Pacific island commodity prices

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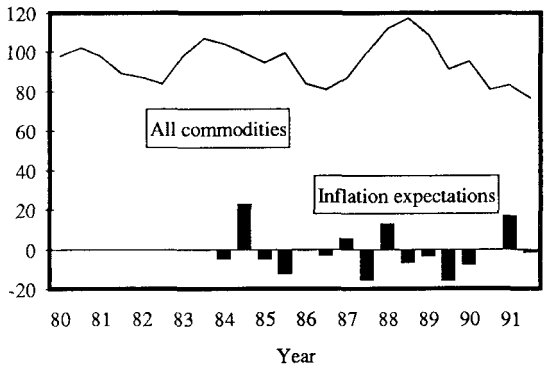
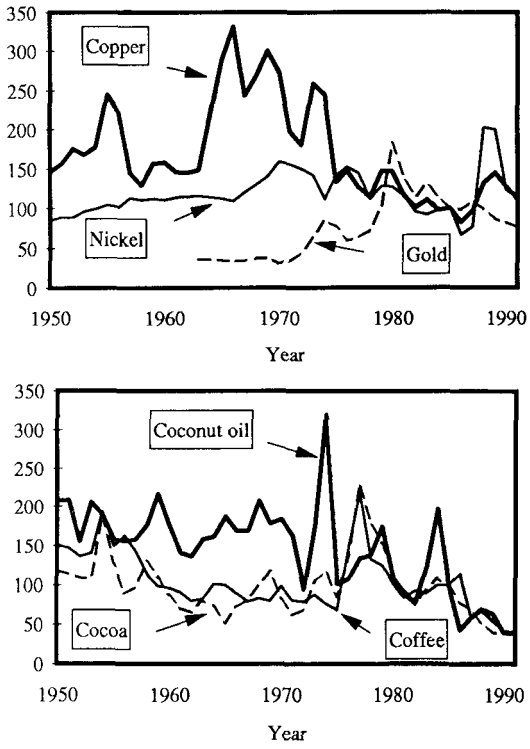
1991 was a dismal but hopeful year for most Pacific island producers of primary commodities. The *Economist*'s index of primary commodity prices continued its 1990 decline until mid-year, and at the end of 1991 was approximately 8 per cent below its end 1990 level and one-third below its 1985 peak (Chart 1). However, non-metal prices tended to rise in the latter part of the year and an assessment of supply and demand conditions suggests that they will continue to improve during 1992.

Chart 1 **International indices**
(1980 SDR value = 100)



The evidence of despair is in the half-century lows touched by most Pacific island inflation-adjusted prices during the year (Chart 2).[1] The decline in prices arose primarily because of the deceleration of increases in output to 0.5 per cent in the industrial countries, that is, they practically stagnated. As a consequence, the demand for primary products for fabrication or consumption was essentially unchanged, while the output of most of them continued to rise. The lowering of inflation expectations also reduced the demand for inventory purchases. There is even some evidence of a decline in inventories induced by the lowering of prospects for more rapid export growth and the lowering of inflation expectations.

Chart 2 **Inflation-adjusted indices of commodity prices**
(1980 SDR value = 100)

