# *Editorial*

*Philip Daniel*[1]

## Introduction

This *Bulletin* appears while the world is absorbing the 'third oil shock' — this time a shock produced by a fall of some two-thirds in the price of a barrel of crude oil, and one which is producing a massive transfer of real income back to oil consumers. The 1980s have also witnessed persistently depressed prices for most metal mineral commodities, after three decades in which periodic booms encouraged a great acceleration of exploration and production activity.[2] For both energy and mineral commodities fears of scarcity and depletion have given place to the problems of glut.

The international concerns of earlier decades about resource availability, price stabilisation schemes or the conditions for foreign investment in minerals have become less pressing. Instead, the focus of attention has shifted towards the effects of mineral booms and slumps upon the structure and welfare of the economies and societies of producer countries. The articles in this *Bulletin* address both national and international concerns.

First come three articles [Evans; Jazayeri; Gelb] dealing with aspects of the 'Dutch Disease' — the boom-induced rise in the real exchange rate and associated relative decline of non-mineral traded goods industries — and what, in conditions of slump, must now be termed inelegantly 'Reverse Dutch Disease'.[3] Next are two articles analysing the collapse of earlier expectations for the evolution of metal minerals markets: Phillip Crowson examines the response of mining companies, while Michael Prest documents the remarkable default of the International Tin Council (ITC) — an organisation which had once held out the possibility of a successful international mineral commodity agreement. Three country case studies follow: first, Anthony Clunies Ross examines the UK's response to the expansion of oil production and shows that the dilemmas faced by mineral-producers, and the mistakes made in tackling them, are not only the province of developing countries. Christopher Colclough and Martin Godfrey then examine possible responses to what is probably the key supply-side problem for oil-exporters — labour shortage — using case studies from Brunei and two Malaysian States in North Borneo. In the third, Carlos Fortin considers the domestic and international implications of Chile's counter-cyclical expansion of copper production over the past decade. In a concluding article, Mike Faber reviews recent publications dealing with host country-foreign investor relationships in mining, and with the performance of state mining enterprises.

From different perspectives, these articles explore a number of common themes. The experiences of OPEC, the ITC, of CIPEC in earlier times and of the failure of UNCTAD's integrated programme initiatives all illustrate the extreme difficulty of achieving any sustained collective insulation of producers from supply and demand conditions in international markets.[4] Moreover, movements in nominal prices and real purchasing power of mineral exports have, if anything, become more difficult to predict; errors caused by over-optimistic predictions have proved particularly costly.

[1] The editor acknowledges the support of ODA/ESCOR under Research Scheme R3848 'Adjustment Problems of Mineral Exporting Countries'. This *Bulletin* has been prepared concurrently with the Final Report on the project, and addresses many of the same issues. Neither the Overseas Development Administration nor the Institute of Development Studies is responsible for the opinions expressed.

[2] Nor have producers of precious commodities been immune. The price of gold quadrupled in 1979/80 only to collapse back to former levels in real terms by mid-1982. The carefully controlled diamond market temporarily collapsed in 1981/82.

[3] The term 'Dutch Disease' was coined to describe the effects on the Netherlands economy of the offshore gas discoveries in the late 1960s. The more neutral French term 'Syndrome Hollandais' leaves open the question of whether it is a disease after all, and whether special treatment is indicated [van Wijnbergen 1984].

[4] Confirming the important hypotheses put forward ten years ago by Radetzki (1976) about the limited potential for monopolistic commodity pricing among mineral producers, and the likelihood that OPEC's ability to manage supply would be over-estimated.

The articles suggest there is little inevitability about the domestic impact of either booms or slumps. 'Adjustment' to a balance of payments surplus or deficit in due course occurs by some means, but the ultimate effect on economic structure or performance, and on the distribution of income, is decisively influenced by outcomes of government actions and bureaucratic or political processes. A mineral boom is neither an unalloyed blessing nor the cause of inevitable economic and social decline. Intra-marginal production and trade of minerals involves the generation and distribution of economic rent. 'Rent' is here used to mean returns to factors of production in excess of those needed to secure their initial commitment to the activity; the windfall gains that accrue during minerals booms are rents *par excellence*. From a welfare point of view potential rents can be unrealised, diverted or dissipated[5] depending upon the terms governing mineral exploitation and the relative strength of agents in the process. When rents are generated and accrue to the resource-owning country, the processes by which they are then allocated are crucial to the long run equity and efficiency effects. The explanatory power of any economic analysis of mineral booms and slumps [see Evans, Jazayeri or Gelb], is therefore contingent upon these processes.

