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Too much of a good thing?

The macroeconomic case for slowing down the mining boom

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TAI

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Summary

The Australian mining boom has been driven by rapidly rising world commodity prices. Put simply, the world is now willing to pay much higher prices for our coal, iron ore, gold and other resources than they were 10 years ago. For example gold prices have risen from about 400 $US/ounce in 2004 to about 1600 $US/ounce today. Since 2004 coal and iron ore prices have roughly tripled.

The mining industry has worked hard to focus the public and political attention on the question of 'is it better or worse to have a mining boom?' the more important question is 'what rate of growth of the mining industry is consistent with the national interest?'

The fact that the world is willing to pay higher prices for our commodities is, on balance, a positive development, especially if well designed resource rent taxes ensure that the benefits of the mining boom are evenly distributed across society.

However, it does not follow that because a boom in the world price of Australia's resources is likely to improve Australia's wellbeing that the faster new mines are developed the better off Australians will be.

Despite the stated concerns of the mining industry with the new Mining Resource Rent Tax (MRRT) and the carbon price, investment in new mining and energy projects is currently running at record levels. Indeed, according to ABARE there are currently 94 mining and energy projects that are deemed to be at an advanced stage of development. The total capital value of these projects is estimated by ABARE to be $173.5 billion.

The purpose of this paper is to consider a feature of the mining boom which has been barely considered in the Australian policy debate to date, namely, how fast should the mining construction boom be allowed to develop? That is, while it is clearly in Australia's interests that the world is willing to pay record prices for our natural resources it is not nearly as clear that it is in Australia's national interest to simultaneously develop 94 new mineral projects.

Introduction

Consider the following thought experiment:

If all of Australia's mineral resources were owned by a monopolist would they choose to build as many mines as quickly as the largely foreign owned mining industry is currently proposing to do?

> Would a monopolist bid against themselves for scarce labour?
>
> Would a monopolist bid against themselves for scarce infrastructure?
>
> Would a monopolist invest in training and infrastructure before they began construction?

While economists typically prefer competitive outcomes to monopoly outcomes that is because they are typically concerned with maximising the benefits to consumers. When it comes to the extraction and sale of our scarce natural resources, however, the national interest is maximised when the profits from resource extraction are maximised and then taxed away.

A profit maximising resource monopolist would not seek to develop 94 projects simultaneously. Rather, it would seek to develop its most profitable mines first. It would invest in the labour and capital resources it would need in the near future. And it would not seek to flood world markets and drive down world commodity prices in the way that the planned expansion of the Australian coal industry will likely achieve.

This paper argues that competition between different miners is likely to impose substantial macroeconomic external costs, both on segments of the existing mining industry as well as on the broader economy. That is, the paper argues that while the decisions made by individual mining companies may be in the best interests of those companies' shareholders such decisions are unlikely to be in the national interest.

Just as individual fishermen are assumed to extract too many fish when left to make decisions in their own interests this paper argues that, as a result of the external macroeconomic costs that individual miners impose on the broader economy, individual mining companies will develop new mines at a rate that is significantly faster than is consistent with the broader national interest.

The paper concludes that, as a result of these macroeconomic externalities, there is a strong case for regulatory intervention to influence the timing and scale of the mining construction boom in order to minimize the negative externalities associated with the unplanned mining construction boom.

