

## **PART 4**

### **The Broader Economy**



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## 4.1 The macro-economic environment



PNG has a dual economy. Most people work in the large subsistence sector, producing food for consumption, raising animals and building their own shelter, as well as producing agricultural commodities for sale in domestic and international markets (see Sections 5.2 and 5.3). A smaller number of people work solely in the monetary sector, which is concentrated in urban areas and mining enclaves. The level of national income generated from these activities was, until recently, sufficient to place PNG in the World Bank category of ‘Lower Middle Income Countries.’ This category includes Thailand, Fiji and Sri Lanka. However, social indicators (for example, literacy rates, life expectancy at birth, infant mortality, school enrolment) in PNG are typical of countries in the ‘Lower Income Countries’ category. This category includes most of sub-Saharan Africa. In part, this situation can be attributed to the macro-economic environment<sup>1</sup> in which the agricultural sector operates. This environment is determined by a combination of exchange rate, fiscal, monetary and trade policies.

The exchange rate is a key determinant of agricultural competitiveness, both for domestic and export markets. Before 1994, PNG maintained what was known as a ‘hard kina’ exchange rate policy, in which the exchange rate between the kina and

major international currencies<sup>2</sup> was deliberately maintained at a high level, which kept the cost of imports low. The aim of the ‘hard kina’ policy was to contain wages. This was achieved by improving the purchasing power of urban workers through the low-cost imports. In 1994 the kina was allowed to float and it immediately fell in value (Figure 4.1.1, Table A4.1.1). Following the Asian financial crisis and mismanagement of the economy in 1997, it fell even lower.

The high value of the kina adversely affected the agricultural sector in several ways. People selling locally grown food found it difficult to compete with low-priced imports. For example, in 1993 it cost K0.66 to purchase cabbages worth A\$1.00 imported from Australia. But in 2005, cabbages worth A\$1.00 cost about K2.40, which encouraged domestic production to such an extent that PNG is now self-sufficient in cabbages.

The hard kina policy also depressed incomes earned by growers of export tree crops. For example, in 1993 the average delivered-in-store (DIS) price of coffee in PNG was K0.57/kg. Ten years later, in 2003, the DIS had increased to K1.23/kg. This occurred despite the average world price of coffee falling from US\$1.28/kg to US\$0.70/kg during that decade. Although the value of the kina in 2003 was lower than what it

<sup>1</sup> The term ‘macro-economic’ means the economy of PNG as a whole.

<sup>2</sup> The exchange rate of the kina is what K1.00 is worth in other international currencies. If the exchange rate of the PNG kina against the United States dollar is 0.35, then one kina can buy US\$0.35.

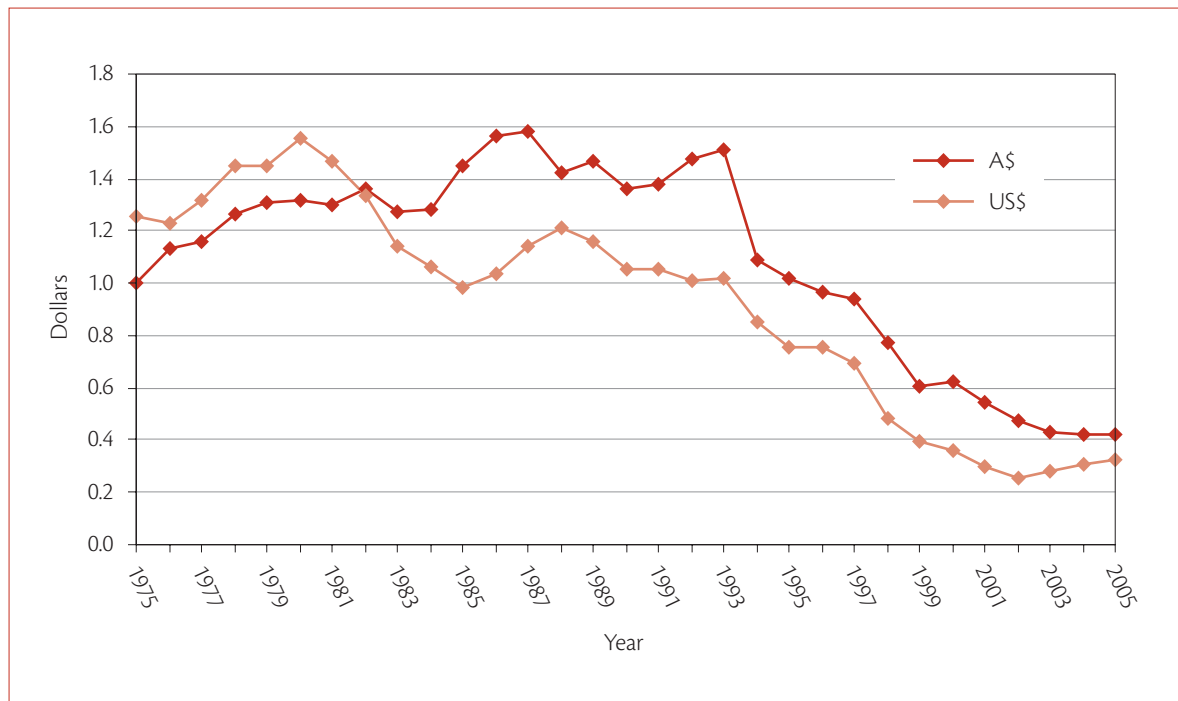
was under the hard kina policy, under international exchange rates, a US dollar bought more kina, which was good for PNG exporters.

