

From Russia with love

Coal profits from war in Ukraine

Australian coal export revenue increased by \$73b, or 186% in 2021-22. Between \$21b and \$39b of this is directly attributable to the Russian invasion of Ukraine.

Between \$39b and \$45b of the total increase went to company profits, while just \$25b to \$28b will go to governments, despite economic theory suggesting 100% of this windfall gain could be taxed without affecting industry incentives.

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December 2022

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ISSN: 1836-9014

Summary

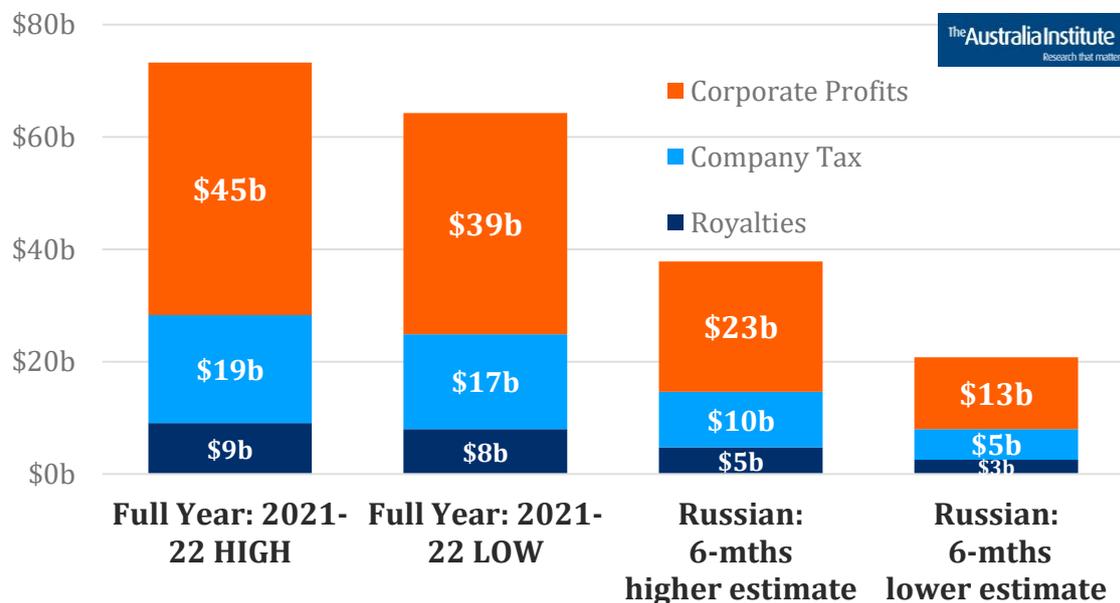
Energy prices soared worldwide following Russia’s invasion of Ukraine. Russia is the world’s third largest coal exporter, behind Indonesia and Australia, meaning that turmoil in Russia causes disruptions in international coal markets.

Before the invasion, coal prices had already risen to high levels due to a range of domestic and international factors. As a result, the value of Australian coal exports skyrocketed from \$39 billion in 2020-21 to \$112 billion in 2021-22, a 186 percent or \$73 billion increase.

The \$73 billion increase in export revenue may be a high-end estimate of the windfall gain from the higher coal prices, as prices in 2020-21 were relatively low and may have risen to longer term average levels even without the invasion. Using 5-year pre-COVID average coal prices to estimate the windfall lowers the estimated gain to \$64 billion.

Not all of this windfall was attributable to Russia’s invasion. Adjusting for other factors, the impact of the invasion is estimated to be between \$39 billion and \$21 billion.

Figure A: Summary of windfall estimates for 2021-22



Source: Analysis of Department of Industry Science and Resources (2022)

The windfall gains are divided between profits to coal companies, royalties and company tax. It is estimated that the windfall gains to the coal companies in 2021-22 was between \$39 billion and \$45 billion, of which between \$13 billion and \$23 billion is estimated to be caused by the Russian invasion (Figure A above).

Earlier Australia Institute research estimated windfall profits to LNG companies in 2021-22 at between \$26 billion and \$40 billion. Adding this to the estimates of windfall coal profits, Australian fossil fuel producers have benefited by between \$65 billion and \$85 billion in 2021-22 relative to 2020-21.

The New South Wales and Queensland governments expect the coal windfall to continue into 2022-23 based on their price forecasts in their budget papers. Similarly, futures prices suggest the 2022-23 windfall could be close to the 2021-22 outcome.

Incorporating the range of price estimates suggests the windfall gain for 2022-23 to the coal companies could be between \$17 billion and \$41 billion. The benefits to state governments are much lower – between \$5 and \$10 billion in 2022-23. Benefits to the Commonwealth Government are slightly higher, between \$7 and \$18 billion.

Adding the two years estimated, company windfall profits are between \$56 billion and \$86 billion, extra royalties between \$13 billion and \$19 billion and extra company tax payments between \$24 billion and \$37 billion.

Overall, coal companies receive around 60 percent of the windfall benefit while just 40 percent accrues to governments, despite economic theory suggesting 100 percent of windfall gains can be taxed without affecting industry incentives.

Despite widespread calls by economists and commentators to tax this windfall gain, the Australian Government is yet to do so. The Queensland Government has made some small changes to its royalty rates. While the state's new top marginal rate of 40 percent appears impressive, this applies only to prices above \$350 per tonne. Average royalty rates remain low - even at a price of \$600 per tonne, the average royalty rate charged by Queensland is just 28 percent. At traditionally high prices such as \$200 per tonne, an average rate of only 11 percent applies.

Queensland's new royalty rates are likely to increase payments by between \$1 billion and \$4.3 billion in our modelled scenarios. Applying the same regime in NSW would affect royalties by between negative \$0.1 billion and \$5.8 billion. These gains are small compared to the potential increase in profits of between \$17 billion and \$41 billion.

If Queensland's rates were slightly uplifted at rates that only target the windfall price component, the state could have raised an additional \$19 billion in 2020-21. For context, this alone could have almost funded the Australian Government's entire \$20 billion investment in its Rewiring the Nation initiative to modernise Australia's electricity grid.

Introduction

While debate continues on the appropriate response to Australia's sky-high coal, gas and electricity prices, the size of the resulting profit windfall for multinational coal mining companies has not been widely estimated or discussed.

Recent research by Ogge estimated the size of the natural gas profit windfall to be between \$26 billion and \$40 billion.¹ Buckley has made a basic estimate of gross profit to fossil fuel producers of between \$120 billion and \$140 billion in calendar year 2022,² broadly in line with more detailed estimates by Ogge and in this paper.

The purpose of this paper is to follow a similar methodology to Ogge and estimate the size of the windfall gains to coal companies and governments. We also analyse the royalty schemes in New South Wales (NSW) and Queensland to develop a simple proposal to deliver more of the windfall to the Australian public.

