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Assessing fuel tax credits

Rich Insight

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Australia has long had mechanisms in place to ensure that:

- We don't collect taxes aimed at financing roads from those who don't drive on roads, and
- We don't set up cascading 'taxes on taxes' that needlessly harm prosperity.

Users pay. Non-users shouldn't pay

As the Henry tax review noted, we in Australia finance much of our roads through a combination of federal fuel taxes and state and territory vehicle registration charges.

That is, we have an indirect system of 'user pays' for our road users.

Equally, it doesn't make sense to charge these road user fees to who don't use roads: that's why Australia's existing fuel tax system sensibly treats 'on road' and 'off road' use of fuels differently for tax purposes.

We should avoid cascading taxes

Nor should tax fall on every use of fuel. The international literature – reviewed in this report – finds that the best tax systems tax things only once by the time consumers pay for them, thereby avoiding cascading 'taxes on taxes':

- That's why there are input tax credits in the GST, and it's why there are fuel tax credits in the fuel tax system.
- That approach ensures that families only pay one layer of fuel tax – not multiple layers – thereby maximising national prosperity.

What's the damage if we don't avoid cascading taxes?

If governments do place 'taxes on taxes', what damage does that do? It causes a cascade, because each intermediate level of production gets caught with a layer of tax. By the time a product is finally consumed, the failure to avoid taxing such 'intermediate goods' means that the effective rate of tax paid by families can differ widely across products.

The resultant uneven tax burdens create a range of unintended effects, including shrinking the economy relative to where it could be with a better tax system.

The damage to prosperity caused by that would be felt across all parts of the economy.

What's the complication?

Yet there's an important complication. Yes, the part of fuel tax related to on road user payments shouldn't be charged for off road use. And yes, international best practice is to avoid 'taxes cascading atop taxes' – as is indeed avoided with Australia's system of fuel tax credits.

Yet global warming is a big problem, and fuel use contributes to global warming.

So how should Australia handle that?

Two birds? Then use two stones

The good news is that existing system of fuel tax credits already does what it needs to do.

But the bad news is that it doesn't – of itself – provide much help in the fight against global warming.

Economics offers a way forward: the Tinbergen rule. That rule essentially says that, if you're trying to hit two birds at the same time, then you should use two stones. Or, to put that differently, if you have two policy aims, then you should use two different policies.

In this particular case, there are indeed two policy aims in play:

- Avoiding cascading taxing on taxes, while also
- Assisting in the fight against global warming.

In turn, that suggests the best approach is to have two different policies:

- The first of those is Australia's existing framework for fuel tax credits.
- The second involves carbon pricing, including via a safeguard mechanism for large industrial emitters.

That allows us to use two different policy levers to target two different policy aims:

- Australia uses fuel tax credits to hit the target of avoiding (1) taxing intermediate inputs and also avoiding (2) placing road user charges on the off-road use of fuels.
- Australia uses the safeguard mechanism for large industrial emitters to target lower emissions from the industrial use of fuel.

Where to from here?

Other things equal, Tinbergen's rule suggests that:

- Australia's two distinct policy targets require two distinct policy instruments.
- If one of those policy instruments isn't successfully achieving its target, then the policy task becomes to change that instrument (rather than the other one).
- Or, to put that differently:

- You shouldn't change the safeguard mechanism if Australia is having trouble in avoiding cascading 'taxes on taxes', and

- You shouldn't change the fuel tax credit system if Australia is having trouble in meeting its emission targets.

It would be a backward step to mess up Australia's treatment of fuel tax credits. In particular, messing up the treatment of fuel tax credits would come with a range of costs to Australian families and businesses.

The conclusion is simple: if the intent is to do the right thing on the tax front and the right thing in helping to fight global warming, then the key is to have two good policies rather than one flawed one.

With respect to fuel tax credits, the current arrangements are already good policy.

With respect to global warming policies, the government has embarked on major changes to the safeguard mechanism, and industry is now adapting to those changes.

This policy establishes a carbon budget for large industrial emitters. Reduced industrial emissions in the safeguard mechanism includes, of course, emissions from fuel.

Like other major reforms, this policy will need to be assessed over time. A review is scheduled for 2026-27, and that will be important to ensure the transition is manageable and on track.

