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Job creator or job destroyer?

An analysis of the mining boom in Queensland

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TAI

Policy Brief

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Summary

On the back of record high commodity prices the mining industry in Australia is experiencing an unprecedented period of expansion. The value of our mineral exports has increased to the point where they now make up more than half of the value of all our exports. This increase combined with the huge inflow of capital to fund the mining expansion has been a significant factor in Australia's rising exchange rate.

A higher exchange rate puts pressure on the non-mining sectors of the economy to remain competitive. Manufacturing in Queensland has declined 6.5 per cent over the past year and the number of international tourist coming to Queensland has fallen 6 per cent since the beginning of the mining boom as foreign travellers increasingly choose cheaper destinations. While some mining jobs are well paid, the reality for the 99 per cent of Queenslanders who don't work in the mining industry is higher housing costs, higher mortgage interest rates and fewer jobs in tourism, manufacturing and agriculture.

In Queensland there are a large number of proposed mining projects that if completed will cause significant structural change to that State's economy and Australia as a whole. Using Australian Bureau of Agriculture and Resource Economics (ABARE) statistics this paper examines the costs associated with 39 mining projects identified for Queensland.

These 39 projects together have capital expenditure of more than $55 billion and will employ an estimated 39,668 people. However, modelling for another mining project in Queensland, the China First mine located in the Galilee Basin, has shown that under generous assumptions one non-mining job will be destroyed for every two mining jobs created.

That is, it is possible that the proposed mining projects could destroy almost 20,000 jobs across Queensland and Australia. The majority of these job losses, almost 15,000, will be in manufacturing.

Significantly, such an approach is likely to be an underestimate as it assumes that the higher wages offered by the mining industry will convince a pool of almost 20,000 currently 'invisible' workers to enter the workforce. It is difficult to see how this can happen with the present tight labour market. It also ignores that the mining boom will continue to drive the high exchange rate which will cause further job losses in other sectors of the economy.

Research has shown that Australians overestimate the positive economic effects of the mining boom and little consideration is given to the economic costs. The mining boom will make large profits for the largely foreign owners of the mining companies and benefit those workers who are closely associated with the industry, but other Australian businesses and mortgage owners will have to contend with higher exchange rates and interest rates. While it is easy for proponents to talk up the benefits of individual mines, when they are considered together the overall impact is not as positive as the Australian public has been led to believe. The mining industry is quick to claim credit for job creation but is reluctant to take responsibility for any adverse impacts the expansion of their activities may cause.

Introduction

The mining industry in Australia continues to boom, surging from around four per cent of GDP in 2004 to around nine per cent today. This expansion however is small when it is compared to the industry's growth plans.

Through an extremely effective public relations campaign by the mining industry many people in Australia view the mining boom as delivering only benefits and believe it employs many more people than it actually does. Recent polling by The Australia Institute[1] found that Australians believe the mining industry employs around 16 per cent of the workforce when, according to the Australian Bureau of Statistics, in reality it employs only two per cent of the workforce. Put simply, Australians imagine that the mining industry employs around eight times more people than it actually does.

Up until recently there has been much less discussion about the negative economic consequences of the mining boom on the Australian economy. This paper provides an overview of the economic costs associated with the planned expansion of the Queensland mining industry.

An increase in mining exports has led the surge in demand for the Australian dollar, which in turn has caused the dollar to rise in value. The higher exchange rate is hurting the competitiveness of non-mining industries such as manufacturing, tourism and agriculture and the mining boom is also increasing prices and wages which is flowing through to the wider economy and causing the Reserve Bank of Australia (RBA) to maintain higher interest rates in an attempt slow down the rest of the economy. While only two per cent of Australia's workforce is employed in mining, the knock-on effect from higher interest rates is felt much more broadly.

The higher exchange rate is a major factor in the recent decline in Queensland manufacturing and tourism. Manufacturing in Queensland has declined 6.5 per cent over the past year. The number of international tourist coming to Queensland has fallen 6 per cent since the beginning of the mining boom as foreign travellers increasingly choose cheaper destinations. While some mining jobs are well paid, the reality for the 99 per cent of Queenslanders who don't work in the mining industry is higher housing costs, higher mortgage interest rates and fewer jobs in tourism, manufacturing and agriculture.