The analysis in this paper draws heavily on data supplied by the Department of Industry Science and Resources (DISR) and published in the *Resources and Energy Quarterly* (September edition) and the Queensland Government's *Quarterly Coal Reports*. These are the sources for high level figures below unless noted otherwise.

We note that coal markets are changing rapidly. The estimates in this report are likely to be out of date before they are published. For example, on 9 December the Queensland Government announced a major uplift to projected coal royalty revenue for 2022-23,³ while the Federal Government looks set to announce price caps for some producers, with the NSW and Queensland governments financially encouraged to do the same for coal. In the meantime, current coal prices remain significantly above the forecasts made by DISR, and other organisations, only months ago.

Such changes will affect the exact size of windfall gains, but the key points will remain: the profit windfall to coal companies is enormous, ongoing and similar in size to

¹ Ogge, M. (2022) *War gains: LNG Windfall Profits* (<https://australiainstitute.org.au/post/gas-giants-reap-40-billion-in-windfall-war-profits-report/>)

² Buckley, T. (2022) *Fossil fuel exporters will reap \$120 billion gross profit in 2022, as Australian consumers are crushed by energy hyperinflation*, <https://climateenergyfinance.org/wp-content/uploads/2022/12/Fossil-fuel-exporters-will-reap-120bn-gross-profit-in-2022-even-as-Australian-consumers-get-smashed-by-hyper-energy-inflation.docx-1.pdf>

³ Coorey, P. & Ludlow, M. (2022) *Queensland fights to keep coal windfall*, Australia Financial Review, 7 Dec. 2022 (<https://www.afr.com/politics/federal/qld-fights-to-keep-coal-windfall-20221207-p5c4aj>)

estimates of the natural gas windfall. Without policy changes, the vast majority of the windfall goes to multinational energy companies.

The next section gives a brief overview of the international coal market and Australia's position in it, followed by an analysis of recent coal price movements. Then, estimates of the windfall for the previous full financial year (2021-22) are calculated, followed by estimates of the windfall caused directly by the Russian invasion of Ukraine. Following on, projections of the windfall for the current financial year (2022-23) are calculated. The last major section of paper deep dives into the coal royalty schemes in NSW and Queensland and proposes a simple change to significantly improve the share of the windfall returned to Australians.

Coal market overview

The international trade of coal represents a small portion of global coal production and consumption. In 2021 global coal production was 8,000 MT of which just over 1,300MT was traded, around 17 percent.

The international trade in coal is typically divided into two broad segments: thermal coal and coking, or metallurgical, coal. These segments represent usage and quality characteristics. Coking coal is typically of higher quality, higher priced, and a key ingredient in the manufacturing of steel. Thermal coal is usually of lower quality and used mainly for electricity generation. Though there is significant overlap in characteristics between the two coal types, their prices, trade volumes and exports earnings are individually tracked and reported as two distinct markets.

Australia is the largest exporter of coal by value, shipping \$64 billion worth of coal in 2021. Australia is the largest exporter of coking coal and the second largest exporter of thermal coal, behind Indonesia. In Australia, coal export volumes are roughly equally split between thermal and coking coal, with NSW and Queensland mines supplying all the coal for export. NSW exports are predominantly thermal coal accounting for over 80 percent of its exports, and 40 percent of total Australian coal exports. Queensland is almost the opposite, 76 percent of its exports are coking coal, representing 42 percent of total Australian coal exports. Export prices for coking coal are normally much higher than thermal coal meaning Queensland coal export revenue represents over 60 percent of total Australian coal export revenue.

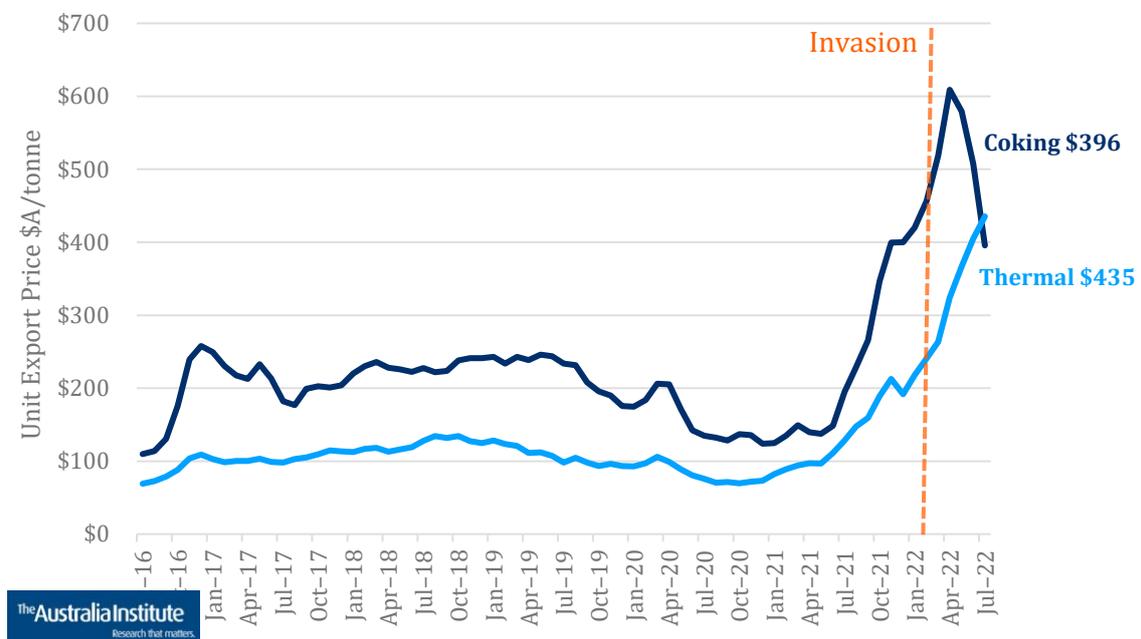
Other major coal producing and exporting countries include Indonesia, USA, South Africa, Columbia and Russia. Prior to the invasion Russia was the world's third largest coking and thermal coal exporter such that turmoil in Russia will, unsurprisingly, cause disruptions in international coal markets.

Coal and energy prices

Global energy prices spiked following Russia’s invasion of Ukraine in February 2022.

As shown in Figure 2, prior to the invasion, prices for Australian coal exports were already well above long term averages. Following the invasion, prices increased significantly by 86 percent (thermal) and 21 percent (metallurgical). April 2022 saw the biggest recorded one month price spike, on an \$A basis, with export prices for thermal and coking coal increasing by \$A61/tonne and \$A91/tonne respectively.