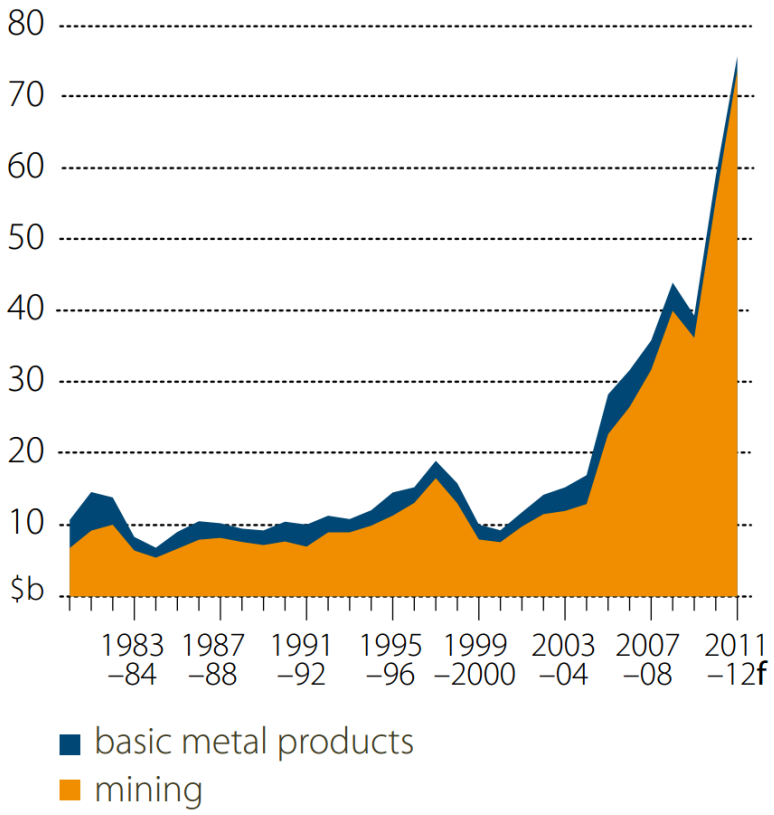
The paper recommends that new mining developments should have to compete with each other through an auction process for a fixed number of new mineral developments. Such an approach would result in a greater financial return to the Australian taxpayer, reduced inflationary pressures and reduced exchange rate pressures.

By auctioning the order in which mining developments could proceed the most profitable mines would always proceed first. Furthermore, if the mining industry were determined to build mines at a faster rate than that considered consistent with the best interests of the broader economy it could invest in training, infrastructure or other projects in order to reduce the size of the bottlenecks of concern to the broader economy.

How big is the proposed mining construction boom?

According to ABARE'[1], there are 94 minerals and energy projects at an 'advanced' stage of development. This represents a record $173.5 billion in capital expenditure. Figure 1 below shows how substantially, and how rapidly, the level of capital expenditure in mining has grown.

Figure 1 New resource sector capital expenditure, 2010-11 dollars



Source: ABARE 2001[2]

ABARE also shows that the Australian coal mining industry is planning on spending an estimated $9.7 billion on new mine construction projects set to be completed in the next three to four years. When these projects are completed it will increase Australia's coal mining output by 57 million tonnes per annum, an increase in Australia's largest export of more than 20 per cent.

These projects represent only a small part of coal projects that are in the pipeline. The full ABARE project list that includes less advanced projects includes plans for many more coal mines.[3] These include the Carmichael Coal Project in Queensland which will have a capacity of up to 60 million tonnes of thermal coal per annum, Clive Palmer's China First Coal project in Queensland's Galilee Basin which will have a capacity of 40 million tonnes per annum. Taking just the top six coal mines currently proposed will increase output by over 200 million

1 New, B, Ball, A & Copeland A (2011). *Minerals and energy - Major development projects, April 2011 listing.*

2 New, B, Ball, A & Copeland A (2011).

3 New, B, Ball, A & Copeland A (2011).

tonnes per annum. Those six mines alone could increase Australia's current coal production by 50 per cent[4].

Most of the new coal production will be exported. According to the Australian Coal association in 2010-11 Australian exported just over 290 million tonnes of coal[5]. ABARES major development projects list shows that coal port capacity could increase by 311 million tonnes per annum by 2015. That is, according to those figures coal exports could more than double in the next four years.