## Are Mineral-exporters Different?

The possibility of a 'life-cycle' for petroleum economies was recognised in pioneering work by Dudley Seers (1964, 1978): it implies not only the obvious cycle of discovery, production and depletion, but also the possibility that the wider economic structure and performance will change markedly over the cycle. More recently, the view has been advanced that mineral exporters differ structurally from other LDCs (including other primary exporting countries), and that their development performance has fallen behind countries, of similar initial income level, with a different composition of production and trade [Nankani 1979]. For sub-Saharan Africa, Wheeler (1984:8-9) has suggested that the share of non-oil minerals in total exports immediately after Independence is an important factor in explaining poor economic performance.

Three features strengthen the plausibility of the argument. First, export earnings from minerals (as from other primary commodities) are liable to wide fluctuations. Second, mineral deposits are depleted over time, creating a special requirement for replacement sources of income. Third, production and consumption linkages between mineral sectors and other sectors are relatively insignificant; the main potential linkage is fiscal. Rent from mineral extraction has first to be appropriated by the government of the resource-owning country, and then allocated to other sectors by means of transfers, provision of services or public investments.

Mineral-exporting countries, however, are a diverse group. Among those for which fuels, metals and minerals accounted for more than a quarter of exports in recent years are a small number of low-income countries (World Bank classifications) — Zaire, Central African Republic, Sierra Leone and Guinea —and a much larger number of countries whose 'lower middle income' status is often attributable more to mineral wealth than to broadly based income generation among the populace. These include the other African exporters of hard-rock and precious minerals (Mauritania, Liberia, Zambia, Zimbabwe, Botswana); a number of 'high-absorbing' oil producers with low incomes outside the oil sector (Indonesia, Nigeria, Congo, Ecuador); and a varied group of more diversified economies (Bolivia, Morocco, Papua New Guinea, Cameroon, Peru, Tunisia). The 'upper middle income' group includes the diversified economies of Chile, Malaysia and Mexico, and five important oil exporters. The 'capital surplus' oil exporters of the Gulf remain. World Bank data exclude any centrally-planned and non-member economies.

Nankani (1979) compared a set of fuel and non-fuel mineral exporters with a control group of middle-income non-mineral economies. While he found no clear performance patterns *within* the mineral-exporters' group, there was evidence of poorer performance than the comparator group in a number of respects. Non-fuel mineral economies had lower incremental savings rates (although oil economies did not). The mineral economies experienced greater 'technological dualism' (extremes of capital or labour intensity in production), wider intersectoral wage-differentials, higher unemployment and lower school enrolment ratios. Inflation rates tended to be higher in mineral economies. Agriculture tended to grow more slowly, and food constituted a larger share of total imports. Finally, he suggested that mineral economies were in fact more prone to export earnings instability than non-mineral economies, and their exports tended to remain more concentrated.

Although this type of analysis can provide useful pointers towards structural and policy problems in mineral-exporting states, there are considerable difficulties in arguing the strong thesis that mineral-exporting economies as a group share common characteristics, and a group performance record, attributable to certain necessarily occurring con-

[5] 'Diversion' and 'dissipation' of mineral rents are concepts drawn from Garnaut and Clunies Ross (1983:188). Diversion occurs when part of the rent accrues to persons or organisations other than the state. Dissipation occurs when the resource is exploited in an economically inefficient manner.

sequences of the development of a mineral-exporting industry. Apart from the problems of data and statistical manipulation involved in supporting such a thesis, this analysis leaves out of account the political economic characteristics of a country prior to the advent of a mineral sector and the continuing role of the pre-existing non-mineral sectors. There may be very wide disparities in national average income per head in different sectors of the economy, and little to distinguish the non-mineral sectors from those of other countries not possessing a mineral export sector but possessing similar population, ecological or historical characteristics. Thus a comparison of selected indicators for mineral-exporting countries with a control group of non-mineral exporters selected by income level alone may not be a valid comparison at all, since *ceteris paribus* conditions are most unlikely to hold.