Figure 2: Australian coal unit export prices, monthly, 2016 - 2022



Source: Analysis of DISER (2022) Resources and Energy Quarterly

Over the full year, export prices for thermal and coking coal more than tripled from \$A111/tonne and \$A148/tonne, respectively, in June 2021 to \$A405/tonne and \$508/tonne in June 2022.

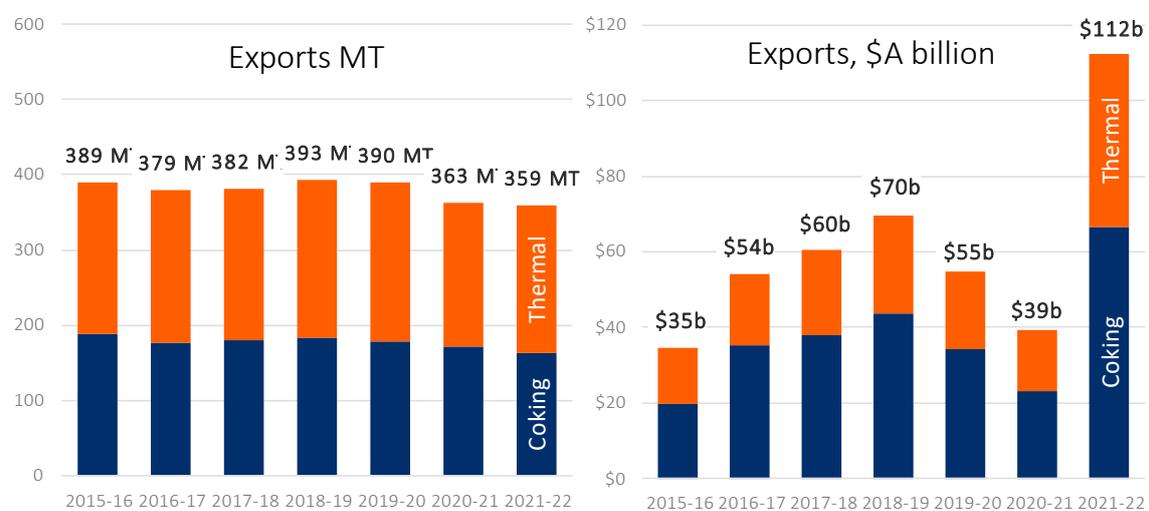
Since then prices have remained high. Based on recent research from the Queensland Treasury, premium thermal coal spot prices peaked at \$US457/tonne (A\$675/tonne) in September 2022 and are now slightly down to around \$US/400 tonne, while coking coal prices sit just below \$US300/tonne (\$A443/tonne).⁴

⁴ Queensland Treasury (2022) *Queensland’s Coal Industry and Long-Term Global Coal Demand: November 2022* (<https://www.treasury.qld.gov.au/resource/a-study-of-long-term-global-coal-demand/>)

The 2021-22 windfall

Australia’s coal industry has benefited greatly from these higher prices. The jump in prices saw the value of coal exports from Australia increase from \$39 billion in 2020-21 to \$112 billion in 2021-22, an increase of 187 per cent. Despite the price increase the volume of exports remained broadly unchanged, from 363 MT in 2020-21 down to 359 MT in 2021-22, a 1.1 percent decline (Figure 2).

Figure 3: Australia’s annual coal exports, volume and value, MT and \$ billion



Source: Analysis of DISER (2022) Resources and Energy Quarterly

Since the volume of coal exported change relatively little between 2020-21 and 2021-22 it can be assumed that production costs remained relatively stable over the period. There is little evidence to suggest there was substantial increases in production costs, though disruptions caused by flooding may have increased some costs at some mines while helping to drive up the profits of others.

Assuming no significant increase in costs then the \$73 billion increase in coal export earnings in 2021-22 is a reasonable estimate of the windfall gain to the coal industry from the significantly higher prices.

However, prices in the previous year, 2020-21, were well below recent average prices, such that the \$73 billion windfall in export earnings in 2021-22 should be considered an upper bound estimate of the windfall.

Instead, had prices in 2020-21 been equal to 5-year pre-COVID averages then the exports earnings in 2020-21 would be \$9 billion higher, and subsequently the windfall for 2021-22 would be \$9 billion lower, at \$64 billion. The \$64 billion represents a lower

bound estimate of the windfall caused by the record high prices over 2021-22. The upper and lower bound estimates for the windfall are shown in Figure 3.

Figure 4: Upper and lower bound estimates of 2021-22 coal windfall



Source: Analysis of Department of Industry Science and Resources (2022)
(<https://www.industry.gov.au/publications/resources-and-energy-quarterly>)

DISTRIBUTION OF THE WINDFALL

This \$73 billion to \$64 billion windfall is split between profits for the multinational coal companies, royalties, and company tax. The increase in royalties represents a windfall to state governments while the increase in company taxes is a windfall to the Commonwealth.

To estimate the breakdown of the windfall between profits, royalties and taxes the following data and assumptions were used:

- Coal production volumes, export prices and revenues by type and by state, published by DISER and the Queensland Government.^{5 6}
- Royalty rates in the different states:

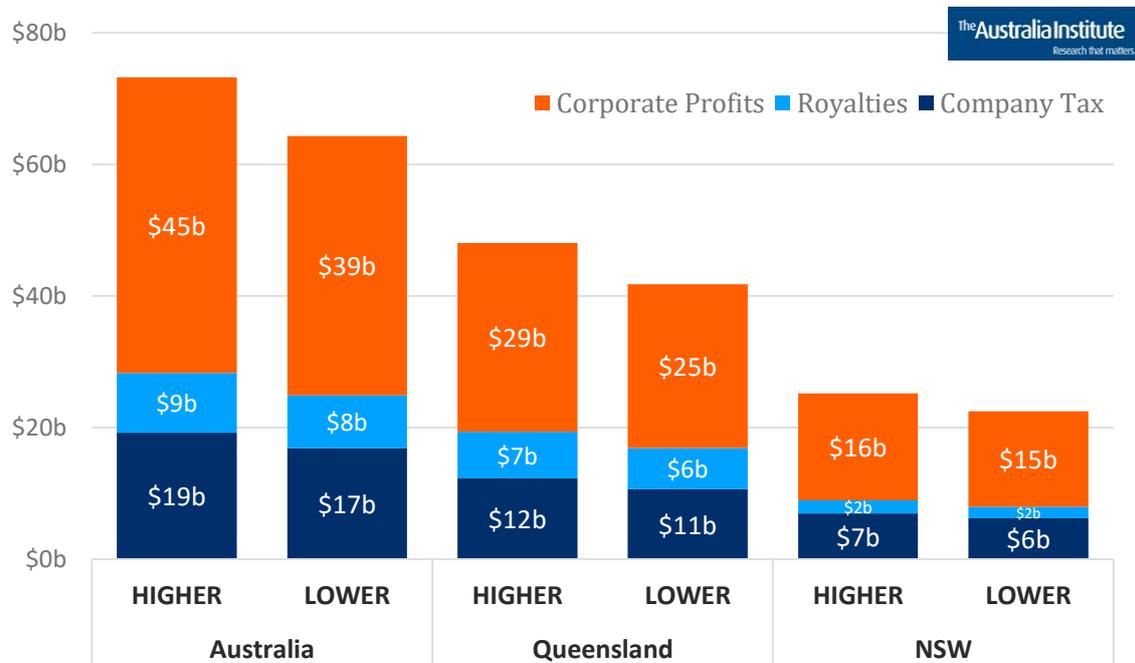
⁵ Dept. of Industry Science and Resources (2022) *Resources and Energy Quarterly*, Sept. 2022 (<https://www.industry.gov.au/publications/resources-and-energy-quarterly>)