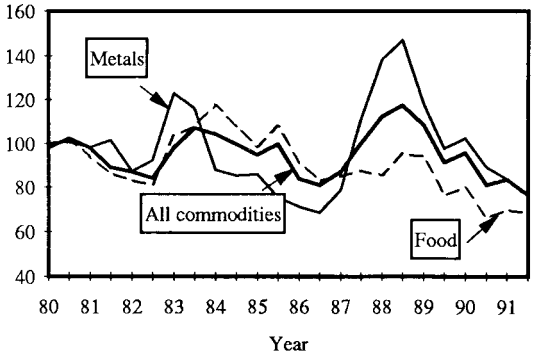


1 World Bank, *Price prospects for major primary commodities*, December 1990 (unpublished) includes estimates of the inflation-corrected prices (current prices divided by the UN index of unit value of manufactures weighted by the exports from G-5 countries and expressed in terms of 1985 prices for 1950–89 with projections for 1990–95, 2000 and 2005). 1990 and 1991 actual prices have been used here with some consequent adjustment to the Bank's 1992–2000 projections. This methodology tends to overstate the decline in primary product prices because the prices of primary products are quoted market prices and the prices of manufactures are unit values. The Bank uses the non-US quota Caribbean port sugar price. This is of only slight relevance to Fiji sugar exporters.

The international financial agencies are predicting a rise in industrial output in 1991, even though the rate of increase will probably not return to the average of the previous few years. Such forecasts have not always been realized in the past. Dun and Bradstreet's most recent survey of business sales expectations in the industrial countries and in a few of the industrializing ones indicate that most industrial producers expect output to rise more rapidly in 1992. Such surveys are notoriously unreliable. Recent stock market activity suggests that most institutional holders of securities are pessimistic. Their decisions are as frequently irrational as they are rational. On balance, it seems most likely that there will be a slow rise in most commodity prices in 1992 that is likely to continue for some years.

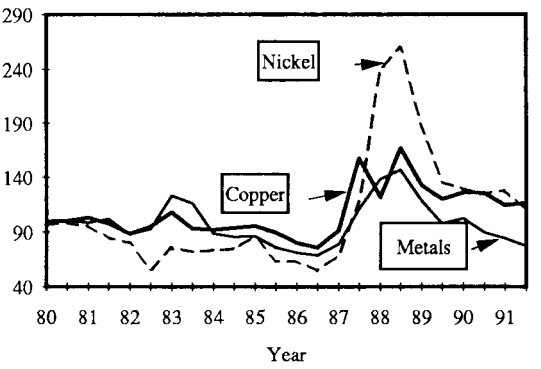
The metals price index has followed a more volatile course than the average of all commodities, reflecting that changes in industrial country investment expenditure are usually greater than overall changes in incomes. The food price index, which is more subject to consumption demands, fluctuated less than the average for all commodities (Chart 3).

Chart 3 **International trade price indices** (1980 SDR value = 100)



With the closure of the Bougainville mine, **copper** production in Papua New Guinea was reduced to by-products, mainly from gold mines. Hence copper shipments, that had been the leading export in 1989, were drastically reduced and ceased to be one of the leading export earners for the Pacific islands. The decline in demand for telecommunications and the increasing use of scrap rather than virgin metal were not offset by increases in demand from manufacturers of electronic equipment (for power cords and electric drives) and from the use of electronic and motor driven equipment in automobiles. This net decline in demand was not compensated for by the 4 per cent fall in output resulting from the Bougainville closure and from problems in mines in Chile, Peru, Zaire and Zambia. Hence the price of copper declined by 10 per cent during the year to historic lows in inflation-adjusted terms (Chart 4). World consumption is expected to rise by almost 2 per cent in 1992. This will not be enough to absorb the expected increases in production from Chile (including the world's third largest mine with the largest reserves, La Escondida) and Indonesia. Copper prices are therefore likely to fall in 1992 and to remain low for the rest of the century.

Chart 4 **Mineral price indices** (1980 SDR value = 100)



Nickel is the most important export for New Caledonia. Its average price in 1991 was less than 60 per cent of its 1988 level, falling by 12 per cent during the final six months of 1991 after a rise of almost 4 per cent in the first half-year. However, when adjusted for inflation, the average 1991 price was higher than that for almost all post-war years except 1988 and 1989. The final half-year decline originated largely in an unloading of inventories by the world's largest nickel producer, the USSR. Soviet Union exports are expected to rise by 25,000 tonnes to 110,000 tonnes in 1992. This is approximately equal to the expected rise in consumption. These shipments, the resumption of Finnish production and the reopening of Canadian mines, together with the rise in supplies now coming on stream from investment induced by the 1988/89 peak, should put downward pressure on prices in the next decade. This pressure will be intensified because the demand for stainless and alloy steels (absorbing two-thirds of nickel output) is not likely to rise as fast as the demand for alternative materials (such as plas-