Furthermore (as Nankani points out), there are wide disparities of performance among mineral exporters, and there are no convenient measures of the 'room for manoeuvre' available to governments in tackling the constraints apparently imposed by the growth, continuation or decline of a mineral export sector. Hence it is unwise to assume any inevitability about either the advantages or disadvantages brought by mining. There is, however, a common set of strategic and policy issues which mineral exporters face. It is, therefore, worthwhile to examine the mechanisms by which mineral development might incur national costs and benefits, and the ways in which it might transform a pre-existing economic structure.

## The Costs and Benefits of Mineral Development[6]

Economic theory has conventionally regarded the expansion of exports, and inflow of foreign investment to create export industries, as beneficial to any individual economy. Export expansion is not constrained by domestic market size, while the use of domestic resources for export production, where this follows comparative advantage (as it can be presumed to do in the case of mineral exports), raises real income by permitting the import of required commodities from least-cost international sources. The gains from trade are thus faster income growth and greater efficiency in generating income from given domestic resources.

The benefits of foreign investment have been considered still greater: not only will the gains of specialisation and comparative advantage accrue, but investment in export expansion will also stimulate new capital formation and technical change. In the colonial era, primary export industries were presumed to increase the propensity to save, and to stimulate new tastes and aspirations by encouraging the import of hitherto unknown commodities and services.

Following World War II, with the acceleration of decolonisation and rise of economic nationalism, a more critical set of arguments was developed.[7] The principal criticisms of orthodoxy were (a) that primary export industries in LDCs tended to function as enclaves with very limited linkages to other sectors of the local economy, (b) that the resulting imports tended to stifle local industry and prevent the realisation of 'dynamic efficiency' gains from industrialisation, while export industries drew scarce capital and entrepreneurship away from production for the domestic market, and (c) that, with foreign investment, the potential gains from trade were siphoned away from LDCs by structural features in the operation of multinational firms and of international commodity markets.[8]

The original use of these 'structuralist' arguments was to justify a switch away from a development strategy based upon the expansion of primary exports towards a strategy of import-substituting industrialisation. This emphasis on the general strategic alternative to primary commodity exports to some extent obscured the possibilities for overcoming the structural obstacles to increasing retention of benefits from such exports, even though the structuralist case pointed to important problems. In the type of small economy characteristic of most mineral exporters, particularly in Africa, there have proved to be severe limits on the potential for import-substituting industrialisation, and thus a reappraisal of the mechanisms for deriving benefits from mineral exports has been essential.

Moreover, the analysis and empirical generalisations upon which both the earlier orthodoxy and the structuralist critique rested tended to be of a partial equilibrium kind — frequently in the strict sense that everything else was held undisturbed while changes within a single industry were analysed. Even where earlier approaches tried to incorporate repercussion effects on other markets, the picture of generality was misleading. Early general equilibrium analyses treated many elements (notably government) as exogenous,

[6] Useful surveys of earlier literature on trade, development and the impact of primary commodity export enclaves can be found in Thoburn (1981) and Emerson (1982).

[7] These conflicting conceptions of the impact of trade and investment in spreading or stunting the growth of capitalism are paralleled within Marxist and related schools of thought; see Evans (1979) and Warren (1973).

[8] The authors most commonly associated with these arguments are Singer (1950), Prebisch, mainly in the documents of the UN Economic Commission for Latin America, but also in Prebisch (1963), and Mydral (1957). For a review of the origins of these doctrines, see Singer (1984).

tended to regard the institutional and organisational framework as neutral, and did not fully recognise the incompleteness of markets or the generality of 'second-best' problems.[9]

The upsurge of analytical effort that has accompanied the two oil booms[10] has shifted the focus of assessment of mineral development towards two main areas. The first can be termed the political economy of mineral rent generation and distribution. The second covers the general equilibrium effects of a minerals boom, including the effects of the expenditure of mineral rents.[11] The articles in this *Bulletin* share these pre-occupations, and some of them deal explicitly with the methods of analysis that can be employed [see Evans, Jazayeri, Gelb, Colclough and Godfrey]. The authors are also concerned to examine the robustness of the new approaches in dealing with the conditions of slump — for which they were not originally designed.

## Structural Adjustment in Mineral Economies: What has been learned?

The oil shocks of the 1970s led to the realisation in a range of countries that the sudden expansion of one (mineral) sector could cause rapid changes in resource allocation that commonly involved the relative — or even absolute — contraction of other traded goods sectors (usually manufacturing, but, in an LDC context, also agriculture), and the expansion of non-traded sectors (construction, services). These shifts were associated with price level rises faster than those of trading partners, explained by a rise in the price of non-traded output relative to traded — an appreciation of the 'real' exchange rate. These structural changes are not unique to mineral exporters: very large aid inflows, or soft commodity price booms can bring about similar effects. Nor is the problem new to political economy: analysis of the 'transfer problem' (war reparations, or the Marshall Plan) is in important respects an antecedent of Dutch Disease analysis.