It is important to note that Australia has a larger share of the world traded market for coal (around 27 per cent) than the Saudis have of the world traded market for oil (around 11 per cent). But while the Saudis work hard to restrict oil supply through the OPEC Cartel, the largely foreign owned mining industry operating in Australia is working hard to boost output as quickly as it can. Clearly one strategy is flawed.

As will be argued in more detail below the magnitude of this boom is such that the traditional distinction between the 'microeconomics' of what happens in individual industries and the 'macroeconomics' of what is occurring across the entire economy no longer holds. For example, according to the ABS in 2012-13 around 69 per cent of all new fixed capital investment in Australia is expected to occur in the mining industry.[6]

Similarly, if just one of the proposed 'mega coal mines goes ahead in Queensland Australia's coal exports will rise by around 16 per cent.

In turn, the traditional view that industry policy and project development applications are purely 'microeconomic' in nature needs to be re-examined. Furthermore, the idea that state based planning departments or the Commonwealth Department of the Environment should be responsible for granting approval to projects that will impact on Australia's rate of inflation, our balance of trade and the development of other trade exposed industries is clearly out-dated and in need of reform.

While it is logically possible that attempting to simultaneously build 94 new mines and in turn drive down the world price of coal is in the national interest, such a conclusion is not unarguable. Indeed, as discussed below, the undue haste of the firms competing to be the first new mines to supply new product to the market is unlikely to maximise the wellbeing of the broader Australian economy

The negative macroeconomic externalities of the mining construction boom

The widespread conclusion that the faster the mining construction boom occurs the better off Australia will be is based on an implicit assumption, namely, that the unregulated self-interest of mine owners and the Australian national interest completely coincide.

[4] According to the Australian Coal Association, production of black coal was 405 million tonnes in 2010-11: Australian Coal Association (2012). *Coal production*.

[5] Australian Coal Association (2012). *Exports*.

[6] ABS cat. 5625.0 - Private New Capital Expenditure and Expected Expenditure, Australia, Dec 2011

While such a confluence of interests is of course possible, economic theory suggests that such an outcome would only exist when there are no 'market failures' and, in turn, that the actions of individual mining companies impose no costs on other economic agents.[7]

The following sections make the case that there are significant negative macroeconomic externalities associated with the development of mines of the size discussed above, externalities such as inflationary infrastructure bottlenecks, inflationary shortages of skilled labour and rapid exchange rate appreciation, are all likely to be associated with the decisions if individual minerals developments of the scale of the China First mine. Indeed, the proponents of the China First mine concede in their own economic impact statement that

> *"the China First Project will place additional pressure on the already tight labour market in an industry (and region) that in recent years has been exposed to significant skills shortages... placing upward pressure on prices..."*[8]

It is important to note, however, that in modelling the likely adverse impacts of the China First mine on the macro economy the mine's proponents assume that a 16 per cent increase in Australia's coal exports will have no significant impact on the exchange rate. While this is unlikely to be the case, such an assumption is clearly inappropriate when considering the likely macroeconomic consequences of the 94 projects described above.

Skills shortages

In a 'perfectly competitive' labour market individuals would move seamlessly from employment in one sector to employment in another sector when the returns, whether financial or personal, from taking a new job exceeded the benefits of remaining in an existing job.

In such a labour market employees would be unconstrained by their partners employment prospects, their children's schooling or the need to live near friends and family to either provide or receive care. Similarly they would face no financial or logistical barriers when switching housing, nor any difficulties finding alternative care for their children.

Furthermore, in a perfectly competitive labour market firms can substitute between a range of skills when attempting to fill positions. If highly skilled workers are in short supply they can simply substitute a larger number of less skilled workers.

In reality, however, families are slow to abandon their 'home town', workers take time to be retrained and employers are typically unwilling to substitute larger numbers of unskilled workers for smaller numbers of skilled workers.

The sudden and massive spike in demand for mining, construction and plant operator positions is typically described as causing a skills shortage however such a situation can be just as easily described as excess demand. For example, each Christmas the demand for prawns surges driving the price of prawns to annual highs but such a situation is rarely described as a 'prawn shortage'.