Chris Richardson
Rich Insight
19 August 2024

1. Background

What are fuel tax credits?

Australia has long operated – under various names – a system to credit back the tax paid at the pump on fuel. *"Fuel tax credits provides a credit for the fuel tax (such as excise or customs duty) that is included in the price of fuel.*

This includes fuel used in business activities such as:

- *machinery*
- *plant*
- *equipment*
- *heavy vehicles*
- *light vehicles travelling off public roads or on private roads.*

Tax credits are available based on:

- *the fuel tax credit rate when you bought the fuel*
- *the business activities you are using the fuel for."*[1]

The history

In brief, and as noted in a 2014 Deloitte Access Economics report for the Minerals Council of Australia (MCA), *"Australian Governments have always taxed the consumption of fuels. From Federation until the late 1920s, this taxation was in the form of a customs duty (as all petrol consumed in Australia was imported). When refineries began to produce petrol domestically, a petrol excise was introduced.*

Over time, the increased use of diesel-powered vehicles in Australia saw the introduction of an excise on diesel in 1957. …

Fuel excise was originally only levied on those consumers who were purchasing fuel for the purpose of using 'on road' vehicles. Indeed, with the introduction of diesel excise in 1957, it was announced that consumers of diesel for other purposes would have the full extent of the duty reimbursed. This was later changed to a system of exemption certificates, which allowed large users of diesel to purchase the fuel without incurring any excise.

This system continued until August 1982, when the Diesel Fuel Rebate Scheme was introduced, partly in response to concerns regarding alleged abuse of the exemption certificate system. The Diesel Fuel Rebate Scheme applied the exemption from the excise only to primary producers, miners, and users of diesel for heating, lighting, hot water, air-conditioning and cooking for domestic purposes, or in hospitals, nursing and aged care homes, rather than all 'off road' users."

[1] See https://business.gov.au/grants-and-programs/fuel-tax-credits. Similar wording is given at https://www.ato.gov.au/businesses-and-organisations/income-deductions-and-concessions/incentives-and-concessions/fuel-schemes/fuel-tax-credits-business.

The Parliamentary Budget Office has given a more detailed history of fuel excise in Australia. Table 1 is taken from page 17 of Appendix A to its report.[2]

Table 1: History of fuel taxation in Australia

Federation 1901 to 1929	Imports of diesel and petroleum products were subject to tariffs.
1929 to 1959	Excise on petrol was introduced to finance road funding. The revenue was hypothecated for this purpose until 1959.
1957	Excise was applied to diesel for the first time (for on-road use only) reflecting the hypothecation of all excises to road funding. Excise was not applied to diesel used in off-road activities.
1982	With the introduction of the Diesel Fuel Rebate Scheme all off-road users of diesel were required to pay excise, however some were eligible to claim for a partial or full rebate. A surcharge of 1 CPL was introduced to establish a roads program under the *Australian Bicentennial Road Development Trust Fund Act 1982*. Under this and other road funding legislation, the component of fuel excise directly linked to road expenditure varied during the 1980s (up to around 6 CPL).
1983	Indexation, in line with upwards movements in the CPI, was introduced for petroleum excise rates to maintain the real value of excise collections.
1992	Since 1992, successive Australian Governments have established road funding levels solely in the budget process and there has been no effective link between fuel excise and road expenditure.
1997	The Australian Government increased the excise rate by an amount equal to the highest State business franchise fees (BFF) and States established schemes to subsidise fuel by the difference between their former BFF and the amount of the excise increase. This followed a series of High Court cases that effectively meant that the states cannot impose excise.[17]
2000	The rate of excise on petrol and diesel was cut by 6.656 CPL with the introduction of *The New Tax System (Goods and Services Tax) Act 1999*.
2001	The excise rate was cut by 1.5 CPL and indexation of petroleum products excise rates was abolished. The 1.5 CPL excise reduction applied to all uses of petroleum fuels that attracted the full rate of excise duty, with products attracting a concessional rate receiving a proportional reduction. Abolition of indexation applied to all petroleum fuels with the exception of lubricants.
2009	Last State subsidy for petroleum fuels (Queensland) removed from 1 July 2009.
2014	Indexation of petroleum excise rates resumed (from 10 November 2014).
2022 (30 Mar - 28 Sep)	Petroleum excise rates were halved temporarily.