The framework within which this syndrome has come to be analysed is discussed fully by Evans and Jazayeri in this *Bulletin*. It uses a 'specific factors' model of an economy engaged in international trade, with the additional characteristic that it is 'dependent' — its import and export prices are set by the international market.[12] There are two basic versions of the analysis. In the first, the economy is simplified to two sectors, traded and non-traded, and the minerals boom is treated as a windfall increase in the economy's ability to purchase imports [see, for example, Gelb, 1981]. This version permits a focus on the demand side, or spending effects of a boom, and is useful where the switch of scarce resources into minerals production itself is not a major issue — as is often the case in smaller developing economies. In the second, a 'booming' minerals sector is introduced, with its own pattern of resource use. This permits interlocking examination of spending and 'resource movement' (supply side) effects [Corden and Neary, 1982].

The standard analysis usually begins with the assumption that there are no idle domestic resources, and that the external accounts are in balance. The *spending* effect of a boom (the overall rise in public and private expenditure permitted by the windfall foreign exchange gain) immediately raises the prices of those goods and services that can only be supplied from domestic resources (non-traded), while increased demand for lagging sector output can be met from imports whose prices are internationally determined. This 'real' appreciation of the exchange rate causes a flow of labour out of agriculture and manufacturing (traded sectors), and a relative reduction in output in those sectors. The extent of the effect depends on the propensity to consume services; in mineral-exporting LDCs where increased government spending on construction and public services is likely to be the main channel for use of mineral rents, the marginal propensity will be high.

The supply side, or resource movement effect occurs because employment of additional workers in the booming sector now produces more output than employment of the same workers in other sectors. A withdrawal of workers from service industries causes prices to rise at any given level of demand, while imports again fill the gap in other traded goods sectors. The end result is an effect similar to that of the spending effect. The strength of the supply side impact depends on the relative use in each sector of labour and other productive resources — where the booming mineral sector uses relatively little mobile labour (as may well be the case in some LDCs) the resource movement effect may be dwarfed by the spending effect.

[9] I am indebted to David Evans for this point. Modern general equilibrium analysis in the neo-classical tradition explicitly tackles these questions.

[10] And similar local experiences such as the Australian mining boom of the early 1970s (much of the important economic analysis of the 'Dutch Disease' in fact emerged in Australia), and the 1976/77 coffee boom in Colombia, Kenya or Ivory Coast [Dick *et al*, 1983].

[11] Two recent volumes display the current state of work in each area: on rents see Garnaut and Clunies Ross (1983); on general equilibrium analysis of the 'Dutch Disease' see Neary and van Wijnbergen, eds. (1986).

[12] 'Specific factors' means that some factors of production (capital, for example, or a natural resource) are specific to one sector, and not useable in others. The basic Dutch Disease analysis usually assumes specific and immobile capital, but mobile labour. The 'dependent economy' assumption also implies that the relative prices of imports and exports cannot be altered by domestic policy action; hence imports and exports can be treated as a single, composite 'traded' commodity.

Given the assumptions, a mineral boom brings about a rise in real income, a contraction of the lagging sector, and probably an expansion in non-traded goods production. Hence the possibility of 'de-industrialisation' in economies such as those of the UK, Netherlands or Norway [Clunies Ross], and of the squeeze on agriculture or 'perverse re-industrialisation' [Jazayeri] in LDCs. Wage-price flexibility, and labour mobility, ensure that there is no unemployment. When the boom subsides (or collapses) the process should then reverse itself — again without unemployment (since wages fall, and the real exchange rate depreciates). Real income will now be dependent on the choices between consumption and accumulation made during the boom, and the efficiency of investment undertaken.

It will be obvious that much of the story is not like this — but 'Dutch Disease' economics can be helpful in identifying the potential direction of structural change, and the reasons why, in both boom and slump, it does not necessarily occur as the model predicts.

