complicates the task of using a policy interest rate as a means to impact inflation and smooth economic cycles, encourage savings, influence private investment and address large current account deficits.

By way of illustration, Solomon Islands has one of the widest spreads between lending and deposit interest rates in the Pacific islands region, around 10 to

5 A range of other factors (including swings in expenditure) can influence liquidity. For example, during 2009 high government spending and the location of trust funds with commercial banks (at a low interest cost) raised liquidity in Papua New Guinea. The subsequent transfer of some public trust accounts from commercial banks to the central bank is seen as one effective method to reduce liquidity in the commercial banking system. In the case of Vanuatu stronger growth in lending relative to deposits reduced liquidity. Provident funds represent a large proportion of financial sector assets in many Pacific island countries. They are generally restricted in their capacity to invest offshore, and some invest heavily in domestic deposits. As a consequence, provident funds can contribute substantially to domestic liquidity. Some central banks permit provident funds to purchase foreign assets to help reduce their impact on domestic liquidity. This stimulates commercial bank competition for deposits and reduces the need for the issuance of central bank securities. If currency reserves fall to low levels repatriation of provident funds offshore assets can be undertaken to increase reserves and liquidity (as with Fiji in 2009). Looking forward, the Liquefied Natural Gas project in Papua New Guinea can be expected to high government revenues which could drive liquidity higher and create economic instability unless a special offshore fund is established to regulate the pace at which the increased liquidity is injected into the domestic financial system.

6 There is little evidence to suggest that interest rate policy was used pro-actively to directly reduce cross-border capital outflows and protect foreign currency reserves.

13 percentage points.⁷ During 2009, while nominal lending interest rates remained static (around 15 per cent), real lending interest rates increased substantially (not conducive to borrowing and investment) as inflation fell sharply. Nominal deposit rates have for a considerable period been around one per cent and lower: currently they are around 4 per cent. Real interest rates on savings products were strongly negative during 2008 and into 2009 (not conducive to savings).⁸

While definitive conclusions cannot be drawn, high interest rate spreads in Pacific island countries are likely to reflect influences such as the small number of commercial banks, weak (bank and non-bank) competition and high after-tax profit margins, absence of secondary markets in government bonds and other savings options, high administration and intermediation costs, poor quality of loans, lack of collateral and high loan-loss provisioning, and relatively high financial and political risks.

Where it occurs, the combination of high levels of liquidity⁹, inadequately developed secondary markets for central bank and government securities, wide and largely unchanging interest rate spreads and slow pass-through of changes in policy interest rates to commercial interest rates, suggests that commercial interest rates may not be driven strongly by changes in economic conditions, the supply of money or the policy interest rate. With constrained transmission mechanisms¹⁰, macroeconomic variables may not be strongly responsive to changes in monetary policy. It follows that the ability of monetary policy to quickly offset the effects of economic shocks (such as the global economic recession) on economic activity by counter-cyclical monetary policy is likely to be limited.

Authorities in a number of countries sought to influence borrowing and lending interest rates during the global economic crisis. In Papua New Guinea, high inflation saw real lending interest rates fall substantially, from around 10 per cent in late 2007 to 4 per cent in September 2008. In order to tighten monetary conditions

7 In April 2010 the (lending/deposit) interest rate spread was 8.2 percentage points in Samoa and 7.7 percentage points in Tonga. In Papua New Guinea the spread was 8.0 percentage points in December 2009. In Fiji the spread was 6.7 percentage points in March 2010.

8 Particularly with limited access to commercial banks, unspent monies may be taken home and shared with persons of a shared community background, constraining private sector savings.

9 High liquidity reflects, inter alia, the lack of local investment opportunities, restrictions on capital outflows and compulsory savings in provident funds.

10 A number of academic studies suggest that the existence of stable monetary demand functions and inadequately developed capital markets in some Pacific island countries provide a basis to use monetary aggregates rather than interest rates as an instrument of policy. See T. Jayaraman and C. Choong, 'How Does Monetary Policy Transmission Work in Fiji?', *International Review of Economics*, 2009. See T. Jayaraman and J. Dahalan, 'Monetary Policy Adjustment in an Undeveloped South Pacific Island Country: A Case Study of Samoa', *International Journal of Monetary Economics and Finance*, 2008. Also, see R. Singh and S. Kumar, 'Some Empirical Evidence on the Demand for Money in the Pacific Island Countries', *MPRA Paper*, No. 18703, November 2009.

and to address high inflation and strong credit growth, the policy interest rate was raised from 6 to 8 per cent in the second half of 2008.

Vanuatu, with relatively well-developed financial markets, sought (in September 2008) to raise commercial interest rates by using market forces (that is, by raising the rediscount rate) to address inflation and strong credit growth. The rediscount rate was lowered shortly thereafter as liquidity tightened.

In order to support credit growth and stimulate economic activity, Tonga reduced the repurchase facility interest rate from 10 per cent to 4.5 per cent during 2009 as inflation slowed and foreign currency reserves increased. Samoa lowered the lending interest rate from 7.8 per cent to 5 per cent to address flagging demand, sliding confidence and falling real GDP.

A reversion to moral suasion¹¹ occurred in Fiji when in April 2009 the monetary authority mandated that commercial banks lower lending interest rates and interest rate spreads.¹² However, this mandate created new financial risks for the commercial banks. As a consequence uncertainty increased, the profitability of banking operations was adversely impacted, credit growth slowed, lending was reprioritised toward lower risk borrowers and overall bank lending declined.

In summary, partly as a result of monetary policy adjustments, foreign currency reserves in Pacific island countries were generally maintained above target levels during the global economic crisis (see Box 1) except for Fiji and Solomon Islands. Liquidity swings were addressed, and credit growth slowed over the course of 2009, particularly in Solomon Islands, Samoa, Tonga and Papua New Guinea where credit growth had been excessive. Inflation fell back across the region during 2009, sharply so in some cases (see Chart 1), due to reduced credit growth and firm monetary policy, the retreat in food and fuel prices and weaker domestic demand.

11 Prior to December 2006 the Reserve Bank of Fiji conducted open-market operations in RBF securities with the 91 day yield to maturity rate being the policy indicator rate.

12 The Reserve Bank of Fiji directed that the weighted average lending rates of commercial banks be kept at the level prevailing at the end of 2008 and that the interest rate spread of banks be reduced to 4 per cent or less by the end of 2009.

Box 1: Foreign Currency Reserves

- (a) Table 1 below reports actual and target levels of foreign exchange reserves measured as months of import cover over recent years. International reserves may be accumulated for a number of reasons including for precautionary self-insurance purposes, to pursue monetary policy and exchange rate policy objectives or as a consequence of policy designed to create an undervalued currency. Reserves create a buffer that may be used to cushion the domestic economy from adverse external shocks, service foreign debt, manage volatile current and capital account transactions, reduce the costs of external borrowing, intervene in exchange rate settings and defend exchange rates.
- (b) Reserves declined in most Pacific island countries during 2008 and into 2009 suggesting that they played a cushioning role in the face of external shocks when exchange rates remained fixed. However, reserves fell below target levels in Fiji and Solomon Islands. Fiji subsequently raised its reserve target from three months of import cover to five months of cover. During August and September 2009 the IMF allocated new special drawing rights (SDRs)¹³ to IMF member Pacific island countries (equivalent to US\$ 370 million)¹⁴, effectively raising their holdings of foreign currency reserves. Import compression, higher remittances and increased tourism receipts contributed to the build-up in reserves during 2009 in some countries. Solomon Islands and Tonga continued to build reserves into 2010.

Table 1: Official Foreign Currency Reserves (Months of Import Cover)

	Reserves target	End 2007	End 2008	2009	2010
Fiji Islands	5	4.4	2.9	1.3 (Apr) 3.0 (Sep) 3.7 (Dec)	3.4 (Apr) 3.1 (May)
PNG	No target	13.0	10.9	9.7 (Mar) 10.0 (Sep) 15.0 (Dec)	
Samoa	4	4.7	4.4	5.1 (May) 6.5 (Aug) 8.0 (Dec)	
Solomon Islands	3	3.7	2.5	3.2 (May) 4.8 (Oct)	7.2 (Feb) 6.5 (Mar)
Tonga	3-4	4.4	4.8	4.6 (May) 5.1 (Jun)	6.4 (Feb) 6.3 (Apr)
Vanuatu	4	7.0	5.8	5.3 (Sep) 6.0 (Dec)	

Sources: Asian Development Bank (ADB), 'Taking the Helm: A Policy Brief on the Response to the Global Economic Crisis, 2009; *Pacific Economic Monitor*, ADB, August 2009; Tonga Ministry of Finance and National Planning, *At a Glance*, June 2009; Various Monetary Policy Statements; Sada Reddy, Presentation to the Public and Private Sector Consultative Forum on the 2010 Budget, Fiji, September 2009; Central Bank of Samoa, *Monetary Policy Statement 2009/2010*; National Reserve Bank of Tonga, *Monetary Policy Statement*, September 2009.