The decision to float the kina in 1994 did more to stimulate agriculture than all the direct interventions into the sector by the PNG Government and foreign donors. The decline of the kina swung the terms of trade back in favour of rural areas, where more than 80% of Papua New Guineans live, although it disadvantaged urban dwellers.

The rapid expansion of the mining industry through the late 1970s and 1980s provided a major boost to the PNG economy. However, the income from mining was not managed in a way that encouraged the development of agricultural and other industries. Instead, it was used to create unsustainable government structures that resulted in a large public debt and an over-valued kina. Agricultural commodity earnings fell and the standard of living of growers declined. This would not necessarily have been a problem if other industries had been developed to replace the mines when they eventually close, but replacement industries have not been developed.

The commercial agricultural sector has been hampered by high interest rates and lack of finance. This was caused by the way large budget deficits have been financed. Government expenditure has consistently exceeded income, often by substantial margins. These budget deficits could have been financed by borrowing either internationally or locally. PNG governments chose to borrow locally by selling Treasury bills to the commercial banks.<sup>3</sup> This avoided the build-up of a high level of foreign debt, however, with only a small local market for the sale of Treasury bills, interest rates were driven to exceptionally high levels. In August 1999, the Treasury bill interest rate peaked at 28% per year. This made borrowing for investment in agriculture uneconomical. Since the commercial banks were able to earn very high profits by lending to the government, there was no incentive for them to lend to productive sectors like agriculture. In 2004, for the first time in 13 years, a budget surplus

<sup>3</sup> A Treasury bill is a document that can be bought from a government that promises to pay the buyer the cost of the bill plus an amount of interest, at a given date in the future.



**Figure 4.1.1** Exchange rate for one PNG kina against the Australian dollar and United States dollar, 1975–2005.

Source: Bank of Papua New Guinea Quarterly Economic Bulletins.

was achieved. As a consequence, the Treasury bill interest rate fell below 5%, making it worthwhile for banks to consider other lending opportunities. The challenge for PNG fiscal and monetary policy is to balance public debt, to find an appropriate method of financing the debt, and to invest in infrastructure to support productive sectors such as agriculture.

Previous trade policy placed restrictions on the import of food and agricultural products to encourage import replacement. Prior to PNG joining the World Trade Organization in 1995, local fruit and vegetables were protected from imports by a combination of high tariffs, quotas and outright bans.<sup>4</sup> In 1995, these measures were replaced by a 75% tariff on all imports, which has been gradually reduced as a part of the Tariff Reduction Program. The Tariff Reduction Program has had a positive impact on the economy and has reduced the costs of imported food for urban Papua New Guineans.

Despite the Tariff Reduction Program, inconsistencies and inequities still exist in the tariff structure that hinder overall agricultural development.

Self-sufficiency in poultry and pig products, which has been achieved in recent years, was the outcome of a high level of protection, with imported poultry products incurring a tariff of 57% (Table 4.1.1). But the additional value to the economy of a local poultry industry is substantially reduced by an almost total reliance on imported feed grains (see Section 2.6). Locally produced maize, copra meal and fish meal must compete with imported feed

**Table 4.1.1** Tariffs applying to selected agricultural imports from January 2006

| Product     | Proportion of landed value |
|-------------|----------------------------|
| Potatoes    | 40%                        |
| Vegetables  | 40%                        |
| Fruit       | 40%                        |
| Sugar       | 70%                        |
| Rice        | zero                       |
| Wheat       | zero                       |
| Maize       | zero                       |
| Sheep meat  | zero                       |
| Beef        | 15%                        |
| Pig meat    | 15%                        |
| Tinned fish | 25%                        |
| Poultry     | K2.20/kg                   |
| Eggs        | K1/dozen                   |

Source: APEC (2005).

grains that have no tariff. The pig and beef industries receive a lower rate of protection than poultry (a 15% tariff). The cattle industry, which relies on local pastures and not imported grains, pays high import duties (50%) on essential inputs such as fencing wire. The agricultural sector would be better served if the same low level of protection applied to all industries.

## Sources

ADB (Asian Development Bank) (2004). Preparing the agriculture and rural development project, Papua New Guinea: Agricultural markets, marketing and rural enterprise development. ADB TA4055-PNG. Asian Development Bank.

APEC (Asia-Pacific Economic Cooperation) (2005). Tariff Database.

Bank of Papua New Guinea Quarterly Economic Bulletin (various issues).

Corden, W.M. (1984). Booming sector and Dutch disease economics: survey and consolidation. *Oxford Economic Papers* 36(3):359–380.

