

Australia's Resource Future:

An Institute of Public Affairs Policy Paper

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October 2010

 **Institute of
Public Affairs**
Free people, free society

'We can, through our own policies or public opinion, ... frighten away foreign capital and technology from the new mining era. ... we forget that a land can have rich mineral resources but little mineral development. ... the deposits can be known but the political risks and the potential taxes may dissuade companies from developing those deposits and equipping them to produce.'

Geoffrey Blainey, 1982, 'How to sterilise the golden goose', The Australian, 30 April, p. 16

Executive summary

- The proposed federal mining tax, and proposals in various states to restrict mining developments in selected tourism or agricultural regions, is a product of a host of anti-mining sentiments concerning the role and contribution of mining to Australian prosperity.
- The recent cropping land restrictions proposed by the Queensland Government will prevent access to significant Coal Seam Gas reserves in the state and is an example of the anti-mining sentiment in Australia. It is estimated that this proposal will cause an annual \$1.6 billion reduction in the value of Queensland's mineral and energy production.
- The key arguments expressed against mining activities, that tend to preoccupy the popular media and political discussion, are that:
 - Mining activities perpetuates Australia's position as a 'quarry' to the rest of the world at the expense of developing sophisticated, tangible industries domestically, and at the risk of resource depletion and environmental degradation.
 - The growth of Australian mining, including as a result of rising commodity prices flowing through an improved terms of trade, exacerbates the de-industrialisation of the national economy as well as creates a 'two-speed economy' divide between resource intensive and non-resource intensive states.
 - The growth and development of the mining sector has benefited foreign interests more so than Australian interests.
- On the basis of a critical assessment, these anti-mining sentiments simply cannot be sustained.
- Australia is predominantly a services economy but, even so, mining is highly innovative and has extensive and complex links to the rest of the economy.
- Fears concerning the imminent depletion of Australia's non-renewable resources base are ill-founded and disregard the important impacts of price conditions, technological change and human ingenuity.
- The Australian mining sector makes a major contribution toward environmental remediation, and indeed is a world leader in such practices.
- While the movement of resources towards mining activity and resource intensive regions are in Australia's national economic interest, there is scant evidence to suggest that manufacturing has been damaged by the growth in Australian mining.
- It is fanciful to suggest that non-resources states do not benefit from mining, given the roles of services to mining, widespread share ownership in mining companies and taxation revenues.
- The role of foreign investment in mining has been indispensable in the growth of Australian mining, to the benefit of residents in this country.

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1.0 Introduction

The Australian mining sector has long played a critical role in the nation's economic and social development. These beneficial contributions can be usefully summarised as follows:

- **Economic activity:** The minerals resources industry accounted for more than six per cent of Australia's economy in 2008-09
- **Employment:** The minerals resources industry directly employs 161,500 people, and indirectly supports hundreds of thousands of additional jobs through its purchases of goods and services from other Australian industries
- **Investment:** Over the past ten years the industry invested more than \$125 billion in the Australian economy
- **Exports:** In 2008, minerals resources accounted for about one in every two exports dollars earned by Australia making it the country's largest export industry
- **Social contribution:** The minerals resources industry has played a vital role in the development of Australian communities (particularly in regional and rural areas), contributes to indigenous and non-indigenous employment, participates in community development and environmental amenity initiatives, and tax revenues acquired from the industry help to underpin the provision of public sector services.¹

There is a widely held view that the benefits flowing from mining activity will continue at least in the short term. The Commonwealth Government is estimating a spike in Australia's terms of trade this financial year due to 'substantial increases in the contract prices of Australia's commodity exports, including iron ore and coal.'² The latest estimate of an increase in the terms of trade by 17 per cent for 2010-11 exceeds the estimate made available at the time of the May Budget.

Such predictions, juxtaposed with a self-induced federal budget deficit driven by unproductive stimulus expenditure, led to the Rudd-Gillard government proposing new taxation arrangements for miners. This entails a Minerals Resource Rent Tax (MRRT) of 30 per cent applied to coal and iron ore projects, with the tax to apply to resource profits over and above the long term government bond rate plus seven per cent, as well as an extension of the Petroleum Resource Rent Tax (PRRT) to onshore oil and gas projects.

Apart from extolling the virtues of extracting a 'fair share' of revenue from mining relative to other sectors of the economy, government ministers have made various related arguments to sell its planned mining tax policy. These include:

¹ Minerals Council of Australia, 2010, *Minerals resources, tax, and the prosperity of all Australians*, Policy Brief, June.

² Commonwealth of Australia, 2010, *Pre-Election Economic and Fiscal Outlook 2010*, Departments of the Treasury and Finance and Deregulation, Canberra.

- the need to use the revenues to fund a 'productivity agenda' centred on infrastructure and innovation benefitting other sectors of the economy with value-added potential
- an obligation to compensate Australians for the extractive activities undertaken by foreign companies operating on Crown and other lands
- to mitigate the impact of exchange rate movements due to a terms of trade boom upon non-tradeable, and other tradeable, segments of the national economy
- to slow or prevent the divergence of economic growth rates between resource intensive and non-resource intensive regions of Australia.

The recent federal election result of a hung parliament has created new uncertainties regarding the application of the proposed mining tax.

Despite assurances by Bob Brown in September 2010 that the Greens would not push for an extension of the MRRT base, the Greens leader stated earlier in the year that 'I'm going to the election saying I want a bigger return from the big miners and I would expect more than one million people will vote for that, so I will have a mandate from where I sit in the Senate.'³

Consistent with this the Greens member for Melbourne Adam Bandt – who currently shares balance of power status in the House of Representatives with various independents – expressed support for the original RSPT model applied across a wide spectrum of mineral resources.⁴

The International Monetary Fund recently stated that the MRRT 'is a step in the right direction' and that '[c]onsideration should be given to broadening the coverage to other mineral resources.'⁵

In addition, the proposed federal mining tax has generated a wider debate about the merits of mining activities in Australia more generally.

On the one hand, it could be reasonably argued that the repeal of the original Resource Super Profits Tax (RSPT) proposal was the product of a highly effective 'tax revolt' by the industry and many sections of the community, including in key resources provinces within Queensland and Western Australia, based on an appreciation of the economic and social benefits of mining.

On the other, there have remained strong voices of criticism against mining expressed by some quarters. For example, the politically influential Australian Greens have repeatedly characterised Australia as a 'quarry economy' under the control of 'mining barons.'

As this paper illustrates, such sentiments levelled against Australian mining are not new. In some instances they stretch back to the nineteenth century, associated with the explosion of

³ John Breusch, Mathew Dunckley and Peter Kerr, 2010, 'Miners warn on Brown's tax plans', *The Australian Financial Review*, 22 July.

⁴ Louise Dodson, 2010, 'Pressure to rework the resources tax', *The Australian Financial Review*, 26 August.

⁵ International Monetary Fund, 2010, *Australia - 2010 Article IV Consultation Concluding Statement*, <http://www.imf.org/external/np/ms/2010/091510.htm> (accessed 1 October 2010).

economic activity generated by the discovery and extraction of gold in Victoria during the mid-1800s.

As longstanding as many of the major anti-mining sentiments might be, this paper shows that they are ill-founded and thus do not represent a strong intellectual platform supporting policies constricting the growth of a sector that has proven itself to be pivotal to Australia's prosperity.

2.0 Arguments against mining in Australia, and rebuttals

A host of propositions have been formulated in the Australian context that all purport to expose the extensive costs surrounding mining activities. The following sections summarise these arguments levelled against mining, and provide rebuttals against each argument.

2.1 Mining perpetuates Australia's position as a 'quarry' economy

Various critics of mining have depicted its activities as resembling little more than the digging of quarries, or holes, in the ground yielding little by way of additional value-added for our economy. The maintenance, if not expansion, of the quarry economy of mining implies lost opportunities for Australia to diversify its industrial structure.

The economics editor for *The Age* newspaper, Tim Colebatch, lamented the notion that 'the implicit argument from our officials is that we should allow otherwise-viable industries to be put down in the interests of making room for us to extract as many minerals now as possible.'⁶

He went on to contend in the same article that 'this is wrong: not just because they are picking winners, or just because China, too, has its vulnerabilities and could fall, but because you don't put all your eggs in one basket.'

Swinburne University academic Michael Gilding characterised the effects of mining as follows: 'Mining sucks oxygen from the rest of the Australian economy. It attracts investment capital, which might otherwise go into innovative technologies or creative industries. As a result, our best and brightest often cannot find the venture capital they need to support their innovations.'⁷

Writer John Legge recently invoked the Lee Kuan Yew-inspired image of Australia as the 'poor white trash of Asia' when warning of the risk that, without knowledge-based manufacturing products and infrastructures, 'Australia will be no more than a quarry and tourist resort, catering to the whims of people from countries where knowledge creation is taken seriously.'⁸

In a 2009 edition of *Quarterly Essay*, public commentator Guy Pearse castigated the 'quarry vision' of widespread political, business and media support for the non-renewable resources industries: '[d]ebate rages about virtually everything else, but there's perfect harmony on the importance of the quarry. It's a given.'⁹

The Australian Greens criticised the Building Australia Fund, an infrastructure financing initiative announced in the 2008-09 federal budget, on the basis that it would deliver 'quarry economy handouts.' According to spokesperson Senator Scott Ludlam, 'pouring money into more roads and ports to service the mining industry does not benefit the majority of Australians, or help improve our long-term economic future.'¹⁰

⁶ Tim Colebatch, 2010, 'Digging a hole for ourselves', *The Age*, 2 March.

⁷ Michael Gilding, 2010, 'More tax dollars and less mining? That's a win-win situation', *The Age*, 3 August.

⁸ John Legge, 2010, 'Without support for industry, we're no more than a quarry', *The Age*, 13 August.

⁹ Guy Pearse, 2009, 'Quarry vision: Coal, climate change and the end of the resources boom', *Quarterly Essay* 33, p. 1.

¹⁰ Senator Scott Ludlam, 2008, *Carbon friendly investment, not quarry economy handouts*, Media release, 3 October.

The chief executive of the Federation of Automotive Products Manufacturers, Anna Greco, invoked a sense of manufacturing-nationalism when stating: 'I'm a proud Australian who wants to live in a country that produces things. If the day comes that Australia reverts to being no more than a ... quarry ... I'll join the estimated 1 million Australians who have taken their knowledge and skills overseas.'¹¹

In his first speech as Opposition Leader in late 2006 Kevin Rudd asked 'Will we still make things? Or is that all gone?' to then declare prior to the 2007 federal election that he wanted Australia to be 'a country that actually makes things.'