13 The SDR is an international reserve asset allocated by the IMF to IMF-member countries. SDRs are recorded as part of a country's official foreign currency reserves and are readily convertible into foreign currency held by

Particularly where financial markets are shallow and money demand functions are relatively stable, changes in money and credit aggregates and reserves held with central banks may be appropriate instruments to use when seeking to influence foreign currency reserves, liquidity, inflation and economic activity. To the extent that markets for securities are sufficiently deep and mature, and intermediation and arbitrage are effective, greater reliance may be placed on open-market operations and a nominated policy interest rate to determine commercial interest rates and influence macroeconomic variables¹⁵. Monetary policy effectiveness might generally improve over time as financial markets are subject to further development. Desirable advances would include:

1. development and deepening of inter-bank markets and secondary markets for government and central bank securities;
2. the introduction, where appropriate, of new central bank short-term bill facilities to assist commercial banks stabilise liquidity;
3. greater competition in the banking sector;
4. greater offshore investment, further investment diversification and greater integration with domestic financial sectors by provident funds;
5. greater financial inclusion and increased access by borrowers and lenders to financial services, including through the further development of deposit facilities, micro-finance opportunities and related innovation; and
6. avoidance of the direct administration (mandating) of borrowing and lending interest rates.

another IMF member.

14 SDR allocations to Pacific island countries included Fiji (US\$94 million), Solomon Islands (US\$14.6 million), Kiribati (US\$8.4 million), Republic of Marshall Islands (US\$5.2 million), Federated States of Micronesia (US\$7.6 million), Palau (US\$4.7 million), Papua New Guinea (US\$183 million), Samoa (US\$15.7 million), Tonga (US\$10.4 million) and Vanuatu (US\$25.6 million).

15 In May 2010 the Reserve Bank of Fiji announced a decision to implement a new market-based monetary policy framework. Under the new framework the Reserve Bank will set an overnight policy rate to signal the stance of monetary policy. The overnight policy rate will serve as the target rate at which the commercial banks will lend to each other in the interbank market, influencing the commercial banks' borrowing and lending interest rates. See Reserve Bank of Fiji, Press Release, 17/2010, 14 May 2010.

Box 2: Monetary policy flexibility

During the global economic crisis monetary policies have needed to adjust to rapidly changing circumstances.

- During 2008 and into 2009 monetary policy was tightened in a number of countries (Tonga, Papua New Guinea, Solomon Islands and Vanuatu) to address rising inflation resulting from the food and fuel price hike, respond to strong credit and domestic demand growth, and to drain off excess liquidity.
- A number of countries maintained their tight monetary policy stance through 2009 to contain inflation and to address falling foreign currency reserves (Tonga and Solomon Islands), and to deal with high fiscal spending, excess liquidity and devaluation-induced imported inflation (PNG).
- In Vanuatu the global economic recession impacted exports and lowered foreign currency reserves. An acceleration in lending and relatively stable deposits caused liquidity in the banking system to tighten. Monetary policy was eased in December 2008.
- In early 2009, as the global economic recession impacted on foreign currency inflows, Fiji faced serious economic problems: a contraction of economic activity, an overvalued exchange rate, falling foreign currency reserves and tightening liquidity. Faced with conflicting objectives the Fiji authorities devalued the *Fiji dollar*, tightened foreign exchange controls, eased monetary policy and mandated that commercial banks lower their lending interest rates and the margins between borrowing and lending interest rates. The easing of monetary policy sat awkwardly with the need to control inflation and to constrain the demand for imports in order to achieve an improved balance of payments position.
- During the course of 2009, monetary policy was eased to increase liquidity and stimulate economic activity in Samoa, Solomon Islands and in Tonga; following a period of weakening GDP, declining inflation and weak credit growth.
- Toward the end of 2009 liquidity was increasing strongly in Fiji. The statutory deposit (SRD) ratio was raised from 5 per cent to 7 per cent in December 2009, and the Fiji authorities announced that credit ceilings would be removed, interest rate directives issued in April 2009 would be lifted and that some currency controls would be eased. On May 3 2010, minimum capital adequacy requirements were raised from 8 per cent to 12 per cent for banks and from 10 per cent to 15 per cent for licensed credit institutions. The SRD ratio will be raised again to 8.5 per cent on 7 June 2010.

3. BALANCE OF PAYMENTS DIFFICULTIES

Balance of payments *difficulties* may develop slowly over time and can result from developments such as a progressive loss of key export markets, high and rising import dependency, declining capital inflows, rising foreign debt, unsustainable current account deficits, sustained currency overvaluation and banking sector weaknesses. These *difficulties* can become acute where foreign loans become inaccessible and international reserves fall to such a low level that they cannot cope with import and export fluctuations or reductions in net capital inflow.

Growing current account deficits are usually a precursor to balance of payments difficulties. Funding of current account deficits requires capital inflows, other net currency inflows or a drawdown in foreign currency reserves. Some Pacific island microstates are heavily dependent on imports (including necessities, food and fuel) which far outstrip their export capacity.¹⁶ As well, microstates often have small public and private domestic savings relative to investment needs. To compensate for inadequate domestic savings and to maintain standards of living, foreign borrowings may rise, current account deficits may increase and there may be greater reliance on foreign aid flows. These savings-and-capital-poor countries may have difficulty in financing current account deficits if foreign currency inflows are disrupted. Internal and external economic shocks may also bring underlying financing difficulties to a head by reducing foreign investment, exports, remittances and tourist receipts; impacting adversely on domestic savings; or requiring increased imports. In these circumstances, the capacity of governments to increase foreign currency borrowings from private sources and other governments usually diminishes (and borrowing costs escalate) as credit ratings¹⁷ decline and sovereign risk increases.

In one respect Pacific island microstates have some protection against balance of payments and currency crises as their currencies are generally not heavily traded internationally, and there is normally an absence of substantial speculative, short-term, cross-border capital flows. Currency attacks are relatively rare in microstates.¹⁸ That said, reversals of net capital inflow can occur, for example due to confidence effects or if domestic interest rates get substantially out of line with

16 For example, Tonga's exports were \$US 12 million in 2007/2008 but imports were \$US 138 million. For Samoa, merchandise exports were \$US 11 million in 2007/2008 but merchandise imports were \$US 204 million. For Fiji, exports were \$US 944 million in 2008 but imports were \$US 2052 million.

17 Some Pacific island countries (for instance, Solomon Islands, Vanuatu and Samoa) had no country or government bond credit ratings by Moody's in 2008. See P. Imam, 'Rapid Current Account Adjustments: Are Microstates Different', *IMF Working Paper*, WP/08/233.

18 See 'Exchange Rate Choices in Microstates', P. Imam, *IMF Working Paper*, WP/10/12, January 2010.

foreign interest rates, or if domestic savings and unremitted profits of foreign-owned banks and other companies are sent offshore, draining foreign currency reserves. If difficulties become acute and foreign reserves drop down below safe levels a crisis can ensue, investor sentiment can plunge, capital flight can gain momentum and confidence in the exchange rate can collapse, undermining the credibility of the fixed exchange rate regime and the ability of the currency to serve as a medium of exchange or a store of value.

As balance of payments difficulties intensify, and the scope for monetary policy action becomes increasingly constrained by the need to protect foreign currency reserves, countries with fixed exchange rates may decide to ration imports or impose or strengthen capital and foreign exchange controls on outflows (including, for example, limits on profit, dividend and capital remittances abroad). Directives may also be issued to repatriate funds and assets held offshore. In the short-term, the tightening of foreign exchange and import controls may retain local savings for domestic use, protect the fixed exchange rate and foreign currency reserves, and take some pressure off the need for monetary policy adjustment. However, aggressive, extensive and long-lasting controls are generally undesirable, as they can deter foreign investment; cause infrastructure to be run down (as imports of machinery and spare parts are cut-back) with additional consequences for exports; reduce business confidence; cause distortions in the pattern of imports according to the pattern of government controls and, in extreme cases, lead to currency inconvertibility. Other potential costs with capital, import and foreign exchange controls include a loss of economic efficiency, an on-going contraction in economic activity, a decline in living standards and an increase in poverty. If conditions continued to deteriorate and the exchange rate remained fixed then exchange rate pressures are likely to precipitate the development of a black market in the currency, and (often related to this), an official exchange rate that is out of line with economic fundamentals if the controls are sufficiently broad to disrupt the demand and supply of foreign currency.

Foreign currency reserve levels fell below target minimum levels for both Fiji and Solomon Islands in early 2009 (see Table 1 Box 1). Fiji's foreign currency reserves fell to around one month of import cover in April 2009. In Solomon Islands reserves fell to 2.5 months of import cover in February 2009. To address this situation in Fiji, the *Fiji dollar* was devalued by 20 per cent, foreign currency controls were tightened and import restrictions applied.

Foreign currency reserve levels subsequently increased in both Fiji (equivalent to one month of import cover) and Solomon Islands (by half a month of import cover) as a direct consequence of a general allocation of Special Drawing Rights (SDRs) made by the IMF in August/September 2009 as part of the international response to

the global financial crisis. Reserves have since risen strongly in Solomon Islands due partly to strong donor aid flows and weaker import demand, but the current account deficit is expected to increase very substantially in the years ahead to reach 31 per cent of GDP in 2010 and 35 per cent of GDP in 2014¹⁹. Reserves remain below their raised target level in Fiji (see Box 1). The balance of payments outlook for both of these countries remains fragile, and their ability to cope with further shocks is limited.

When facing severe balance of payments difficulties (see Box 3), and assuming that foreign currency borrowing is not an option (because of high default risk), decisions are required on the extent to which reliance will be placed on:

- (a) *expenditure-reduction* policies (restrictive monetary and fiscal policies) to lower domestic expenditure, consumption and investment relative to domestic savings, and to reduce the demand for imports, or
- (b) *expenditure-switching* policies (for example, devaluation, import tariffs, import rationing, and import replacement and export subsidies) designed to stimulate exports and economic growth, reduce import dependency and lower the trade and current account deficits.