The impact of the mining boom on the economy

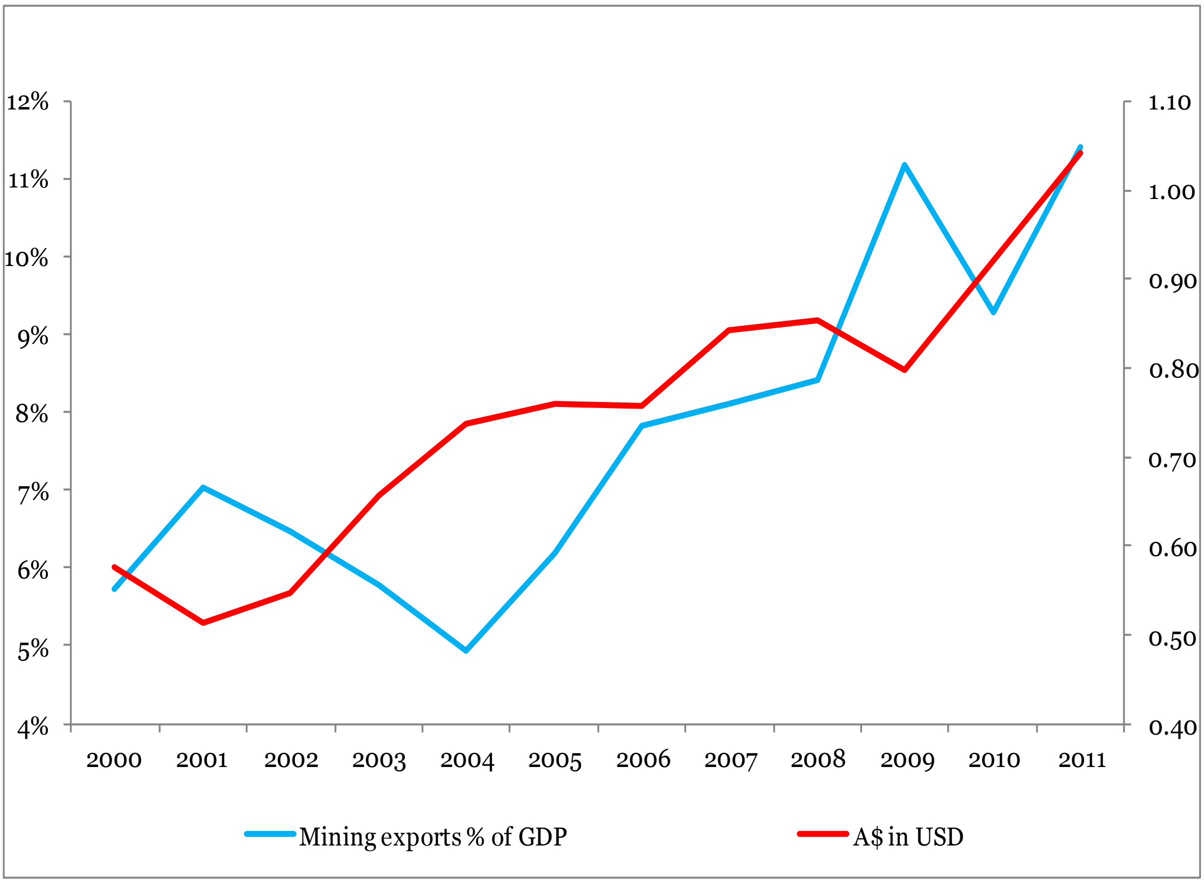
The mining boom is one of the main factors driving up Australia's exchange rate which is affecting the competitiveness of the non-mining sectors of the economy. A further expansion of the mining industry is likely to lead to more upward pressure on the dollar. This in turn, is partly responsible for Australia's relatively high interest rates.

The impact of the mining boom on non-mining exports

Mining exports make up more than half of the value of all Australian exports. These exports, combined with the capital inflow associated with building new mines, have put upward pressure on the Australian exchange rate. Figure 1 shows mining exports as a percentage of GDP and the $A/$US exchange rate.

[1] Richardson, D and Denniss, R (2011). Mining the truth, Institute Paper No.7, The Australia Institute, September.