This declaration was closely associated with arguments made by other political figures at the time, such as now-Treasurer Wayne Swan, that the mining boom, induced by strongly rising commodity prices, would be of a temporary nature and thus Australia should refocus its economic energies toward investing in infrastructure and innovation activity benefiting non-mining industries.

Recently there has emerged a view that growth in mining necessarily threatens to displace other activities, such as tourism and agriculture, and thus reduce diversity of the national economic structure.

In Western Australia there has been growing community pressure placed on the state government to introduce legislation preventing mining activity in the Margaret River wine growing region. The possibility of such a restriction against mining could threaten a proposal to access a coal seam some 15 kilometres north of Margaret River.

The Queensland Government has announced a process to establish a 'policy framework' for protecting what it calls 'the state's valuable and scarce strategic cropping land' (see the Appendix for further details and critical assessment). Specifically, the proposal is that future legislation would require any proposed development, which may impact on selected areas of cropping land, to be assessed to ensure that it does not cause 'permanent damage' to such resources.

As noted by various mining and other stakeholders, such a proposal risks interfering with the property rights of landowners and constraining the extent of potential economic gains as a result of limiting legitimate resource exploration and mining activity.

The proposition that mining activity positions Australia as an economic quarry, squandering alternative opportunities for sustainable growth, is not a modern one.

The 1964 book by Donald Horne, *The Lucky Country*, develops a narrative of an Australia gripped by a culture of innovative complacency as a consequence of its natural resources endowment. Horne conceded that our mineral bounty, including new discoveries of iron ore in Western Australia, helped ensure our position as one of the wealthiest countries in the world. Yet, this was a mixed blessing; due to the stock of minerals available, Australians 'showed less enterprise than almost any other prosperous industrial society.'¹²

¹¹ Anna Greco, 2008, 'Nation to feel bumps of car industry's rocky road', *The Age*, 8 September.

¹² Donald Horne, 1964, *The Lucky Country*, Penguin, Melbourne.

Delving even further into Australian history, there is evidence of a dismissive attitude toward the efforts undertaken by miners to extract economically valuable resources for the benefit of consumers. In 1877, legislators in Queensland derided miners as being little more than 'wandering diggers roving over the face of the country, and making holes for sheep and cattle to fall into.'¹³

Associated with these arguments is the view that since non-renewable natural resources are finite, the 'quarry' economy of mining cannot last forever.

For example, entrepreneur and political commentator Dick Smith recently outlined a neo-Malthusian vision of population growth juxtaposed with the depletion of mineral resources: 'Australia earns its living mainly through selling non-renewable resources, and sooner or later this wealth will begin to decline. With more people, the pie will be sliced thinner and our quality of life will most likely decline unless we act now. We're exhausting our soils, draining our rivers and destroying our environment at an accelerating rate.'¹⁴

Citing the Mark Twain refrain, 'What is a definition of a gold mine? A hole in the ground owned by a liar,' the environmental pressure group Friends of the Earth castigated the operations of a mining company involved in 'an easy quick-grab profit that will be taken out of the country scarring the land, flora, fauna and people for decades to come.'¹⁵

Similar sentiments have been expressed in Australian literature with, for example, the Queensland indigenous poet Kath Walker describing the work of mine operations as follows:

*'The miner rapes
The heart of earth
With his violent spade.'*

The pollution and destruction of the landscape were also commonly expressed in Judith Wright's poetry and by other Australian poets and writers.¹⁶

2.1.1 Rebuttal: Australia is not a quarry economy

Despite protestations by mining critics to the contrary, Australia is not a quarry economy.

According to the latest National Accounts data supplied by the Australian Bureau of Statistics (ABS), the contribution of the mining sector to Australia's Gross Domestic Product (GDP) is small. In 2008-09 the share of mining to GDP was eight per cent. Finance and insurance (12 per cent of GDP) makes a greater contribution to the economy, as does manufacturing (ten per cent).

¹³ Queensland Parliamentary Debates, 1877, quoted by Doran, 1984, 'An Historical Perspective on Mining and Economic Change', in L H Cook and M G Porter, eds., *The Minerals Sector and the Australian Economy*, Allen & Unwin, Sydney p. 42.

¹⁴ Dick Smith, 2010, 'What's the big idea? The answer is not more growth', *The Australian*, 10 August.

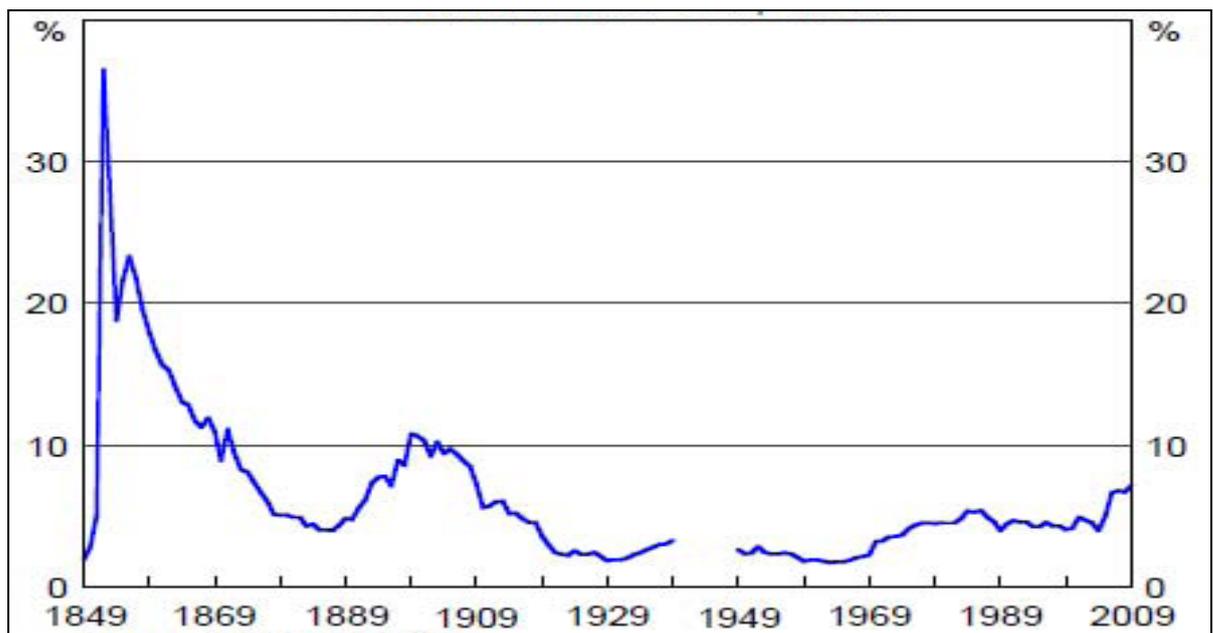
¹⁵ Friends of the Earth Australia, 2006, *What is a definition of a gold mine? A hole in the ground owned by a liar.* Mark Twain, Press release, 17 April, http://www.foe.org.au/media-releases/2006-media-releases/mr_17_04_06.htm (accessed 5 August 2010).

¹⁶ Reba Gostand, 1983, 'The "Mining Theme" in Australian Literature', in W. H. Richmond and P. C. Sharma, eds., *Mining and Australia*, University of Queensland Press, St. Lucia.

Services (including those provided by the public sector) accounted for over two-thirds of GDP in 2008-09, however criticisms of Australia as somehow being a 'checkout' economy are sparse at best.

While the relative share of mining in national economic output has increased slightly over the past decade in response to an upswing in demand for commodities from China and India, the relative economic importance of mining has actually declined over the long run (Figure 1). According to economic historian Noel Butlin, at the peak of the 1850s gold rush mining comprised about 35 per cent of GDP.

Figure 1: Contribution of mining sector to GDP



Mining value added, per cent of nominal GDP.

Source: Ric Battellino, 2010, *Mining booms and the Australian economy*, Address to The Sydney Institute, <http://www.bis.org/review/r100224d.pdf> (accessed 18 August 2010).

Similar historical trends can be observed in relation to the total employment share of mining in the Australian economy.

Much attention has been focussed on the impact of recent strong increases in commodity prices on Australia's terms of trade. However, as noted by economist Stephen Kirchner '[t]he terms of trade boom has led to an exaggerated sense of the importance of commodities to the economy.'¹⁷

If anything, the secular trend has been for commodity prices to decline in real terms albeit with considerable short run volatility, even as consumption of base metals and fuels have increased. An analysis of real base metals prices by the Reserve Bank of Australia (RBA) shows a trend decline in price over the past century, partly offset by more recent price increases.¹⁸

¹⁷ Stephen Kirchner, 2010, 'The mining tax highlights the terms of trade boom', *The Australian*, 15 July.

¹⁸ John O'Connor and David Orsmond, 2007, 'The Recent Rise in Commodity Prices: A Long-Run Perspective', *Reserve Bank of Australia Bulletin* (April): 1-9.

The RBA paper tracks long run changes in real iron ore contract prices, noting that '[a]fter rising in the 1950s in the context of strong world demand for steel - for which iron ore is primarily used - real iron ore prices declined for the next five decades. These price declines reflected in part large iron ore discoveries in Western Australia and Brazil in the 1960s and 1970s, and technological advances in the steel industry.'¹⁹

Meanwhile, a Commonwealth Treasury analysis showed no discernable trend in the price of coal relative to overall prices over the last one hundred years.²⁰

2.1.2 Rebuttal: Australian mining has extensive links to the rest of the economy

The quarry economy narrative invokes misleading pejorative images of mining activities as representing nothing but digging holes in the ground for precious base metals or fuels. However, such a depiction overlooks the elaborate structure of production entailed in mining exploration and extraction processes, and the extensive inter-industry linkages that this structure implies.

Mining involves much more than drawing picks and shovels. It is a relatively capital intensive sector of the economy, with large scale expenditure on exploration, the development and construction of open cut and underground mines and off-shore drilling platforms in the oil and gas industries.²¹ These types of capital are highly specialised by nature, and are associated with a high degree of sunk costs.

Considerable expenditure by mining companies is also necessary for infrastructure, such as transport and communications facilities (roads, rail, aerodromes, ports, telecommunications) and water and power supply. Mining also make a significant contribution to the development of social infrastructure services for mine employees and local communities.

ABS data provides some insight into the composition of capital used by the mining sector, sourced from domestic and foreign suppliers of manufactures and other materials (Table 1).

Mining accounts for the second largest amount of non-dwelling construction, machinery and equipment, and research and development (R&D) net capital stock of all sectors in Australia. The value of computer software used by mining as net capital exceeds that of the agriculture, construction, tourism (accommodation and food services), and arts and recreational sectors.

