Australia's economic future appears to rely on mineral commodities – no other industry can generate the returns necessary to overcome our current account problems.

JOHN MACLEOD draws an optimistic picture of the world economic factors which favour Australian miners.

Miners, probably more than most, have learned to live with the cyclical nature of their international business. But as the industry begins to enjoy the fruits of recovery once again, a number of longer-term issues are emerging which have the potential to change the future of the industry.

As the economic cycle swung into its downturn phase in 1991 and 1992, it became apparent that this was no ordinary cycle for the minerals industry. The outstanding factor was the larger than usual fall in inflation, a situation which has persisted so far in the upswing, to the advantage of capital-intensive industries such as mining, refining or smelting.

A second feature was that major national economies were unsynchronised in the downswing and, until the second half of 1994, in the upswing.

A third and most unusual factor was the collapse of metal demand in the former Soviet bloc countries and the consequent release of a flood of metal on to western European markets. The return of South Africa to world markets has been a further factor. For the metals industry, the surprising bottom line was that metal consumption continued to grow through the down phase of the cycle.

The explanation for this growth in metal demand lies in Asia. Throughout Asia, apart from Japan, economic growth has continued, the share of world trade is increasing and manufacturing industry is in the forefront of growth. Thus while metal demand in developed countries shows its normal cyclical decline, growth in Asia (and elsewhere) is sufficient to off-set developments in the major countries.

This economic boom in developing Asia has turned the region into a significant consumer of metal. As a result, Australia has a high-volume, fast-growing market in a region where we have a competitive advantage. The day is not far off when Asia might be consuming up to one-third of world metal production.

Strong growth by manufacturing industry has been an important feature of the world recovery. This manufacturing boom is widespread, marked by re-focused, better-managed businesses in the old world and rapid industrialisation in developing countries. Even Australian manufacturers have shown extraordinary growth in the past two years.

In a borderless world where tariffs are disappearing, trade in manufactured goods is daily becoming more important. Growth has been characterised by more inter-regional trade, more parts and components and relocation of labour-intensive manufacturing which means imports by parent companies of goods formerly produced at home.

Even though the main user of metals, manufacturing industry, has been very strong in this cycle, only part of the cyclical recovery has occurred. Investment is a metal-intensive phase of the cycle and it traditionally lags. We have seen signs of stronger plant and equipment expenditure. In the main this sector of metal demand is still to come.

SUPPLY

A shift from developed to developing countries has been under way in the minerals business for decades. In part, this...
serves to remind us that all ore-bodies have finite lives and developed countries have used up their best resources.

New sources of supply depend on exploration. But exploration is expensive, time-consuming, faced with land-access problems and very risky. In Australia, a major ore-body on average requires expenditures of at least $50 million spread over 10 years or more. Research and development is also playing a greater role in new developments as miners are forced to find ways to extract minerals from complex ore-bodies.

World data on exploration shows a shift of activity away from the US, Canada and Australia in favour of South America. Thirty per cent of Australian companies' exploration budgets is spent offshore and this could rise quickly as greenfields work moves into the second and third stages of exploration. These stages require much larger expenditures than the first greenfields phase.

In some sectors, copper being the best example, major new mines have been brought into production, more than offsetting declines in some of the established producers such as some African countries.

The rapid development of manufacturing industries in China has pushed that country into the forefront of metal demand, with steel but one example. China is distinguished from most other fast-developing Asian countries in that it has extensive domestic mineral refining and smelting industries.

So traditional mine and refining/smelt- ing capacity has been growing but the type of product and the geographical location has been changing more rapidly. Japan has probably peaked as a processor of metals while China, India, Indonesia and Chile have grown in stature as sources of minerals. Steam coal, too, has grown in importance in world trade.

Overlaid on these supply features are two important developments. The first is the growing emphasis on environmental issues and the resulting growth in the use of recycled metal. The second is the role of inventories in the metal cycle, especially exchange-traded metals. London Metal Exchange inventories rose to very high levels – 15 to 20 weeks' consumption – in the first half of 1994. At these levels, it seemed likely that it would take many years to reduce them to normal levels. That idea was quickly proven wrong, with inventories in 1995 having fallen markedly.

New players have arrived in the commodity markets. In the past, metal markets were dominated by producers and fabricators with an overlay of speculative interests. Recently, however, three new financial market players have influenced the inventory scene. They are the major banks, hedge funds and pension funds which have been encouraged to treat commodities as a separate asset class.