Figure 1: The exchange rate and mining exports

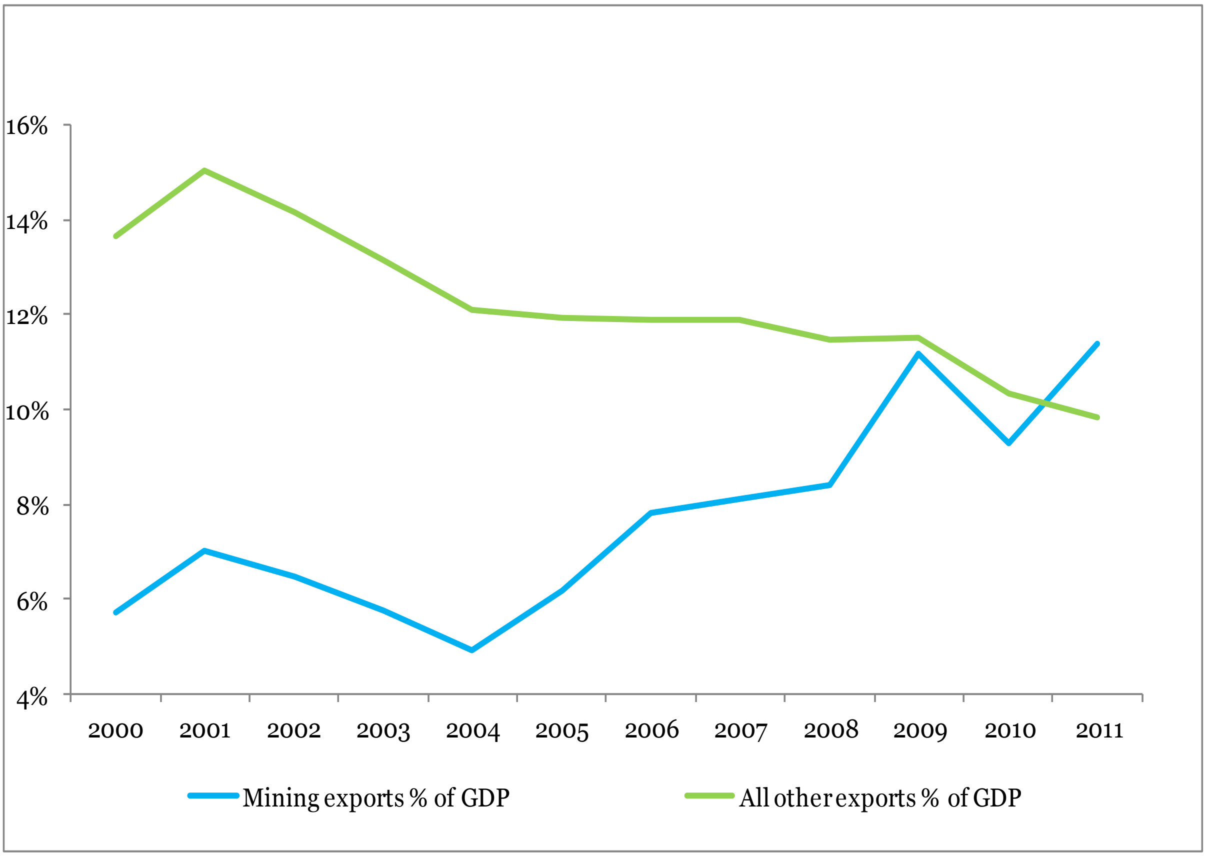


The recent rise in the exchange rate is being driven by an increase in demand for the Australian dollar. As billions of dollars flow into Australia to build new mines and expand old ones and as foreign companies want to buy more of our minerals, demand for the Australian dollar rises. As with other goods when demand rises this puts upward pressure on its price. The price of the Australian dollar is the exchange rate. As Figure 1 shows the price of the Australian dollar has more than doubled since 2001.[2]

While a higher exchange rate makes imports cheaper it also makes exports less competitive. The larger the growth in mining exports the greater the pressures placed on non-mining exports such as manufacturing, tourism and agriculture. Figure 2 compares mining and non-mining exports as a percentage of GDP. It shows that while mining exports as a percentage of GDP have grown strongly, non-mining exports as a percentage of GDP have fallen. That is, while mining exports have grown strongly, the same is not true for Australia's exports as a whole as the growth in mining exports has 'crowded out' exports from other sectors.

[2] An earlier version of this paper incorrectly stated that the doubling of the Australian dollar had occurred from 2004.