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[7] This paper focuses on the macroeconomic externalities associated with mining. There are, of course, significant negative social and environmental externalities associated with the development of large mining developments.

[8] Waratah Coal 2010. Economic Impact Assessment for the China First Project EIS - Final Report. Online: <http://www.waratahcoal.com/publications.htm> Accessed 14 Dec 2011

Australia does not currently have an idle workforce of tens of thousands of people with the skills required to construct 94 new mineral developments simultaneously and the mining industry is investing very little in training its future workforce. Indeed, according to the Minerals Council there a currently only 4,126 apprentices employed by the entire mining industry[9].

As the proponents of the China First coal mine make clear in their economic impact statement the developers of new mines expect that most of their workforce will have been trained by other industries and will depart from those industries to work in the mining construction boom.

> *"it is anticipated the manufacturing sector will be one of the hardest hit sectors in terms of the reallocation and draw of labour to the China First Project given the relatively similar skills employed..."*[10]

The result of this poaching of workers trained by other industries will be to either drive up the wage costs of some industries or to force the shutdown of whole enterprises that cannot secure strategic staff, for example, tourism boat operators cannot operate at all if they cannot secure diesel mechanics to maintain their fleet.

Infrastructure bottlenecks

One of the major challenges for the mining industry, both in Australia and internationally, is to transport commodities from the mine site to customers. Indeed, most of the world's minerals are considered 'uneconomic' to develop because they are, for example, located deep under the ocean or long distances from a deep water port.

While there is significant public and private sector investment in minerals transport infrastructure underway in Australia this infrastructure often lags behind the minerals developments themselves. The consequence of this imperfect scheduling of investment is capacity bottlenecks and, typically, either lengthy delays for all infrastructure users (e.g. ships moored of Newcastle harbor) big increases in usage charges (e.g. the near doubling in the price paid by Queensland farmers to transport their grains to market).

For example, according to Rabobank's senior grain industry analyst Wayne Gordon:

> *"I suspect where there is significant coal export out of a number of regional centres in Queensland to the coast, (coal) infrastructure will get repaired far more quickly than infrastructure which solely carries agricultural exports…Simply because of the difference in revenue. Certainly, those impacts from the floods will be more quickly repaired if you are on the Emerald train line than if you are on a train line through the Darling Downs.*
>
> *From the Northern NSW/Central Queensland perspective, a lot of these issues centre on the rail network compared to trucking. If you are in Moree, you can't afford to truck your grain to port. It is not economic, so you are 100% reliant on a well-functioning rail network to be able to deliver your grain."*[11]

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[9] See Minerals Council of Australia, 2011, SUBMISSION IN RESPONSE TO THE APPRENTICESHIPS FOR THE 21ST CENTURY EXPERT PANEL'S FINAL REPORT: 'A SHARED RESPONSIBILITY'

[10] Waratah Coal 2010. Economic Impact Assessment for the China First Project EIS - Final Report. Online: <http://www.waratahcoal.com/publications.htm> Accessed 14 Dec 2011

[11] Bulk Handling Review (2011). *Bin busting harvests threatened by infrastructure bottlenecks*.

Higher interest rates

In order to maintain stable inflation the Reserve Bank of Australia is using monetary policy to 'make room' in the economy for the unprecedented expansion of the mining industry. That is, while it is often assumed that the RBA is using high interest rates in an effort to slow down the mining boom in fact it is using high interest rates to slow down other sectors of the economy in order to 'free up' additional resources for use in the mining construction boom. The RBA explicitly cited the mining boom in explaining seven of its interest rate increases between May 2006 and March 2008.