<sup>4</sup> A tariff is a tax on imported goods. A tariff may be put in place just to raise money for the government (when the imported good, such as a vehicle, is not produced in the country), or to protect local producers from cheaper imports. A 25% tariff means that an importer must pay the government 25% of the total value of the imported good. The World Trade Organization opposes tariffs because they increase the cost of trading, which in turn reduces trade and output below optimum levels in a country that has no control over the prices of international commodities.

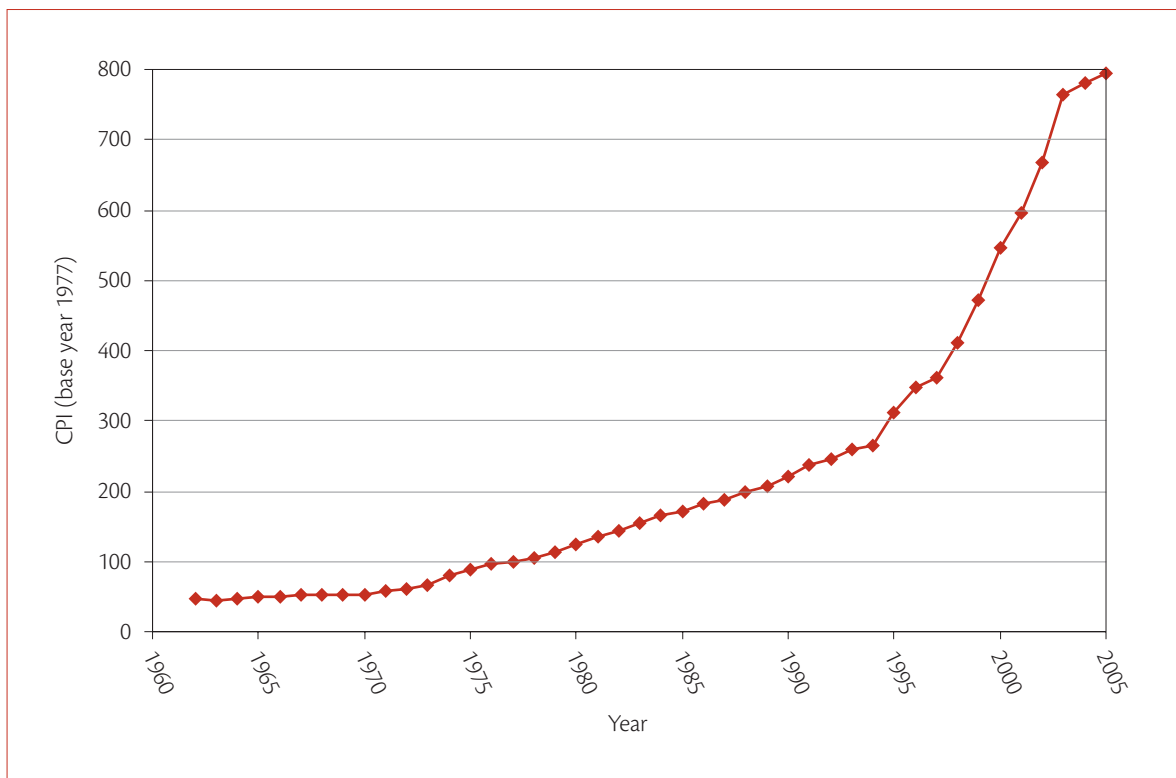
An import quota is a limit on the quantity of a good that can be imported in a particular year. For example, if a government makes a law that only 1000 tonnes of potatoes per year can be imported, that is an import quota on potatoes. A ban on the import of potatoes means no potatoes may be imported at all.

## 4.2 Consumer price index



The consumer price index (CPI) is a measure of the cost of living, or inflation. It is calculated by determining the average cost of a standard basket of retail goods and comparing the cost of those goods to the cost of the same goods at a base period. It provides a useful way to compare the relative value of a country's currency from year to year. In PNG, the index is based on the prices of selected goods and

services in five towns (Port Moresby, Goroka, Lae, Madang and Rabaul). The CPI in PNG is principally an urban measure: data for the cost of rural living in PNG do not exist. The commodity groups selected are food; clothing; alcohol, tobacco and betel nut; household sundries; and other goods and services, including transport, education, medicine and groceries other than food.



**Figure 4.2.1** PNG consumer price index, 1962–2005. Source: National Statistical Office of PNG.

There are three CPI series in PNG, extending from 1962 to the present. The series used now begin in 1977. The values for the three series are listed in Table 4.2.1. The figures have been converted to a common base (100) with 1977 as the base year, and a combined index created.

Prices rose only slightly during the 1960s and early 1970s (Figure 4.2.1). From 1974 until 1994, prices rose at a faster rate. There were large increases in prices each year from 1995 to 2003. This was associated with the devaluation of the PNG kina relative to the United States dollar. The rate of increase slowed in 2004 and 2005. In 1994 the kina was floated, meaning that since then, it has been allowed to move freely against other international currencies. In 2005, K9 had about the same spending power that K1 had in 1975. That is, prices have gone up by a factor of nine over this 30-year period.