The highly specialised capital used by the mining sector is combined with labour services to produce ore for domestic and international markets. As at May 2010, 179,400 people were directly employed by the mining sector compared to 74,800 people ten years ago - an increase of 140 per cent over the period. About two thirds of direct mining sector employment is situated in Queensland and Western Australia.²²

¹⁹ John O'Connor and David Orsmond, *Ibid*, p. 5.

²⁰ Angelia Grant, John Hawkins and Lachlan Shaw, 2005, 'Mining and commodities exports', *Economic Roundup* (Spring): 1-15. There was a significant increase in relative coal prices during the 1970s energy crisis, however prices subsequently fell back to long term trend levels. Prices have risen again in recent years due to an uplift in global commodity demand.

²¹ Vernon Topp, Leo Soames, Dean Parham and Harry Bloch, 2008, *Productivity in the Mining Industry: Measurement and Interpretation*, Productivity Commission Staff Working Paper, p. 68.

²² Australian Bureau of Statistics (ABS), *Labour Force, Detailed, Quarterly*, May 2010, cat. no. 6291.0.55.003.

Inconsistent with the depiction of miners as merely earth shovelers, a recent analysis of the mix of labour in mining shows occupations as diverse as drillers, miners and shot firers, metal fitters and machinists, engineering technicians, truck drivers, production managers, plant operators, geologists and geophysicists, accountants, project administrators, clerks and power plant operators.²³

Nearly two thirds of mining workers had completed a non-school educational qualification, with the need to attain a qualification becoming increasingly important given the growing complexity of mining operations.²⁴

Table 1: Net capital stock in selected industries, by selected capital types, 2008-09, \$ millions

	Machinery and equipment	Non-dwelling construction	Computer software	Research and development	Exploration	Total
Agriculture, forestry and fishing	40,235	45,824	298	518		104,929
Mining	77,056	148,297	1,339	10,716	42,383	279,792
Manufacturing	87,752	56,149	2,718	19,071		165,690
Construction	23,769	13,907	922	2,094		40,692
Retail trade	27,203	27,228	2,234	199		56,865
Accommodation and food services	18,136	33,856	246	48		52,285
Transport, postal and warehousing	74,788	190,816	3,291	428		269,324
Information media and telecommunications	17,235	79,847	2,375	2,763		na
Financial and insurance services	16,517	63,407	7,663	3,959		91,546
Public administration and safety	21,592	124,055	4,345	5,983		na
Education and training	10,846	95,707	2,153	5,429		114,135
Health care and social assistance	16,790	65,644	1,495	1,845		85,776
Arts and recreational services	6,381	39,146	649	279		na
Total	575,544	1,469,794	40,807	73,627	42,383	3,827,386^(a)

(a) Total includes dwellings, ownership transfer costs, weapons systems, cultivated biological resources, and artistic originals.

Source: Australian Bureau of Statistics, *Australian System of National Accounts 2008-09*, cat. no. 5204.0.

In addition to this, mining retains extensive linkages to the remainder of the Australian economy including services. As recently remarked by economist Judith Sloan, the 'spin-off ... [of mining] ... for the service sector is immense – for contractors, accountants, lawyers, caterers and many others.'²⁵

²³ Department of Education, Employment and Workplace Relations, 2010, *Employment Outlook for Mining*, DEEWR, Canberra.

²⁴ DEEWR, *Ibid.*

²⁵ Judith Sloan, 2010, *The super profits tax: a not so super idea*, Catallaxy Files blog, <http://catallaxyfiles.com/2010/05/04/the-super-profits-tax-a-not-so-super-idea/> (accessed 22 August 2010).

This is confirmed by the total requirements coefficients data contained in the latest ABS input-output tables, which shows the value of output of mining industries required directly and indirectly to produce \$100 of final output by other industries throughout the economy.²⁶

Numerous Australian companies also engage in adding value to extracted ore through mineral processing activities, including smelting and refining of alumina, aluminium, copper, gold, iron, lead, nickel, silver and zinc (Table 2). A significant proportion of these processed outputs are exported to international markets.

Table 2: Production of selected manufactured products by mineral origin, 2007-08

	Volume measure	Amount
Alumina	'000 t	19,359
Refined aluminium	'000 t	1,964
Refined copper	'000 t	444
Lead bullion	'000 t	152
Refined lead	'000 t	203
Refined zinc	'000 t	507
Raw steel	'000 t	8,121
Refined gold	t	364
Refined silver	t	605
Diesel automotive oil	ML	12,177
Industrial and marine diesel fuel	ML	3
Fuel oil	ML	979
Automotive gasoline	ML	17,079

Source: Australian Bureau of Statistics, *Year Book Australia*, 2009-10, cat. no. 1301.0.

2.1.3 *Rebuttal: Australian mining is a major source of technological innovation and R&D*

Far from retarding Australia's industrial development, the mining sector has contributed to this process by encouraging domestic innovation activity including through cutting-edge research and development.

Data supplied by the ABS on the extent of research and experimental development by the private sector shows that, in 2007-08, Australian mining businesses invested some \$3.3 billion in R&D expenditure.²⁷ This represents a significant increase on expenditure of \$392 million undertaken a decade ago.

The mining sector today accounts for 23 per cent of total business expenditure on R&D, up from ten per cent in 1997-98. It is significant to note that the sector sources about 96 per cent of its R&D expenditure from its own funds.

Australia has made numerous contributions to technological change in the mining sector, such as exploration assessment technologies, mine planning and design innovations, mineral processing, and technologies improving environmental amenity and worker safety at mine sites.

²⁶ ABS, *Australian National Accounts: Input-Output Tables*, 2005-06, cat. no. 5209.0.55.001.

²⁷ ABS, *Research and Experimental Development, Businesses*, 2007-08, cat. no. 8104.0.

It has been estimated that the mining technology services industry alone contributed over \$3 billion to GDP in 2000-01, with exports in the order of \$1.2 billion in 2004-05.²⁸ Over 60 per cent of the world's mining operations utilise software developed by Australian companies.

The information presented above paints a picture of mining as an elaborate set of economic processes, rather than merely digging holes in the ground. Contrary to the beliefs expressed by the critics, Australian mining has contributed extensively to innovation by displaying significant enterprise and initiative in response to complex production and supply problems.

2.1.4 Rebuttal: The scarcity of mineral reserves are contingent on a wide range of economic and other factors, including human ingenuity

Ever since the writings of Rev. Robert Thomas Malthus in the late 1700s, there has existed a strain of thought suggesting that mankind is verging toward the complete exhaustion of the natural resource base. This view appears to have become increasingly popular in public opinion, as evidenced by the 'Club of Rome' thesis, the 'peak oil' proposition and the growth of the environmental movement.

One way in which critics attempt to illuminate the degree of mineral resource finiteness is to calculate an effective number of production years remaining by comparing existing levels of mining production against known economic resources (Table 3).

The data provided in the Table implies that, with the exception of brown coal, nickel and uranium, Australia will run out of significant mineral commodities within a century on current production levels. It is sometimes postulated, as Dick Smith did recently, that continuing population and economic growth will only exacerbate the rate of resource depletion.

²⁸ Department of Industry, Tourism and Resources, 2003, *Mining Technology Services: Australia Leading The World*, Mining Technology Services Action Agenda, Strategic Leaders Group Report to Government, Commonwealth of Australia, Canberra; Department of Resources, Energy and Tourism, Minerals and Petroleum Exploration and Development Guide for Investors, http://www.ret.gov.au/resources/Documents/Minerals%20and%20Petroleum%20Exploration/Guide_for_%20Investors_4MiningTechServices.pdf (accessed 24 August 2010).

Table 3: Economic resources versus production rates, 31 December 2009

	Units	Economic demonstrated resources	Mine production	Production years remaining
Bauxite	Gt	6.2	0.065	95
Black coal	Gt	43.8	0.445	98
Brown coal	Gt	37.1	0.068	546
Copper	Mt Cu	80.4	0.853	94
Gold	t Au	7,399.0	227.0	33
Iron ore	Gt	28.0	0.394	71
Lead	Mt Pb	29.4	0.57	52
Nickel	Mt Ni	24.0	0.165	145
Silver	Kt Ag	69.4	1.63	43
Tin	Kt Sn	176.0	5.63	31
Uranium	Kt U	1,224.0	7.985	153
Zinc	Mt Zn	55.9	1.29	43

Source: Geoscience Australia, *Australia's Identified Mineral Resources 2010*, http://www.ga.gov.au/minerals/exploration/resources_advice/Table1_AIMR10.jsp (accessed 24 August 2010).

However, it is fanciful to consider the question of physical resource finiteness in the absence of changing economic conditions. Consider, for example, the important role of commodity prices in shaping actions by mining sector participants.

A reduction in the price of a given commodity, other things being equal, suggests that the supply of the commodity is increasing relative to its demand and is hence becoming less costly to deliver onto market.

The implied prospect of a lower return on investment will encourage existing miners to mine their ore bodies less intensively, or to abandon mine sites with lower grade ore altogether. Potential entrants could be discouraged from investments in the affected commodity class.

A falling commodity price could also discourage exploration activities. As explained by Geoffrey Blainey in the late 1960s, '[t]he discovery of mineral deposits is to a considerable degree the result of the amount of intelligent searching, both horizontally and vertically. In turn the intensity of the search depends heavily on the incentives to search,²⁹ such as changes to commodity prices.

Another potential reaction to a fall in the commodity price is that firms could seek to divert their investments into seeking and extracting alternative, albeit more profitable, resources.

What this all means is that proven reserves are a function of economics and not geological abundance.³⁰ In the example provided above, the consequence of a reduction in the commodity price is to stretch out even further into the future the years of available supply for the material.

²⁹ Geoffrey Blainey, 1968, 'The Cargo Cult in Mineral Policy', *The Economic Record* 44: 470-479, p. 473.

³⁰ Jerry Jordan, *The Growing Abundance of Natural Resources*, <http://www.cato.org/pubs/chapters/marlib21.html> (accessed 24 August 2010).

Despite recent increases due to rising commodity demands by industrialising China and India, in the long term commodity prices 'have generally trended down or sideways rather than up since the late 19th century ... [which] ... argues against the notion that 'non-renewable' resources are becoming more scarce in an economically meaningful sense.'³¹

Other factors in addition to the role of price must be considered when assessing the finite nature of resources. Technological change is an important factor, as described by Barnett and Morse:

*'[f]ew components of the earth's crust ... are so specific as to defy economic replacement, or so resistant to technological advance as to be incapable of eventually yielding extractive products at constant or declining cost. When coal, petroleum, hydroelectric power, and the atomic nucleus replace wood, peat, and dung as sources of energy; when aluminium yields its secrets to technology and is made to exist, as never before, in the form of metal; when the iron in taconite, once held there inseparably, becomes competitive with that in traditional ores - when all this happens, can we say that we have been forced to shift from resources of higher to those of lower economic quality?'*³²

Other man-made factors, such as changes in incomes, consumer tastes and government tax and regulatory policies, have critical implications for mining sector production.³³

Indeed, as the economist Julian Simon famously explained the very concepts of a resource, and what are valuable resources, is a function of the human mind. Human creativity and innovativeness was capable of converting a previously useless liquid - oil - into a lucrative resource, while previously useless sand has been found to have an economically useful application in the production of computer chips and fibre optic cabling.