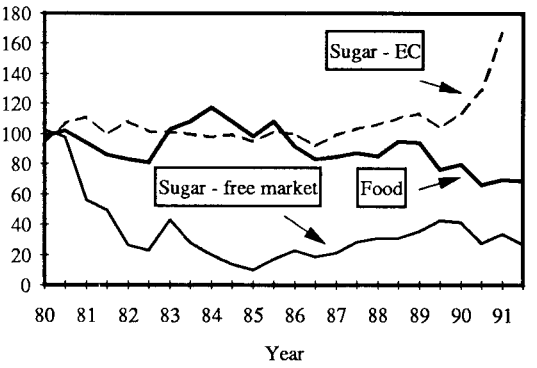
tics and aluminium), and may fall quite markedly if there is reduced spending on armaments. If the demand for high technology batteries increases this would give support to nickel prices. On balance, the prospects for the next decade appear to be for a slow rise in prices (almost constant in inflation-corrected terms) that will cover the costs of marginal producers but provide little opportunity for excessive profits.

Banaba Island has ceased producing **phosphate** and operations in Nauru are coming to a close. In 1990/91 Nauru exported 240,000 tonnes compared to 768,000 in 1989/90. However, new deposits estimated to contain 20 million tonnes of high grade phosphate with low non-degradable mineral elements have been discovered on Mataiva atoll north of Tahiti in French Polynesia. The Pacific area should therefore continue to be an important source of phosphate for some 10–20 years. With the decline of Nauruan production, phosphate prices strengthened in 1991 and may be expected to rise slowly in 1992.

Food prices generally reached a four year low towards the end of 1991 and have since recovered slightly. The European Common Agricultural Policy has exerted strong downward pressure on almost all food prices, from wine to tobacco. The United States Export Enhancement Programme has depressed grain prices and, through its reduction of sugar quotas, the price of sugar. These depressing influences have spread to other food prices, most of which are partial substitutes for European and US food products.

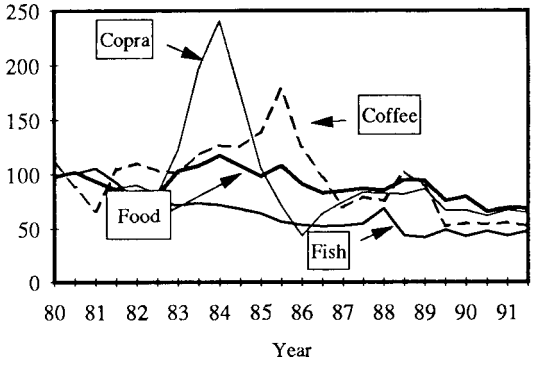
Fiji is the major Pacific island exporter of **sugar**. Under the Lomé Convention, almost half of Fiji's exports are sold to members of the European Community at Common Agricultural Policy prices, designed to support European sugar beet farmers. At the end of 1991, these were approximately four times the free market price (Chart 5). Most of Fiji's other shipments are made under long-term contracts, usually at the EC price. Hence, Fiji has benefited from the 30 per cent increase in the Common Agricultural Policy price during 1991. This price was agreed when the Common Agricultural Policy type of protection was subject to pressure during the negotiations on the General Agreement on Tariffs and Trade. The outlook for Fijian sugar prices is dependent on the results of these negotiations. If EC exports of subsidized sugar were to decline at a time when they were importing under Lomé conditions, the free market price would rise but not to the 1991 Common Agricultural Policy levels. Fiji would then suffer from the weakening of its now profitable market in the United Kingdom. (The United Kingdom prefers to pay Fiji the Common Agricultural Policy price rather than import at free market prices and transfer the difference between these prices, as it would be required to do under EC compensatory arrangements.)