The problems encountered with the familiar 'Dutch Disease' model command a good deal of attention in this *Bulletin*. The main ones concern the assumptions and include: the initial assumption of full employment [Evans] and external balance [Gelb]; price/wage flexibility and the possibility of a smooth adjustment process from one production structure to another; the absence of market distortions; and the 'specific factors' assumption that capital does not move between sectors. The removal of the latter restriction [Evans] adds a degree of room for manoeuvre in dealing with reverse Dutch Disease not so readily apparent in the standard version of the model. Moreover, as all the authors stress, the outcomes of both booms and slumps depend on things that governments do, and thus upon the political process.

If there were widespread unemployment, production of minerals and services could expand without withdrawing resources from manufacturing or agriculture. But all too often this has not been the case. Whether for institutional reasons or because the 'subsistence-wage' floor is high, mineral booms have still produced rapidly rising wages and real exchange rate appreciation even where unemployment appears to be significant.

Labour market conditions are crucial to any possible reversal of the effects of the boom when mineral receipts contract [Evans; Gelb; Clunies Ross; Colclough and Godfrey]. A combination of strong unions in the leading sector, and in the public sector, with widespread government-administered wage-fixing (all of which may be strengthened during the boom) will stand in the way of a significant reduction in the relative price of home goods and services — meaning that real depreciation will be hard to achieve whatever nominal exchange rate action is taken. Hence the likelihood of long-duration unemployment during contraction.

Colclough and Godfrey examine the import of labour in North Borneo states as one solution to general labour shortage and the resource movement effect. The Nigerian case [Jazayeri; Gelb] also affords an example of where the import of labour was used to help meet booming demand for construction and services. When the boom collapsed, the expulsion of imported labour followed. Refugee problems are not always the product of wars and famines.

Import barriers will alter the distribution of the effects of real appreciation, and narrow the range of domestic traded activities. Protection of domestic manufacturing, for example, may mitigate its relative contraction, but also increase the weight of non-traded activities in the economy and the pace of cost inflation.

Once again, the problem occurs when the boom is over. If protection and regulation have been used to a large extent, non-mineral traded goods production will have contracted sharply. In these circumstances, new exports are slow to emerge, and the economy faces a doubly acute foreign exchange shortage. Nominal exchange rate devaluation here will improve the local currency prices of exports relative to imports if prices of imports (and domestic substitutes) are already set by supply and demand in domestic markets, whereas exporters receive only the local currency proceeds of export earnings at official exchange rates — imports and exports can no longer be treated as the products of a composite 'traded' sector.

Clunies Ross offers a useful distinction between those countries where the main problem is managing the appreciation of the real exchange rate and its effects, and those countries where managing public finances presents the main challenge. The actions of government are critical in both, but in the former they intensify or moderate the supply side effects, in the latter the demand side effects.

Clunies Ross argues that the British Government declined to 'lean against the wind' in its management of sterling's appreciation, and thus substantially magnified the damage to manufacturing experienced during the oil boom. Real exchange rate appreciation has been pronounced, too, in many mineral-exporting LDCs, but more frequently it has been a repercussion

of mismanagement in public finances and expenditure allocation.

When governments rapidly increase spending in response to a mineral boom, they are likely to exhaust the range of high-yielding, quick-implementation projects in a very short time, and to run into capacity constraints.[13] Fiscal discipline over both expenditure and revenue-raising often becomes an early casualty. Large, lumpy infrastructure projects making heavy demands on future recurrent spending tend to be chosen. Rapid increases in public investment and consumption make wage restraint difficult to sustain, while import of foreign skills adds to wage pressure through a demonstration effect. The boom itself may stimulate further capital inflows, and the new activity adds further to government revenue from duties, sales taxes and income tax.

Nor is direct transfer of resources to the private sector — reducing taxes, or offering subsidies — necessarily an answer. Much depends upon the regulatory environment and the structure of incentives facing private business. There are often quick and very large returns to be made, for example, in real estate. Above all, a concentration of private effort upon securing a share of windfall rents directly from government may be much more rewarding than investment in productive capacity [Krueger 1974]. Each of these effects further weakens the economy in the face of a subsequent slump.

Current spending obligations are difficult to reduce, once undertaken. Alternative traded goods production will have been weakened both by market forces and government allocation decisions. Public sector savings performance may deteriorate very quickly indeed. The temptation to resort to government borrowing from the Central Bank has proved widely irresistible. Foreign exchange reserves then fall more rapidly still, and resort to tight trade, exchange and price controls follows. These in turn narrow the scope of traded goods production and prevent the real exchange rate from depreciating as required.