Far from being responsible for exhausting the planet's treasures population growth is necessary in order to attain more minds to resolve problems, including finding new ways of combining scarce resources to furnish products that satisfy consumers. For that matter, economic growth is indispensable in ensuring that the greater number of creative minds have the capacity to put mineral and other resources – and ever changing conceptions of these – to good work for human development.

2.1.5 Rebuttal: The mining sector invests substantially in promoting environmental amenity

The environmental implications of mining sector activity are varied. During the exploration stage, ground level activities could involve the development of bore holes and excavation pits. Mineral extraction and processing may involve the generation of wastes, such as mine tailings and gaseous emissions, which if not managed appropriately could disseminate into local environments through air and water systems.³⁴

³¹ Stephen Kirchner, 2010, op cit.

³² H J Barnett and C Morse, quoted by Commonwealth Department of the Treasury, 1973, *Economic Growth: Is It Worth Having?*, Treasury Economic Paper No. 2, AGPS, Canberra.

³³ For an example as to how government policy - in this case, a moratorium on the mining of uranium in Australia - affects the economic incentives for mining exploration and development, see Geoffrey Blainey, 1969, 'Mining - And Undermining', *The Economic Record* 45: 607-615.

³⁴ ABS, 2003, 'Mining and the environment', *Year Book Australia*, 2003, cat. no. 1301.0.

While the extent of environmental impact is contingent on a wide range of factors, including accessibility and other characteristics of the ore body, the types of technologies used in exploration and extraction as well as unique local conditions,³⁵ they have become a source of growing public scrutiny over the past two decades or more.

Like any other private sector business attuned to the attitudes and concerns of customers and local communities, the mining sector undertakes numerous activities to minimise its impact on the environment.

Companies routinely undertake rehabilitation of sites, including restoration ensuring that an area is returned as close as possible to its pre-mined state and other techniques such as land recontouring and revegetation.

According to the Minerals Council of Australia, there exists an accumulated provision of about \$3.5 billion for rehabilitation with the sector forecast to spend more than \$200 million annually on rehabilitating disturbed sites.³⁶

Complementing existing state and federal environmental legislation, the mining sector enforces its own Australian Minerals Industry Framework for Sustainable Development.³⁷ Alongside addressing economic and social concerns, the framework obligates signatory companies to seek continual improvement in environmental performance, contribute to biodiversity conservation and integrated land use planning, and encourage responsible product design, use, re-use, recycling and disposal.

2.2 The curse of resource endowment: Growth in the mining sector accelerates Australia's de-industrialisation and fractures the macroeconomy

Some economists and social commentators have claimed that the possession of natural resources by a given country can exert a negative impact on economic growth, instead of a positive contribution as outlined in the conventional economic literature. This negative effect has been dubbed the 'resources curse.'

An element of the resources curse is the 'Dutch disease' hypothesis, outlined by Australian economist Bob Gregory in 1976, which hypothesises that an expansion of mining will tend to displace manufacturing activity and hence aggravate a process of de-industrialisation within the economy.

An increase in the terms of trade following an increase in the price of an exported commodity has two general effects according to the Dutch disease thesis.

First, a 'spending effect' materialises due to the additional income generated by the commodity boom. This leads to an expansion in demand for both tradeable and non-tradeable goods and services, raising the price of non-tradeables but not of tradeables (as its prices are

³⁵ ABS, 2003, *Ibid.*

³⁶ Minerals Council of Australia, 2010, 'The Australian Minerals Industry and the Australian Economy', http://www.minerals.org.au/__data/assets/pdf_file/0017/32804/Aus_min_industry_fact_sheet_March_2010.pdf (accessed 24 August 2010).

³⁷ Minerals Council of Australia, *Enduring Value: The Australian Minerals Industry Framework for Sustainable Development*, http://www.minerals.org.au/__data/assets/pdf_file/0006/19833/EV_SummaryBooklet_June2005.pdf (accessed 24 August 2010).

determined by the global market). This implies an increase in the real exchange rate, reducing the competitiveness of sectors such as manufacturing.

Second, the Dutch disease entails a 'resource movement' effect, in which the commodity boom leads to a shift of labour and capital from manufacturing to the mining sector.³⁸

Goodman and Worth paint a neo-Marxist perspective on the role of an expanded mining sector in promoting conflict between economic 'haves' and 'have-nots.' With the resources curse, 'the internal contradictions of capitalist development are laid bare. The class contradiction, a labour-capital antagonism between those who benefit from and those who bear the costs of accumulation, is borne out in sharp social divisions created by resource extraction. Spatial antagonisms between contending localities, regions, and states, as played out in political tensions and confrontations, reflect underlying capital-to-capital contradictions.'³⁹

There has been a significant growth of interest in recent years on the geographic implications of the resources curse, with commentators and policymakers increasingly referring to a 'two-speed economy' trend between the resource intensive states of Queensland and Western Australia, on the one hand, and the remainder of Australia (NSW, Victoria, South Australia and Tasmania) on the other.

A 2006 Discussion Paper by the Victorian Department of Treasury and Finance used a computable general equilibrium model to estimate the short run effects of a commodity price boom on state and territory economies.⁴⁰

It was estimated that increases in commodity prices would lead to a decline in economic output (of 0.22 per cent) compared to what it otherwise would have been. Victorian and NSW Gross State Product (GSP) is about 0.5 per cent lower due to, in part, the impact of exchange rate appreciation on manufacturing in these two jurisdictions.

In a recent letter to *The Australian* newspaper, University of Technology Sydney economics lecturer Gordon Menzies offered support for a 'substantial mining tax' on the basis that 'a booming sector or state drains workers out of other parts of the economy, and bids up wages' implying that a tax is required to slow down the growing mining sector.⁴¹

Previously the Australian Marxist economist Ted Wheelwright opined that the growth of mining will inevitably create divisions between resource rich regions and others. Since the resource intensive states 'come to have more in common with foreign capital and markets than with the federation ... economic forces begin to exert pressures which tend to pull the nation apart.'⁴²

³⁸ R. G. Gregory, 1976, 'Some Implications of the Growth of the Mineral Sector', *The Australian Journal of Agricultural Economics* 20 (2): 71-91; W. Max Corden and J. Peter Neary, 1982, 'Booming Sector and De-Industrialisation in a Small Open Economy', *The Economic Journal* 92 (368): 825-848.

³⁹ James Goodman and David Worth, 2008, 'The Minerals Boom and Australia's 'Resource Curse'', *Australian Journal of Political Economy* 40: 27-43, p. 27-28.

⁴⁰ Victorian Department of Treasury and Finance, 2006, *A tale of two economies: the regional impact of Australia's resources boom*, Discussion Paper, May.

⁴¹ Gordon Menzies, 2010, Letter to *The Australian* newspaper, 24 August.

⁴² Greg Crough and Ted Wheelwright, 1982, *Australia: A Client State*, Penguin Books, Ringwood, p. 126.

2.2.1 Rebuttal: The spatial reallocation of labour and capital is an indispensable aspect of a well functioning economy

It has long been understood by economic theorists that wealth creation and material prosperity is enhanced when regions and nations specialise in sectors and industries where they have a comparative advantage.

It is no coincidence that mining companies have invested to ensure Australia's position as a major global producer of minerals – such as alumina, bauxite, black coal, copper, diamonds, gold, iron ore, lead, lithium, nickel, silver, uranium and zinc – with the nation reaping the substantial economic benefits from these investments.

As noted recently by the Commonwealth Treasury, '[h]igher mineral resource export prices, combined with reduced prices of imports (especially imports from low cost producing countries in Asia), have translated into an improvement in Australia's terms of trade. An improved terms of trade provides for an increase in Australia's national income, creating an opportunity for an improvement in the wellbeing of *all* Australians.'⁴³

It follows that the shift in the terms of trade requires the reallocation of capital, labour and other resources towards mining and associated activities in order to optimise the gains to national income.⁴⁴

According to analysis by the Productivity Commission for the period 1974-75 to 2006-07, the Australian mining sector has exhibited a consistently high level of labour productivity. Indeed, mining productivity has exceeded that of manufacturing and that of the market sector of the economy as a whole.⁴⁵ To continue to capture these economic gains the transfer of workers (and other resources) to mining regions, and into mining sector activities, should not be impeded by regulatory or taxation barriers.

The various critics of mining sector activity implicitly argue that the movement of resources should be from more productive to less productive uses, so as to ensure that Australia avoids the grip of a resources curse. However this would achieve nothing but impairing market productivity and restraining Australia's long run growth potential.

2.2.2 Rebuttal: Concerns that mining growth is hurting Australian manufacturing are misplaced

Despite intense protestations to the contrary, there is little evidence that the Australian manufacturing sector has been seriously damaged by the implications of a resurgence in mining.

The contribution of the manufacturing sector to the economy, in absolute terms, has increased substantially over time from \$65 billion in 1974-75 to \$103 billion in 2008-09 (an increase of 58 per cent over the period) (Figure 2).