Chart 5 **International sugar price indices**
(1980 SDR value = 100)



The demand for **coffee** is price inelastic (it is a small but satisfying part of consumers' expenditure) because a coffee tree does not reach maturity until five years after planting and continues to bear fruit for 20 years, with maintenance expenditure having little influence on the number and quality of the cherries. Consequently, unless the price received by producers (after deducting the fixed charges associated with getting the beans to final market), is less than the costs (both direct and indirect) of picking and preliminary processing of the cherries, supply will be only slightly reduced by low prices. In 1991, prices reached this low level and coffee output in Papua New Guinea declined. On the other hand, supply responds to price changes after a lag of about 20 years. Towards the end of 1991, the US dollar price of coffee (New York is the major international market) fell to its lowest level for 16 years (Chart 6), and the inflation-corrected price fell to a half-century low.

Chart 6 **International food price indices** (1980 SDR value = 100)



The inelasticities of both supply and demand lead to a typical cobweb induced pattern of price volatility.[2] The coefficient of variation of the inflation-corrected index of coffee prices is 2.5, compared to an average coefficient of 0.6 for all food prices. (Both indices are corrected for inflation.) The catalyst inducing price variations is almost always changes in the exports of the largest producer—Brazil—usually induced by frosts or droughts. The meteorological news from Brazil is the most important factor determining the difference between spot and forward prices. As might be expected, the variations in price have tended to become larger and, in the case of coffee, the average price has generally declined. Increases in productivity, which have been achieved by advances such as the control of coffee rust,[3] mean that declining prices need not lead to declines in producers' real incomes (although these were abysmal in 1991). The International Coffee Organization has maintained marketing agreements. The most recent one broke down with the 1989 collapse of prices. Papua New Guinea operated a domestic price stabilization arrangement until it ran out of funds (after drawing on a substantial government loan) in 1990. The World Bank forecasts that, with the absence of new planting and the ageing of existing trees, supplies can be expected to decline and prices to rise during this decade. They are not, however, expected to rise above their 1988 adjusted level by 2000. It has been suggested that Papua New Guinea might overcome the problem of low coffee bean prices by developing an instant coffee plant. If bean prices decline, world prices for instant coffee will fall and, unless the project is carefully designed, it could well experience the same fate as has befallen many other further-processing projects.[4]

Nominal **cocoa** prices, which are also subject to cobweb-type influences, touched a 20-year low in mid-1991. This apparently was their nadir. Inflation-corrected prices also touched at least a half-century, if not an all-time low. The steady decline since 1977 has discouraged production and encouraged consumption so that the record level of stocks reached in the crop year 1990/91 is now being reduced as consumption exceeds production. With output rising only slowly as old trees are replaced by new ones, and as rising prices restrain the record levels of consumption achieved in early 1991, stocks should be reduced quite rapidly and there is markedly inverse symmetry in cocoa stocks and prices. The price has already risen by one-third since mid-1991 and the World Bank estimate of a further one-third rise by 2000 in inflation-adjusted prices may well prove to be pessimistic (this would still be below 1987 prices).

The prices of **coconut** products (largely copra and coconut oil) and **palm oil** continued their post-1987 decline until the middle of 1991, following the price-setting trend of the largest source of vegetable oil (soy beans). Coconut and palm oil prices are estimated to have simple correlation coefficients with soy bean prices of approximately 0.9. They both reached at least half-century lows in inflation-adjusted terms in mid-1991. Drought, typhoons and volcanic eruptions markedly reduced output in the largest supplier of coconut oil (the Philippines) and drought reduced output in the largest supplier of soy beans (the United States). Floods brought China into the international market for vegetable oils. These increases in demand and the increased demand for coconut products (such as the substitution of coir for flammable plastic fibres in automobile and other furniture padding) offset to some degree the lower prices (but not the incomes received by producers) arising from technical developments in the growing and processing of coconuts. Increased investment in the Philippines, financed by the

2 M. Ezekiel, 'The Cobweb Theorem', *Quarterly Journal of Economics*, February 1938, reprinted in *Readings in Business Cycle Theory*, Blakiston, Philadelphia, 1944:422–42.