Figure 2: Mining and non-mining exports



The impact of the mining boom on interest rates

The Reserve Bank of Australia is responsible for adjusting official interest rates in order to achieve macroeconomic stability. In order to achieve these goals it increases interest rates when the economy is speeding up and lowers rates when the economy is slowing down. With the sustained mining boom the RBA has been forced to increase interest rates in order to slow down other sectors of the economy. This means that interest rates are higher than they would otherwise be if the mining industry had not been expanding as fast as it has. Between May 2006 and March 2008 the RBA steadily increased official interest rates from 5.50 per cent to 7.25 per cent. On each occasion, high or rising commodity prices were mentioned explicitly as reasons for the increase.[3]

In economic terms the RBA is trying to free up resources in the non-mining sectors which will allow the mining sector to continue to expand. In practice this means that higher interest rates will cause some non-mining businesses to shut down or reduce production and those resources will then be employed by the mining industry.

Mining profitability and foreign ownership

The mining industry in Australia is extremely profitable with pre-tax profits in 2009-10 more than $51 billion. If world commodity prices remain high mining profits over the next 10 years

[3] Richardson, D and Denniss, R (2011). Mining the Truth, Institute Paper No.7, The Australia Institute, September.

are likely to exceed $600 billion. Around 83 per cent of these profits will be sent off shore to the foreign owners of Australian mining operations.[4]

The impact of the mining boom on Queensland

While the negative consequences of the mining boom are only now starting to be discussed in any detail, some work has been done to model these effects. Ironically the mining industry itself had provided some of the clearest evidence of the adverse impacts of the mining boom on other sectors of the economy. These impacts are described in detail below.

The impact of the China First mine on employment in other sectors

The 'China First' project is located in the Galilee Basin in Central Queensland and will be one of the world's largest coal mines. An economic impact assessment commissioned by Waratah Coal the mine's owner, and carried out by the AEC Group, identified a number of adverse flow-on effects from the project.

The mine's proponents concede that there will be substantial economic costs for significant parts of the broader economy. These consequences include:

- 3,000 jobs will be lost primarily across Queensland, particularly in manufacturing, agriculture and tourism
- As a result of the development inflation will rise
- Small and medium sized businesses will face higher bills for payroll and rent, which will result in some of them shutting down
- Housing affordability will decline for those who are not employed in the new mine.[5]

While the profits flowing to the owners of this mine will be substantial, a close reading of the economic analysis shows that the net economic benefits to Australia will, at best, be small.

While it is common for mining companies to talk up job creation, the fact that just one mine will result in the loss of 3,000 jobs primarily across Queensland and mostly from tourism, agriculture and manufacturing is a significant admission. Of the 3,000 job losses the modelling predicts 2,215 of them will come from manufacturing. This is mainly because the large demand for labour the mine creates will push up wages in an already tight labour market. The higher wages represent an increase in the costs for other businesses. According to the AEC Group's economic modelling some of these businesses in Queensland will be forced to shut down:

> *The increase in competition for labour from the China First Project... will place pressure on local businesses to increase salaries and wages in order to retain and attract staff. The increase in labour costs will eat into business profitability, and will likely require businesses to either increase the price of their goods and services or cut back on their expenses in order to recover costs. This may make some businesses operating on or near the margin unviable in the medium to long term...*[6]

The reason that the China First modelling finds that the job losses of 3,000 in the non-mining sectors will be less than the 6,000 jobs created in the mining industry is because the

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4 Richardson, D and Denniss, R (2011). Mining the Truth, Institute Paper No.7, The Australia Institute, September.

5 Denniss, R (2011). *An analysis of the economic impacts of the China First mine*, Submission, The Australia Institute, December.

6 Waratah Coal 2010. *Economic Impact Assessment for the China First Project EIS – Final Report*. Viewed 8 March 2012: <http://www.waratahcoal.com/eis-volume-5>

modelling assumes that the higher wage rates paid by the mining industry will increase the labour force participation rate by encouraging more people to enter the labour market. That is, the higher wages will change the minds of people who previously didn't want a job. Given the current low levels of unemployment this seems unlikely. Dr David Gruen, executive director of the Macroeconomic Group at Treasury, said at Senate Estimates hearings in February this year:

> *In a well-functioning economy like ours, with unemployment close to its lowest sustainable rate, it is not the case that individual industries are creating jobs, they are simply re-distributing them.*[7]

That is, according to Treasury higher mining employment will not attract new workers, it will simply poach workers from other businesses, forcing them to reduce production or shut down. If Dr Gruen is right and there is not a large supply of new labour waiting to be employed, instead for every new job created at the China First mine one job will be destroyed somewhere else in the economy. That is, the 6,000 new jobs could possibly destroy not 3,000 but 6,000 other jobs.