Indeed, according for former RBA Board member Solomon Lew interest rates need to fall by up 0.75 per cent, citing the fact that:

> *"When you look at the eastern seaboard as far as I'm concerned its completely frozen, there are no new jobs being created the only jobs are in the west basically and that's the mining sector.*
>
> *We do need an interest rate cut immediately. I'd be calling on the RBA to cut interest rates by 50 to 75 basis points at the next meeting and I think that the Australian economy is in trouble."*[12]

In addition to the increased export revenues and the massive inflow of foreign capital that is funding the mining construction boom the high interest rates being used to slow the macro economy are also attracting passive foreign investment in the Australian bond market, creating even further pressure on the Australian exchange rate.

The pace of the mining construction boom is creating tension between the RBAs objectives of price stability and exchange rate stability. As will be discussed below, given the macroeconomic proportions of the mining industry expansion it would seem that directly controlling the pace of new mining expansion would be a more effective way to control inflationary and exchange rate pressures than to continue to rely on the ability of interest rates and exchange rates to slow down the non-mining sectors of the economy.

Exchange rate volatility

Most economists do not typically believe that there is a 'right' exchange rate for a country, preferring instead to let market forces determine its level. That said, it is common practice for central banks to try to 'smooth' exchange rate volatility in order to reduce the adverse impacts of short term volatility on the broader economy.

The decision to approve 94 new mineral and energy developments, if it is made, will require substantial capital inflow from the foreign owners of the majority of Australian minerals projects. A surge in mine approvals, and the increased capital inflow, will create significant upward pressure on the exchange rate which will add to the existing pressures already associated with the high interest rates discussed above.

While much has been written about the need for the Australian economy to adapt to the 'structural change', and associated higher exchange rates, being driven by the mining boom it is important to consider whether or not such a boom is best interpreted as a structural or cyclical change. That is, as will be discussed below the inevitable consequence of the massive expansion in investment in resource extraction is to lower the world price of Australia's exports.

[12] Greenblat, E (2012). 'Lew attacks RBA: 'mishandled mining boom''.

Of greater concern, however, is that the minerals industry is only a large employer during its construction phase. That is, after the mines are built and world prices begin to fall as output rises, the skilled labour currently being drawn from industries such as manufacturing will no longer be required in large quantities.

While much of the analysis of the current mining boom is based on the assumption that the current record terms of trade will be maintained for decades to come history suggests that mining booms are more cyclical than structural. If this is indeed the case then good macroeconomic policy would suggest that peaks should be dampened, rather than facilitated, by government policy.

Impact of the Australian mining boom on world commodity prices

In a perfectly competitive market individual firms do not have the capacity to influence world price and, in turn, will endeavour to maximise their output as long as the market price is greater than their cost of production. Such an approach maximises supply and, in turn, the benefits to consumers. For domestic production of consumer goods the fact that supply pressure puts downward pressure on price is considered both efficient and desirable.

The large expansion in coal mining and infrastructure projects is being driven by high commodity prices and these same high prices are driving other nations to also expanding their output. As these projects are completed both production and exports will grow. The Australian Bureau of Resources and Energy Economics (BREE) expect that this will cause the price of thermal coal to fall by 37 per cent by 2017[13]. Strong growth in exports will come not only from Australia but also other nation like Indonesia, Colombia and emerging exporters such as Mongolia and Mozambique.

Static versus dynamic efficiency

The mining industry employs relatively large numbers of workers during the construction phase and relatively few workers during the operation phase. As discussed above, Australia is about to experience an unprecedented mining construction boom with an unprecedented demand for construction and manufacturing workers. The vast majority of these jobs, however, will be relatively short term and will abate when either resource prices fall or all of the proposed new mines are built.

While it may be 'efficient' in the short term for the mining industry to poach the workforce trained by other industries, the longer term outcomes are likely to appear far less efficient. That is, the manufacturing industries that are likely to shut down in response to the high exchange rates and high wage rates driven by the mining construction boom are unlikely to return quickly, or even within decades, when the mining construction boom ends and the workers that are currently in high demand are again 'freed up' for other purposes.