3 D. Shaw, M. Bourke and S. Bell, 'The coffee rust problem in Papua New Guinea', *Pacific Economic Bulletin*, Vol. 1 No. 1, June 1986:11–13.

4 Statement by Robert Igara, Secretary, Papua New Guinea Department of Trade and Industry, to the Tax Summit, 8–10 October 1991, Port Moresby.

Asian Development Bank, may also limit the upward movement of prices. The immediate price prospects for vegetable oil prices appear to be good. They should return rather quickly to their 1987 levels and possibly to their 1984 inflation-adjusted peak which was low by historic standards.

Dolphins and **tuna** do not swim together in the Western Pacific Exclusive Economic Zones. Pacific island countries have thus benefited from the increase in demand for dolphin-free tuna which satisfies environmental concerns. Some predatory fishing by US boats has reduced, but not removed, this advantage. Even so, tuna prices followed the declining trend that had been evident throughout the 1980s until it turned upward in mid-1991. This shift may be only a hiccup on the trend, but it seems more likely to be a reversal that should extend at least into the mid-1990s.

As yet, there are no exports of **petroleum** or **natural gas** from the Pacific islands.[5] However, the Kutubu project is nearing completion and Papua New Guinea appears likely to become an important petroleum, and possibly natural gas, exporter after 1992. One of the largest 'commodity receipts' in the area is the development expenditure by oil companies in Papua New Guinea. With mineral development programs, an economy receives approximately the same foreign revenue from development expenditure as it does from operating costs, at least in the first six to seven years. At present Papua New Guinea is experiencing rising receipts from the development of the Kutubu project. These are expected to peak in 1992 unless further discoveries are made (this is quite possible). The government receives revenue from mineral production only some years after the commencement of operations, as original depreciation charges are covered, the first of foreign debts are repayed and dividend charges are met (all the petroleum and gold operations in Papua New Guinea are managed and largely owned by foreign companies). Thus, the Papua New Guinea government's revenues from mineral production are expected to rise only slowly until 1993 and to peak (on the basis of existing projects) in 1995 or later.

There is consensus that, barring unforeseeable events like the Kuwait invasion which drove the price to US$40 a barrel, the price of oil will remain relatively stable in the range of US$18–24, rising during the northern hemisphere winter months and falling in the summer. These forecasts are made on the assumption that the OPEC cartel can stabilize total output. This essentially involves Saudi Arabia limiting its production at a time when this formerly very wealthy country is short of foreign exchange.

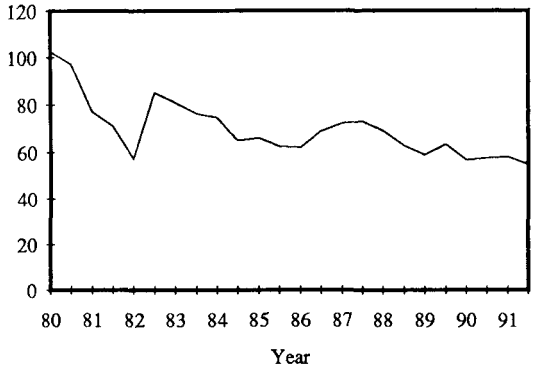
It is doubtful if the price of **gold** should be included in a review of the prices of commodities that are either industrial inputs or almost direct parts of consumption. Newly mined gold is an important source of foreign exchange for Papua New Guinea, Fiji and the Solomon Islands and may be considered similar to any other commodity. The demand for it, however, arises largely from desires to increase inventories (this includes a large part of jewellery demand). Hence, its price is largely determined by fluctuations in hoarding behaviour based on expectations regarding the nominal prices of other goods and services plus domestic and international political stability. A very large part of all the gold that has ever been mined is still in hoards (including international reserves and jewellery). These inventories are an important element in gold pricing determination. With increased inflation and political expectations, any marked rise in gold prices could lead to marked disinvestment.