⁶ Queensland Government (2022) *Quarterly Coal Reports*, Various Issues, (<https://www.data.qld.gov.au/dataset/quarterly-coal-reports>)

- NSW: An average royalty rate of 7.8 percent based on estimated production volumes by extraction method for 2021-22.
- Queensland’s progressive royalty rate as it was in 2021-22
- Company tax applied at 30 percent of the windfall. Using the full rate of company tax leads to a likely overestimation of the windfall going to the Commonwealth since many coal mining companies pay much lower effective company tax rates, as recorded by the ATO.⁷ However, the 30 percent is applied *only* to the windfall, and it is more likely that the windfall share would be taxed, effectively, at a higher rate than ‘normal’ profits that carry many deductions before application of the company tax rate.

The breakdown on the higher and lower bound estimates of the windfall are summarised in Figure 4.

Figure 5: Coal export windfall by income type, \$A billion, 2021-22



Source: Analysis of DISER (2022) Resources and Energy Quarterly

The data in Figure 4 suggests the windfall to the multinational energy companies is between \$45 billion and \$39 billion. While the windfall to state and federal government is much smaller, around \$9-\$10 billion, and between \$17-\$19 billion, respectively.

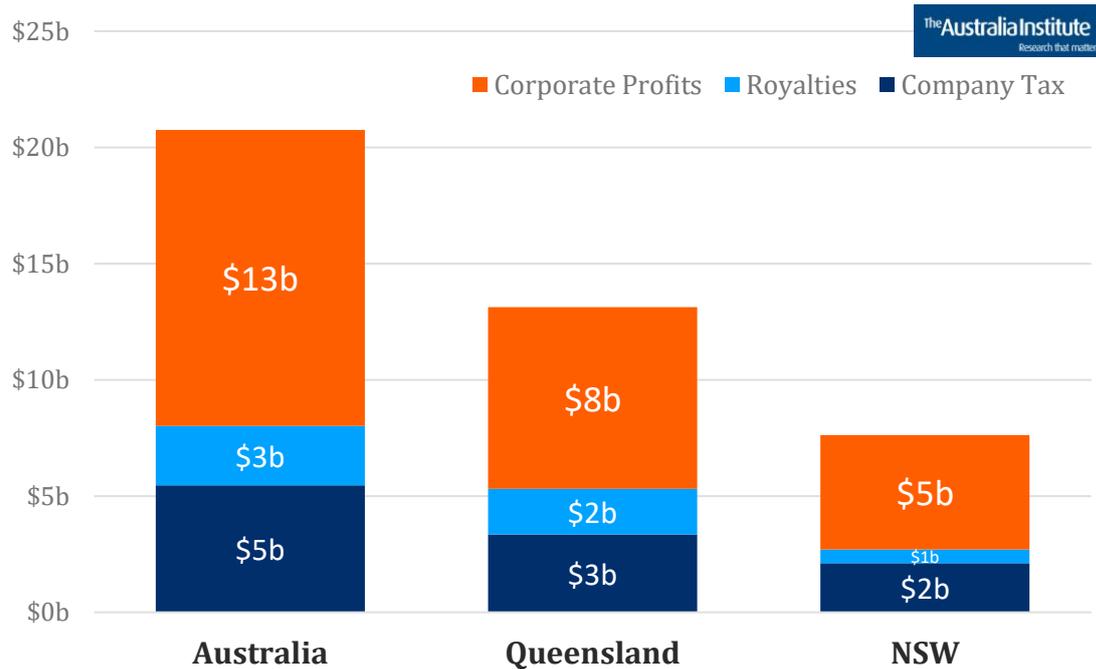
⁷ ATO (2022) *Corporate Tax Transparency, 2020-21* (<https://data.gov.au/data/dataset/corporate-transparency>)

THE RUSSIAN INVASION WINDFALL 2021-22

The estimated windfall shown in Figure 4 (above) represents the impact of prices in 2021-22 being almost double average prices in 2020-21. Not all of the price increase was caused by turmoil in energy markets following Russia’s invasion of Ukraine in February 2022. As noted in the NSW and Queensland budget papers, coal prices rose quickly from late 2021 onwards caused by a number of factors, in addition to the Russian invasion, including self-imposed restrictions on Indonesian exports and extreme weather events in some Australia coal producing regions.^{8 9}

If it is assumed that the invasion did not happen and instead coal prices in the March and June quarters of 2022 remained at their December 2021 levels then the gain attributable to the Russian invasion alone is estimated to be \$20.8 billion, of which around \$12.7 billion would be an increase in multinational profits, shown in Figure 5. The \$12.7 billion increase in profits represents a \$70 million a day increase in profits over a 6-month period.