For countries with a fixed (pegged) exchange rate regime devaluation may be warranted as a means to attempt to avoid a looming balance of payments crisis. In this case the exchange rate adjustment could work to reduce the prices of all domestic goods to foreigners, increase exports and reduce some of the volatility in foreign currency reserves, and conserve reserves. If the devaluation is successful, the authorities may eventually have greater independence in the conduct of macroeconomic policies. However, for maximum success from devaluation, unit wage costs need to be kept stable and monetary policy should remain tight to avoid any *second round* inflation consequences arising from the devaluation. Where unit wage costs are kept stable, real unit wage cost levels fall to the extent that imported inflation (from the devaluation) is passed through into higher general inflation. If unit wage costs are increased and inflation is boosted then the competitiveness gains from the devaluation will be undone.

If an IMF-member country is experiencing severe balance of payments difficulties and reserve depletion is advanced that country may request assistance from the IMF. Under this approach the IMF may provide a loan to the country in exchange for macroeconomic policy conditionality. IMF financing, usually with structural adjustment-related financing support from the multilateral development banks or other donors, involves commitment to appropriate economic stabilisation policy

19 See IMF Article IV Staff Report, Solomon Islands, November 2009.

objectives, provides for economic and balance of payments adjustment and seeks to avoid a crisis, allowing the capacity for loan repayment to develop within a reasonable period of time.

Box 3: Balance of payments problems

- (a) In 2008, as they entered the global crisis, Fiji and Solomon Islands had the largest current account deficits among Pacific island countries (around 18 per cent of GDP). The adverse effects of the global economic recession on foreign currency earnings exacerbated and exposed underlying weaknesses in their balance of payments.
- (b) Fiji's terms-of-trade have been in continuous decline since 2003. Fiji is losing EU trade (price) preferences that it previously relied upon for sugar export income. Some sugar mills are dysfunctional and loss-making, sugar sector reforms have been inadequate, many sugar cane land leases have not been renewed, and both output and productivity in the sugar sector have been falling. Sugar exports are at historically low levels. The garment industry is in decline due to World Trade Organization requirements. Tourism receipts and exports of gold have fallen. Remittances fell substantially during 2008.²⁰
- (c) Heightened political and economic uncertainty following the *coup d'etat* in 2006 and the later abrogation of the Constitution, the introduction of emergency regulations, the revocation of all political appointments and subsequent credit downgrades detracted from underlying competitiveness and the attractiveness of Fiji for tourism and foreign investment. Foreign investment in Fiji has been adversely impacted with the number of foreign investment registrations falling from 441 in 2006 to 245 in 2008, representing a sharp decline (around FJ\$600 million²¹) in the value of possible foreign investments. It is uncertain how many registrations will be implemented.
- (d) In the case of Solomon Islands there is a *de facto* peg to the US dollar. The foreign currency reserves of Solomon Islands were adversely impacted when the US dollar appreciated during 2008 and the revaluation effects took their toll on non-US dollar denominated holdings. Solomon Islands is facing lower timber production and exports due to resource depletion. Private capital inflow fell and profit repatriation by foreign-owned companies has risen significantly. The current account deficit is expected to rise from around 20 per cent of GDP in 2009 to more than 30 per cent of GDP in 2010.²² Solomon Islands also faces a serious budget problem.
- (e) Both Fiji and Solomon Islands maintain fixed nominal exchange rates, which became increasingly overvalued during 2008 and into 2009.

20 The causes of the slump and subsequent rise in remittances in Fiji are unclear. It is conceivable that growing expectations of devaluation during 2008 led to remittances being held back until after the devaluation.

21 See Republic of Fiji, *Economic and Fiscal Update: Supplement to the 2010 Budget Address*, 'Strengthening the Foundation for Economic Growth and Prospects', November 2009.

22 See IMF, *Regional Economic Outlook: Asia and the Pacific*, April 2010.

4. EXCHANGE RATES

4.1 Exchange rate overvaluation

For some analytical purposes the real exchange rate is defined as the ratio between the prices of non-tradeable goods to the price of tradeable goods. For many practical purposes the real exchange rate between two countries, or between one country and a group of trading partner countries, is approximated by estimating the nominal exchange rate adjusted for the inflation difference between the home country and other countries. Movements of the real exchange rate in response to economic shocks and changing economic circumstances at home and abroad provide relative price signals that work to adjust the balance between the production of traded and non-traded goods and services. The exchange rate movement (depending on its direction) may have a positive or negative effect on inflation, exports, imports and the balance of payments.

For the purposes of this paper, a real exchange rate is neither undervalued nor overvalued (that is it is not misaligned but at an *equilibrium competitive level*) when it is consistent with a given set of *economic fundamentals* over the medium to longer term.²³ Different sets of fundamentals can produce different *equilibrium competitive* real exchange rates, and consequently estimation can be subject to considerable judgment and possible error.²⁴ In one model economic fundamentals are based on the assumption that the country achieves both internal and external balance. Internal balance is represented by full employment and price stability. External balance requires that the balance of payments position is sustainable over the medium term, ensuring desired net flows of resources and external debt sustainability. Other methodologies for determining the *equilibrium competitive* real exchange rate include influences such as the terms-of-trade, relative labour productivity, interest rate differentials and net foreign assets in the set of economic fundamentals.

The move to an *overvalued real exchange rate* by an appreciation in the nominal exchange rate leads to lower imported inflation, and this benefit may, at the time it

23 The real exchange rate is often used as a measure of price competitiveness and its value derives entirely from changes in the nominal exchange rate and domestic and foreign inflation rates. The overall real competitiveness of a nation embraces a much wider set of parameters (than the exchange rate) that underpin a country's capacity to be successful in international trade, including productivity, technology, delivery times and the skills of the labour force. It remains unclear to what extent, and at what speed, such developments in the real competitiveness of a nation come to be reflected in exchange rate changes.

24 The IMF uses three different estimation techniques to determine if an exchange rate is overvalued or undervalued: the macroeconomic balance approach, the equilibrium real exchange rate approach and the external sustainability approach. See IMF, 'The Equilibrium Exchange Rate: Alternative Concepts and their Application to IMF Surveillance', *Background Document III, An IEO Evaluation of IMF Exchange Rate Policy Advice, 1999-2005*.

takes place, appear attractive to governments, particularly if domestic inflation is high and there is uncertainty about the ability of interest rate policy to lower inflation.

As well, countries with a fixed exchange rate regime may use the nominal exchange rate as an *anchor* against inflation. Authorities in these countries may be reluctant to change the fixed nominal parity (by devaluation) to avoid overvaluation (of the real exchange rate) in circumstances where inflation is rising faster than in trading partner economies and the current account is deteriorating. This policy preference may reflect a belief that the benefits from lower inflation exceed the uncertain short-term trade benefits from devaluation.

However, broadly-based overvaluation usually detracts from export competitiveness, and makes imports cheaper, thus contributing to larger trade and current account deficits and, in the Pacific island context, to even greater import dependency. Reflecting the nature of currency pegs and invoicing practices, some sectors of the tourism industry may be adversely affected by overvaluation. Overvaluation of the real exchange rate slows productivity growth and is not usually associated with growth acceleration.²⁵ Persistent and substantial overvaluation makes the economy weaker and more dependent on foreign capital inflows, but encourages outflows of foreign exchange and may presage a growing shortage in foreign currency reserves: related speculation may then trigger capital flight. With current and capital accounts adversely impacted, monetary policy and capital controls would need to be tightened to lower import demand and to check the capital outflow. During such 'overvaluation' episodes private sector investment and output growth could be seriously weakened.

If left unaddressed substantial overvaluation of the real exchange rate is likely to result in devaluation of the nominal exchange rate being forced on the government during an inevitable balance of payments crisis. Large one-off devaluations of this type, following a period of substantial overvaluation, may contribute to sharply higher imported inflation (as can be observed in the case of Fiji in Chart 1), abrupt disruption to established industry structures and higher unemployment in the short-term.

4.2 Real effective exchange rates

Where exchange rates are based on a basket of currencies, the *nominal effective exchange rate* is the exchange rate of the domestic currency vis-à-vis the basket

25 See R. Hausmann, L. Pritchett and D. Rodrik, 'Growth Accelerations', *NBER Working Paper*, No 10566, July 2004. Also see P. Aghion, P. Barchetta, R. Ranciere and K. Rogoff, 'Exchange Rate Volatility and Productivity Growth: The Role of Financial Development', *NBER Working Paper*, No. 12117, March 2006.

currencies, weighted by the shares of the basket country's trade in the domestic country's trade. The *real effective exchange rate* is the exchange rate of the domestic currency vis-à-vis the basket currencies that also takes account of differences in inflation rates between the domestic country and trading partners.

Chart 3 illustrates the movements in the real effective exchange rates for selected Pacific island countries before and during the global economic crisis. As can be observed, exchange rates became *overvalued* across a number of Pacific island countries during the global economic crisis.²⁶ *Overvaluation* occurs when the real exchange rate moves above its longer-term *equilibrium competitive* value. If foreign currency reserves establish a strong downward trend and fall below a target minimum level, say three or four months of import cover (a widely used benchmark for developing countries exposed to external economic shocks), it is likely that the currency is substantially overvalued – particularly if the current account deficit is unsustainably high and foreign debt is excessive.