During 1991 spot gold prices were low, barely covering the cash costs of marginal mines (Chart 7). It is difficult, however, to obtain meaningful data on the real price of gold (distinct from its inflation-adjusted value). A substantial part of production is sold on forward markets and the quoted forward prices diverge markedly from those obtained by producers. The differences between spot and achieved forward prices are large. For example, in the nine months ending September 1991, Placer Pacific, the largest operator in Papua New Guinea, sold almost all of its available production at an average price of A$526 per ounce compared to an average Sydney spot price of A$468. (At the end of June it had 19 months of its estimated available output committed forward at an average price of A$534 per ounce.) These forward prices determine contributions to the Papua New Guinea Mineral Resources Stabilization Fund and other sources of Pacific island revenues. A mine can continue to be worked if it covers the cash outlays for current operations. However, exploration will continue only if it is expected that the price to be received will also cover all investment (including exploration) costs. The

5 See David Parsons and David Vincent, 'High stakes: mineral and petroleum development in Papua New Guinea' in this issue of the *Bulletin*.

latter are approximately one-third of total costs. Current spot and organized futures market prices suggest that the estimates of the strength of future supplies and demands indicate little pressure for price increases. Some mining companies are therefore concentrating their exploration on the search for other metals.[6] If this becomes an active trend, the supply of gold will tend to fall, with consequent upward pressure on prices. With the long lag between exploration and production, the industry may be entering an era of cobweb-formed price variations similar to those now experienced in the coffee industry.

Chart 7 **International gold price index** (1980 SDR value = 100)



Estimates suggest that, at present prices, there may be excess demand for gold in the next few years (Table 1). In this case, the World Bank's estimate of a 75 per cent rise in the price of gold by the end of the century may be unduly optimistic, but not unreasonable.

Any projections on the supply of and demand for gold must be based on a number of assumptions. These include:

- the success of Papua New Guinea's minerals development program;
- that security services previously overestimated the Soviet Union's gold stock to guarantee their security of tenure;
- that the world's central banks will continue to dispose of their holdings as they have been doing since 1983 (at the end of 1991, central banks held 945 million ounces of gold compared to 955 million ounces in 1950, with a peak of 1,195 million ounces at the end of 1965); and
- that improved inflation expectations and fewer international political tensions will cause private investors to pay increasing attention to the cost of holding a non-earning and only slowly-appreciating asset.

Table 1 **Estimated future world demands and supplies of gold at present market prices** (tonnes)

	1990	1991[e]	1992[p]	1993[p]
Supply				
Mine production	1,735	1,770	1,780	1,750
USSR sales	380	300	120	60
Scrap	440	350	330	330
Total	2,555	2,420	2,230	2,140
Demand				
Jewellery	1,990	1,990	1,900	1,900
Other fabrication	275	275	275	275
Gold coins	120	150	120	120
Total	2,385	2,325	2,295	2,295
Change in official reserves[a]	−90	−45	−25	−10
Private investment[b]	260	140	130	100
Total estimated absorption	2,555	2,420	2,400	2,385
Discrepancy	—	—	170	245

[e] Estimated.

[p] Projected.

[a] Including estimates for Taiwan.

[b] Excluding forward transactions.

Sources: CS First Boston, *Global Mining*, September 1991, Melbourne, and *Pacific Economic Bulletin* staff estimates.

6 Chairman's address to 1991 Annual Meeting of Placer Pacific Ltd, Sydney.