Access to benefits from increased public expenditure, and competition for a share of rents (mineral, monopoly or regulatory) easily become the central political questions in a minerals boom. If many of the patterns analysed in this *Bulletin* take hold, a mineral boom in an LDC can be viewed as a special case of a mechanism by which 'urban bias' is installed.[14]

Profits, wages and employment opportunities in urban services expand faster than their counterparts in rural production. Agriculture easily becomes a 'lagging' traded sector, and receives low priority in public investment; it is less able than urban manufacturing to achieve sheltered (non-traded) status through protection. Capacity constraints and wage pressure increase the costs of public sector, industrial and other service activities, while budget laxity allows proliferation of civil service posts. Very large scarcity rents become available to those with control over resources in non-traded activities (housing or land, for example); rents also become available to those able to clear obstacles to obtaining the contracts or licences necessary for participation in the construction and services boom.

There may be powerful reasons why governments, ostensibly representing the collective interest, fail to prevent these developments and prove unable to 'lean against the wind' in the conduct of economic policy. The task of coping with a mineral boom (or slump) is not only a matter of seeking the best (or even a slightly improved) policy package from an economic efficiency point of view. It also requires the construction of a coalition of political forces that perceives a sufficiently strong interest in avoiding the Dutch Disease, and has sufficient resources at its command to 'buy-off' the key elements among those who might suspect damage to their own interests from an adjustment programme.

Bates (1981, 1983) has cogently argued the political rationality of economically irrational (and inegalitarian) agricultural policies in the context of sub-Saharan Africa. The argument can help in understanding the nature of political responses to the economic effects of a mineral boom. The coalition which exerts the strongest influence for higher prices, and for command of public resources, will tend to contain producers of goods with low weights in consumers' expenditure, and those strategically placed to disrupt economic activity or national security. The incentive to act to increase a price or secure a public subsidy is greater where there are few sellers or beneficiaries, each anticipating a large share of the benefit. In agricultural, or small-scale enterprise, in poor countries, the costs of collective effort may be substantial, difficult to apportion, and, for some producers, outweigh any expected benefits.

Mineral rents provide the resources *par excellence* for the use of project-based, rather than price-based, measures to provide benefits to selected groups in the rural population, and to subsidise the key consumer items for the poorer sections of the urban population — thus maintaining in force policies that violate the interests of most farmers and the prospects of those who will be excluded from subsidy at the onset of

[13] Full discussion of these points can be found in Gelb (1981), Lewis (1984), Garnaut and Clunies Ross (1983:192-212) and Roemer (1985).

[14] By 'urban bias' is meant the syndrome of systematic discrimination in pricing and resource allocation in favour of urban interests elaborated by Lipton (1977).

slump. The availability of rents in the boom eases the cost of generating additional rents through physical controls and administered pricing distortions, and increases the necessity to maintain them as the downturn occurs, so that resources are at the disposition of politicians and officials, for use in selectively acquiring political support or acquiescence.

The structure of the dominant coalition and its expectation of its own durability, is likely to influence the feasible stance on stabilisation policy, incentives and expenditure allocation. Where for reasons of pre-boom political structure, or because the minerals boom is not of sufficient relative size to threaten the continuing significance of other exporting sectors, prosperous rural interests have a strong voice in government, there are signs that the Dutch Disease has been better contained. The editor's own research suggests this for Botswana and Papua New Guinea (contrast Zambia), it may be the case for Malaysia and Cameroon, and emerges to some extent for Indonesia in contrast with the other cases examined by Gelb in this *Bulletin*.

## Policy Responses and the Future

The outlook for international mineral markets portrayed by Crowson offers little hope of a sustained rise in the purchasing power of metal mineral exports. Although excess production capacity is gradually being reduced, the growth of demand is not such as to foreshadow the re-emergence of conditions of scarcity. Energy minerals are now experiencing similar effects, coupled with the collapse of OPEC's price-supporting production restraint. Long-run market conditions do not eliminate the possibility of occasional short-lived booms in individual commodities, but should make exporters all the more wary of the durability of sudden price rises. Across the whole spectrum of commodities the task has reverted to one of dealing with price *fluctuations*, rather than major 'permanent' re-evaluations of the relative price of a commodity. Above all, however, uncertainty has increased [Gelb; Prest] — not least because the liberalisation of financial markets in the rich world is unleashing speculative forces which existing commodity trading arrangements are finding it difficult to contain. The amplitude of fluctuations, and the long-run average around which they occur, are thus more difficult than ever to forecast.