The mineral industry knows little about the motivations of these three new players, making the forecasting of metal prices even more hazardous than usual. Forecasting base metal prices is about as dangerous as forecasting exchange rates; and to have to forecast both, as most Australian mining analysts must do, emphasises what an art form this is.

This world metal market scene provides a basis for confidence in the outlook for the next year or two. The now synchronised nature of major economies, the underlying strong demand growth, some exciting new major markets (China and India) and more open world markets all suggest strong demand for metal. With supply in general expanding only modestly, inventories now well down, and, hopefully, the worst of the adjustment problems in Russia and other CIS countries over, the supply-and-demand equation should favour producers.

**THE AUSTRALIAN OUTLOOK**

Six important changes are occurring in Australia. Without ranking them, they are:

- **An exploration boom.** Exploration in Australia tends to shift in big waves. The nickel boom of the early 1970s and the gold boom of 1987-88 are two examples. Record levels of expenditure were set in 1994, surpassing the previous peak of 1987-88. Given that this latest boom is accompanied by increased exploration expenditure by Australian companies overseas, total exploration expenditure exceeds the previous peak by 20 per cent or more. This is a very large and quite unexpected vote of confidence in the future.

Why the sudden rush, given the problems of access (national parks, Mabo, etc.)? Several factors are worth mention-
Gold, gold, gold is number one. It accounts for more than 60 per cent of exploration targets and Western Australia has the lion’s share of the action.

Why gold, when the price has been relatively flat? The answer is new exploration and extraction technologies, new financing options, use of derivatives which have yielded premium returns for many producers, and a ready market for the output.

The Australian stockmarket’s role in funding junior gold companies should not be overlooked – exploration funding tends to come mainly from profits of mining companies while the stockmarket tends to finance a large share of junior mineral company exploration programs. Australia has a major competitive advantage in terms of a relatively large market able to fund these high-risk programs.

The second feature of the Australian exploration boom is a renewed emphasis on base metals. Some of these exploration programs are in the feasibility study phase, the period of heaviest expenditure. Diamonds continue to command substantial exploration resources, despite the generally poor results.

The third factor is somewhat longer-term. It has become increasingly apparent that some of Australia’s largest and richest ore-bodies are reaching the end of their economic life. Many are quite old by world standards and all have been mining on a very large scale. Broken Hill, Mt Isa and Mt Tom Price are three examples. The industry works on long time cycles but the end of the economic life of a major ore-body accelerates efforts to find replacements and the Pilbara iron ore industry is the best illustration.

The fourth feature is the increasing share of exploration budgets being diverted offshore. Some of this reflects problems of access to land in Australia but the bulk is driven away by prospectivity. What it is telling us is that Australian miners are spreading their wings abroad in such a significant way that it foreshadows a more international set of companies in the next decade.

**Cost competitiveness.** The Australian industry has learned to survive in a very competitive world without government assistance. The position of any Australian mine or smelter on the world cost curve for the industry has been sharply in focus as managers struggle to make continuous improvements to keep their operations in the lowest cost quartiles. But as the 1980s progressed it became clear that a quantum jump in cost competitiveness was required if the industry was to prosper. This effort focused primarily on management but employees and suppliers were an integral part of the remarkable changes that occurred. In an industry noted for its rigid, centralised industrial relations, remarkable changes are occurring – again, not evenly across the industry.

At the same time as the industry took these steps, the currency was in a down trend, tariffs were being slowly reduced and government monopoly suppliers of infrastructure were reluctantly drawn into this cost-reduction mode. Some of the changes shocked many outside the industry who were not aware of the inefficiencies and cross-subsidies that were rampant – coal-loading facilities at ports, telecommunications and electricity supply are three examples.

The process has just started but new initiatives are demonstrating the major gains that can be made. Private generation of power in Gladstone, the Pilbara and the WA goldfields are the latest examples of direct challenges to the cross-subsidies in the electricity sector. Economists have always recognised that the major beneficiaries of tariff reductions in Australia (now extending over two decades) were the export industries and Australian miners are in the forefront of those seeing lower, more competitive, input prices.

The result is a more productive, cost-competitive minerals industry in Australia, with fewer people employed and quite staggering increases in output per employee at many sites. This change, which is not the same in all companies, has a long way to go and, of course, it remains to be seen whether the mining companies or their customers capture the bulk of the cost reductions now working their way through the system. The outcome is a much more competitive and confident industry.