Who?

Many discussions of tax focus on who is affected.

[2] See Parliamentary Budget Office, 2022, *Fuel Taxation In Australia, Attachment A*, pbo.gov.au/sites/default/files/2023-03/Fuel%20Taxation%20in%20Australia%20Attachment%20A%20-%20A%20brief%20history.pdf

To a tax economist, that focus is pretty frustrating – whether a policy is good or not depends on how it stacks up versus relevant tax principles, not on who is affected by the policy.

(It would be a better world if discussions on social media platforms recognised that. No, a tax isn't good simply because its incidence falls on those you don't like, and no, it isn't bad simply if its incidence falls on those you do like.)

Nevertheless, the Australian Taxation Office complies the 'who' data, and the Parliamentary Budget Office has summarised it as follows.[3]

Table 2: Fuel tax credits by detailed industry

Fine industry	Value of claims ($m)	Proportion of total FTC claims (%)	Number of claimants	Average amount claimed ($)
080 Metal Ore Mining	1,291	17	230	5,614,463
060 Coal Mining	1,033	14	51	20,246,669
461 Road Freight Transport	670	9	23,973	27,930
099 Other Non-Metallic Mineral Mining and Quarrying	572	8	183	3,126,261
014 Sheep, Beef Cattle and Grain Farming	532	7	55,798	9,528
109 Other Mining Support Services	329	4	286	1,151,859
471 Rail Freight Transport	253	3	39	6,487,146
321 Land Development and Site Preparation Services	187	3	7,545	24,830
502 Pipeline and Other Transport	184	2	4,807	38,219
310 Heavy and Civil Engineering Construction	151	2	2,098	71,742
692 Architectural, Engineering and Technical Services	116	2	1,078	107,675
329 Other Construction Services	99	1	7,777	12,744
521 Water Transport Support Services	89	1	237	375,111
101 Exploration	80	1	167	480,358
015 Other Crop Growing	78	1	4,366	17,756
462 Road Passenger Transport	77	1	2,319	33,335
481 Water Freight Transport	68	1	190	355,367
292 Waste Treatment, Disposal and Remediation Services	66	1	989	66,798
203 Cement, Lime, Plaster and Concrete Product Manufacturing	66	1	846	78,068
624 Financial Asset Investing	62	1	150	411,861
Other industries	1,473	20	64,948	22,698
Grand total	**7,476**	**100**	**178,077**	**41,982**

[3] See page 16 of Parliamentary Budget Office, 2022, *Fuel Taxation In Australia*, https://www.pbo.gov.au/about-budgets/budget-insights/budget-explainers/fuel-taxation-australia

- Looking at the dollars, the mining sector stands out. In 2020-21, mining accounted for 45% of fuel tax credits.
- In terms of claimant numbers, it is farmers who stand out. In 2020-21, farmers accounted for 48% of fuel tax credit claims.
- Yet although miners and farmers stand out in the above table, it is worth noting that there are a number of other sectors for whom fuel tax credits are also important to their operations.