In ‘perfect competition’ labour and capital could be expected to flow freely both within, and between industries and countries but in the world of modern manufacturing firms operate with very long investment cycles. For example, if Ford or Holden choose to close their Australian operations due to high wage and exchange rates they are very unlikely to rapidly reopen Australian operations when the mining industry no longer requires their key staff and the exchange rate falls as capital inflows for construction dry up while capital outflows in the form of profits begin. Similarly, if Qantas decides to locate its fleet maintenance in South East Asia, or a major bank decides to shift its ‘back office’ activities to India these decisions would not be quickly reversed when the exchange rate falls again.

[13] Bureau of Resources and Energy Economic (2012). *Resources and Energy Quarterly, March Quarter 2012*.

While it is theoretically possible that the individual decisions of the proponents of the 94 mineral and energy developments are making decisions that are compatible with maximising the long run returns on Australia's skilled manufacturing workforce such an outcome appears unlikely. Indeed, it could be argued that individual miners are motivated primarily to be the first to get their resources to market before the world prices collapse in response to the big increases in supply they are themselves working towards. In such circumstances the individual motivations of miners are likely to not only bring about an early end to the record resource prices currently being enjoyed but, in so doing, they are likely to drive alternative employers offshore for the foreseeable future, if not permanently.

Policy options for managing the mining construction boom

The public debate surrounding the mining boom in Australia has largely revolved around two extreme options of 'let it rip' or 'shut it down'. Indeed, those who have expressed concern with the pace of the mining boom have variously been accused of treason[14], economic vandalism[15] and even causing mass starvation[16].

But while the 'let it rip' approach may deliver benefits to the individual firms who hope to get their minerals to market before the surge in supply pushes prices downwards as discussed above it is highly unlikely that such an approach to managing the boom will maximise the benefits for Australian citizen. Consider the following two scenarios:

1. If the record prices currently being received are expected to last for decades to come then slowing the pace of the construction boom will impose only minor reductions in foregone income increases (as opposed to reductions in actual income) in the coming years.

2. If the record prices currently being received are not expected to last for decades to come then slowing the pace of the mining construction boom will allow Australia to maintain a diversified economy capable of maintaining near full employment both during the mining boom and after any bust.

The blunt instrument of interest rate management

The current approach to 'managing the boom' has primarily focussed on managing the rest of the non-mining economy in order to 'make room' for the boom. This approach to curtailing retail demand and manufacturing investment through the use of high interest rates has served to suppress average measured wage and price growth across the economy as a whole. That said, it has done nothing to reduce wage and price growth in the mining sector and the regions of the economy where the mining construction boom is occurring. Indeed, wages in the mining sector continue to grow rapidly while Consumer Price Index (CPI) data is not collected outside of the capital cities.

The current approach to managing the macroeconomic issues associated with the mining boom is to treat the mining construction activity as a microeconomic issue to be considered by local and state governments and then for the RBA to use national interest rate policy to create whatever 'room' it deems necessary. While the historic demarcation between microeconomic planning decisions and macroeconomic management decisions may have made sense when individual projects were small relative to the size of the economy the

[14] Hepworth A and Tasker S (2012). 'Construction Forestry Mining and Energy Union dumps on anti-mining blitz'.

[15] Hepworth A (2012). 'Coal activists' strategy exposed'.

[16] Kirk A (2012). 'Environmentalists plan legal challenges to coal and gas'.

same approach makes less sense when more than 50 per cent of new capital expenditure is occurring in a single industry.

That is, if the mining industry is planning capital investments that account for more than half of all new investment, and those investments will have a major impact on both capital inflows, the volume of exports and the value of the exchange rate then it would seem prudent to re-evaluate the historic demarcation between what constitutes a 'microeconomic' issue and what constitutes a 'macroeconomic' issue.