The consumer price index can be used to convert prices or income from one year to a value with an equivalent buying power in another year. To convert earlier prices or values to current ones, the following formula is used:

$$\text{Equivalent value in current year} = \frac{\text{Earlier value} \times \text{CPI in current year}}{\text{CPI in earlier year}}$$

**Example 1. The value of one kilogram of coffee beans (parchment) for a highland grower in 1980 in 2005 prices.**

$$\begin{aligned} &\text{Equivalent price in 2005} \\ &= (\text{Price in 1980} \times \text{CPI in 2005}) \div \text{CPI in 1980} \\ &= (2.26 \text{ kina/kg} \times 795.2) \div 125.4 \\ &= 14.33 \text{ kina/kg} \end{aligned}$$

Coffee growers would need to have received 14.33 kina per kilogram in 2005 to have the same spending power they had 25 years earlier. (In reality, growers received much less than 14.33 kina in 2005, so they had less spending power in 2005 than in 1980.)

To convert current prices or values to earlier ones, the following formula is used:

$$\text{Equivalent value in earlier year} = \frac{\text{Current value} \times \text{CPI in earlier year}}{\text{CPI in current year}}$$

**Example 2. The value of a fortnight's salary in 2005 in 1980 values.**

$$\begin{aligned} &\text{Equivalent salary in 1980} \\ &= (\text{Current salary} \times \text{CPI in 1980}) \div \text{CPI in 2005} \\ &= (300 \text{ kina/fortnight} \times 125.4) \div 795.2 \\ &= 47 \text{ kina/fortnight} \end{aligned}$$

Thus a salary of 300 kina per fortnight in 2005 has the same spending power that a salary of 47 kina had in 1980.

**Source**

Bank of Papua New Guinea (2001). *Money and Banking in Papua New Guinea*. Bank of Papua New Guinea, Port Moresby.

**Table 4.2.1** PNG consumer price index, 1962–2007

| Year | Retail price index <sup>[a]</sup> | Consumer price index Base year 1971 <sup>[b]</sup> | Consumer price index Base year 1977 <sup>[c]</sup> | Combined index Base year 1977 <sup>[d]</sup> | Year | Retail price index <sup>[a]</sup> | Consumer price index Base year 1971 <sup>[b]</sup> | Consumer price index Base year 1977 <sup>[c]</sup> | Combined index Base year 1977 <sup>[d]</sup> |
|------|-----------------------------------|--|--|--|------|-----------------------------------|--|--|--|
| 1962 | 100.0 <sup>[e]</sup>              |  |  | 46.1   | 1985 |                                   |  | 171.9  | 171.9  |
| 1963 | 97.8                              |  |  | 45.1   | 1986 |                                   |  | 181.3  | 181.3  |
| 1964 | 99.5                              |  |  | 46.0   | 1987 |                                   |  | 187.3  | 187.3  |
| 1965 | 105.1                             |  |  | 48.5   | 1988 |                                   |  | 197.5  | 197.5  |
| 1966 | 110.2                             |  |  | 50.8   | 1989 |                                   |  | 206.4  | 206.4  |
| 1967 | 113.0                             |  |  | 52.1   | 1990 |                                   |  | 220.7  | 220.7  |
| 1968 | 114.3                             |  |  | 52.7   | 1991 |                                   |  | 236.1  | 236.1  |
| 1969 | 113.9                             |  |  | 52.6   | 1992 |                                   |  | 246.3  | 246.3  |
| 1970 | 115.7                             |  |  | 53.4   | 1993 |                                   |  | 258.5  | 258.5  |
| 1971 | 123.2                             | 100.0 <sup>[e]</sup>                               |  | 56.8   | 1994 |                                   |  | 265.9  | 265.9  |
| 1972 |                                   | 106.1  |  | 60.3   | 1995 |                                   |  | 311.9  | 311.9  |
| 1973 |                                   | 114.9  |  | 65.3   | 1996 |                                   |  | 348.1  | 348.1  |
| 1974 |                                   | 141.6  |  | 80.5   | 1997 |                                   |  | 361.9  | 361.9  |
| 1975 |                                   | 156.4  |  | 88.9   | 1998 |                                   |  | 411.0  | 411.0  |
| 1976 |                                   | 168.4  |  | 95.7   | 1999 |                                   |  | 472.4  | 472.4  |
| 1977 |                                   | 176.0  | 100.0 <sup>[e]</sup>                               | 100.0 <sup>[e]</sup>                         | 2000 |                                   |  | 546.1  | 546.1  |
| 1978 |                                   |  | 105.8  | 105.8  | 2001 |                                   |  | 596.8  | 596.8  |
| 1979 |                                   |  | 111.9  | 111.9  | 2002 |                                   |  | 667.2  | 667.3  |
| 1980 |                                   |  | 125.4  | 125.4  | 2003 |                                   |  | 765.4  | 765.4  |
| 1981 |                                   |  | 135.5  | 135.5  | 2004 |                                   |  | 781.6  | 781.6  |
| 1982 |                                   |  | 143.0  | 143.0  | 2005 |                                   |  | 795.2  | 795.2  |
| 1983 |                                   |  | 154.3  | 154.3  | 2006 |                                   |  | 814.7  | 814.7  |
| 1984 |                                   |  | 165.8  | 165.8  | 2007 |                                   |  | 822.2  | 822.2  |

<sup>[a]</sup> The retail price index is a combined index for Port Moresby, Lae and Rabaul. It is based on prices of food, tobacco and certain household items consumed by expatriates.