⁴³ Commonwealth of Australia, 2010, *Budget Strategy and Outlook 2010-11*, Budget Paper No. 1, Commonwealth Treasury, Canberra, p. 4-4

⁴⁴ Judith Sloan, 2010, *op cit.*

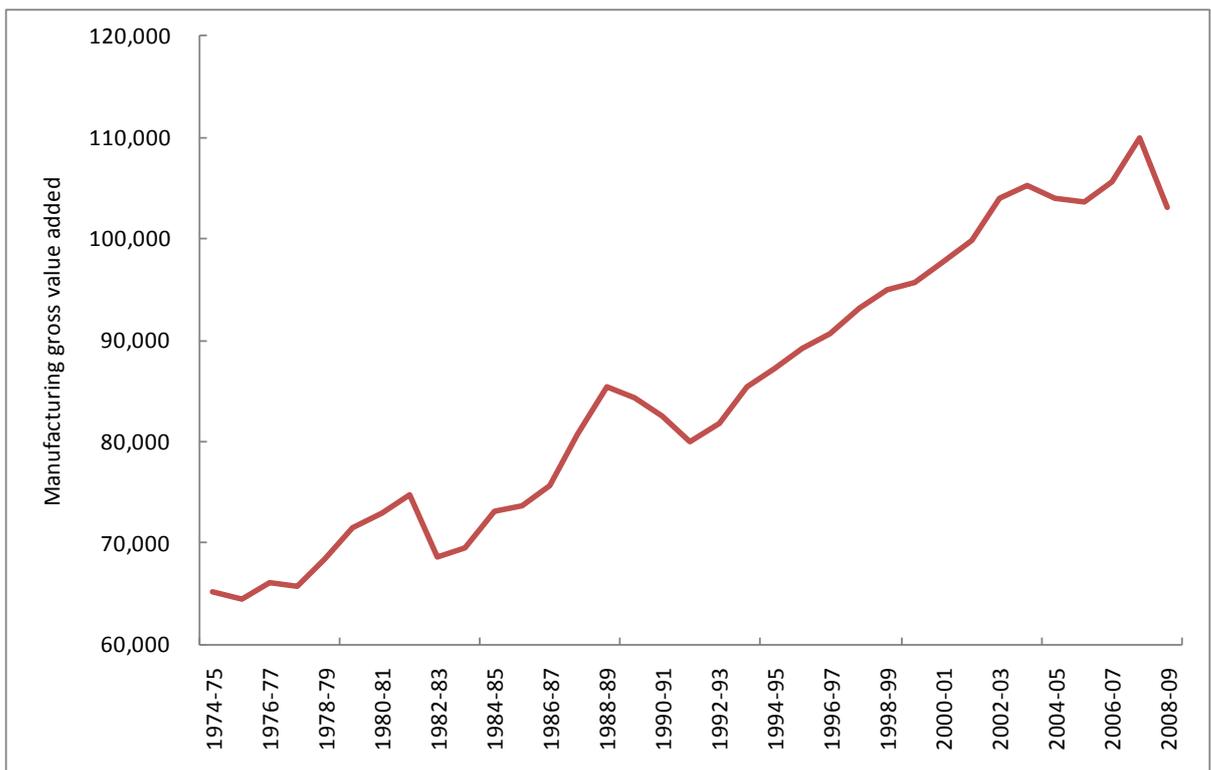
⁴⁵ Vernon Topp, Leo Soames, Dean Parham and Harry Bloch, 2008, *op cit.*, p. 20.

Since 1977-78, when disaggregated statistics were collected for the manufacturing sector, the metal products industry has made the largest (net) contribution to growth, accounting for almost a third of the increase in total manufacturing gross value added.

Critically, the value of merchandise exports by the manufacturing sector has also increased significantly in recent years. In 1999-2000 the value of manufacturing merchandise exports was about \$58 billion increasing to over \$92 billion by 2008-09 – an increase of 59 per cent over the period.⁴⁶

An important contributing factor to the increasing international orientation of Australian manufacturing has been the reduction in effective rates of industry assistance over the past three decades. In 1970-71 the estimated effective rate of assistance to manufacturing was about 35 per cent, falling to about five per cent since 2000.⁴⁷ The reduction in tariff and other protective barriers not only reduced the cost of capital imports for use by domestic manufacturers, but also encouraged the development of niche products of greater value for sale to export markets. This has facilitated the emergence of a relatively smaller, but more sophisticated, manufacturing sector more resilient to economic shocks.

Figure 2: Manufacturing production, \$ millions



Chain volume measures.

Source: Australian Bureau of Statistics, *Australian System of National Accounts*, 2008-09, cat. no. 5204.0.

⁴⁶ Australian Bureau of Statistics, 2010, *Year Book Australia*, 2009-10, cat. no. 1301.0.

⁴⁷ According to the Productivity Commission, '[m]ajor influences on this decline have been the 25 per cent across-the-board tariff cut of 1973, the abolition of (subsequent) tariff quotas and the broad programs of tariff reductions that commenced in the late 1980s. Recent declines have been associated mainly with reductions in tariff assistance to the TCF [textile, clothing and footwear] and passenger motor vehicle industries' (p. 22). Productivity Commission, 2010, *Trade and Assistance Review 2008-09*, Annual Report Series, Canberra.

While the recent appreciation of the Australian dollar will increase the price of exported outputs by manufacturing, and other sectors, this movement in the exchange rate should also reduce the cost of imported inputs and further encourage manufacturers to develop additional value added products that command a price premium in international markets.

It has not been clear that the recent expansion in Australia mining, caused by growth in global demand for minerals and other resources, has led to a one-to-one correspondence in terms of a diminution of manufacturing activity. Studying the effects of the terms of trade boom prior to the 2008 global financial crisis, McKissack et al found growth in manufacturing profits which was 'driven by those parts of manufacturing that are connected to the resources sector, such as petroleum, coal, chemical and associated products and metal products.'⁴⁸ Investment in manufacturing, relative to GDP, increased since 2003-04 while the long run decline in manufacturing employment had moderated.

They concluded by stating 'we have not seen so-called 'Dutch disease' effects associated with a higher exchange rate flowing through as strongly as could be expected in the manufacturing industry and other traded parts of the economy.'⁴⁹

2.2.3 Rebuttal: The benefits of mining are also enjoyed by non-resources states

As noted above, the mining sector has extensive linkages with the remainder of the Australian economy including manufacturing and services. Many of these related activities are based in non-resource intensive states.

For example, Victoria is the home to many global and Australian mining company head offices, such as BHP Billiton, Rio Tinto, Alumina, OZ Minerals, Newcrest Mining, Oxiana, Western Mining Corporation and others. Sydney is the location of company headquarters for mining firms such as Xstrata and Centennial Coal.⁵⁰

It is estimated that these head offices employ thousands of people alone, and purchase professional and business services in the areas of legal, accounting, communications, finance and recruitment on behalf of mining operators in resource rich regions of Australia.⁵¹

In addition, there are many superannuation funds based in Sydney and Melbourne which invest substantially in mining shares on behalf of their members. Many individuals, including those resident outside of Queensland and Western Australia, also benefit by virtue of their share ownership in mining companies.

These indirect benefits were affirmed by a 2008 Treasury paper analysing interstate growth trends, which found that '[w]hile recent output growth in the non-mining states has been slower than average, growth in employment and real household disposable incomes has been

⁴⁸ Adam McKissack, Jennifer Chang, Robert Ewing and Jyoti Rahman, 2008, *Structural Effects of a Sustained Rise in the Terms of Trade*, Commonwealth Department of the Treasury Working Paper No. 2008-01, p. 10.

⁴⁹ McKissack et al, *Ibid*, p. ii.

⁵⁰ John Wilkinson, 2010, *Sydney and Melbourne: An Economic Overview*, NSW Parliamentary Library, Briefing Paper, [http://www.parliament.nsw.gov.au/prod/parlment/publications.nsf/0/536C196C14AEF832CA25777B001D0879/\\$File/Sydney%20and%20Melbourne.pdf](http://www.parliament.nsw.gov.au/prod/parlment/publications.nsf/0/536C196C14AEF832CA25777B001D0879/$File/Sydney%20and%20Melbourne.pdf) (accessed 26 August 2010).

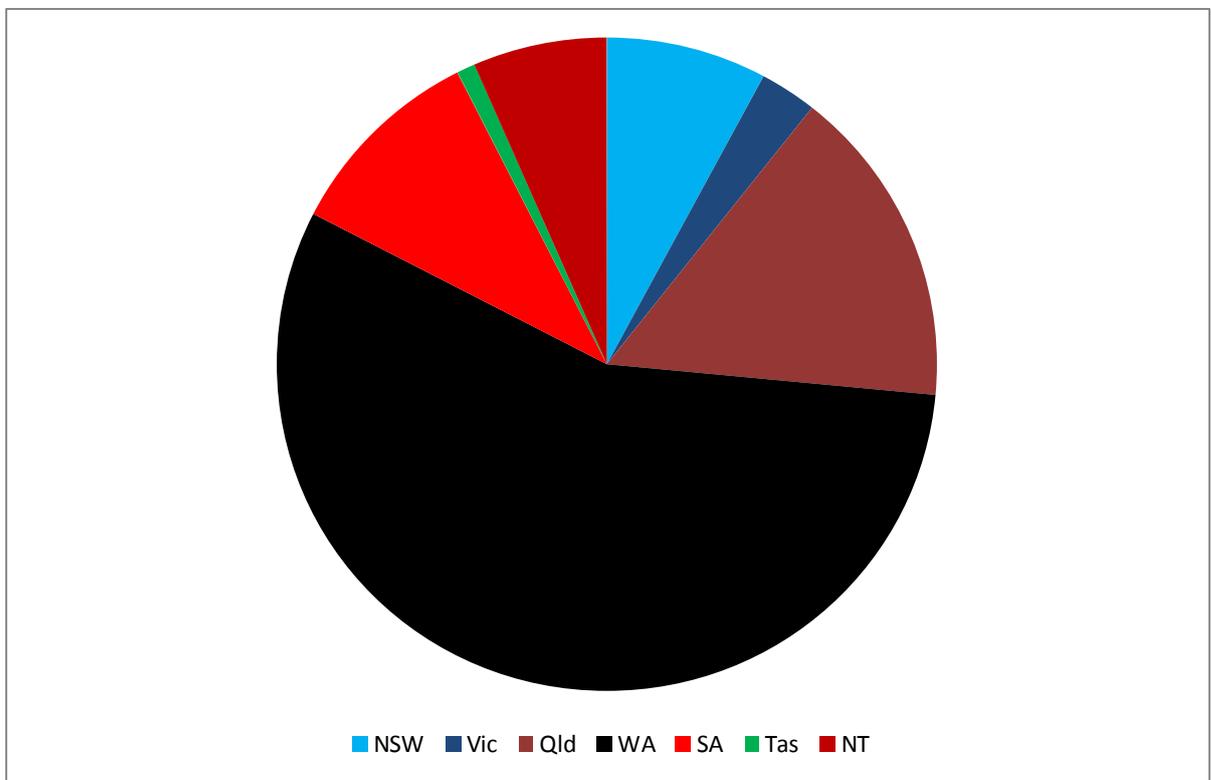
⁵¹ Wayne Kayler-Thomson, 2010, 'Rudd's mining tax grab will hit hard in Victoria', *Sydney Morning Herald*, 28 May.

significantly faster. This suggests that the benefits of the resources boom have spread well beyond the sectors and regions most closely linked with the mining sector.⁵²

Similarly, as Richard Blandy explained earlier this year, ‘everyone across Australia has a stake in the good fortunes of their fellow Australians, wherever they may be located. A bonanza within one’s own state or territory may be popularly regarded as the most desirable outcome to be achieved, but because of mobility of labour, capital and goods within Australia, the economic gains from particular state bonanzas are rapidly dispersed and shared with Australians all across the country.’⁵³

Finally, it must be acknowledged that direct mining activity itself has a presence in most states and territories. According to ABS statistics, mineral exploration expenditure was undertaken in all jurisdictions (except the ACT) in 2008-09 (Figure 3).