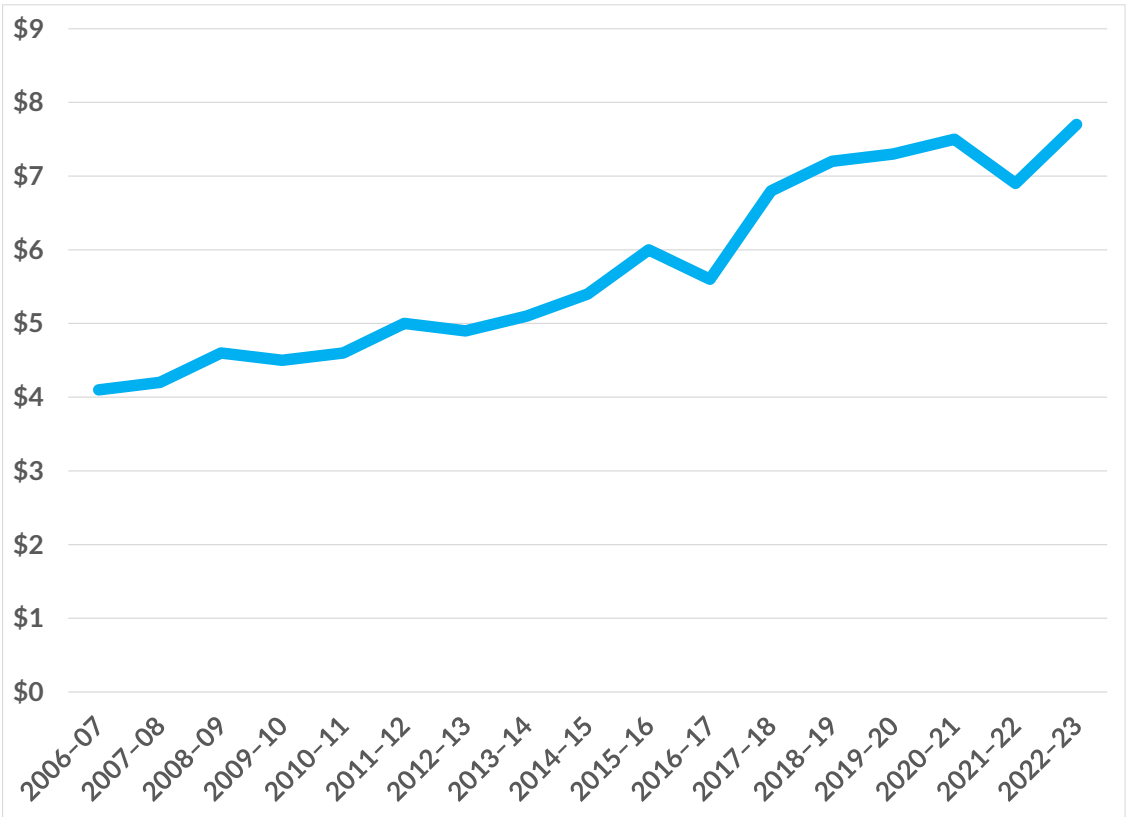
How much?

The wider system of fuel tax credits costs nothing – that is, and as discussed later in this report, tax is collected in the first place not because it is owed, but because it is much simpler for the government to collect from everyone at the pump, and then to hand back the excess tax collected on business inputs and off-road use.

Or, to put that differently, there would be no flows of money into and matchingly out of government coffers if it were possible to readily identify at the pump those purchases of fuel that related to business inputs and off-road use.

That said, the chart below shows the cost of fuel tax credits over time.