<sup>[b]</sup> The consumer price index base year 1971 is based on prices of a group of goods selected on the basis of an urban expenditure survey of PNG public servant households.

<sup>[c]</sup> The consumer price index base year 1977 is based on prices of a group of goods and services purchased by urban PNG wage-earning households.

<sup>[d]</sup> The combined index was generated from the other three series of indices.

<sup>[e]</sup> The base year for the various indices is shown as 100.

Source: National Statistical Office of PNG.

## 4.3 Prices of selected items



Local prices of fresh food and store items can demonstrate how international and national economic forces, such as the strength of the currency, have an impact on the daily lives of urban and rural Papua New Guineans.

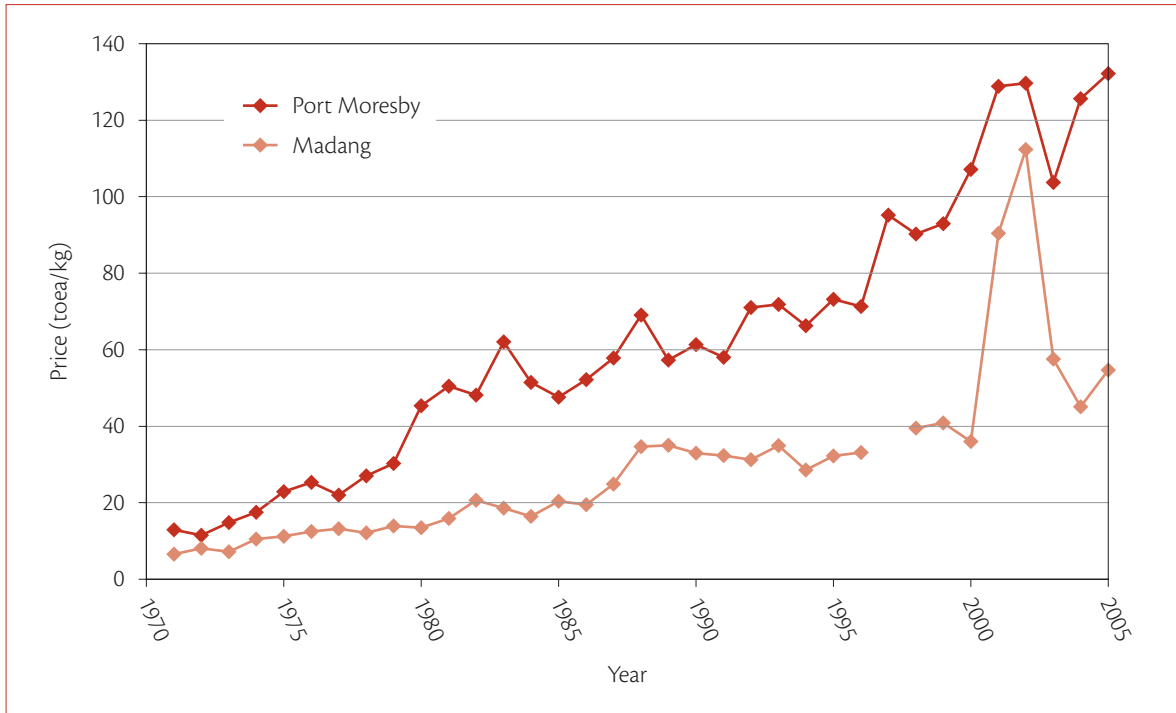
Four commodities have been chosen to illustrate variation in prices in Port Moresby and Madang over a 35-year period. Sweet potato and *aibika* were selected as representative of fresh foods, while rice and kerosene show price movements for imported items. The pattern for fresh food in Port Moresby is quite different from that in the other main urban areas in PNG. Madang was selected to demonstrate the patterns in the other towns.

Thirty-five years ago, the price of fresh food was somewhat more expensive in Port Moresby than elsewhere, but the difference has increased over time (Figures 4.3.1 and 4.3.2). For example, in 1971 sweet potato and *aibika* were about twice the price in Port Moresby than in Madang, but by 2005 they were around two to three times the price (Table A4.3.1). In contrast, the prices of imported items such as rice and kerosene have not varied much between the main ports during the last 35 years (Figures 4.3.3 and 4.3.4). For many items, prices are higher in remote parts of most provinces and in the highlands because of transport costs and lack of competition. Rice is an exception because Trukai Industries Limited (PNG's primary importer and supplier of rice) maintains the same wholesale price for all main towns.