Figure 3: Mineral exploration expenditure, state and territory share of total, 2008-09



Source: Australian Bureau of Statistics, *Year Book, Australia*, 2009-10, cat. no. 1301.0.

Table 4 also suggests that mining sector activities are distributed throughout most of Australia, in terms of employment, wages and sales incomes. While the distribution of activity is not, and never will be, uniform it is misleading to suggest that most areas of Australia completely miss out from accruing at least some direct benefits attributable to a growth in mining.

⁵² Phil Garton, 2008, 'The resources boom and the two-speed economy', *Economic Roundup* 17-30.

⁵³ Richard Blandy, 2010, 'Minerals boom benefits us all', *The Australian*, 21 April.

Table 4: Selected economic indicators for mining sector, state and territory, 2008-09

	Employment ('000)	Wages and salaries (\$m)	Sales and services income (\$m)
New South Wales	24	2,490	24,806
Victoria	8	740	10,723
Queensland	37	4,116	45,907
Western Australia	56	6,777	79,094
South Australia	8	888	4,307
Tasmania	2	np	np
Australian Capital Territory	np	np	np
Northern Territory	np	342	5,656
Total	135	15,549	171,654

np = not published.

Source: ABS, *Australian Industry*, 2008-09, cat. no. 8155.0.

In April 2010 the Australian Bureau of Agricultural and Resource Economics provided a list of major minerals and energy development projects. At the end of April 2010 there were 75 projects at an advanced state of development in every state and territory except the ACT (Table 5).

Table 5: Advanced mining projects, April 2010

	Energy projects		Mining projects		Minerals and energy processing		Total	
	No.	Cost (\$b)	No.	Cost (\$b)	No.	Cost (\$b)	No.	Cost (\$b)
New South Wales	13	5.2	3	2.2	0	0	16	7.4
Victoria	2	2.7	0	0	0	0	2	2.7
Queensland	16	6.8	3	1.6	3	2.9	22	11.3
Western Australia	6	64.1	21	19.7	2	2.6	29	86.4
South Australia	1	0.1	1	0.4	0	0	2	0.5
Tasmania	1	0.3	0	0	1	0.2	2	0.5
Northern Territory	2	0.8	0	0	0	0	2	0.8
Australia	41	80.0	28	24.0	6	5.6	75	109.6

Source: Michael Lampard and commodity analysts, 2010, *Minerals and energy: Major development projects – April 2010 listing*, ABARE, May.

As economist Richard Blandy noted earlier this year, although the ACT has no mining activity of significance it has recorded the highest level of average household disposable income per head last year. This is because 'Canberra does have first crack at the federal budget.'⁵⁴

The increasing profitability of mining companies, and wages growth for mining workers, in the resource intensive states flow through the Australian Taxation Office through company and

⁵⁴ Richard Blandy, *Ibid.*

personal income tax receipts, respectively, and then spill out across Canberra and the rest of the country via government expenditures.⁵⁵

The complex interconnections between mining and other sectors of the economy, including those based in non-resource intensive jurisdictions, and the distribution of a considerable amount of mining activity outside of Queensland and Western Australia, it is a gross oversimplification to contend that Australia can be effectively consigned into mining ‘winners’ and ‘losers.’

2.2.4 Rebuttal: An excessive focus on the ‘two-speed economy’ risks overlooking the sources of economic underperformance of non-resources states

A recent analysis of disparities in economic performance between states and territories, and by industry, reveal that variations are commonplace across a complex market economy where the drivers of economic growth are rarely, if ever, uniform.⁵⁶

This lack of economic uniformity is, in large part, a product of the millions of transactions undertaken by acting individuals – operating both within and across regions and nations – to produce, exchange and consume resources.

These transactions take place against the background of, and are influenced by, evolving supply and demand conditions and price adjustments that are in turn affected by such variables as incomes, consumer tastes, production costs, technologies, and government policies.

Notwithstanding that recent disparities in economic growth between states and territories are low by historical standards, there is a clear risk that a focus on the ‘winners’ and ‘losers’ from growth of mining activity can cloud assessments of other factors that can influence the degree of interregional disparity in economic performance.⁵⁷

For example, an inordinate focus on the ‘two speed economy’ – separating Queensland and WA from the rest – has tended to overlook the real problems associated with the disparity in economic performance between New South Wales – Australia’s largest state economy – and the rest of Australia.⁵⁸

In general, the best policy response in response to a commodity boom is not to slow down the pace of mining growth through additional taxation or regulation but to ensure that policy

⁵⁵ The above-average capacity of the resources states to attain mining royalty revenue implies that they receive a relatively lower share of the total GST revenue distributed across the states and territories, in accordance with Commonwealth Grants Commission revenue assessments.

⁵⁶ Deloitte Australia, 2010, *Clouds in the silver lining? The two speed economy and Dutch disease*, Paper for Minerals Council of Australia, May.

⁵⁷ *Ibid*, p. 5.

⁵⁸ Robert Gottlieb, 2008, ‘Australia’s two-speed economy is a myth – it’s just NSW dragging us down’, *The Business Spectator*, 18 June.

institutions permit adjustments to occur relatively smoothly and at low cost.⁵⁹ The implementation of widespread economic reforms that boost productivity should also ease the extent to which competition for labour and capital between firms, industries and sectors place upward pressure on inflation, and hence interest rates.

State governments, including those in non-resource intensive areas, can do much to improve the international competitiveness of their regions – through the implementation of low taxes, low levels of government expenditure, efficient regulation, and competitive infrastructure provision.

The Commonwealth Government, for its part, should maintain, and where necessary enhance, a policy regime of flexible capital, financial, labour and product markets, floating exchange rates, low tariffs and other import protections, monetary stability, and fiscal sustainability underpinned by low taxation and low government spending.

2.3 Growth in mining benefits foreigners at the expense of Australians

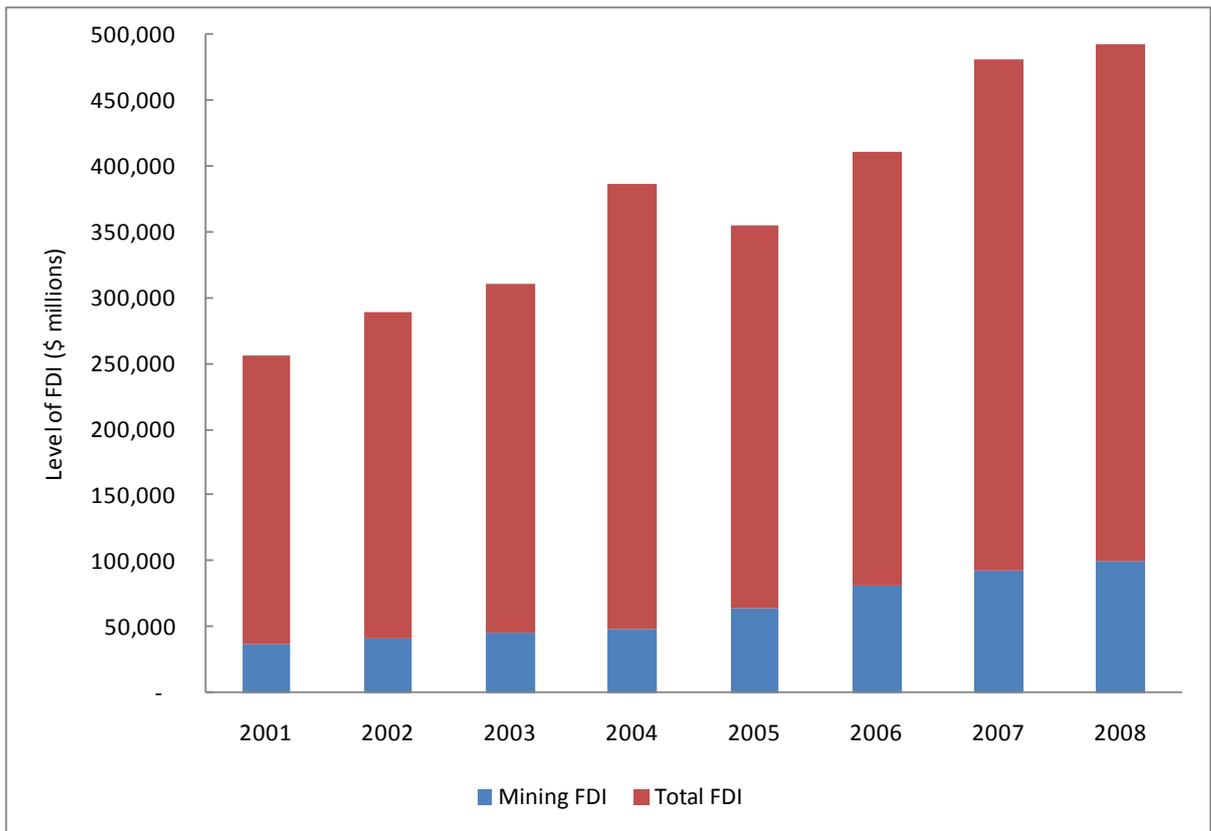
The maintenance and growth of the Australian mining sector is reliant upon a number of factors such as the inflow of foreign capital to finance mining operations.

According to the ABS, the level of foreign direct investment (FDI) in the mining sector as at 31 December 2008 was \$99.7 billion (Figure 4). This was the largest amount of FDI for all sectors of the economy, accounting for 25 per cent of the total FDI of \$392.9 billion.

By contrast, in 2001 the level of FDI in mining was \$36.8 billion accounting for only 17 per cent of total FDI in Australia.

⁵⁹ Kym Anderson, 1997, *Are Resource-Abundant Economies Disadvantaged?*, University of Adelaide, Centre for International Economic Studies Seminar Paper No. 97-03; Deloitte Australia, 2010, op cit, p. 7; Amela Karabegović, 2009, *Institutions, Economic Growth and the “Curse” of Natural Resources*, Fraser Institute, July.

Figure 4: Level of foreign direct investment in Australia by industry division, \$ millions



As at 31 December of each year.

Source: Australian Bureau of Statistics, *International Investment Position, Australia: Supplementary Statistics, 2008*, cat. no. 5352.0.

Information on the extent of foreign ownership of businesses operating in Australia shows that about 13 per cent of businesses in the mining sector have a level of foreign ownership greater than 50 per cent, followed by information media and telecommunications (eight per cent), wholesale trade (seven per cent), manufacturing (three per cent) and rental, hiring and real estate services (two per cent).⁶⁰

While these developments have been welcomed by many, there exists a number of groups who have expressed intense opposition to foreign investment in the mining sector.