Figure 6: Russian invasion windfall, March & June 2022 – Lower bound estimate



Source: Analysis of DISER (2022) Resources and Energy Quarterly

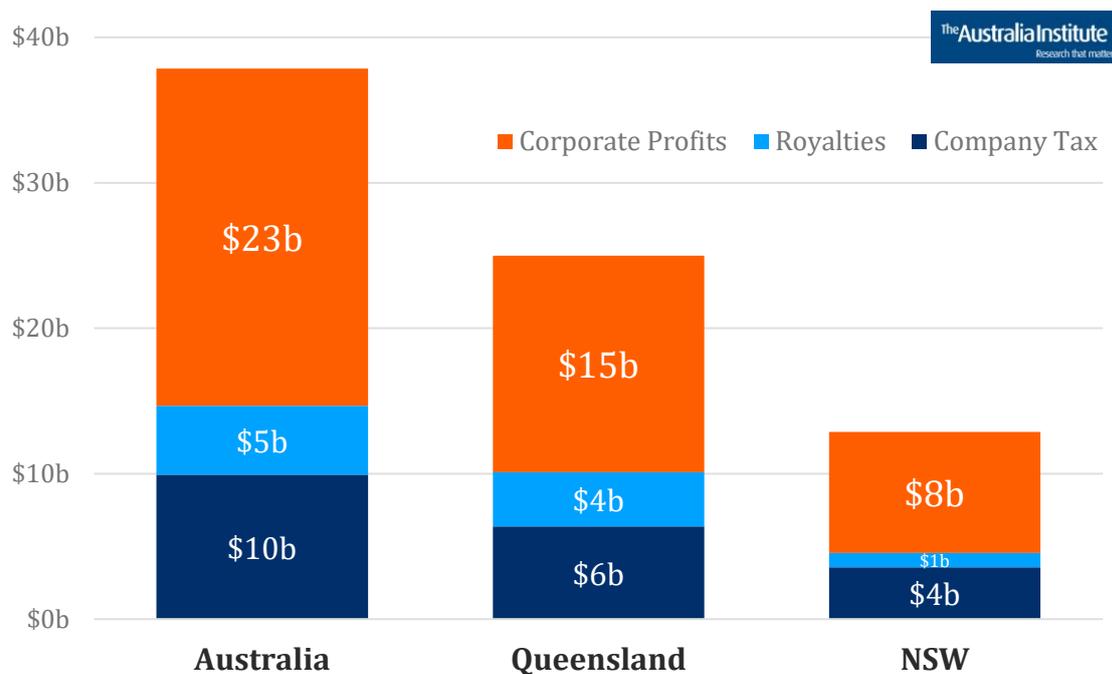
⁸ NSW Government (2022) *NSW Budget Paper No. 1 - Budget Statement - Budget 2022-23*, p. 4-22 (https://www.budget.nsw.gov.au/sites/default/files/2022-06/2022-23_03_Budget-Paper-No-1-Budget-Statement.pdf)

⁹ Queensland Government (2022) *Budget Paper 2 - Budget Strategy and Outlook 2022–23*, p.45 (<https://budget.Queensland.gov.au/budget-papers/>)

But the \$20.8 billion overall windfall is likely an underestimate. Coal prices in both the September and December quarters of 2021, before the invasion, spiked by over 50 percent each, a total increase across six months of 130 percent, and mostly unrelated to the invasion. The price spike suggests that if the Russian invasion did not occur, prices in the March and June quarters of 2022 would *probably* have been below December 2021 levels and even *possibly* below September 2021 prices.

If it is assumed that if the invasion did not occur and prices reverted to September 2021 levels (still 50 percent above recent averages) then a new estimate of the windfall can be made. Under these assumptions the windfall increases to \$37.8 billion of which \$23.2 billion is likely to an increase in multinational profits. This estimate can be considered to be an upper bound estimate of the Russian invasion coal windfall. Figure 6 shows the composition of windfall between the profit, royalties and company taxes, and for NSW and Queensland.

Figure 7: Russian invasion windfall, March & June 2022: Upper bound estimate

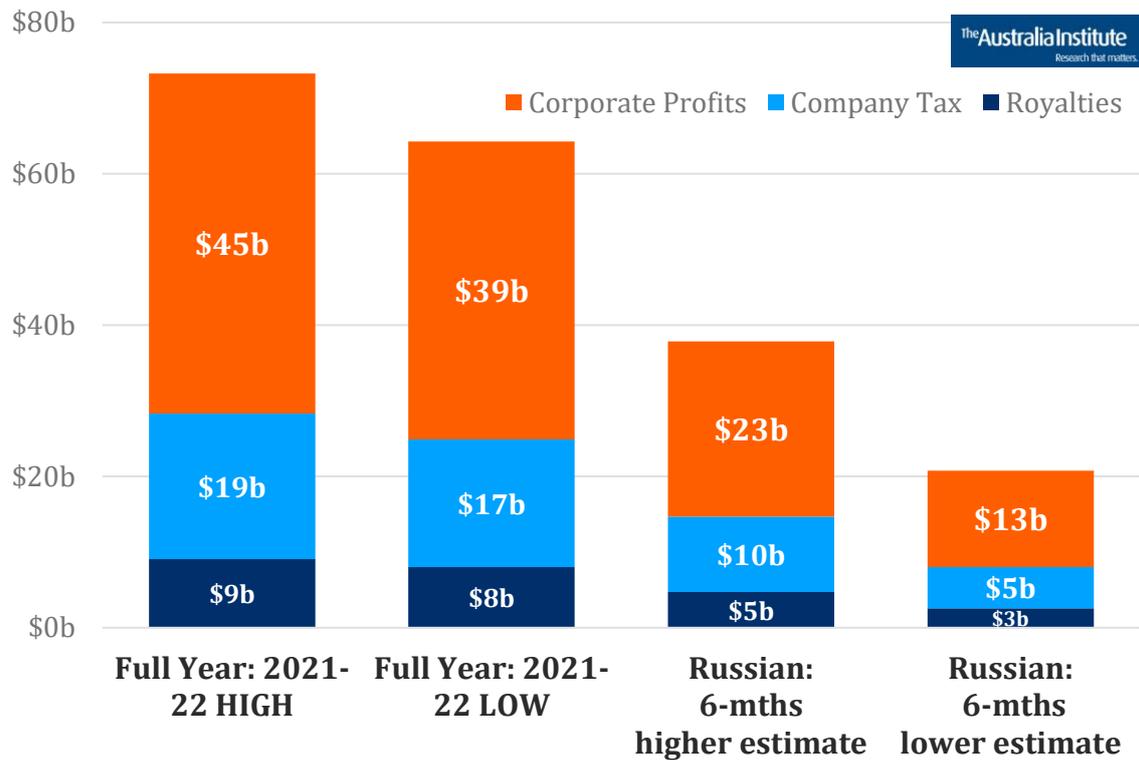


Source: Analysis of DISER (2022) Resources and Energy Quarterly

In summary, the windfall in multinational profits from 2021-22 coal prices being astronomically high is between \$39 billion and \$45 billion, while the share of the windfall caused by prices spiking and remaining high following the Russian invasion of Ukraine is likely to range from \$12.7 billion up to \$23.3 billion depending on assumptions made about counterfactual prices (Figure 7, below).

While these are only estimates of the windfall, and open to changes of assumptions, what does not need to be estimated is the share price movements of the coal companies. For example, Australian ASX listed coal exporter, Whitehaven Coal Ltd, has seen its share price increase 150 percent since late February,¹⁰ suggesting investors are making similar estimates of the size of the windfall.