Care is required when interpreting movements in real effective exchange rates. It cannot be concluded (without further analysis) that depreciation (a fall) of the real effective exchange rate over time is a good thing (as it reflects increased exchange rate competitiveness) or that an appreciation (a rise) over time of the real effective exchange rate is necessarily a bad thing (on the basis that it reflects a loss of exchange rate competitiveness). A rise in the real effective exchange rate could reflect a loss of competitiveness that should be of concern, or it could reflect an improvement in economic performance that should be welcomed.

The real effective exchange rate may rise because inflation is higher in the domestic economy than in trading partner countries.²⁷ However, the real effective exchange rate may also rise (or fall) because of an increase (decrease) in the *nominal* effective exchange rate. A rise in the nominal effective exchange rate could, for instance, reflect an increased demand for local currency due to improvement in the country's *economic fundamentals* (for example, increased productivity, an improved terms-of-trade, effective structural reforms, a lower cost structure, a lower trade deficit or higher savings). Consequently, before making a judgement in any particular case, it is necessary to estimate that level of the real effective exchange rate which is consistent with the country's economic fundamentals: as earlier described, we call this the *equilibrium competitive* exchange rate. Armed with this

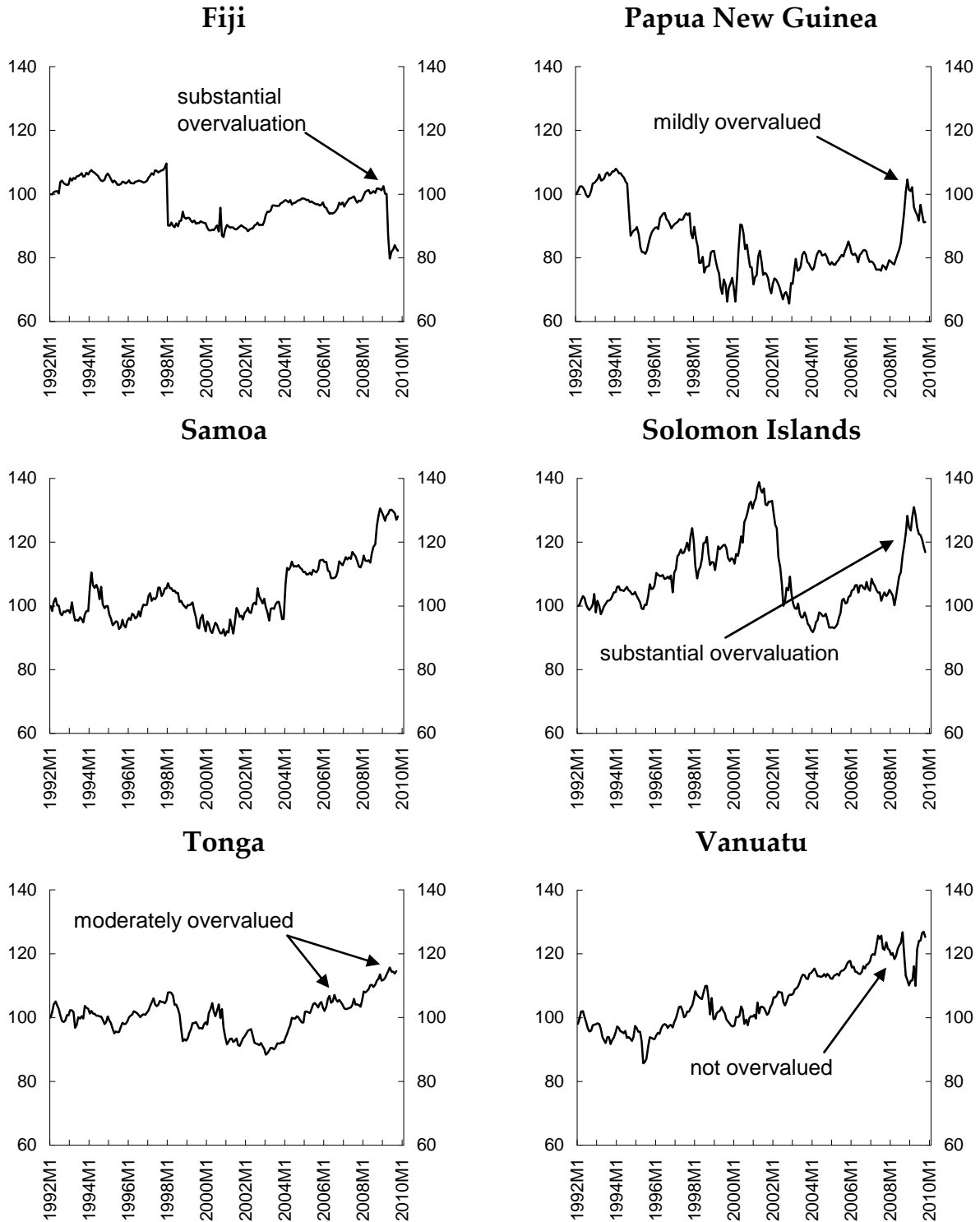
26 This overvaluation is in contrast to the undervaluation reported for many Asian developing economies. See *Asian Development Bank Economic Outlook 2010*, ADB, April 2010, page 69.

27 The sharp surge in food and fuel prices in 2007 contributed to higher domestic inflation, a rise in the real effective exchange rate and a loss of competitiveness. Imports became more expensive, particularly food and fuel imports. To the extent that the rise in inflation is entirely due to the higher prices of imported food and fuel prices, the exchange rate competitiveness of export products and export services (that do not use imported food or fuel as inputs) will not be as adversely impacted as would otherwise be implied by the rise in the real exchange rate.

estimate one can compare the *actual* real effective exchange rate with the estimated *equilibrium competitive* real effective exchange rate to determine if the actual real effective exchange rate is undervalued or overvalued, or around its equilibrium competitive level.

Chart 3 indicates that some Pacific island countries had rising real effective exchange rates before the global economic crises developed and, based on IMF estimates reported in relevant published IMF Article IV Consultation Staff Reports, a number of countries experienced overvalued exchange rates during the crisis. The experience of some Pacific island countries — a tendency toward currency overvaluation and the potential for net capital outflow — stands in contrast to that of developing Asian countries which experienced currency undervaluation and, in some cases, excessive capital inflow.

CHART 3: REAL EFFECTIVE EXCHANGE RATES



Source: International Monetary Fund, *International Financial Statistics Database, 2010*; relevant published IMF Article IV Consultation Staff Reports. The descriptors for overvaluation shown in the above charts are taken from the IMF Article IV Consultation Staff Reports. For Samoa there are no recently published estimates of any currency misalignment.

4.3. Fixed (pegged) exchange rates

Tonga, Samoa, Vanuatu, Fiji and Solomon Islands (all microstates)²⁸ operate fixed (pegged) exchange rate regimes.

Solomon Islands has a *de facto* peg against the United States dollar. Other countries (Fiji, Vanuatu, Samoa and Tonga) peg their currencies to a basket of currencies of other countries. For example, the basket currencies for the Fiji dollar are those of Fiji's major trading partners, Australia, New Zealand, the United States, the United Kingdom, Germany and Japan. For Samoa and Tonga there is a margin — a horizontal band — in the pegged arrangements that provides the opportunity for the authorities to move the exchange rate within the band. For Samoa the margin is plus or minus 2 per cent, while for Tonga the margin is plus or minus 5 per cent per month around the central rate.

Under a fixed exchange rate system the monetary authority maintains the pegged parity through direct intervention (that is, via sale/purchase of foreign exchange in the market) or indirect intervention (for example, via the use of interest rate policy, imposition of foreign exchange control regulations, import restrictions, moral suasion or through directives to other public institutions). For many Pacific island countries fixed (pegged) exchange rates, rather than monetary aggregates or specific inflation rate targets, have served as the *inflation anchor*²⁹ during the global crisis period.

Fixed (pegged) exchange rate regimes are generally thought to be associated with lower transaction costs, greater certainty, lower real exchange rate volatility, higher trade openness, disciplined macroeconomic policies and relatively low growth of monetary aggregates, a better inflation performance³⁰ and stronger inflation anchors. It has been argued that countries with pegged exchange rates may benefit from lower inflation and greater policy credibility if the country to which the peg is struck has low inflation.³¹

28 Papua New Guinea is not classified as a microstate, as its population is greater than 2 million persons.

29 Papua New Guinea, with a managed floating exchange rate regime, relies on monetary aggregates and exchange rates to anchor inflationary policies.

30 See A. Husain, A. Mody and E. Suss, 'Exchange Rate Regime Durability and Performance in Developing Versus Advanced Countries', *Journal of Monetary Economics*, 2005. Also, see A. Ghosh, A. Gulde, J. Ostry and A. Wolf, 'Does the Nominal Exchange Rate Matter?' *NBER Working Paper*, No. 5874, 2002. See A. Velasco, 'Fixed Exchange Rates: Credibility, Flexibility and Multiplicity', *European Economic Review*, 40, 1996.

31 On the inflation benefits see A. Ghosh and J. Ostry, 'Choosing an Exchange Rate Regime', *Finance and Development*, IMF, December 2009, Volume 46, No 4. Also, see 'Exchange Rate Strategies for Small Island Developing States', S. Vella, *Bank of Valletta Review*, No. 32, Autumn, 2005.