**New processes.** An important development, largely pioneered in the Australian gold industry, is contracting out the mining function. Specialist contractors such as Elton, Roche, Macmahon and Leighton now undertake the mining for small and large companies. This has produced economies of scale and other cost reductions for large operators and, for smaller companies, changed the in-house skills requirement since they no longer have large numbers of miners on the payroll.

The second important development is a new emphasis on the role of R&D in all phases of the business. The Hsismelt venture, testing a new iron-making process, is the largest single R&D project in Australia. But there are myriad other R&D projects in exploration, mining, mineral extraction, refining and smelting which are demonstrating a rich Australian technological resource. The ability to handle Mt Keith nickel ore is an
example; 10 years ago this resource was thought to be uneconomic.

• **Processing.** Further processing of Australia's rich natural resources has always been a dream but the difficulties—some geographical facts of life, some shooting ourselves in the foot—have been legendary and the subject of endless examination by economists and governments.

A number of changes hold out hope for a new phase for the Australian minerals industry. The first set of factors concerns markets. Australia is a small domestic market so markets need to be found overseas. But exporting to major markets in Europe or North America placed Australia at a competitive disadvantage because of freight costs and tariff barriers.

We have already noted the recent volume growth and manufacturing industry growth in Asia. The Uruguay Round of GATT should ensure more open access to markets for Asian manufacturers, thus increasing demand for metal.

Free trade in APEC, even if it takes a long time to negotiate, will further lower tariffs on processed metals and, in time, change the location of the processing plants. Environmental requirements are making some older refining and smelting plants uneconomic and this opens the possibilities of relocation of these operations.

But the most important developments lie in the micro-reform agenda in Australia, particularly in the energy sector. Phased deregulation of natural gas in WA is especially important. This is taking place at the same time as steelmaking technology changes from blast furnaces to electric arc technology and as the steelmakers face increasing shortages of feedstock, especially scrap. The possibility of a huge leap forward in processing in the Pilbara is therefore exciting.

The lowering of energy costs to gold and nickel producers in WA is another example. The Comalco purchase of an electricity generation facility in Gladstone shows another variant of this drive to reduce costs.

It should not be forgotten that the Australian electricity generation system grew up with a number of politically attractive cross-subsidies. Unwinding these will make industry more internationally competitive.

• **The Aussie dollar.** In the past year or so it has become clear to all that the Aussie dollar is a commodity currency. That is, the main force driving the dollar is the New York foreign-exchange dealers’ perception of commodity prices. It matters little that commodity price indexes appearing on these dealers’ screens are of little importance to Australia, or vice versa. The outcome for Australian producers is that returns on average for a portfolio of commodities expressed in Australian dollars varies little (perhaps plus or minus 4 per cent) over the cycle, whereas the US$ prices still fluctuate considerably. For producers of a single metal, the commodity-based dollar can be a problem.

The above comments refer to spot prices. Producers have a wide range of metal prices, foreign exchange, interest-rate and input-price derivative products to manage this commodity-based currency phenomenon, but they all come at a cost. Important new Australian export sectors such as manufactures and service sectors find this commodity-based currency even harder to handle.

• **Mining services.** Most of the emphasis in policy terms tends to focus on the mineral producers, with little thought being given to Australia's rich resource of services to mining. These internationally competitive services are spread across a wide spectrum: education, research, exploration, production, processing, materials handling, environmental management and finance. In many of these services, Australia is a world leader.

The finance industry includes a widespread mining sector giving expert services in banking, broking, insurance and futures. The size of resource stocks in the Australian market demands a set of skills which, with other mining service sectors, seems poised to grow, especially in the international arena.

The question is whether Australia is doing enough to exploit these service-sector resources? Are Australian mining analysts and mining finance experts ready to spread internationally, led by the major Australian miners? Should Australia be a world leader in minerals equity and debt finance?

**OUTLOOK**

Australia is entering, yet again, that depressing phase of the cycle when growth has to be constrained by our chronic current account balance of payments weakness. Despite some very welcome export diversification (services and so-called elaborately transformed manufactures), the fact is that our export effort requires a leap forward of the order of $10-15 billion in 1995 dollars. Minerals are the best prospect for gains of this order.

Minerals dominate Australia's exports and seem likely to grow in relative importance in the decade ahead. Demand is a positive factor. Managerial emphasis on cost competitiveness is yielding amazing results. Government-owned suppliers to the industry are becoming more competitive. Our research and technology skills are up with the world's best.

Here then is an industry where Australia is a world leader, one where we have the production, marketing, finance and technology skills. This is a rare mix for Australia but a strong base for exciting future growth.