Collective action by mineral exporters to preserve their real incomes looks to be a less promising route than ever before — though the outcome of OPEC's effort to regain its share of the world oil market remains to be discerned and evaluated.

Fortin (copper) and Prest (tin) illustrate this proposition from different perspectives. Prest's article also drives home the point that very demanding conditions have to be met if producer-consumer commodity price stabilisation agreements are to survive; recent theoretical work has in any case cast doubt on the micro-economic benefits of dampening price fluctuations [Newbery and Stiglitz, 1981].

The review article by Faber (and Clunies Ross' account of UK oil taxation) suggest, too, that measures prompted by economic nationalism have run their course in improving LDCs' shares of mineral export proceeds. Nationalisation has waned in popularity, and the scope for new state enterprises is limited in a depressed market. Most of the glaring examples of concession agreements favouring foreign companies have been successfully re-negotiated. Mineral taxation devices have become steadily more sophisticated and attuned to the economic problem of efficient extraction for the host government of mineral rent. In a telling phrase, 'the sting has gone out of the relationship' between foreign mining or oil companies and host governments.[15]

The task for mineral exporters, then, is the tough one of adjusting to circumstances that represent the collapse of expectations that once seemed well-justified. In important respects, this endeavour does not differ from that facing other non-NIC poor countries, but it is confronted from an even greater collapse of expectations and from economic structures already weakened by mishandling of earlier booms.

If, however, early booms produced a 'disease', then the slump may contain possibilities for a long-term cure [Evans]. The fall in rents on minerals, and on specific resources in non-traded sectors, reduces the scope for rent-seeking activity and will encourage real depreciation. New opportunities for import substitution and exports could be opened up by real wage reduction, technical change, and better use of domestic resources — provided that the likely resistance of rent-beneficiaries to relative price and to resource allocation changes is overcome.

Both existing and potential mineral-exporters now have a wide range of positive and negative experiences to draw upon in managing the rapid expansion of a mineral sector. It is tempting to hope, with Roemer (1985) that the experience of mismanaged booms has been so disastrous as to frighten future rulers into avoiding the same mistakes.

The main lessons are as aptly summarised for the UK by Clunies Ross as for any LDC. There has to be an

[15] The phrase was used by Roland Brown in a seminar at the IDS in 1983.

attempt to estimate 'permanent revenue' from mineral resources, and to match 'permanent expenditure' to it. This implies the accumulation of foreign financial assets in boom times, to run them down in slumps. Coherent stabilisation policy requires discipline, 'best guesses' and a mixture of provision against what is likely to happen and response to what has happened. But without it there is little hope of mitigating real exchange rate appreciation, spending in line with the absorptive capacity of the economy, or deploying mineral rents in ways that are even close to full potential efficiency.

There are three aspects to the overall resource judgement which a government has to make for macroeconomic policy purposes. First, the cyclical judgement — exemplified by the problems of managing the soft commodity price cycles that became familiar in the 1950s, 1960s and 1970s. The second is the precautionary aspect, exemplified by Botswana's accumulation of reserves against a possible collapse in the diamond market. The third is the counter-depletionary problem, represented by the problem of re-investment of oil or mineral revenues to create new assets.

The first, cyclical, area, requires a judgement about the duration and intensity of the cycle, and forecasts of trend values across cycles. The second requires some assessment of the degree of risk acceptable to the domestic economy, and the risk of major structural change in the world environment. The third requires some estimate of depletion rates, of the absorptive capacity that might be set against the investment of the depleting resource and of the yield on investments.

While it would be utopian to expect accurate foresight on such matters, it is not so to suggest that the problems at least be posed when fiscal policy judgements are at stake.

Each country study in this *Bulletin* emphasises the importance of real wage levels and the real exchange rate. There is now widespread recognition that deceleration of the pace of real appreciation in a boom (or offsetting its effects by subsidy) can help to prevent the contraction of other traded activities. But *some* degree of real appreciation is necessary to balance of payments adjustment in a boom, where domestic resources are already fully employed, unless the whole additional foreign exchange inflow is somehow 'sterilised' (for example, by holding it in Central Bank accounts off-shore). The problem is how to reverse it when slump conditions require. Nominal devaluations work only to the extent that domestic costs, especially wages, do not rise with import prices. Whether wages are best stabilised, and adjusted where necessary, by 'labour market flexibility' or by a process of national consensus formation akin to an incomes policy is a question without a definitive answer.