Output growth appears stronger in countries with fixed exchange rates *if they are able to avoid a loss of competitiveness and currency overvaluation*.³² This has not recently been the case for some Pacific island microstates.

During periods of general economic stability, pegged arrangements provide a stable exchange rate and low exchange rate risk — providing certainty for business and financial transactions, foreign investors, tourism and consumers. However, the international experience suggests that pegged exchange rate regimes are susceptible to currency overvaluation and higher current account deficits.³³ When significant external account imbalances develop complications can occur: countries with pegged currencies have limited scope to operate independent monetary and fiscal policies³⁴, as the settings of these policies are likely to be constrained by the need to defend the fixed (pegged) exchange rate. For example, the tightening of monetary policy for this purpose could impact adversely on domestic output growth and limit the capacity of monetary policy to respond to other external and internal economic shocks.

Defending the peg means also that large current account deficits are likely to persist and be slow to unwind.

The financial and banking sectors of Pacific island microstates are not highly integrated with international financial markets and, as a result, (and as mentioned earlier in the section on monetary policies), some Pacific island countries had a degree of immunity from the global financial crisis, as their cross-border capital flows are smaller and generally with lower volatility (than for countries that have a high intensity of international financial linkages). This relative separation from global financial developments and the relative stability of Australian commercial banks operating in Pacific island countries imply that there may be less volatility in foreign currency reserves and, on that account, less pressure for authorities in these island states to change their fixed (pegged) exchange rate systems.

However, some Pacific island microstates are linked to international financial market developments *indirectly* through their pegged exchange rate systems, particularly those island microstates that have pegged arrangements involving the United States dollar or the Australian dollar. During the global economic crisis international capital flows have become more volatile and large swings have

32 See R. Ghosh and J. Ostry, *op cit*. Rose has demonstrated that fixed exchange rates increase trade and investment substantially (see A. Rose, 'One Money, One Market: Estimating the Effects of Common Currencies on Trade', *Economic Policy*, 2000, 15(30). Note that there are studies which do not support the view that exchange rate stability leads to relatively higher economic growth.

33 See R. Ghosh and J. Ostry, *op cit*.

34 See IMF, 'Choosing an Exchange Rate Regime', *Finance and Development*, December 2009, Volume 46, No 4.

occurred in the exchange rates of Australia and the United States which have been reflected in these pegged arrangements.

Generally, Pacific island microstates that have adopted³⁵, or have their currencies pegged to, a single foreign currency or to a basket of foreign currencies that are *appreciating*, may suffer a loss of competitiveness against other countries. Those Pacific island microstates with currencies pegged to *trade weighted baskets* of representative trading partner currencies reduce the risk that could arise if they were tied to a *single foreign currency*, the value of which moved in an opposite direction to that required by their own shocks and external and internal imbalances.

Under its transactions-weighted basket adjustable peg exchange rate regime, Vanuatu's real effective exchange rate has been rising since 1996. Before 2002 GDP was unstable. From 2002 Vanuatu undertook a major structural reform of airline policy and this reform boosted the tourism sector. Tourism has been the main influence contributing to relatively strong economic growth since those reforms, including during the global economic crisis. The airline reform greatly improved Vanuatu's economic fundamentals. Consequently, in the case of Vanuatu, one can imagine that the *equilibrium competitive* real effective exchange rate has most likely risen over the period since 2002 largely reflecting improved economic fundamentals. Vanuatu has not suffered from currency overvaluation during the past decade.

During the global economic crisis Vanuatu's inflation rate was relatively subdued (see Chart 1) and moved broadly in line with inflation rates in trading partner countries, working to maintain real exchange rate competitiveness. The pegged exchange rate arrangement for the *vatu* has led to a relatively stable nominal effective exchange rate during the global economic crisis (the impacts of changes in the US dollar and the Australian dollar were largely offsetting) which has provided an anchor for inflationary expectations. The IMF notes³⁶ that Vanuatu's real effective exchange rate (competitiveness) has remained largely unchanged over recent years and was broadly in line with economic fundamentals at April 2009.

35 In the Pacific island region Kiribati, Tuvalu and Nauru have adopted the Australian dollar as their own legal tender. The Marshall Islands, Micronesia and Palau have adopted the US dollar. Niue, Tokelau and the Cook Islands have adopted the New Zealand dollar. In the case of Kiribati, for example, (Kiribati uses the Australian dollar as its currency), the real exchange rate increased sharply, by 43 per cent between mid-2007 and end-2009. This increase in the real exchange rate was due to the appreciation of the Australian dollar and to relatively high inflation in Kiribati. While Kiribati's trade and payments with Australia have been largely unaffected (by the nominal exchange rate appreciation), Kiribati's exchange rate competitiveness against other Pacific island countries, particularly Fiji (a major destination of Kiribati's exports) where the exchange rate was devalued by 20 per cent in 2009, seems likely to have been adversely impacted. At the end of 2009 Kiribati's real effective exchange rate is likely to have been well above long-term average levels.

36 See IMF, Article IV Staff Report, Vanuatu, April 16, 2009.

Tonga and Samoa have had rising real effective exchange rates from around 2002; and the Solomon Islands since 2004.

Tonga's foreign currency earnings were substantially reduced during the global economic crisis by lower exports, remittances and tourism receipts. Available estimates suggest that Tonga had a moderately overvalued real exchange rate in 2008 and 2009.³⁷ The National Reserve Bank of Tonga appears not to have devalued the exchange rate within the monthly adjustment band provided for within the exchange rate peg³⁸ arrangement. Tonga's external debt is around 45 per cent of GDP. Tonga's current account deficit continues to deteriorate, and is expected to reach 20 per cent of GDP in 2010. Tonga's external position remains fragile.

The IMF³⁹ found that the *Solomon Islands dollar*⁴⁰ was substantially overvalued (by around 26 per cent) in July 2009. As with Tonga, the Solomon Islands dollar has not been devalued during the global economic crisis. Solomon Islands current account deficit is expected to reach more than 30 per cent of GDP in 2010.

Samoa allowed the *Tala* to appreciate by 1.1 per cent within the band in 2008/09 to ease pressure arising from imported inflation⁴¹. Samoa's real effective exchange rate moved upward in 2009 and has thus far remained at an elevated level⁴².

Fiji's exchange rate became increasingly and substantially overvalued over recent years due in part to underlying structural problems in key export sectors, high inflation and because of the adverse impact on trade of the global economic recession. However, as Chart 3 reveals, the improvement in Fiji's price competitiveness (the fall of the real effective exchange rate) in April 2009 reflects the 20 per cent devaluation of the *Fiji dollar*, and stands in contrast to the upward trend in real effective exchange rates in some other Pacific island countries. Since the devaluation the real effective exchange rate for Fiji⁴³ has risen by 7.7 per cent, due in part to a higher rate of inflation in Fiji compared to inflation in major trading partners.⁴⁴ This increase in the real effective exchange rate reflects a significant

37 See relevant IMF Article IV Consultation Staff Reports.

38 See IMF, 2009 Tonga Article IV Consultation Staff Report, September 2009.

39 See Solomon Islands, IMF Article IV Consultation Staff Report, November 2009 and 2008.

40 IMF analysis suggests that the appreciation of the Solomon Islands dollar reflected the higher inflation rate in the Solomon Islands relative to inflation in the United States up until mid-2008. Subsequently, large swings in the US dollar vis-à-vis other currencies in the basket have become the main reason for the appreciation of the real effective exchange rate. See IMF, Solomon Islands: 2009 Article IV Consultation Staff Report, November 2009.

41 See Central Bank of Samoa, *Monetary Policy Statement for the Financial Year 2009/2010*, October 2009.

42 There are no recently published IMF modelling estimates for Samoa that could be used to determine the extent of any currency misalignment

43 In a recent study it was found that for Fiji a 10% devaluation increases output by around 2.3 per cent in the short-run and by 3.4 per cent in the long-run. See P. Narayan and S. Narayan, 'Is Devaluation Expansionary or Contractionary? Empirical Evidence for Fiji', *Applied Economics*, 2007, Vol 39.

44 See Reserve Bank of Fiji, *Economic Review*, Vol 27, No. 01, January 2010. Fiji's inflation has moved higher since January 2010, suggesting a further rise in the real effective exchange rate.

unwinding of the improved price competitiveness achieved by the 20 per cent devaluation in April 2009. It is unclear whether the *Fiji dollar* exchange rate remains overvalued and whether further downward adjustment in the exchange rate is warranted.

4.4. Managed floating exchange rate

Under Papua New Guinea's managed floating exchange rate system the authorities may influence the path of the exchange rate taking into account, for instance, terms-of-trade developments, the level of foreign currency reserves, the likelihood of 'Dutch disease'⁴⁵ and internal policy objectives (for example, inflation, domestic investment and the need to moderate excessive volatility in government revenues arising from terms-of-trade changes).