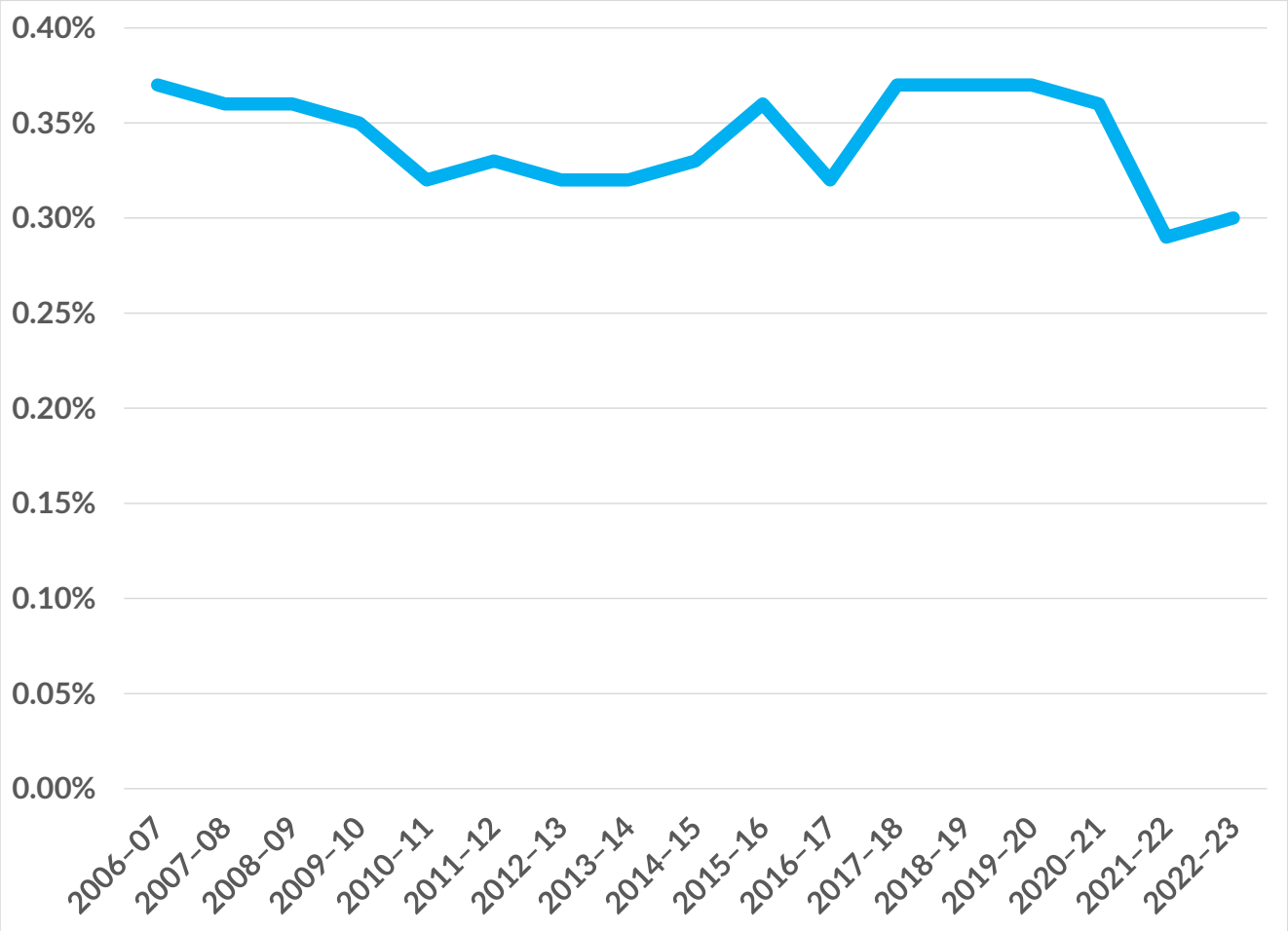
Chart 1: Fuel excise ($bn)[4]



[4] Source: ATO data downloaded from https://www.ato.gov.au/about-ato/research-and-statistics/in-detail/taxation-statistics/taxation-statistics-2021-22/statistics/excise-and-fuel-scheme-statistics?anchor=Exciseandfuelschemes#Exciseandfuelschemes, and analysed by Rich Insight.

The increase in the dollars is, however, more than explained by the fact that the Australian economy got bigger over time – fuel excise has actually been shrinking as a share of the economy, as seen in the following chart.

Chart 2: Fuel excise as a share of Australian nominal gross domestic product[5]