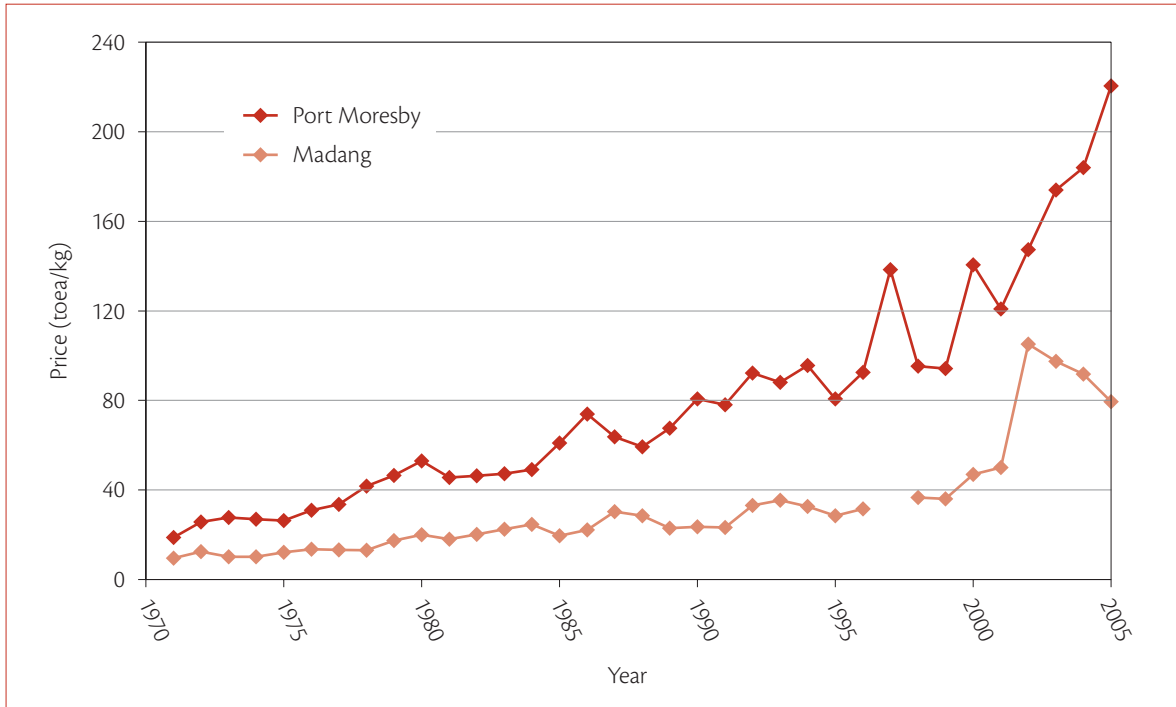
The prices of goods in PNG towns have risen rapidly since 1997, when the PNG kina fell sharply in value against the United States dollar, the currency in which imports and exports are priced (Figure 4.1.1). This means that it now costs urban and rural consumers much more to buy goods and services in towns than it did prior to 1997. The steep rises in the prices for rice and kerosene from 1997 to 2005 are clear (Figures 4.3.3 and 4.3.4). The prices of fresh foods also increased in Port Moresby and the other urban areas over this period, but not as rapidly as for imported items.

More fresh food has been offered for sale in recent years, probably because the demand has increased as prices of imported foods have risen sharply. This is reflected in the prices of sweet potato and *aibika* in Madang market, which have fallen over the period 2002 to 2005, presumably because of more sellers in the market. Locally grown staple foods are now more competitively priced against imported rice and flour than they were before 1997, for most locations in PNG except Port Moresby. This is good for both producers and consumers in PNG.