Modelling the Queensland mining boom as a whole

While some individual mines have commissioned economic impact statements as part of their environmental assessment process, these analyses only model the effect that their single mine will have on the economy. What has not been attempted in Australia to date, however, is any attempt to model the impact that all the proposed mines will have on the economy. This is important because while it may be true that an individual mine can claim that its impact on aspects of the wider economy is negligible, it is not true when all the proposed mines are considered simultaneously. An important example of this is the effect on the exchange rate. While it could be argued that individual mines do not have a significant impact on the exchange rate, this is clearly not the case when many mines are considered simultaneously.

The size of the Queensland mining boom

The mining sector in Australia is booming on the back of a period of high commodity prices. These prices are driving tens of billions of dollars of investment into new mining projects and the expansion of existing mining projects. According to the Australian Bureau of Agriculture and Resource Economics (ABARE)[8] in April 2011 there were 94 'advanced' mineral and energy projects in Australia with a total capital expenditure of $173.5 billion. This massive expenditure will have positive and negative effects on the Queensland economy and the wider Australian economy. Using the China First modelling we can look at what the effect might be if we include a larger number of projects.

Using the ABARE data 39 mineral projects that had data on employment have been identified from Queensland[9]. These 39 projects together have capital expenditure of more than $55 billion and will employ an estimated 39,668 people. If we use the modelling from the China First mine that shows, under generous assumptions, one non-mining job will be destroyed for every two mining jobs created then these new Queensland projects will crowd out at least 19,834 jobs. Of these job losses 14,644 would be in manufacturing.

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[7] Gruen, D (2012). Transcript of evidence to Senate Economics Committee, 16th February 2012, pp17

[8] New, R, Ball, A & Copeland, A (2011). *Minerals and energy: major development projects - April 2011 Listing*, ABARE, Canberra, viewed 9 March 2012: <http://adl.brs.gov.au/data/warehouse/pe_abares99010544/MEprojectsApril2011_REPORT.pdf>

[9] For the full list of projects used in this analysis see Appendix A

That is, if we assume that the macroeconomic linkages between the mining industry and the broader economy derived in the China First modelling are broadly linear then we can apply the same job destruction effects to the 39 projects described above.

Significantly, such an approach is likely to be an underestimate of the impact on non-mining job destruction as it assumes that there would be a pool of almost 20,000 currently 'invisible' workers willing to enter the workforce. With the tight labour market it is difficult to see where these skilled workers are going to come from. Mining companies have already identified this problem with some of them calling for new immigration arrangements to meet the labour shortfall from overseas[10].

The jobs destroyed would be mainly in manufacturing with the tourism and agriculture industries also affected. The jobs that are created will be short term mining construction jobs which typically are less secure than the jobs they destroy. The mining industry has also relied heavily on fly-in fly-out employment arrangements. These new jobs may end up being less beneficial to the Queensland economy in the long run and for communities such as Moranbah they have already led to skyrocketing rental prices, up to as much as $3,200 a week[11]. As Moranbah Action Committee spokeswoman Kelly Vea Vea told the Courier-Mail:

> *"The State Government and the mining companies really need to step in and be part of the solution rather than the problem ….. The state gets hundreds of millions of dollars in royalties a year from this one community alone, yet it is content to steamroll legitimate concern, and implement arrogant, meaningless, spin-based policies that fail Queensland's vital mining regions."*

It gets worse

Although the China First mine models the impact that higher wages will have on the rest of the economy it does not pay close attention to the impact of the new mine on the exchange rate. As discussed above a major driving force behind the rising exchange rate has been the resources boom. Higher demand by foreigners for our resources and strong capital inflows to build new mines has increased demand for our dollar. This has pushed up its value. Each new mine increases our exports and so adds upward pressure on the exchange rate. Individual mines are unlikely to have a large impact on the exchange rate but the number and size of all the mining projects when taken together are likely to add upward pressure.

The impact on manufacturing

The 39 mining projects identified for Queensland would increase mining output and mining exports by a substantial amount. In 2009-10 Australia exported 250.5 mega-tonnes of coal[12]. The proposed coal mines in Queensland alone will increase coal output by 241.3 mega-tonnes per annum. This will put strong upward pressure on the exchange rate. The high exchange rate has already been blamed by a number of companies shedding workers. These include:

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[10] Burrell, A (2011). *Gina Rinehart calls for Asian guest workers*, The Australian, viewed 8 March 2012: <http://www.theaustralian.com.au/national-affairs/gina-rinehart-calls-for-asian-guest-workers/story-fn59niix-1226018659150>