Figure 8: Summary of windfall estimates, 2021-22



Source: Analysis of DISER (2022) Resources and Energy Quarterly

¹⁰ Tan, S. (2022) *Shares of Australian coal mine Whitehaven have jumped 150% since the Ukraine War* (<https://www.cnbc.com/2022/08/24/shares-of-australian-coal-miner-whitehaven-up-150percent-since-ukraine-war.html>)

Projected windfall: 2022-23

The significantly higher price coal prices over 2021-22 have led the NSW and Queensland state governments to significantly revise upward their coal prices forecast in their Budget papers for 2022-23 compared to previous budgets.^{11 12} A trend followed by the Federal Department of Industry Science and Resources.¹³

The upward revision to the coal price forecasts suggests that both state and federal governments expect the coal export windfall to continue into 2022-23. By making a numbers of assumptions about future coal export prices under alternative scenarios projections of the coal windfall for 2022-23 can be made.

The starting point for projecting the 2022-23 windfall is to assume that coal export volumes in NSW and Queensland for 2022-23 will be unchanged from the previous year. This assumption is consistent with the current trend of little to no export growth over the last eight years. In comparison, DISR are projecting a small increase in exports over 2022-23¹⁴. Using their projection would increase the size of the estimated windfall.

The next step to is develop a *business-as-usual* (BAU) scenario where it is assumed that coal export prices for 2022-23 revert to 5-year 'pre-spike' averages for the period ending June 2021, which is equal to \$A102/tonne for thermal coal and \$A195/tonne for coking coal. For NSW coking coal, which typically is of lower quality compared to Queensland coking coal, an assumed price of 10 percent above the thermal price, \$A112/tonne, was used.

Under these BAU price assumptions, Australia's coal export revenue for 2022-23 is projected be \$52 billion, a decline of over 50 percent compared to the previous year.

¹¹ NSW Treasury (2022) *NSW Budget 2022-23, No. 1 Budget Statement* p.4-22 (<https://www.budget.nsw.gov.au/budget-papers/>).

¹² Queensland Government (2022) *Budget Paper 2 - Budget Strategy and Outlook 2022-23 and 2021-22* (<https://budget.Queensland.gov.au/budget-papers/>)

¹³ *Resources and Energy Quarterly* (2022) (<https://www.industry.gov.au/publications/resources-and-energy-quarterly>)

¹⁴ DISR (2022) *Resources and Energy Quarterly* (2022) (<https://www.industry.gov.au/publications/resources-and-energy-quarterly>)

It is important to note that Queensland has implemented a change to its progressive royalty schedule that commenced on 1 July 2022. This has been included in the below estimates and further discussed in the next section.

With the BAU projection established, scenarios can be developed around different price assumptions for 2022-23. A low and high scenario were developed:

1. *Queensland Budget predicted prices for 2022-23*: Thermal coal \$A173/tonne, coking coal \$A278/tonne. For NSW the same thermal coal price is assumed, but the coking coal price is set at a 10 percent premium over the thermal price.
2. *Prices over 2022-23 are equal to the average of all published coal futures prices*.¹⁵: Thermal coal \$A383/tonne, coking coal \$A409/tonne. Since these futures prices are within 10 percent of each other no adjustment was made to the NSW coking coal price.

The assumptions for the BAU and the two scenarios are summarised in Table 1.

Table 1: Assumptions for projecting windfall gain in 2022-23

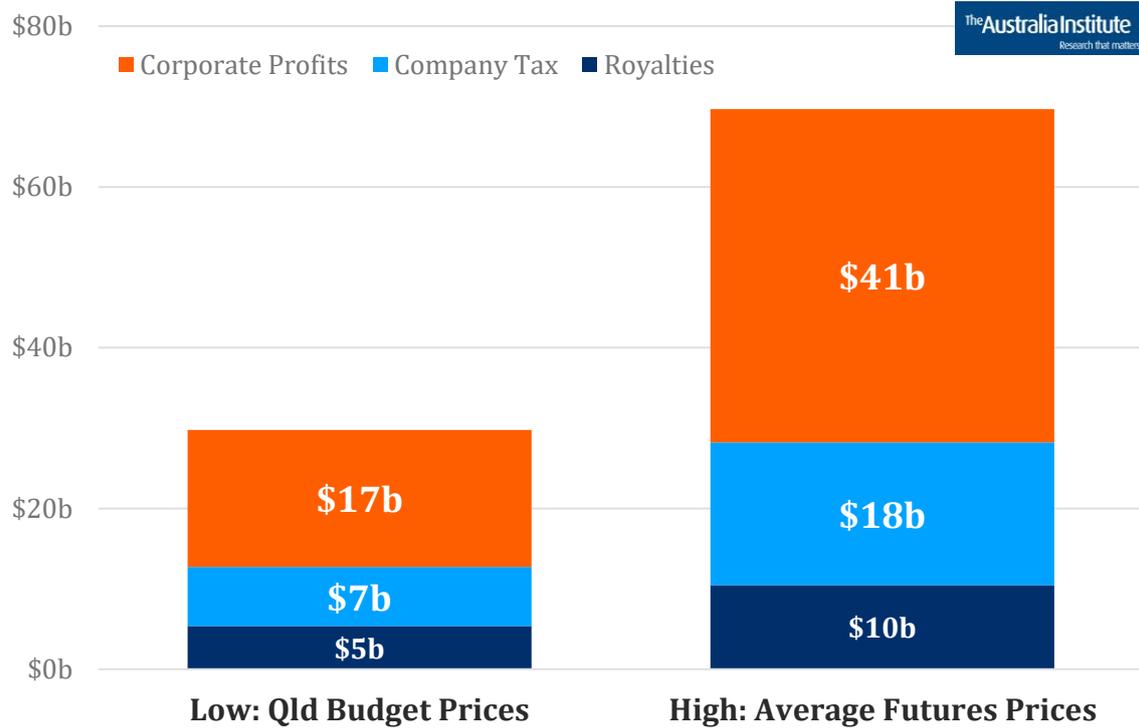
	Exports, MT	BAU Prices \$A	LOW Scenario Prices	HIGH Scenario Prices
	Equal to 2021-22	5-yr pre-2022 average	Qld Treasury Budget Price Assumptions	Ave. Futures Market Prices
Qld: Coking	136	\$195	\$278	\$342
Qld: Thermal	53	\$102	\$173	\$323
NSW: Coking	26	\$112	\$190	\$342
NSW: Thermal	144	\$102	\$173	\$323

Source: Authors assumptions & barchart.com (2022) *ICE Newcastle Coal Nov 22*
(https://www.barchart.com/futures/quotes/LQ*0/futures-prices)

The differences in the export revenues, royalties, company taxes, and estimated company profits under each scenario compared to the BAU represent the projected coal windfall for 2022-23. The estimated windfall under each scenario is summarised in Figure 8.

¹⁵ As of 16 November 2022, coal futures prices are published for delivery out to December 2026 (thermal), and December 2025 (coking coal). Future prices for delivery to the end of the current financial year, June-2023, are significantly higher again and would increase the projected windfall substantially. Assumed exchange rate, 1AUD = 0.74US is from the Queensland Budget Papers.