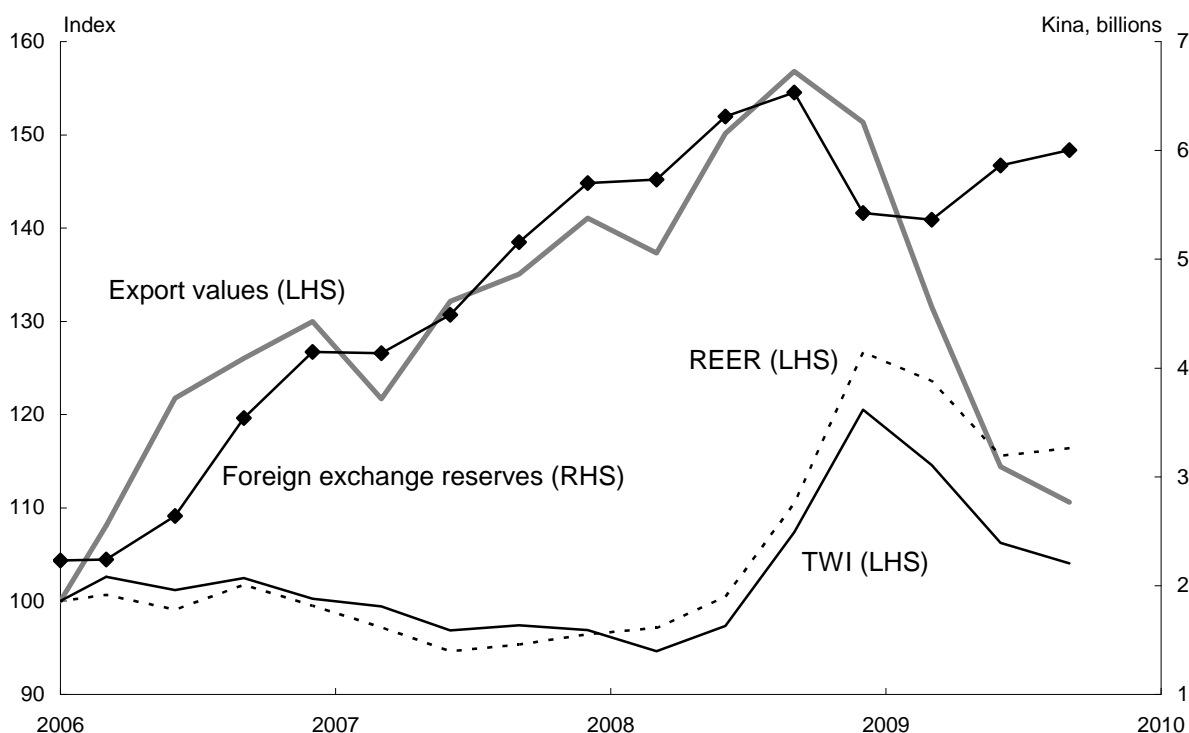
Chart 4 illustrates the behaviour of the *kina* exchange rate, commodity prices and foreign currency reserves over recent years. Papua New Guinea's foreign exchange reserves increased from *kina* 2 billion in early 2006 to a relatively high *kina* 6.5 billion in late 2008, a level far higher than that needed to provide cover for fluctuations in imports.⁴⁶ However, the value of the *kina* and the real effective exchange rate both remained largely unchanged in 2007 and into 2008.

When commodity prices started to fall in late-2008 reserves fell by around 17 per cent, taking some pressure off the need for exchange rate adjustment at that time.

45 Dutch disease may develop when a country appreciates the currency (in response to a boom in commodity exports) and non-commodity production and exports are adversely impacted.

46 It might be argued, however, that in a commodity producing developing country reserves need to be relatively high to cover volatility in exports and capital inflows. Foreign currency reserves are usually recorded as an asset on the central bank's balance sheet. Beginning in April 2008 Papua New Guinea outsourced part of its foreign exchange reserves which is now managed by external fund managers. These externally managed funds are able to invest up to 10 per cent of their portfolios in triple-A rated corporate bonds having a higher modified duration (a measure of interest rate risk) of five years, compared with 2.5 years for the in-house managed funds. This policy is aimed at increasing returns on foreign exchange reserves. See B. Popoitai, Deputy Governor, Bank of Papua New Guinea, Presentation to the Sovereign Wealth Fund Joint Stakeholders Workshop, 'Monetary Focus', 2010.

CHART 4: PAPUA NEW GUINEA TERMS-OF-TRADE, RESERVES AND EXCHANGE RATES



Source: Reserve Bank of PNG, *Quarterly Economic Bulletin*; International Monetary Fund, *International Financial Statistics Database*, 2010.

In early 2009 the IMF⁴⁷ judged the *kina* to be mildly overvalued and recommended greater exchange rate flexibility. However, the authorities noted that, with inflation high, slowing the exchange rate adjustment was important for anchoring inflationary expectations. A short time later the nominal and real effective exchange rates did fall, most likely reflecting, in part, the effects of the decline in international commodity prices.

In summary, while structural weaknesses and lost trade preferences were strongly influential in Fiji and Solomon islands, it seems likely that some other Pacific island countries lost exchange rate competitiveness during the global economic crisis partly as a consequence of strong credit growth and high inflation (9.5 per cent for the Pacific island region in 2008) rising on the back of the food and fuel price surge. The inflation rates recorded for Pacific island countries exceeded the rates of inflation recorded in trading partner countries⁴⁸. Inflation is expected to remain relatively high in Pacific island countries during 2010 (around 5 per cent) compared to inflation in major trading partner countries; Australia (2.5 per cent), New

47 See IMF, Papua New Guinea, Article IV Consultation Staff Report, April 2009.

48 In 2008, inflation rates for Pacific Island countries were Fiji (6.6 per cent), Solomon Islands (18 per cent), Samoa (8.8 per cent), Tonga (6.4 per cent), Papua New Guinea (11.2 per cent) and Vanuatu (5.8 per cent). By comparison, inflation rate in trading partner countries were much lower, including Australia (3.7 per cent), New Zealand (3.4 per cent), Japan (0.4 per cent), the United States (0.7 per cent) and Germany (1.1 per cent).

Zealand (2.3 per cent), the United States (1.7) and Japan (-1.1 per cent) ⁴⁹. Such developments, if they come to pass, could provide further upward pressure on real exchange rates in some Pacific island countries during 2010.

5. EXTERNAL SHOCKS AND FLEXIBLE EXCHANGE RATES

5.1 Exchange rate flexibility

One question that arises as a consequence of the global economic crisis and the tendency toward currency overvaluation in some Pacific island countries is whether Pacific island countries with fixed exchange rate regimes would have been better able to cope with the recent series of external economic shocks if those countries had an exchange rate system that allowed for greater exchange rate flexibility.

Friedman⁵⁰ thought it easier and quicker for the productive sectors of a small open economy to respond to negative external shocks under a flexible exchange rate system than under a fixed rate system. He argued that it is better for economic agents to adjust immediately to relative price changes resulting from a nominal exchange rate depreciation (under a flexible exchange rate regime), than to wait (with a fixed exchange rate regime) until imbalances in goods and labour markets worked to bring about the required relative price adjustments and structural changes.

Hoffman found that developing countries with flexible exchange rate systems are better able to cope with negative external economic shocks than are countries with fixed exchange rates. Hoffman found that a one per cent reduction in global GDP leads to an initial 0.67 percentage point reduction in output in developing countries with fixed exchange rates, compared to a fall of only 0.4 percentage points in

49 See IMF, *World Economic Outlook Database*, April 2010, and ADB, *Asian Development Outlook 2010 Update*. Also see *Australian Budget Papers*, May 2010.

50 M. Friedman (1953), 'The Case for Flexible Exchange Rates', *Essays in Positive Economics*, Chicago University Press. Mundell also argues that a floating exchange rate provides greater protection against real external shocks (for instance, a fall in the demand for exports or a fall in the terms of trade). See R. Mundell, 'Capital Mobility and Stabilisation Policies under Fixed and Flexible Exchange Rates', *Canadian Journal of Economics and Political Sciences*, 1963.

developing countries with floating rate regimes⁵¹. Similar results are reported in recent IMF studies⁵² and in other studies.⁵³

The evidence appears to suggest that developing countries with flexible exchange rate regimes are better able to absorb economic shocks (for example, external demand shocks, negative terms-of-trade shocks⁵⁴ and natural disasters), and deal more effectively with high current account deficits and exchange rate risk⁵⁵, than are developing countries with fixed exchange rates. However, empirical paradigms established by reference to the experience of developing countries as a whole may not necessarily be applicable to Pacific island microstates.⁵⁶

When considering the cases for and against greater exchange rate flexibility in Pacific island microstates during the global economic crisis it is necessary to disentangle the effects of two separate external economic shocks. The first shock — the *sharp international food and fuel price upsurge* — contributed to higher inflation and to a rise in the measured real effective exchange rate, while a later shock — the *global economic recession* — contributed mainly to a lower demand for exports sourced from Pacific island countries (and in some cases lower remittances and tourism receipts as well).

5.2 The first shock: the international food and fuel price upsurge

The surge in imported inflation — the first economic shock during the economic crisis — was based narrowly on the prices of imported food and fuel.

If a Pacific island country is a net importer of food and fuel (for instance Fiji, Samoa and Tonga) then the rise in imported food and fuel prices would have contributed to observed higher general inflation (see Chart 1) and to the observed rise in the real effective exchange rate (see Chart 3). In this case the rise in the real effective exchange rate might have reflected, in part, a loss of measured price and exchange

51 Longer term impacts are 0.7 percentage points under pegs and 0.56 percentage points under floats. See M. Hoffman, 'Fixed Versus Flexible Exchange Rates: Evidence from Developing Countries', *Economica*, 2007.