[11] McCarthy, J (2011). *Moranbah mining town rents hit $3400 a week,* The Courier-Mail, viewed 14 March 2012: http://www.couriermail.com.au/news/features/gloom-mining-towns-are-boom-towns-thanks-to-housing-frenzy/story-fn4z2520-1225827276569

[12] *Australia's Coal Industry*, Department of Resources, Energy and Tourism, viewed 8 March 2012: <http://www.ret.gov.au/resources/mining/australian_mineral_commodities/Pages/australia_coal_industry.aspx>

- OneSteel which has shed more than 3,000 jobs since 2007, with the chief executive claiming that every cent increase against the US dollar means a negative $10 million on Earnings Before Interest and Taxes (EBIT)[13]
- BlueScope Steel has scraped 1,000 jobs[14]
- 164 jobs have been cut at Boral's Ipswich factory which the company blamed on foreign imports, the high Australian dollar and damage the plant sustained in January's floods.[15]
- 600 jobs at risk at Alcoa's Point Henry Aluminium smelter because of the strong dollar.[16]

An even higher exchange rate is likely to lead to more job losses.

Statistics on manufacturing employment are confirming the decline that we are seeing in media reports about the pressure manufacturing is under. Nationally employment in manufacturing fell 3.1 per cent in 2011. In Queensland the rate of decline was more than twice that of the national average with manufacturing jobs falling by 6.5 per cent.[17]

The impact on tourism

The tourism industry in Queensland has also suffered the adverse effects of the mining boom. The Queensland Tourism Industry Council has called for more assistance similar to that being handed out to the manufacturing industry and has blamed the high Australian dollar for the fall in tourism numbers:

> *We have tourism operators closing their doors, as the industry continues to battle the high Australian dollar,*[18]

These concerns are borne out by statistics showing international arrivals to Queensland have fallen by six per cent since the beginning of the mining boom. In tourism-dependant Far North Queensland, which includes Cairns, international visitors have fallen by 21 per cent over the same period.[19] Figure 3 shows international tourists in Tropical North Queensland compared to mining exports as a percentage of GDP since the beginning of the mining boom.

[13] Lamont, L (2012). *OneSteel cuts jobs, looks to mining*, The Sydney Morning Herald, viewed 13 March 2012: http://www.smh.com.au/business/onesteel-cuts-jobs-looks-to-mining-20120221-1tlpa.html

[14] Zappone, C (2011), *Strong dollar takes its toll on jobs*, The Sydney Morning Herald, viewed March 13 2012: http://www.smh.com.au/business/strong-dollar-takes-its-toll-on-jobs-20110822-1j5lz.html

[15] Jackson, Z (2011). *164 jobs axed as Boral plant shuts*, The Queensland Times, viewed 13 March 2012: http://www.qt.com.au/story/2011/06/21/164-jobs-axed-city-boral-plant-shuts-ipswich/