Figure 9: Projected coal windfall for 2022-23, low and high scenario



Source: Analysis of DISER (2022) Resources and Energy Quarterly

The calculations even under conservative assumptions of the low scenario represent a sizable windfall gain to the coal miners of \$17 billion in 2022-23 in addition to the \$39 billion to \$45 billion in 2021-22.

While the high scenario maybe unlikely, it does reflect current market sentiment and, at \$41 billion, the profit windfall is within the range of the 2021-22 windfall. If the futures market is right, the two-year windfall is, for lack of a better description, huge! Interestingly, the proportion of the total windfall going to royalties increases in the high scenario and relative to last year reflecting the recent changes to Queensland royalty rates.

Royalty options

In June 2022 the Queensland Government announced an increase in the coal export royalty rates to commence on 1 July 2022. The existing royalty structure comprised of three progressively higher rates as prices increased. The old maximum rate, 15 percent, applied at prices over \$A150/tonne. The announced change added three additional tiers over \$A175/tonne, with the new maximum rate, 40 percent, applying to prices over \$A300/tonne (Table 2).

Table 2: Queensland coal royalty rates, new rates from 1 July 2022

Coal price	Old	New
Up to \$100/t	7%	7%
Next \$50/t (up to \$150)	12%	12%
Next \$25/t (up to \$175)	15%	15%
Next \$50/t (up to \$225)	15%	20%
Next \$75/t (up to \$300)	15%	30%
Above \$300	15%	40%

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Source: Queensland Government, *Budget Paper 2 - Budget Strategy and Outlook 2022–23* (https://budget.qld.gov.au/files/Budget_2022-23_BP2_Revenue_Coal_Royalties.pdf)

An important feature of the Queensland royalty structure is that they function similarly to the Australia income tax system. At any price, the highest royalty rate applicable applies only to that part of the price above the relevant threshold. For example, with a coal price of \$A350/tonne the maximum rate of 40 percent is applicable. But that rate applies only to the portion of the price above \$A300/tonne. That is, 40 percent multiplied by \$50/tonne multiplied by the level of coal output/exports. The lower rates apply to the parts of the price below \$A300/tonne. This structure means that for prices over \$100/tonne the *average* rate of royalty is lower than the published marginal rate. At \$350/tonne marginal rate is 40 percent, but the average rate is only 19.8 percent, compared to 12.3 percent under the old policy. Table 3 provides a summary of the average and marginal royalty rates at various prices.

Table 3: Queensland marginal and average royalty rates, old and new policy

Price, \$A/tonne	Old Policy			New Policy		
	Royalty/t \$A	Marginal Rate	Average Rate	Royalty/t, \$A	Marginal Rate	Average Rate
\$50	\$3.50	7%	7%	\$3.50	7%	7%
\$100	\$7.00	7%	7%	\$7.00	7%	7%
\$150	\$13.00	12%	9%	\$13.00	12%	9%
\$175	\$16.75	15%	9.6%	\$16.75	15%	10%
\$200	\$20.50	15%	10.3%	\$21.75	20%	11%
\$250	\$28.00	15%	11.2%	\$34.25	30%	14%
\$300	\$35.50	15%	11.8%	\$49.25	30%	16%
\$350	\$43.00	15%	12.3%	\$69.25	40%	20%
\$400	\$50.50	15%	12.6%	\$89.25	40%	22%
\$500	\$65.50	15%	13.1%	\$129.25	40%	26%
\$600	\$80.50	15%	13.4%	\$169.25	40%	28%

Source: Authors calculations based on Queensland Government, *Budget Paper 2 - Budget Strategy and Outlook 2022–23* (<https://budget.Queensland.gov.au/budget-papers/>)

Overall, the changes to Queensland royalty rates is zero for coal prices up to \$A175/tonne, and not overly significant at higher prices. In fact, if the Queensland budget paper prices forecasts for thermal coal in 2022-23 are correct (\$A173/tonne) then the new royalty structure will generate no additional revenue from thermal coal exports. The Queensland budget papers make similar point that the policy change is likely to have no impact on the miners of thermal coal most of the time¹⁶.

However, the policy change is likely to have some benefit since the Queensland Government’s forecast for coking coal (the majority of Queensland the state’s exports) is well above \$A175/tonne, and current coal futures prices are well above \$A175/tonne for all coal types.

Had the new rates applied retrospectively they would have generated \$7.4 billion in additional revenue from exports in 2021-22. Conversely, the new rates applied in 2022-23 under the *BAU*, *Low* and *High* scenarios discussed in the previous section are likely to generate only between \$1 billion and \$4.3 billion in additional revenue, suggesting the policy was introduced somewhat late (Table 4).

¹⁶ p.104, Queensland Government (2022) *Budget Paper 2 - Budget Strategy and Outlook 2022–23* (<https://budget.Queensland.gov.au/budget-papers/>)

Table 4: Additional revenue impacts of new Queensland coal royalty rates, \$ million

	Projection: 2022-23			
	2021-22	BAU	LOW	HIGH
Coking Coal	\$6,953	\$1001	\$1,429	\$3,291
Thermal Coal	\$410	\$0	\$0	\$1,042
Total	\$7,363	\$996	\$1,429	\$4,333

Source: Queensland Government and authors calculations

The increases in royalty revenue would mirror a minor decrease in windfall profits. Multinational mining companies would still keep 84 percent of their profit windfall in 2021-22, and at least 89 percent of their projected windfall in 2022-23. Queensland Government estimates, reported in the media, suggest the policy change is having only a small impact on coal mining profits and investment.¹⁷

QUEENSLAND ROYALTY RATES IN NSW

In NSW the royalty rates do not change with price. A flat rate is applied depending on the type of coal mine. Open cut mines, 8.2 percent, have a higher rate compared to underground mines, 7.2 percent, and deep underground mines, 6.2 per cent.

Had NSW retrospectively applied the new Queensland rates for 2021-22 then an additional \$2.7 billion in state government revenue could have been generated from coal exports (Table 5).

If NSW adopts the new Queensland royalty structure for 2022-23 then \$5.8 billion in additional government revenue could be generated under the future scenarios. Interestingly, the Queensland royalty structure generates lower revenue at lower prices (5-year average pre-spike prices) than the current NSW scheme.¹⁸ The significant revenue increase under the high scenario reflects the market expectation of very high thermal prices over 2022-23, compared to the softening coking coal price.