Arguably one of the most vociferous critics against this development was Ted Wheelwright. His central proposition was that the infiltration of foreign capital into the mining sector would create a new form of exploitative colonialism or 'client state whose main function is to shape the future development of the economy in such a way that the profits of foreign corporations have first priority, and the needs of the Australian people the last priority.'⁶¹

According to Wheelwright, an implication of this is that 'transnational investment decisions, based on their short-term profitability criteria, could leave Australia as a large hole in the ground by the end of the century, with a large population to support, accustomed to a high

⁶⁰ ABS, *Selected Characteristics of Australian Business, 2007-08*, cat. no. 8167.0.

⁶¹ E L Wheelwright, 1984, 'The Political Economy of Foreign Domination', in P J Lloyd, ed., *Mineral Economics in Australia*, George Allen & Unwin, Sydney, p. 222.

standard of living, but with few renewable resources and even fewer skills and industrial equipment than exist now.’⁶²

The role of foreign investment in promoting ‘excessive mineralisation,’ according to Wheelwright, will also create a situation whereby the ‘economy is assimilated further into the bowels of world capitalism, the country may well begin to look less like a developed country, with its economy as an integrated whole, a dense network of internal exchanges, and a broadly diversified industrial structure. It is probable that within a decade or so, Australia will look more like an underdeveloped country.’⁶³

Sentiments against foreign ownership and control in the Australian mining sector have also been episodically raised by politicians over the past few decades. In 1964, Liberal federal backbencher William Wentworth raised concerns about foreign investment concerning a bauxite mine at Gove in the Northern Territory: ‘We have been inclined to give away our national resources a little too cheaply.’⁶⁴

Former Country Party Prime Minister John ‘Black Jack’ McEwen also stated during the 1960s that the ‘independence of our people was at the mercy of people in other countries to the extent to which foreign capital controlled our industries, mines, farms, and fields.’⁶⁵

Such concerns at the time were widely shared by Labor politicians, which later materialised into a set of restrictive policies affecting mining sector investment by the Whitlam Labor government from 1972 to 1975.

Whitlam appointed Rex Connor as his Minister for Minerals and Energy, who elucidated the government’s position on external involvement in Australian mining as follows:

‘There shall be at least a majority Australian control over both equity and policy in resources development, and that we will devise and implement an integrated and coordinated national fuel and energy policy. In particular we will regulate exploration, development, transportation, marketing, and use of oil, natural gas, and all related hydrocarbons.’⁶⁶

Initially the Whitlam government sought to implement these objectives, and stymie foreign investment in mining, through the following policy initiatives:

- full Australian ownership in new minerals and energy projects
- extensive public sector participation through a Petroleum and Minerals Authority with the power to explore, produce, transport and market minerals in competition with the private sector (later ruled by the High Court as being unconstitutional)
- energy self-sufficiency through a centrally planned and directed national pipeline grid.⁶⁷

⁶² Ibid, p. 212.

⁶³ Crough and Wheelwright, op cit, p. 128-129.

⁶⁴ Quoted in Max Griffiths, 1998, *Of Mines & Men: Australia’s 20th Century Mining Miracle 1945-1985*, Kangaroo Press, East Roseville, p. 101.

⁶⁵ Ibid, p. 102.

⁶⁶ Ibid, p. 104.

⁶⁷ Brian Galligan, 1987, *The Regulation of Direct Foreign Investment in the Australian Mining Sector*, *Australian Journal of Political Science* 22 (1): 35-46, p. 38; Max Griffiths, op cit.

It also enacted the *Foreign Acquisitions and Takeovers Act 1975* to impose regulatory restrictions on foreign ownership in the mining sector, including uranium mining.

While the more extreme elements of the Whitlam agenda were not pursued by subsequent governments, the anti-foreign investment policies proposed or implemented from 1972 to 1975 has served as something of a clarion call for economic nationalists seeking to reduce the contribution of foreign capital in mining and other sectors.

More recently a debate has emerged about the merits of greater investment by state owned enterprises (SOEs) and sovereign wealth funds (SWFs), including from China, in the Australian mining sector.

The Australian Workers' Union couched its call for stricter government controls over capital inflows from these investment vehicles on the basis that '[f]or too long, Australia has tendered [sic] to undervalue the true economic value of its resource endowment which has assisted the industrialization of trading partners ... We should not panic and be forced into accepting any offer for core and strategic businesses – and particularly not in the resources sector.'⁶⁸

The Nationals Senate leader Barnaby Joyce instigated a 'Keep Australia Australian' campaign in 2009 to prevent Chinese SOE Chinalco from purchasing a greater stake in Rio Tinto, stating that minerals are 'our sovereign asset, and this is the government of another country buying into our asset, buying into the nexus between the Australian people and the wealth that's created by our minerals.'⁶⁹

In February 2008 Treasurer Wayne Swan amended the Commonwealth Government's foreign investment guidelines by outlining six additional criteria to apply to investments by SOEs and SWFs. This has had the effect of 'providing more, not less, uncertainty to investors by introducing prejudgement into a non discriminatory FDI policy.'⁷⁰

2.3.1 Rebuttal: Without foreign capital a large scale Australian mining sector, and its many benefits, cannot be sustained

Australia has had a long history of using foreign investment to access greater funds than that available from domestic savings. As the former Commonwealth Treasury Secretary, Ted Evans, stated over a decade ago, '[i]t is a fact that, for all of its modern history, Australia has borrowed from abroad – our prosperity has been built on foreign investment.'⁷¹

⁶⁸ Australian Workers' Union, 2009, *Submission to Senate Inquiry into Foreign Investment in Australia by State-Owned Companies*, http://www.aph.gov.au/senate/committee/economics_ctte/firb_09/submissions/sub48.pdf (accessed 26 August 2010).

⁶⁹ Senator Barnaby Joyce, 2009, *Keep Australia Australian*, <http://www.barnabyjoyce.com.au/Issues/Thisweekinpolitics/tabid/56/articleType/ArticleView/articleId/741/Keep-Australia-Australian.aspx> (accessed 28 August 2010).

⁷⁰ Julie Novak, 2008, *Australia as a destination for foreign capital*, Institute of Public Affairs Occasional Paper, <http://www.ipa.org.au/publications/1444/australia-as-a-destination-for-foreign-capital/pg/3> (accessed 28 August 2010).

⁷¹ Ted Evans, 1999, *Economic Nationalism and Performance: Australia from the 1960s to the 1990s*, Ninth Annual Colin Clark Memorial Lecture, <http://www.treasury.gov.au/documents93/PDF/speech.pdf> (accessed 28 August 2010).

The injection of foreign sourced funds has enabled the Australian mining sector to grow to a size beyond that implied by the extent of the small domestic market alone. This in turn allows Australia to sell its mineral and fuel commodity treasures around the globe, generating economic prosperity in both Australia and those countries purchasing our mining exports.

Makin has estimated that over the decade to 2006 additional real national income stemming from total foreign investment in Australia has been approximately \$25 billion, equivalent to an extra \$2,500 per worker each year over the period.⁷²

Mining has played a significant role toward the achievement of the substantial macroeconomic gains attributable to foreign investment. Foreign owned businesses operating in the Australian mining sector contributed over \$15 billion in value added to the national economy.⁷³

From a historical perspective, Drysdale observes that '[f]oreign direct investment has accounted for more than one third of capital formation in all Australian industry since the turn of the ... [twentieth] ... century; in mining and resources it has accounted for almost half, and in some years a much higher proportion, of total capital formation in the sector.'⁷⁴

Foreign direct investment in 2006 was equal to over 80 per cent of new mining capital expenditure, underpinning the continuing growth of the sector.⁷⁵

A benefit associated with growth of foreign investment in Australian mining that is not directly captured in official statistics has been the propagation of technical, managerial and commercial knowledge and skills otherwise scarce or unavailable in the Australian economy. This in turn has augmented Australia's innovative and entrepreneurial capacities.

As described by R. B. McKern, in his study of foreign investment in the minerals industries in the 1960s, 'there were very few Australian firms in existence at the beginning of the decade of the 1960s which could have served as vehicles for investment in the large mining projects which came to fruition during that period. The list of Australian owned companies with the necessary financial, technical, entrepreneurial and marketing resources at that time is probably restricted to no more than three.'

Since that period, the inflow of foreign capital has made a significant difference to levels of skills and expertise accessible to the domestic mining sector. Recently economist Peter Drysdale attested that Australia's position as 'perhaps the most efficient mining sector in the world' is attributable, at least in part, to the know-how and access to markets associated with foreign investment.⁷⁶

⁷² Tony Makin, 2008, *Capital xenophobia and the national interest*, Institute of Public Affairs Occasional Paper, <http://www.ipa.org.au/sectors/australia's-open-investment-future-symposium/publication/1453/capital-xenophobia-and-the-national-interest> (Accessed 28 August 2010).

⁷³ ABS, *Economic Activity of Foreign Owned Businesses in Australia*, 2000-01, cat. no. 5494.0.

⁷⁴ Peter Drysdale and Christopher Findlay, 2008, *Chinese Foreign Direct Investment in Australia: Policy Issues for the Resources Sector*, Presentation to Australian National University Crawford Public School Seminar, September, p. 5.

⁷⁵ Doug Ritchie, 2009, *Foreign Investment and the Mining Industry*, Keynote presentation to Committee for the Economic Development of Australia, May.

⁷⁶ Peter Drysdale, 2010, *China as a new foreign investor in Australia's resource sector*, <http://lyceum.anu.edu.au/wp-content/blogs/3/uploads//China%20as%20a%20foreign%20investor.pdf> (accessed 29 August 2010).

Of course, there are other economic benefits associated with foreign investment in the mining sector. These include job creation, particularly in regional and rural areas, and the attainment of disposable incomes by mining workers used to underpin living standards for them, their families and communities, and the flow of substantial tax revenues to government.⁷⁷

Contrary to the view expressed by Wheelwright and others that foreign investment represents a diminution of Australian wealth, it is estimated that for every dollar of mining income generated in Australia 95 cents remains in Australia with only five cents repatriated overseas.⁷⁸

2.3.2 *Rebuttal: Concerns over the loss of national sovereignty are overstated, as foreign investors must accede to Australian laws*

All foreign investments, regardless of source, are subject to federal, state and local government laws. This should be sufficient to ensure that a foreign SOE or SWF investor will not create monopolistic industry conditions, evade taxes or abrogate corporate or other legal standards in Australia.⁷⁹

With respect to the Australian mining sector, a recent paper by ITS Global states unequivocally that:

'Australia retains ultimate control of Australian resources. Full control is never handed over. Businesses are given rights to exploit resources on the condition they pay taxes, support the local community, protect the environment and abide by national laws. Sometimes the right to use the resources is limited in time.