While historically the RBA has not played an interventionist role in 'industry policy' issues it has, at times, intervened forcefully in seemingly 'microeconomic' issues such as wage setting and industrial relations reform. That is, the RBA has at times sought to influence national debates about wage setting in order to reduce or avoid inflationary pressures in an attempt to minimise the subsequent need to increase interest rates. There is, therefore, no reason that the RBA or the Commonwealth Government could not seek to pre-emptively reduce the rate of acceleration in mining construction activity in order to reduce the subsequent need to increase interest rates across the broader economy.

The perverse instrument of subsidising the mining boom

While the extent of the external macroeconomic costs associated with the mining boom may be debated it is unarguable, from an economic perspective at least, that the ongoing provision of tax concessions and subsidies to the mining industry, in the midst of Australia's largest ever mining boom, are inefficient, inequitable and unnecessary.

At present Australian taxpayers spend around $9 billion per year in direct tax concessions and subsidies for the fossil fuel industry, the lion's share of which goes to the mining industry[17]. In addition to these tax concessions are billions of dollars worth of public support for the mining infrastructure required to make many remote mining ventures viable.

It has recently been suggested that the Commonwealth Government is considering the abolition of the diesel fuel rebate which delivers an estimated $5 billion per year, the largest beneficiary being the mining industry. In the context of the argument spelt out above the mining industry's response to this suggestion has been quite interesting. For example, Simon Bennison of the Association of Mining and Exploration Companies has said:

> *"It's an extremely serious issue to the industry because it's a serious cost input. You are really starting to put at risk, particularly for new operators, any desire they have to develop and explore in Australia."*

In other words, if the government were to remove the diesel fuel subsidy for miners it would reduce the profitability of the 'marginal' mining projects with the likely outcome that some of them would not proceed. Given the skill and infrastructure shortages discussed above, combined with the fact that the RBA is trying to slow down the economy and the Commonwealth Government is determined (unnecessarily in the view of this author) to restore the Commonwealth Budget to surplus by 2013 the removal of these subsidies would simultaneously deliver desirable industry and fiscal policy goals while simultaneously reducing the need for further monetary policy tightening.

The same could be said of the very generous tax concessions for what the mining industry calls Research and Development and Nicholas Gruen has suggested is more accurately described as capital expenditure. While the Australian mining industry is similar to the

[17] Denniss, R. et al (2012) 'Complementary Climate Change Policies: A Framework for Evaluation', *Economic & Labour Relations Review*, vol. 23, no. 1, pp33 - 46

Canadian mining industry, Canada provides just one tenth of the tax concessions for mining research and development that Australian does. Australian mining companies claimed research and development tax concessions in 2008-09 for approximately $4.8 billion more expenditure than would have been eligible in Canada.[18]

As with the tax concession for diesel fuel it is clear that if the generous definition of Research and Development were removed and the impact was to reduce the viability of some marginal mining projects then the impact would be an increase in tax revenue, a reduction in the rate of growth of the already booming mining construction activity and less need to implement contractionary monetary policy.

Rationing new mining developments

A simple and direct way to both reduce the negative consequences of a rapid mining construction boom and maximise the returns of that boom to Australian citizens would be to place an annual cap on mining development approvals and to auction the access to those limited approvals.

That is, in order to both minimise the negative externalities associated with attempting to simultaneously build record numbers of new resource projects and ensure that each project is rigorously examined by the relevant government agencies a fixed number of new mining projects could be determined on national interest grounds based on the size of the existing workforce, infrastructure and bureaucratic capacity.

Having determined the cap, in terms of either the total number or size of projects, mining companies could then bid for the right to apply for prioritised approval. The willingness of mining forms to pay for such projects would be directly proportional to the expected profitability of their project. Such an approach would ensure that the national benefits of mining expansion were maximised for a fixed value of the negative externalities associated with the projects.

Such an approach would also give mining developers an incentive, both individually and collectively, to invest in training for employees and essential infrastructure before it is needed rather than afterwards.

Finally, it is important to note that if the mining boom is expected to last for decades then the slight reduction in the pace of the mining construction boom will only result in small reductions in potential income rises.