¹⁷ <https://www.theguardian.com/australia-news/2022/nov/19/queenslands-higher-coal-royalties-has-had-little-impact-on-profits-new-data-shows>

¹⁸ Though not suggesting the NSW base rate should be lowered since the Queensland base rate has not been adjusted in over two decades, while NSW mines remain profitable at the existing higher base rates. For more details on the impacts of the Queensland 'discount' on the base rate compared to NSW rates see Swan and Campbell (2019) *Free coal contest: Royalty subsidies to Queensland coal mines* (https://australiainstitute.org.au/wp-content/uploads/2020/12/P749-Free-coal-contest-WEB_0.pdf)

Table 5: NSW revenue impacts of adopting the Queensland scheme, \$ million

The Australian Institute Research that matters.	Projection: 2022-23			
	2021-22	BAU	LOW	HIGH
Coking Coal	\$363	-\$8	\$132	\$1,0240
Thermal Coal	\$2,423	-\$103	\$428	\$4,805
Total	\$2,785	-\$110	\$932	\$5,844

Source: Author calculations

A QUEENSLAND ROYALTY SCHEME WITH HIGHER MARGINAL RATES

A positive aspect of any existing tax or royalty is that it is easier to change rates than to legislate new taxes, levies or surcharges. The Queensland royalty structure provides a relatively easy mechanism to ensure a much larger share of the coal windfall is returned to the owners of the resources, at least for those north of the Tweed River.

Since the coal companies were profitable with prices closer to long-run averages, the Queensland royalty rates could be increased so that prices above average will still generate historically 'normal' profits while returning a greater share of the windfall to Queenslanders. The 5-year pre-spike average coal export price, across steaming and coking coal was \$A148/tonne. Using the 5-year average and rounding up to \$150/tonne, the Queensland royalty rates can be significantly revised upward above the \$150/tonne threshold to return a greater share of future windfalls to Australians. The rates up to \$A150/tonne would not need to change to generate still significant profits for the multinational coal companies.

Table 6 summarises potential new rates under various uplift factors applied to the new Queensland rates. When applying the uplift factor an arbitrary upper limit of 90 percent in any band is assumed. In theory, rates could increase to 100 percent and still deliver significant coal mining profits since the new rates do not apply to the long-term average price component. As the table shows as the uplift factor increases, additional bands top out at the 90 percent maximum, effectively flattening the royalty schedule. At higher uplift factors more windfall would be passed back to Australians at moderately higher prices, compared to lower uplift factors that would generate additional revenue only in times of extremely high prices.

Table 6: Royalty rates under various uplift factors

The Australian Institute Research that matters.	Uplift Factor applied to Queensland Royalty Rates						
	Old	New	1.5	2	3	4	5
Up to \$100/t	7%	7%	7%	7%	7%	7%	7%
Next \$50/t (up to \$150)	12%	12%	12%	12%	12%	12%	12%
Next \$25/t (up to \$175)	15%	15%	23%	30%	45%	60%	75%
Next \$50/t (up to \$225)	15%	20%	30%	40%	60%	80%	90%
Next \$75/t (up to \$300)	15%	30%	45%	60%	90%	90%	90%
Above \$300	15%	40%	60%	80%	90%	90%	90%

Source: Queensland Government and authors calculations.

Applying these uplifted royalty rates to both NSW and Queensland using the 2021-22 export profile, Table 5 shows the potential revenue impacts from coal exports. The table includes the existing estimated royalty revenues for 2021-22 as well as a hypothetical 100 percent royalty above \$150/tonne, again keeping in mind the higher rates apply only to the part of the price above the threshold.

Table 7: State government revenue impacts of higher royalty rates, 2021-22

The Australian Institute Research that matters.	Royalty uplift factor							100% above \$150/tonne
	Existing	New Queensland	1.5	2	3	4	5	
Queensland	\$9,086	\$16,449	\$23,453	\$30,457	\$37,861	\$40,167	\$41,650	\$46,739
NSW	\$3,174	\$5,894	\$7,758	\$9,621	\$12,516	\$14,029	\$15,015	\$16,949
Total	\$12,259	\$22,343	\$31,210	\$40,078	\$50,377	\$54,197	\$56,665	\$63,688

Source: Queensland Government and authors calculations

As shown and discussed above, had the new Queensland rates applied in 2021-22 significant additional revenue would have been generated, around \$10 billion if it was also applied in NSW. A modest uplift factor of 1.5 applied to the royalty rates above \$150/tonne would generate significant additional revenue, increasing total royalties from \$12.2 billion to \$31.2 billion, a difference of \$19 billion compared to existing rates.

With higher uplift factors the revenue increase tapers off as the 90 percent assumed threshold is reached. At a royalty uplift factor of two the scheme would almost double the revenue impact of the new Queensland rates while still maintaining sizeable windfall profits for the multinational mining corporations. At an uplift factor of 5 the increase in state government revenues would be of a similar magnitude to profit windfall of 2021-22, \$45 billion, identified in Figure 6 (above), ensuring the windfall is directed to the owners of the resource while maintaining profits consistent with long-run average prices.

Conclusion

The paper highlighted the huge windfall profits the multinational energy companies made on the back coal export prices that increased by 190 percent over 2021-22. The \$39 billion to \$45 billion windfall of 2021-22 could be repeated in 2022-23 depending on prices in international coal markets.

While not all of the windfall gains can be attributed to Russia's invasion of Ukraine, the consensus opinion suggests the invasion contributed significantly to the maintenance of sky-high prices across the second half of 2021-22. Estimates in this paper suggest that up to \$23 billion of the profit windfall was caused by the invasion.

The size of profit windfall for coal exports is similar to the LNG windfall for 2021-22 as calculated by Ogge.¹⁹ Together the profit windfall across two of Australia's three largest exports is up to \$85 billion. A significant bonus in anyone's language.

Most countries would be very happy with such a windfall gain. Yet, in Australia the vast majority of the windfall ends up as multinational profits and a significant share of that repatriated to the foreign owners. As noted by Macrobusiness²⁰ the primary income deficit in the Balance of Payments statistics published by the ABS increase by a massive \$24 billion in the June quarter of 2022. Or as Macrobusiness put it:

Only in the upside-down land of Australia does exporting make its residents poorer.

The Queensland Government change to its coal royalties will see some of the future windfall gains directed to government revenue. Extending the Queensland scheme to NSW and mildly uplifting the rates in a way to ensure profits are maintained at average coal prices could generate an additional \$19 billion in government revenue. A bonus all Australians would be a happy with.

¹⁹ Ogge, M. (2022) *War gains: LNG Windfall Profits* (<https://australiainstitute.org.au/post/gas-giants-reap-40-billion-in-windfall-war-profits-report/>)

²⁰ Van Onselen (2022) *Record coal & gas exports delivers profitless boom for Australians* (<https://www.macrobusiness.com.au/2022/09/record-coal-gas-exports-delivers-profitless-boom-for-australians/>)