52 See R Ghosh and J Ostry, 'Choosing an Exchange Rate Regime', IMF, December 2009. See P. Berkmen, G. Gelos, R. Rennhack, T Walsh, 'The Global Financial Crisis; Explaining Cross-Country Differences in the Output Impact', *IMF Working Paper*, WP/09/280.

53 See Sebastian Edwards, 'Flexible Exchange Rates as Shock Absorbers', *NBER Working Paper* No. 9867, July, 2003. See also S. Vella, 'Exchange Rate Strategies for Small Island Developing States', *Bank of Valletta Review*, No. 32, Autumn, 2005. See C. Broda, 'Terms of Trade and Exchange Rate Regimes in Developing Countries', *Journal of International Economics*, 63(1), 2004. See R. Ramcharan, 'Does the Exchange Rate Matter for Real Shocks? Evidence from Windstorms and Earthquakes', *Journal of International Economics*, 73(1), 2007.

54 See Berg, Borensztein and Mauro, 'Monetary Regime Options for Latin America', *Finance and Development*, IMF, September 2003, Vol 40, No. 3.

55 Floating exchange rate regimes force borrowers to confront the existence of exchange rate risk, thereby reducing unhedged foreign currency borrowings. See L. Cespedes, R. Chang and A. Velasco, 'Balance Sheets and Exchange Rate Policy', *The American Economic Review*, 94(4), 2004.

56 See Imam, op cit, for an analysis of the unique characteristics of microstates.

rate competitiveness, if for no other reason than that the cost of essential imports would have risen. In this situation real incomes and savings will fall. Policy makers in the Pacific could possibly decide to react to this external price shock using an exchange rate adjustment. They could, for instance, appreciate the nominal exchange rate⁵⁷ in an attempt to offset the higher imported inflation: this could be at the cost of exacerbating the decline in competitiveness in the short run. Another option could be to depreciate the nominal exchange rate to undo the rise in the real effective exchange rate, improve competitiveness and stimulate exports (to offset lower incomes and lower foreign currency reserves due to the higher cost of imports): this would be at the cost of higher imported inflation going forward. Alternatively, the authorities could choose not to respond (to lost competitiveness and lower real incomes) and to not adjust exchange rates on the basis of an assumption that the surge in imported prices would soon be reversed.

Whether a widespread loss of price and exchange rate competitiveness arose for Pacific island *exporters* or not in the wake of the food and fuel price upsurge, and the likely extent of the downward adjustment in the real exchange rates needed to offset this, depends upon a number of considerations. These include:

- (a) the extent to which the rise in inflation observed during 2007 and 2008 (see Chart 1) was due solely to higher imported food and fuel prices;
- (b) the incidence of higher costs of imported inputs (for example, fuel) used to produce exports and to service tourism; and
- (c) whether the observed rise in inflation also reflected higher domestically-sourced inflation (due, for instance, to domestic wage increases or strong credit growth and excess demand pressures) which worked to raise costs and export prices more generally.

This is a complex issue requiring further empirical analysis on a country-by-country basis before strong conclusions could be drawn. It seems likely, nonetheless, that the food and fuel price surge would have had significant adverse effects on competitiveness in some countries and contributed significantly to currency overvaluation. Greater downward exchange rate flexibility would have worked to counter and offset these developments.

Of course, if a country is a net exporter of food and fuel (Papua New Guinea for instance), some part of the observed rise in the real effective exchange rate during this period may not have reflected a loss of price competitiveness, but, rather, an improvement in the terms-of-trade.

57 Interest rates could also be increased as a complementary measure to assist in lowering inflation.

5.3 A later shock: the global economic recession

The global economic recession — the third economic shock during the global economic crisis — directly contributed to falling exports. During the global recession, the foreign demand for some exports of the Pacific island countries has been *volume-constrained*⁵⁸, due to a fall in foreign demand for the quantity of imports. Devaluation may not be successful in offsetting this constraint in the short run⁵⁹.

For many Pacific island microstates, imports are concentrated in necessities (food and fuel and imported manufactured goods) for which the price elasticity of demand is thought to be relatively low.⁶⁰ Crude oil is generally not produced in Pacific microstates, and so substantial direct import substitution by domestically produced fuel is precluded, at least in the short-term. Domestically sourced replacement possibilities for imports of rice and some other foods and manufactured goods may also be limited. Tropical agricultural-based exports are also likely to have low price elasticities in the short-run.⁶¹ To the extent that tourism relies heavily on imported inputs devaluation would cut both ways.

With external demand volume constrained, narrow production bases, high export concentration and inflexible economic structures, high import dependency, low short-run trade elasticities and slow supply-side responsiveness there is likely to be limited capacity for rapid import substitution, or substantially increased exports in the short-run, in some small Pacific islands states. To the extent this is the case, the ability of a more flexible exchange rate regime to act as a shock absorber, and to cause export and import substitution production to increase in the *short run* to absorb and offset the second shock — the *global economic recession* — would be limited.

However, looking beyond the short-term — the end of the global economic recession — to a time when foreign demand will no longer be so *volume constrained*, and resource allocation can be adjusted to take advantage of relative price changes, the devaluation (that would be permitted by a more flexible exchange rate

58 As distinct from being constrained by a decline in price competitiveness.

59 To counter the volume constraint devaluation would need to cause foreign importers to reduce orders from other countries and give preference to increased exports from Pacific island countries. Alternatively it would be necessary for Pacific island exporters to secure new foreign markets, including through production diversification.

60 In one study the long-run price elasticity of import demand for Fiji is estimated to be around 1. An increase of 1 per cent in foreign prices relative to domestic prices induces a 1 per cent fall in the demand for imports. This suggests that devaluation would leave the import bill unchanged. See P. Narayan and S. Narayan, 'Estimating Income and Price Elasticities of Imports for Fiji in a Cointegration Framework', *Economic Modelling*, 22, 2005.

61 For Fiji, export demand is thought to be price inelastic (-0.8 per cent) in the short-run. See S. Narayan and P. Narayan, 'Determinants of Demand for Fiji's Exports: An Empirical Investigation', *The Developing Economies*, XLII-I, March 2004.

arrangement) is likely to be more effective⁶² in raising the foreign demand for exports from Pacific island states⁶³, assuming the devaluation is maintained.

Quite apart from price competitiveness impacts on exports and imports, greater flexibility in the nominal exchange rates in response to an adverse terms-of-trade shock, or other external economic shocks, can moderate the variability of income flows and lower economic volatility. Greater exchange rate flexibility may contribute to smaller fluctuations in export commodity tax and other tax revenues, less exchange rate intervention by central banks, lower volatility in foreign currency reserves, and lower variability in the liquidity of the banking system. Such greater nominal exchange rate flexibility in the face of a large adverse external economic shock is likely to involve earlier, larger and more volatile real exchange rate adjustment.⁶⁴

There is greater independence in the conduct of monetary policy — and monetary policy can be applied more flexibly — under a floating rate regime than under a fixed rate regime. This greater monetary policy independence itself provides a separate, additional policy lever to help deal with external economic shocks.⁶⁵

However, the more flexible floating exchange rate regimes are not usually associated with the lowest inflation outcomes⁶⁶ and they do not appear to increase trade integration. Very substantially increased volatility of the exchange rate (for example, that level of volatility associated with floating exchange rates) would likely add to exchange rate risk for businesses, tourism and consumers. In small Pacific Island microstates the financial systems and exchange rate markets are

62 The latest (November 2009) IMF Article IV Staff Report for Solomon Islands suggests that while the authorities are concerned about the low elasticity of imports, the historical experience suggests that exports are more responsive than imports to a devaluation of the currency, and that devaluation could, therefore, be a useful adjustment instrument. Round logs, which account for 70 per cent by value, are sold predominantly on the basis of contracts transacted in US dollars, and are not affected by changes in the Solomon Islands exchange rate (that is de facto pegged to the US dollar).

63 There are few published studies on trade elasticities in Pacific island countries. In the case of Fiji, the long-run own price elasticity for export demand is estimated to lie between -1.25 and -1.49, suggesting devaluation improves export performance in the long-run. See S. Narayan and P. Narayan, op cit. In another article the same authors find that a 10 per cent devaluation in Fiji increases output by around 3.3 per cent. See 'Is Devaluation Expansionary or Contractionary? Empirical Evidence from Fiji', *Applied Economics*, 2007, 39.

64 See IMF, 'Choosing an Exchange Rate Regime', op cit. Christian Broda found that faced with an external shock, floating exchange rate regimes had earlier and stronger real exchange rate adjustments than did fixed exchange rate regimes. Under a floating rate regime the real exchange rate fell quickly due to the fall in the nominal exchange rate. See C. Broda, 'Terms of Trade and Exchange Rate Regimes in Developing Countries,' *Journal of International Economics*, 63, 2004. For evidence of greater volatility of the real exchange rate in the flexible exchange rate system see M. Baxter and A. Stockman, *Business Cycles and the Exchange Rate Regime: Some International Evidence*, 1989, USA, Cambridge.

65 See S. Edwards, 'The Determinants of Choice Between Fixed and Flexible Exchange Rate Regimes', *NBER Working Paper*, 5756, 1996.