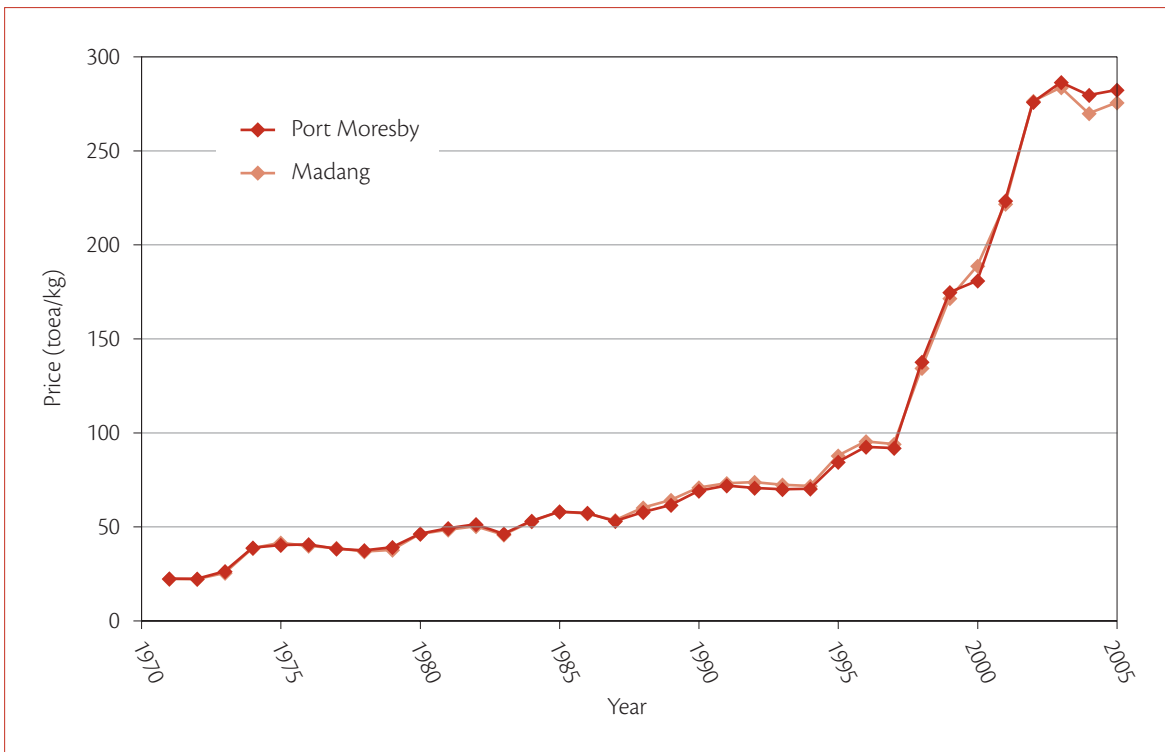




**Figure 4.3.1** Average market price of sweet potato in Port Moresby and Madang, 1971–2005. **Note:** The gap in prices of fresh foods in 1997 occurred because there was very little or no fresh produce in many markets during the drought, hence it was not possible to record prices at that time. Source: National Statistical Office of PNG.

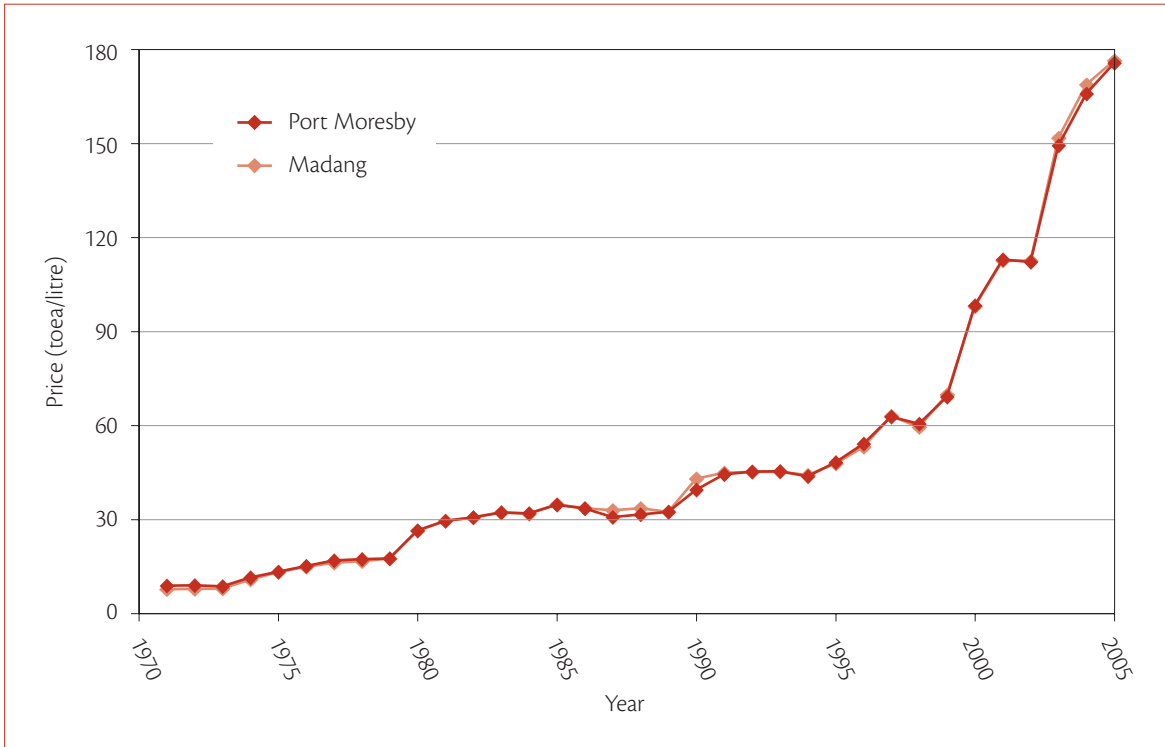


**Figure 4.3.2** Average market price of *aibika* in Port Moresby and Madang, 1971–2005. **Note:** The gap in prices of fresh foods in 1997 occurred because there was very little or no fresh produce in many markets during the drought, hence it was not possible to record prices at that time. Source: National Statistical Office of PNG.



**Figure 4.3.3** Average retail price of rice in Port Moresby and Madang, 1971–2005.

Source: National Statistical Office of PNG.



**Figure 4.3.4** Average retail price of kerosene in Port Moresby and Madang, 1971–2005.

Source: National Statistical Office of PNG.

## 4.4 Pay fortnight food market and retail cycles



A regular cycle of retail activity occurs in urban PNG that is closely associated with the fortnightly government pay period.<sup>1</sup> Because of the large number of public servants in urban areas, relatively large amounts of money move into the local economy once a fortnight when public servants are paid. This pattern is less striking where there are more private enterprise employers or other sources of income. For example, in the Kimbe area of West New Britain Province, payment to oil palm growers is a major source of income and the government payday effect is less marked.