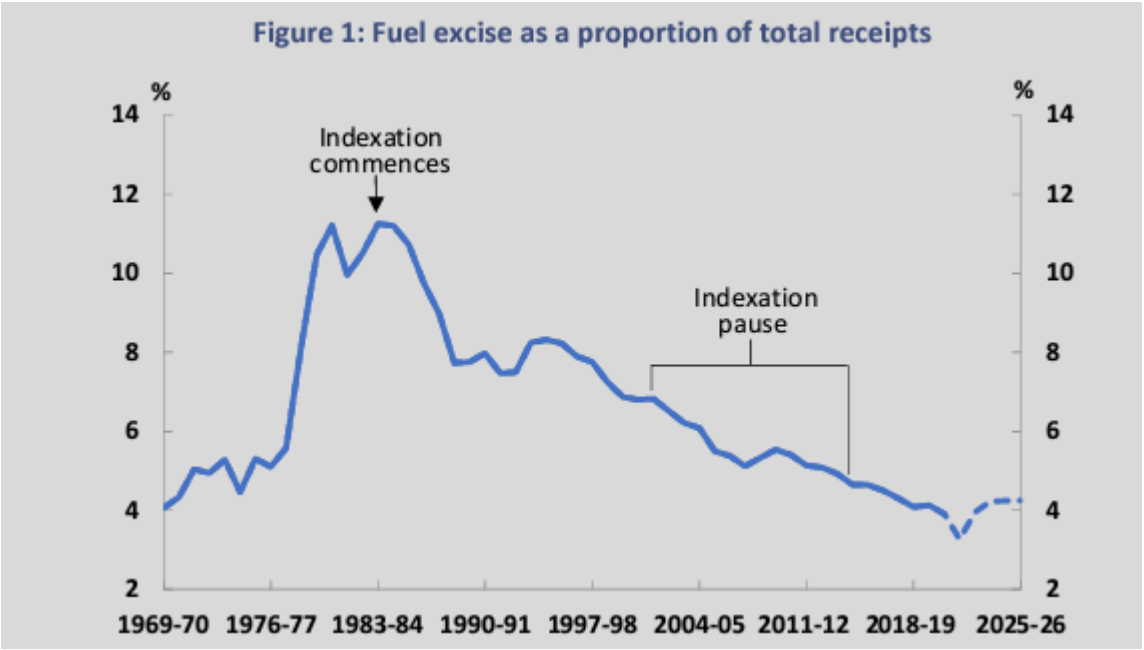
Similarly, and as the Parliamentary Budget Office (PBO) has noted, *"Fuel excise has declined as a proportion of Australian Government revenue over the last 40 years (see [Chart 3] below), under pressure from increasing fuel efficiency and higher fuel prices (as well as the rise and fall of Australian crude oil production in the 1970s and 1980s).*

Revenue is expected to recover to pre-pandemic levels over the next few years following the end of the temporary 6-month halving of excise rates. Beyond that, it is likely that excise will continue to be eroded by factors such more fuel-efficient vehicles and increasing take up of electric vehicles (on and off public roads)."[6]

[5] Source: ATO data downloaded from https://www.ato.gov.au/about-ato/research-and-statistics/in-detail/taxation-statistics/taxation-statistics-2021-22/statistics/excise-and-fuel-scheme-statistics?anchor=Exciseandfuelschemes#Exciseandfuelschemes, and analysed by Rich Insight.

[6] See page 3 of Parliamentary Budget Office, 2022, *Fuel Taxation In Australia*, https://www.pbo.gov.au/about-budgets/budget-insights/budget-explainers/fuel-taxation-australia

Chart 3: Fuel excise as a share of total federal government receipts[7]



The trends in the last two charts aren't surprising. After all, no-one wants to incur costs, and families and businesses will seek efficiencies where they can.

[7] Ibid.

2. Relevant tax principles

The last chapter noted that 'who pays' is a terrible way to assess a tax.

That then raises the obvious question – how should tax policies be assessed?

The answer lies in considering the relevant principles of tax economics.

User charging

Yet although this chapter covers the relevant tax principles, it is important that it begins by discussing a non-tax principle – that of 'user pays'.

The latter principle suggests that some publicly-provided services can be paid for directly by the user, rather than indirectly paid for via taxpayers.

That is, those who use a service are the ones who pay for that service (with the flipside being that those who do not use a service should not be obligated to pay for it).

User pays often isn't achievable – it cannot, for example, be readily applied to those who benefit from the existence of a police force or a defence force.

Similarly, the ability to drive on a public-provided road cannot be readily directly charged for in order to make sure the user pays: it isn't (yet) practical to make every road tolled.

Under those circumstances, indirect methods involving taxes and charges are regularly employed to achieve a version of 'user pays'.

What costs need to be covered?

The 2002 Fuel Tax Inquiry noted that, over and above the original cost of construction, there are:

- road maintenance costs;
- effects on urban air quality from emissions of particulate matter and other pollutants;
- congestion of roads;
- noise effects from vehicle use;
- costs of road vehicle accidents; and
- effects on global warming from emission of greenhouse gases.

That's a reminder that there are both fixed and variable costs involved in the likes of road provision. Similarly, there are both fixed and variable costs involved in the user pays elements applied to roads in Australia, with vehicle registration providing the fixed cost element, and fuel excise providing the variable cost element.