Perhaps the most difficult question is that raised by Gelb — what is the best way to 'sow the oil', and what is the preferred balance of public and private activity in the process. The record of public expenditure in mineral booms leaves few grounds for confidence about the effectiveness of the 'developmental state' in mineral-exporting countries. But given that mineral rents in LDCs will accrue, if at all, to the state rather than private (citizen) agents, there is little alternative but to improve the allocative process rather than repose faith in widespread privatisation. Non-mineral tax effort may tend to weaken, but few governments — other than the State of Alaska — have directly distributed oil revenues to the populace.

**References**


Bates, Robert H., 1981, *Markets and States in Tropical Africa*, University of California Press, Berkeley

—1983, *Essays on the Political Economy of Rural Africa*, CUP

Corden, W. M. and J. P. Neary, 1982, 'Booming sector and deindustrialisation in a small open economy', *Economic Journal*, 92, December, pp825-48

Dick, H., S. Gupta, T. Mayer and D. Vincent, 1983, 'The short-run impact of fluctuating primary commodity prices on three developing economies: Colombia, Ivory Coast and Kenya', *World Development*, vol 11 no 5, May, pp405-16

Emerson, Craig, 1982, 'Mining enclaves and taxation', *World Development*, vol 10 no 7, July, pp561-71

Evans, David, 1979, 'International commodity policy: UNCTAD and NIEO in search of a rationale', *World Development*, vol 7 no 3

Garnaut, Ross and Anthony Clunies Ross, 1983, *Taxation of Mineral Rents*, Clarendon Press, Oxford

Gelb, Alan H., 1981, 'Capital-importing oil exporters: adjustment issues and policy choices', *World Bank Staff Working Paper* no 475, August

Krueger, Anne O., 1974, 'The political economy of the rent-seeking society, *American Economic Review*, vol 64, no 3, pp 291-301

Lewis, Stephen R., 1984, Development problems of the mineral-rich countries' in M. Syrquin, L. Taylor and L. E. Westphal (eds.), *Economic Structure and Performance: Essays in Honour of Hollis B. Chenery*, Academic Press, San Diego

Lipton, Michael, 1977, *Why Poor People Stay Poor*, Temple Smith, London

Myrdal, Gunnar, 1957, *Economic Theory and Underdeveloped Regions*, Duckworth, London

Nankani, Gobind, 1979, 'Development problems of mineral exporting countries', *World Bank Staff Working Paper*, no 354, August

Neary, J. P. and S. van Wijnbergen (eds.), 1986, *Natural Resources and the Macroeconomy*, Blackwell, Oxford

Newbery, D. M. G. and J. E. Stiglitz, 1981, *The Theory of Commodity Price Stabilisation*, OUP

Prebisch, R., 1963, *Towards a Dynamic Development Policy for Latin America*, UN, New York

Radetzki, Marian, 1976, 'The potential for monopolistic commodity pricing by developing countries' in G. K. Helleiner (ed.), *A World Divided*, CUP

Roemer, Michael, 1985, 'Dutch Disease in developing countries: swallowing bitter medicine', in Mats Lundahl (ed.), *The Primary Sector in Economic Development*, Croom Helm, London

Seers, Dudley, 1964, 'The mechanism of an open petroleum economy', *Yale University Economic Growth Center Paper* no 47

—1978, 'The life cycle of a petroleum economy', *Discussion Paper* no 139, IDS, Sussex, September

Singer, Hans W., 1950, 'The distribution of gains between investing and borrowing countries', *American Economic Review, Papers and Proceedings*, May

—1984, 'Terms of trade controversy and the evolution of soft financing: early years in the UN 1947-51' in Gerald M. Meier and Dudley Seers (eds.), *Pioneers in Development*, Oxford University Press for the World Bank

Thoburn, John, 1981, *Multinationals, Mining and Development: A Study of the Tin Industry*, Gower, Farnborough

van Wijnbergen, S., 1984, 'The "Dutch Disease": a disease after all?', *Economic Journal*, 94, March, pp41-55

Warren, Bill, 1973, 'Imperialism and capitalist industrialisation', *New Left Review*, no 81

Wheeler, David, 1984, 'Sources of stagnation in sub-Saharan Africa', *World Development*, vol 12 no 1, January, pp1-23