66 See S. Vella, op cit. In a sample of small island developing countries (including nine Pacific island states), Vella finds that over the period 1990 to 2002 inflation was highest in countries with flexible exchange rates (10.9 per cent) compared to those with hard pegs (2.5 per cent).

generally not sufficiently developed to support highly flexible exchange rates. Shallow markets can lead to high exchange rate volatility but the sophisticated financial instruments and related hedging derivatives needed to hedge against volatile exchange rate movements do not exist, or are not readily available or widely understood. High volatility in exchange rates can lead to large movements in export and import values and in the balance of payments.

If the flexibility in the exchange rate is substantial the nominal exchange rate may no longer be effective as a *nominal anchor* and may need to be replaced by a monetary aggregate target or an inflation target, raising new and challenging issues for policy-makers.

In summary, and taking all considerations into account, it seems reasonable to conclude that downward adjustment of the exchange rate is likely to have been desirable for Pacific island countries attempting to deal with medium term structural trade weaknesses (such as the loss of export preferences suffered by Fiji, or the depletion of log export capability in Solomon Islands), the surge of food and fuel prices, and currency overvaluation. However, it is equally likely that, given the limitations of small financial and foreign exchange markets operating in the microstates, the very substantial short-term exchange rate volatility likely to be associated with a freely floating exchange rate is unlikely to be clearly beneficial at this stage of their development. As well, attempts to use a flexible exchange rate as a short-term shock absorber is unlikely to be very effective in offsetting short-term trade disturbances such as a substantial dip-down in exports associated with a global economic recession.

5.4 Greater exchange rate flexibility: options and resistance

Options for greater exchange rate flexibility⁶⁷ (for island microstates with their own fixed exchange rates) could include changing the current basket of currencies used to value the currency; increasing the frequency of exchange rate adjustments; widening the band in which the pegged exchange rate moves; adopting a crawling peg⁶⁸; introducing a managed floating rate regime; or allowing the currency to float freely.

As mentioned above, it is questionable whether a *freely floating exchange rate* would work efficiently in very small Pacific island microstates. In such environments the exchange rate could be prone to overshooting. Large single transactions could have

67 It is assumed here that a common regional currency is unlikely to be introduced in the Pacific region given an insufficient convergence in economic policies and economic conditions in different countries and the requirement to give up the policy autonomy needed to deal with one's own terms-of-trade developments.

68 Under the crawling peg system, the exchange rate can be devalued frequently by small amounts calibrated to the difference between domestic inflation and the inflation rate in trading partner countries.

significant effects on the exchange rate. There could be substantial uncertainty as to where a market determined exchange rate would settle.

Introducing greater exchange rate flexibility is likely to be more successful if implemented when reserves are strong and effective anti-inflation macroeconomic policies are in place. It could be unwise to opt for greater flexibility in exchange rates beyond that which could be supported by market developments, monetary policy and the institutional and political environment.

For countries with fixed (pegged) rate regimes, introducing greater flexibility in exchange rate arrangements – through more timely adjustments – may reduce the likelihood that a substantially overvalued exchange rate would develop.

Introducing, or widening, the adjustment band in a fixed exchange rate regime creates the *option* to use exchange rate adjustments to cope better with an external economic shock, while otherwise providing the benefits of exchange rate stability.

The reluctance of some Pacific island countries to embrace greater downward nominal and real exchange rate flexibility (when faced with adverse economic shocks, declining competitiveness and when the currency is overvalued) could reflect a number of influences, including the concern that, particularly with high import dependency on food and fuel and other necessities and limited capacity for import replacement, devaluation of the nominal exchange rate would lead mainly to higher inflation (and lower living standards for those on fixed nominal incomes and those facing poverty), rather than to economic restructuring and to a real output stimulus (despite some evidence to the contrary). Governments may have a preference to defend the fixed peg, gain policy discipline and credibility, and keep the fixed nominal exchange rate as a strong inflation anchor. There may also be uncertainty over whether devaluation would be successful in the short-run; a view that other influences determining competitiveness (for example, infrastructure, soil quality, quarantine regulations, distance from markets and market access, transport problems, high post-import storage and distribution costs, and land reform) may be more important than price competitiveness; and uncertainty as to whether foreign exchange and financial markets, and monetary policies, would be sufficiently developed to support a strong degree of exchange rate flexibility. Where external debts are substantial (Samoa and Tonga, for example), concerns may arise because foreign debt servicing costs will increase with devaluation.

It is possible that there will continue to be a high level of unpredictable volatility in the currencies of different countries throughout the period of the global recession, and the recovery from it, and this volatility will create additional uncertainty and difficult trade-offs for policy-makers in Pacific island countries. The global economic crisis, and the rapid advance of some countries and the decline in others,

may alter global structural relationships and longer-term equilibrium real exchange rates, complicating policy choices. Amid increasingly competitive global markets and considerable uncertainty, the main general objective for Pacific island countries going forward would seem to be to ensure that the real exchange rate remains around its *equilibrium competitive* level over time.

For those countries with a fragile balance of payments, exchange rate adjustments alone may provide only temporary relief, particularly if monetary and fiscal policies are not sufficiently tight, if inflation is not reduced and if the government does not address the structural problems underlying the deterioration in the balance of payments. Structural reform policies aimed at enhancing transport infrastructure, productivity, competitiveness and export diversification, as well as reducing the high dependence on imports with import replacement policies, is also required. Without accompanying structural reforms any adjustments to the exchange rate regime may be of limited value in promoting higher productivity and improved fundamental competitiveness. In ideal circumstances such structural reforms would precede or be introduced in tandem with any adjustments to the exchange rate or the exchange rate regime.

6. MONETARY AND EXCHANGE RATE POLICY ASSIGNMENT

Based on this review of exchange rate and monetary policies adopted by different Pacific island countries during the global economic crisis it is possible to sketch out a number of policy assignment benchmarks that seem to have relevance to the special circumstances that developed for a number of these countries during the crisis. (These benchmarks are based on unchanged fiscal policy⁶⁹):

- (a) *Overvaluation*. Significant and persistent overvaluation of the real exchange rate should be avoided.
- (b) *Devaluation*. For a devaluation of the nominal exchange rate to successfully achieve and maintain a devaluation in the real exchange rate, nominal unit wage costs should be kept stable and monetary policy should be sufficiently tight to avoid second-round price increases arising from the devaluation. If nominal wages increase faster than prices and productivity, then inflation will be boosted further, the devaluation of the real exchange rate will be undone, real unit wage costs will increase, profits will drop and output could fall, taking the economy away from internal and external balance.

⁶⁹ Suffice to say here that large budget deficits may increase domestic demand, reduce savings and add to current account deficits. Reducing large budget deficits could contribute substantially to external account adjustments in Pacific island countries.

- (c) *Balance of payments difficulties.* Assume GDP is contracting and foreign currency reserves are dropping through critically low levels. In this crisis situation monetary policy and exchange rate policy should be directed toward protecting reserves and external stability and maintaining adequate liquidity in the financial sector, rather than toward stimulating domestic demand and economic activity.

If the exchange rate is fixed but the trade and current account deficits are high and unsustainable, and inflation is higher than in trading partner countries, the exchange rate becomes increasingly overvalued as the real exchange rate rises. Any pre-existing trade and current account deficits increase, capital outflow takes hold and foreign currency reserves fall. As a band-aid measure a country might strengthen controls to restrict international capital movements and exchange transactions and to ration imports.

However, to (fundamentally) work out of these multiple problems — to lower inflation, bring inflation into line with inflation in trading partner countries, to reduce the demand for imports, to raise domestic savings and protect foreign currency reserves — monetary policy may need to be tightened. In order to take the weight off monetary policy (and to reduce the contraction in expenditure, activity and employment, and to speed up the adjustment process) the exchange rate may be devalued in an attempt to re-establish an equilibrium competitive exchange rate and switch activity toward traded goods activity.

If reliance is placed only on devaluation to solve the current account problem, substantially higher inflation could be the consequence. If reliance is placed solely on the tightening of monetary policy to address high inflation, capital outflow and the high current account deficit, the fall in expenditure and output, employment and living standards could all be substantial.

For some countries a mix of expenditure-reduction and expenditure-switching policies may be appropriate, accompanied by appropriate structural reforms aimed at improving competitiveness and export diversification. In combination these policy responses might be expected to return the economy closer toward external and internal balance over the medium term.

- (d) *Exchange rate regime.* Many different considerations bear on the choice of exchange rate regimes, and no single regime is necessarily appropriate for all Pacific island microstates. Compared to a completely fixed exchange rate regime, an exchange rate arrangement that provides for more frequent and timelier exchange rate adjustment may be better able to absorb terms-of-trade shocks, counter structural weaknesses in the export sector, avoid

overvaluation, protect competitiveness and maintain exports. However, slow supply-side responsiveness and limited diversification possibilities in Pacific island countries may limit the ability of flexible exchange rates to act as a short-run shock absorber. Compared to flexible exchange rate regimes, a fixed exchange rate regime appears to be associated with more disciplined macroeconomic policies and better inflation outcomes. The choice made between a tightly fixed exchange rate regime and an exchange rate regime that offers greater ability to more regularly adjust the exchange rate to address structural trade weaknesses, terms-of-trade changes and avoid exchange rate misalignments, hinges, in part, on judgements made about the relative benefits of short-term inflation control versus the maintenance of exchange rate competitiveness. Particularly for many Pacific island countries with high import dependency and low export performance, maintaining competitiveness is essential to securing adequate medium-term external balance.