Public servants do much of their banking and shopping in local food markets and stores on the Friday and Saturday of the government pay week. Villagers often come to their local town on those days, some seeking handouts from their relatives in the paid work force, others to market fresh food when more money is being spent. Thus there are often more sellers and buyers at local markets on these two days than on any other day in the fortnight.

These patterns are illustrated in Figure 4.4.1 with sales data of fresh food and betel nut in Kainantu market, Eastern Highlands Province, over a two-week period in 1982. The busiest days for the sale of both fresh food and betel nut in Kainantu are the government pay-Friday and the following Saturday. Sales from a retail store in Kainantu over a 10-week period are

shown in Figure 4.4.2. At this store, a third of the sales took place on only 2 of the 12 trading days each fortnight. This seems typical of other centres where there are few private enterprise employers.

Private sector payday (known as 'company' payday) falls on the alternate Friday to the government payday, and contributes to a smaller surge in spending on the Friday and Saturday of the non-government pay week (Figure 4.4.2). Although these data were recorded in 1982, the same patterns can still be observed in many urban locations in PNG, including in Port Moresby and the main highlands towns.

An increase in spending prior to the Christmas break in December forms another retail spending cycle in PNG. It probably occurs because teachers and some other public servants spend much of their holiday pay then. This is recorded as an increase in some sales figures in December. Sales of many items are often very low in January and February, presumably because many people have spent their holiday pay. This annual cycle is not as predictable or as large as the two fortnightly cycles described above, and seems not to affect fresh food markets.

### Source

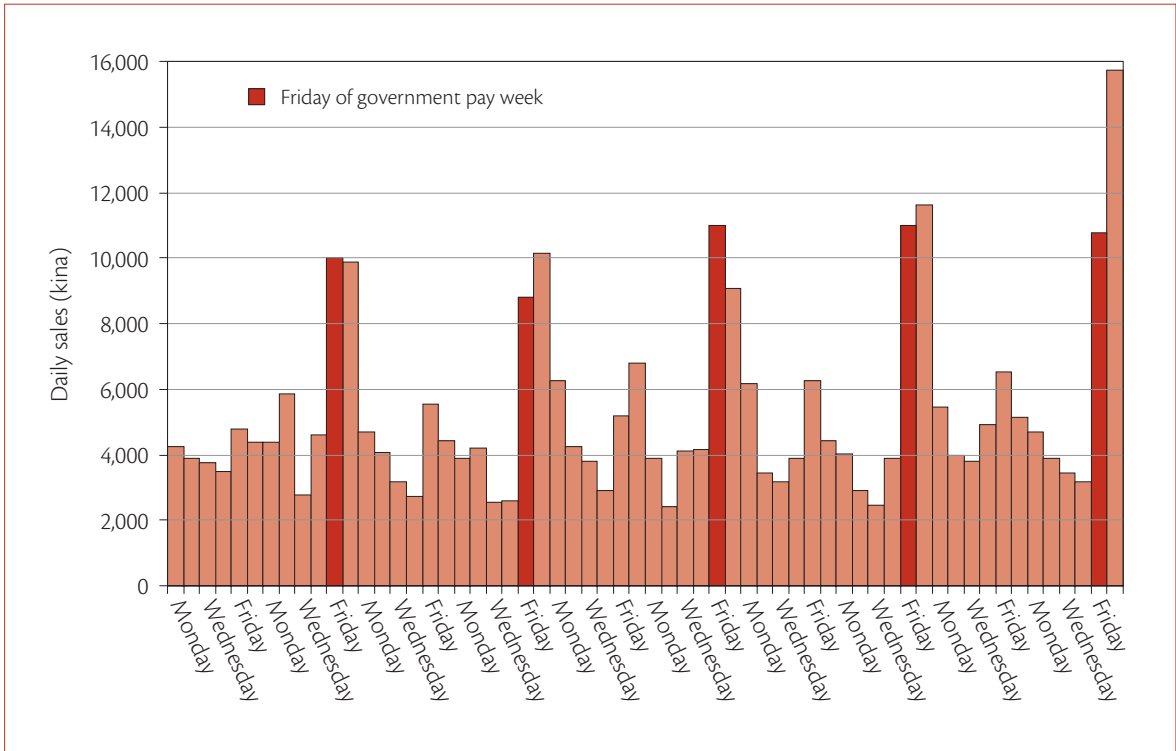
Bourke, R.M. and Nema, R.K. (1985). *Surveys of three food markets in the Kainantu area, Eastern Highlands*. Technical Report 85/6. Department of Primary Industry, Port Moresby.

<sup>1</sup> This section describes retail cycles in urban areas, and involves both urban and rural people. Another retail cycle, associated with coffee harvesting, occurs in the highlands (see Box 5.4).



**Figure 4.4.1** Value of fresh food and betel nut sold in Kainantu market over a 14-day cycle, July 1982.

Source: Bourke and Nema (1985).



**Figure 4.4.2** Daily sales in a retail store in Kainantu over a 10-week period, January–March, 1982. **Note:** Sundays are excluded because the store is closed on Sundays. Source: R.M. Bourke unpublished field notes.