*Governments can take those rights back if they think it necessary, though they should be careful how they do it. They might deter future foreign investors.'*⁸⁰

One aspect of concern about national sovereignty relates to the capacity of multinational corporations operating in Australia to perform transfer pricing. This is a situation whereby firms may under-price exported minerals to reduce their Australian tax liability, thereby earning higher profits in downstream activities in another country that imposes lower tax rates than Australia.

In response to this, economist Peter Hartley suggested that '[e]ven if transfer pricing occurs it is not clear that restrictions on foreign ownership are an effective method of handling this problem. Rather, it would seem the problem can only be solved by changes in the (implementation of) taxation laws and income reporting requirements. Australian owned firms would appear to be just as capable of setting up foreign subsidiaries in low tax areas as are foreign firms. ... it would seem that requiring Australian ownership would do little to control transfer pricing.'⁸¹

⁷⁷ In the ten years to 2008-09 the mineral resources industry combined corporation income tax and royalty payments totalled some \$80 billion, a fourfold increase over the time period. Minerals Council of Australia, 2010, op cit.

⁷⁸ Doug Ritchie, 2009, op cit.

⁷⁹ Julie Novak, 2008, op cit.

⁸⁰ ITS Global, 2009, *Foreign investment in Australia – China and common sense*, May, p. 23.

⁸¹ P. R. Hartley, 1984, 'Foreign Ownership and the Australian Mining Industry', in L. H. Cook and M. G. Porter, eds., *The Minerals Sector and the Australian Economy*, Allen & Unwin, Sydney, p. 171.

3.0 Conclusion

The viability of mining, just like any private economic activity in Australia, is heavily contingent upon its ability to attain sufficient financial and economic returns.

The process of exploration for new mineral deposits is a time consuming and costly venture, requiring the application of time, resources and entrepreneurial ingenuity. Depending on the location of exploration, this process can often be inherently risky and uncertain for those involved. Yet, without such painstaking activities, the value of resources laying remnant underground remain worthless.

If an economically valuable deposit is discovered, there is then the question as to whether extraction of the resource should proceed.

Again, the mining company to be responsible for extraction needs to attract specialised capital (given the nature of the ore body to be mined), draw in skilled labour often from other regions, and may have to develop its own infrastructure to transport the minerals to destination markets. These processes entail their own costs, which are often sunk by their nature, and risks.

The factors that can influence the decision to mine include the expected economically demonstrated amount of ore available, actual and expected commodity price conditions, the availability of factors of production, infrastructure adequacy and the quality and durability of supply chain relationships.

However, there exist yet even more factors that can influence the viability of mining in Australia. Nearly thirty years ago the esteemed Australian historian Geoffrey Blainey warned of the potential damaging consequences of anti-mining sentiments for the future vitality of the mining sector.

Negative portrayals of the mining sector that preoccupy the popular media and political discussion – driven either by a lack of understanding of the fundamental economics of mining, or the product of an emerging ‘cringe’ rhetoric concerning mining’s effects – have the clear potential to lead to poor public policy outcomes.

It can be reasonably argued that the proposed federal mining tax, which will dramatically increase the effective rate of taxation on mining in Australia to amongst the highest in the world, is a clear case in point. This is because its rationale has been based on a mix of misplaced arguments about averting Australia from ‘quarry’ status, helping to spread mining wealth to laggard industries and states, and to get a fairer return from multinationals digging into our sovereign grounds.

As the information presented above suggests, all aspects of these biases against mining can be satisfactorily addressed. In so doing, it is possible to appreciate the significant ‘up side’ to mining activities in Australia:

- the direct and indirect contributions of mining sector participants to aggregate wealth and prosperity, while maintaining first class stewardship over the environment

- the capacity of Australians – regardless of location – to share in the economic benefits of mining undertaken in specific locations of the country
- the beneficial role of foreign investors in building our economic capacity.

If future generations of Australians are to enjoy the economic bounty offered by our resources, and policy settings are to avoid damaging the value proposition that are mining exploration and extraction activities, it is essential that such an appreciation of the strong benefits that mining delivers to Australia be heeded.

4.0 Appendix

Protecting Queensland's Strategic Cropping Land: A Critical Assessment

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4.1 The proposal

The Queensland Government has indicated that it wishes to reserve from mining activity four per cent of the state's prime cropping land.

Establishing a value of this cropping land is difficult.

Based on properties for sale in the areas identified by the policy framework identifies, land values (excluding those mixed farming properties with a substantial residence and those affected by their development potential stemming from their location near major urban areas) range between \$1000 per hectare (Tallwood) and \$1700 (Hanneford). One sugar property near Mackay was listed at \$8,000 per hectare.

On the evidence available it is unlikely that the average value of the farmland with its improvements in levelling, dams and bores and fencing is greater than \$3,000 per hectare. At present only 2.2 per cent of Queensland land is used for cropping – presumably the most valuable land available for that purpose - and it is proposed that this and additional land to a total of four per cent of all state land, will be sterilised from alternative uses.

If the land reserved from alternative uses is four per cent of the state (7.4 million hectares) and it is worth \$3,000 per hectare, then its value is \$22 billion. If \$22 billion were to be lost to agriculture this would be a major cost to the state. However:

- According to the Department of Environment and Resource Management, only 0.08 per cent of Queensland's land area has been disturbed by mining over the past century or so. It would take a tenfold increase in mining activity over the next century for this to reach one per cent of the land area; such a level of activity is most unlikely.
- Rarely will a mining activity render the associated agricultural land unproductive. Even strip mining after remediation, can leave the land little changed in terms of fertility and productivity once mining is completed. While restoration activity has not been undertaken on a major scale in Australia because there are few places where a mining resource has been depleted, dozens of examples have been assembled in the US.⁸²
- It is argued that large scale coal seam gas (CSG) processing brings additional 'externality' costs and is likely to have deleterious effects on the Great Artesian Basin (GAB) as well as

⁸² Mineral Information Institute, *Land Reclamation success stories- Coal*, at <http://www.mii.org/reclsuccesscoal.htm>, (accessed 20/10/10)

causing subsidence as a result of it depleting the water table.⁸³ It is necessary to address such issues but also to recognise that many such adverse spillovers are found to be relatively minor or easily controlled. Issues are:

- a) The estimated amount of water extracted for coal seam methane is 350,000 ML per annum. This is not large. Irrigators' annual extractions from the Murray Darling are 11,000,000 ML. Moreover the GAB is replenished by flows from the eastern range, and if the flows are determined by the Basin's replenishing capacity the evaporative loss of the water used in mining would simply mean water that no longer flows to the sea.
- b) The water extracted becomes saline after it has been used in the CSG processing and salt might need to be removed prior to reinjection if its presence is likely to become significantly contaminated.
- c) These issues are of less concern in the case of open cut strip mining of coal by open cut. Issues in regard to that activity may well include inconvenience of trucks on local roads. However perhaps offsetting this are benefits from upgraded roads and the appearance of other services to meet the demands of the mining activity and its workforce.

4.2 Costs and benefits likely to emerge

Even if all of the land which might face disturbance over the next hundred years were to be rendered worthless to agriculture because it had been mined there would still be a net gain to the state since the procedures which permit mining projects to go ahead require that full compensation be paid.

- The resource value for mining (sometimes called the rental value) is usually many times that of farming where a mineral deposit is uncovered. Such a magnitude of higher rental value is unlikely in much of the area which is being considered for mineral exclusion since the coal deposits are relatively well known and require considerable capital investment to extract.
- There is evidence that the mining companies (in particular Xstrata) are buying farming properties in the Darling Downs area that they are seeking to mine, at a value said to be twice that of the market value.⁸⁴
- The value of minerals and energy production for Queensland in 1998-99 was \$7.4 billion and in 2008-09 was \$49.4 billion dollars.⁸⁵ Adjusted for inflation, that is approximately a fourfold increase in minerals and energy production in 10 years. We can reasonably expect the mineral and energy production will increase in the next 10 years or so by a similar amount. Accordingly, the prospective removal of four per cent of Queensland's

⁸³ See for example, Ian Hayllor, *Coal seam gas extraction and the environment*, Address to the Australian Environment Foundation, October 2010

⁸⁴ Pers. Com. Ron Bahnisch, Property Rights Australia

⁸⁵ ABS, 2001, 'Chapter 12- Mining', *Queensland Year Book*, cat no. 1301.3, p 245; Queensland Government, 2010, *Queensland Annual Mineral Summary: Quantity and Value of Minerals and Petroleum produced in 2008-09*, at <http://www.dme.qld.gov.au/zone_files/minerals_pdf/mineral_table.pdf>, accessed (20/10/20)

land from mining activities can be estimated at an annual loss of some \$1.6 billion. There are many reasons to suggest this might be a conservative estimate. Among these is that the proposed restriction includes land that is highly prospective as for significant Coal Seam Gas reserves. In addition, as the land in question is largely located relatively close to major urban centres, the value of its deposits is likely to be higher than average because of the availability of infrastructure.

Removing a resource from uses the market considers most valuable is a serious step to take. Governments have a role of seeking to maximise the nation's income subject to the availability of capital and labour and consistent with defending underlying capacities. Farm produce is valuable as are mining outputs. In both cases export markets are likely to be the major target. And both activities are likely to bring spin-offs in terms of employment and service provision.

In some cases the excision of the land from mining uses will amount to a retrospective action, as exploration – and even land purchases – has already taken place.

A key reason why there are political pressures to introduce a mining ban is that mineral rights are not part of land rights in Australia. This position is similar to many other jurisdictions with the common law framework, though not the eastern part of the USA where the land was vested alongside its mineral rights before the current ownership rules evolved.

Elsewhere, exploration rights are granted to the first comer (with requirements for these to be either converted into a production lease or surrendered back to the crown). Production leases incorporating a reasonably certain royalty rate are readily expected to be granted on demand (otherwise the risks to exploration would escalate and far less searching activity would take place).

It is barely conceivable that Australian rights to land use and minerals will ever be conjoined. Experience has shown that where the rights are jointly vested, there is sub-optimal energy allocated to searching for minerals. This is because the finder, instead of getting to keep the greater part of the deposit's worth, would be hostage to the land owner who would, in any event, not normally be willing to grant access for exploration except for a fee or guaranteed share of the benefits. Such a fee or share would simply result from passive action and would therefore dilute the value that accrues to the successful explorer and seriously diminish the incentive to undertake that activity.