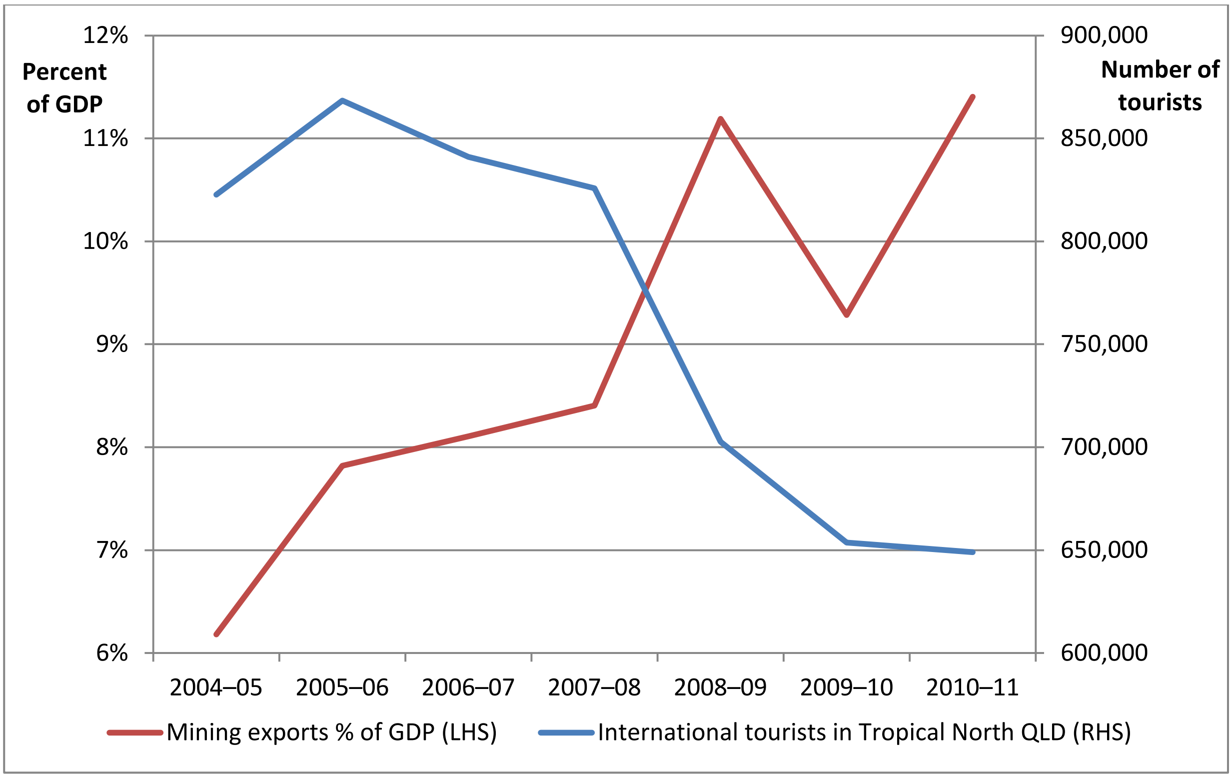
[16] Fitzgerald, B (2012). *Short-term aid won't save plant: Alumina*, viewed 13 March: http://www.theaustralian.com.au/business/mining-energy/short-term-aid-wont-save-plant-alumina/story-e6frg9df-1226273185119

[17] Queensland Government Office of Economic and Statistical Research, *Information brief, Employment by industry, December quarter 2011*, viewed 8 March 2012: http://www.oesr.qld.gov.au/products/briefs/employment-by-industry/employment-by-industry-201112.pdf

[18] *Queensland Tourism Industry Council urges Federal Government to Support Jobs*, GoHospitality, viewed 13 March 2012: http://www.gohospitality.com.au/c/gohospitality/Queensland-Tourism-Industry-Council-urges-Federal-Government-to-Support-Jobs-n913168

[19] Queensland Government Office of Economic and Statistical Research, viewed 8 March 2012: http://www.oesr.qld.gov.au/regions/far-north/tables/internat-visitors-qld-tourism-region/index.php

Figure 3: International tourists in Tropical North Queensland and mining exports as a % of GDP



Conclusion

The mining boom is causing large structural changes to both the Queensland and Australian economies. These changes will inevitably create winners and losses. While there has been a lot of focus on what benefits the mining boom might bring, there has been less focus on the negative consequences, and in the case of employment these negative consequences may well negate most of the benefits derived from the boom.

It is possible that with a tight labour market and upward pressure on exchange rates, the proposed mining projects in Queensland could lead to a net loss of jobs, that is, rather than being job creators the mines could be job destroyers. New jobs are likely to be mainly short-term construction jobs, replacing longer term jobs in manufacturing, tourism and agriculture.

The mining boom will make large profits for the largely foreign owners of the mining companies and benefit those workers who are closely associated with the industry, but other Australian businesses and mortgage owners will have to contend with higher exchange rates and interest rates.

While the Premier of Queensland Anna Bligh described the China First mine as “a massive shot in the arm” for the State’s economy during the project’s announcement with Clive Palmer, it is worth bearing in mind the words of the economic impact assessment:

> *of note, the manufacturing sector is estimated to record a considerable decline in overall industry output during operation. It is expected that the mining-related manufacturing sub-sector will benefit from the China First project through demand for, and provision of, goods and services to support the project once operational. However, offsetting this 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 sets employed...further, the export of $4.6 billion of coal will likely place some upward pressure on Australia's exchange rate, which may impact on the global competitiveness of manufacturing goods produced in Australia.*[20]

The China First mine is just one of many proposed mining projects in Queensland. While it is easy for proponents to talk up the benefits of individual mines, when they are considered together the overall impact is not as positive as the Australian public has been led to believe. The mining industry is quick to claim credit for job creation but is reluctant to take responsibility for any adverse impacts the expansion of their activities may cause.