Conclusion

The national debate surrounding the mining boom, to the extent that there has been one, has tended to focus on the extreme positions that the mining boom is either ‘universally good’ or ‘universally bad’. Such a debate has largely prevented the conduct of a national debate about how to best manage the mining boom to extract the maximum benefits for Australian citizens while minimising the costs that are imposed by the boom on other sectors of the economy and society.

While the recent passage of the revised mining tax, the so called Mining Resource Rent Tax (MRRT) will help to redistribute some of the financial benefits of the surge in commodity prices away from the largely foreign owned mining companies and towards Australian citizens this tax will do little, if anything, to shape the size and timing of the impending mining construction boom.

[18] Gruen N (2011). *The BERD in the hand: Supporting Business Investment in Research and Development*.

At present the policy framework for managing the macroeconomic consequences of the mining boom has been based on a sharp distinction between ‘microeconomic’ issues such as mine approval processes and ‘macroeconomic’ issues such as aggregate wage and price growth. This paper argues, however, that when more than half of all new capital investment is being made in one industry then the traditional boundary between microeconomic ‘industry policy’ and macroeconomic management needs to be reconsidered.

That said, the paper also concludes that the most obvious way to manage the speed of the mining construction boom is to remove the large tax concessions and subsidies which are currently serving to encourage the development of marginal mines that, by definition, deliver little to the broader economy while imposing substantial macroeconomic externalities.

The paper proposes that a more rational approach to managing the mining boom would be to prioritise the development of the most profitable mines which, by definition, would proceed regardless of the existence of generous industry assistance. Similarly, the projects that require such taxpayer support to be viable when resource prices are at record highs are, by definition, the mines that will deliver the least to the broader wellbeing of Australian citizens.

References

Australian Coal Association (2012). *Coal production*. viewed 30 March 2012 <http://www.australiancoal.com.au/coal-production.html>.

Australian Coal Association (2012). *Exports*. viewed 30 March 2012 <http://www.australiancoal.com.au/exports.html>.

Bulk Handling Review (2011). *Bin busting harvests threatened by infrastructure bottlenecks*, Viewed 30 March 2012 <http://www.bulkhandling.com.au/news/print-editions/january-february-2011/bin-busting-harvests-threatened-by-infrastructure-bottlenecks>.

Bureau of Resources and Energy Economic (2012). *Resources and Energy Quarterly, March Quarter 2012,* viewed 30 March 2012 <http://bree.gov.au/documents/publications/resources/REQ-Mar-2012.pdf >.

Denniss, R. et al (2012) 'Complementary Climate Change Policies: A Framework for Evaluation', *Economic & Labour Relations Review*, vol. 23, no. 1, pp33 – 46

Greenblat, E (2012). 'Lew attacks RBA: 'mishandled mining boom'', *Sydney Morning Herald*. March 23.

Gruen N (2011). *The BERD in the hand: Supporting Business Investment in Research and Development,* Lateral Economics. viewed 30 March 2012 <http://www.lateraleconomics.com.au/outputs/BERD%20in%20the%20Hand%20ecopy.pdf>.

Hepworth A (2012). 'Coal activists' strategy exposed', *The Australian,* March 06.

Hepworth A and Tasker S (2012). 'Construction Forestry Mining and Energy Union dumps on anti-mining blitz', *The Australian,* March 07.

Kirk A (2012). 'Environmentalists plan legal challenges to coal and gas'*, ABC - PM*, March 6 viewed 30 March 2012 <http://www.abc.net.au/pm/content/2012/s3447063.htm>.

New, B, Ball, A & Copeland A (2011). *Minerals and energy - Major development projects, April 2011 listing ,* Australian Bureau of Agricultural and Resource Economics and Sciences, viewed 30 March 2012 <http://adl.brs.gov.au/data/warehouse/pe_abares99010544/MEprojectsApril2011_REPORT.pdf>.