[20] Waratah Coal 2010. *Economic Impact Assessment for the China First Project EIS – Final Report*. Viewed 8 March 2012: <http://www.waratahcoal.com/eis-volume-5>

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Appendix A

Project type	Project name	Company	Capital expenditure	Employment
Coal	**Daunia**	BHP Billiton Mitsubishi Alliance (BMA)	US$1.6b (A$1.55b) excl. pre FID funding	450
Coal	**Ensham bord and pillar underground mine**	Ensham Resources	$166m	80
Coal	**Integrated Isaac Plains Project**	Aquila Resources / Vale	$86m	100
Coal	**Lake Vermont**	Jellinbah Resources	$200m	1500
Coal	**Middlemount (stage 1)**	Macarthur Coal / Gloucester Coal	$500m (includes stage 1 and 2)	160
Coal	**Alpha Coal Project**	GVK / Hancock Coal	$7.5b (inc. mine, port and rail)	2500
Coal	**Belvedere underground**	Aquila Resources / Vale	$2.8b	500
Coal	**Carmichael Coal Project**	Adani	$6.8b	4120
Coal	**Caval Ridge / Peak Downs expansion**	BHP Billiton Mitsubishi Alliance (BMA)	US$4.2b (A$4.1b)	1200
Coal	**China First Coal project (Waratah Galilee)**	Waratah Coal	$8b	6000
Coal	**Colton**	Northern Energy	$84m	100
Coal	**Ensham Central longwall underground**	Ensham Resources	$1.0b	50
Coal	**Goonyella Riverside Expansion**	BHP Billiton Mitsubishi Alliance (BMA)	na	1200
Coal	**Grosvenor underground**	Anglo Coal Australia	US$1.3b (A$1.26b)	500
Coal	**Kevin's Corner**	Hancock Coal	na	2500
Coal	**Moranbah South project**	Anglo Coal Australia / Exxaro	US$1b (A$971m)	1200
Coal	**Wandoan opencut (phase 1)**	Xstrata / Itochu / Sumisho Coal	na	1375
Coal	**Washpool coal project**	Aquila Resources	$396m	400

Bauxite	**South of Embley project**	Rio Tinto Alcan	US$1b (A$970m) (includes US$400m port upgrade)	630
Copper	**Ernest Henry underground**	Xstrata	$589m	330
Copper	**Cloncurry Copper project**	Exco Resources	$200m	200
Gold	**Agate Creek**	Renison Consolidated Mines	$60m	100
Gold	**Mt Carlton (Silver Hill)**	Conquest Mining	$127m	150
Lead, Zinc, Silver	**Black Star Open Cut Deeps**	Xstrata	$130m	100
Lead, Zinc, Silver	**George Fisher**	Xstrata	$310m (inc $36m surface crusher)	250
	Dugald River	Minerals and Metals Group	US$850-950m (A$876m-$980m)	850
Nickel	**Gladstone Nickel project (stage 1)**	Gladstone Pacific Nickel	US$4.2b (A$4.1b)	2600
Nickel	**Gladstone Nickel project (stage 2)**	Gladstone Pacific Nickel	na	1750
Nickel	**Lucky Break**	Metallica Minerals / Metals Finance	$12.4m	70
Phosphate	**Paradise Phosphate project**	Legend International Holdings	US$1.8b (A$1.73b)	1060
Alumina	**Yarwun alumina refinery expansion**	Rio Tinto Alcan	US$2.3b (A$2.2b)	1200
Crude iron and steel	**Gladstone Steel Plant Project (stage 1)**	Boulder Steel	$1.4b	2000
Infrastructure (coal)	**Goonyella to Abbot Pt (rail) (X50)**	QR National	$1.1b	700
Infrastructure (coal)	**Hay Point Coal Terminal (phase 3)**	BHP Billiton Mitsubishi Alliance (BMA)	US$2.5b (A$2.4b) excl. pre FID funding	13
Infrastructure (coal)	**Wiggins Island Coal Terminal (stage 1)**	Wiggins Island Coal Export Terminal	$2.5b	800
Infrastructure (coal)	**Moura Link - Aldoga Rail**	QR National	$1b	350
Infrastructure (coal)	**Surat Basin Rail (Southern Missing Link)**	Queensland Rail / ATEC / Xstrata Coal	$1b	1500
Infrastructure (coal)	**Wiggins Island Coal Terminal (stage 2)**	Wiggins Island Coal Export Terminal	na	600

Infrastructure (coal)	**Wiggins Island Coal Terminal (stage 3)**	Wiggins Island Coal Export Terminal	na	480