As noted in the Henry review, *"This combination of annual motor vehicle registration and fuel excise could be viewed as a crude 'two-part tariff' for road usage. While road taxes are not hypothecated*

(that is, earmarked) to road spending, revenue from these taxes does cover the direct cost of infrastructure spending on roads and bridges …".[8]

There used to be an explicit link between fuel excise and road funding, but that link was broken back in 1959.[9] It returned from time to time, disappeared again in 1992, but then *"Partial hypothecation was re-introduced in 2014 with the re-introduction of fuel excise indexation. This involved the Australian Government paying an amount equal to the net revenue from reintroducing fuel excise indexation to a special account for payment to the States and Territories for road infrastructure. Since 2012, the amount hypothecated under this arrangement has grown reaching more than $1 billion (about 5.5% of fuel excise) in the 2021-22 financial year".*[10]

That said, the bulk of the revenue raised from fuel excise is now part of general revenue. Yet it remains clear from the above that one of the underlying justifications for fuel excise is to contribute to the cost of building and maintaining public roads.

It therefore follows that, for users whose usage of fuel is mostly (or notably) 'off road', the implicit user charge for roads doesn't (or shouldn't) apply.

Indeed, the extent to which fuel tax credits are available explicitly allows for that connection. As the PBO further notes, *"The full FTCs paid to businesses for fuel used for a creditable off-road use fully refunds the excise included in the price of fuel and ensure that no excise applies. The partial-FTC for fuel used on public roads by heavy vehicles is an example of a tax being used to recover particular regulatory costs or as a charge for the provision of public goods or services. Use of taxes and tax offsets in this way can be an economically efficient way of implementing a user pays regime".*[11]

Efficiency, equity, admin and compliance costs

The above discussion lays out the logical role for user pays as a component of financing road costs (and therefore for ringfencing such costs for those whose fuel use is off road).

The rest of this discussion of the relevant principles to consider in an examination of fuel tax credits is tax-focussed. Any tax will generate four main types of costs on society:

- **Efficiency costs:** raising the revenue means that taxpayers change their behaviour in ways that shrink the available national pie.
- **Equity costs:** many taxes fall relatively harder on those with lower incomes than they do on those with higher incomes, creating fairness issues.
- **Admin and collection costs:** it costs the government money to raise revenue.
- **Compliance costs:** it costs businesses and families money to meet their obligations to pay taxes.

Fuel taxes operate in practice by assuming that everyone is liable for the full tax, and then adjusting for those who aren't actually liable (either because their use of fuel is as a business input, and or their use of fuel is off-road).

[8] Commonwealth of Australia, 2010, *Australia's Future Tax System*, at page 375.
[9] See Industry Commission, 1994, *Petroleum Products, Report No. 40*, AGPS, Melbourne.
[10] See page 4 of www.pbo.gov.au/sites/default/files/2023-03/Fuel%20Taxation%20in%20Australia%20PDF.pdf
[11] Ibid. Note the use of 'FTCs' as an abbreviation for fuel tax credits.

That approach – taxable until proven otherwise – is the opposite of the way that tax systems usually work.

Still, it is relatively sensible approach, in that the total of admin and compliance costs for the nation as a whole are lower by assuming 'guilt', rather than paying the correct tax payable on each individual transaction.

Unfortunately, however, the reversal of the usual approach – with fuel taxes, you pay too much tax first before you get it back – helps fuel something else: the furphy that fuel tax credits are a 'fossil fuel subsidy'.

Although it's skipping ahead in this report (the next chapter covers the views of officialdom), it is worth noting here that the tax authorities themselves definitely do not regard fuel tax credits as a subsidy. In testimony to parliament, Rob Heferen (then of federal Treasury, and now the incoming Commissioner of the Australian Taxation Office) noted that *"The fuel tax credits—it is an outlay; it is not a tax expenditure..... The net amount paid for the fuel—so the amount of tax itself, to the extent that someone is entitled to either be exempt from that or have that refunded—to the extent that it is an off-road use, as in manufacturing, mining, agriculture and those sorts of things, would ordinarily be included as part of the base and therefore the departure from the base is not a tax expenditure. It is not a subsidy. It is just what the base ought to be."* [12]

Similarly, a Treasury submission to G20 Energy Experts Group noted that *"Fuel tax credits are not a subsidy for fuel use, but a mechanism to reduce or remove the incidence of excise or duty levied on the fuel used by business off road or in heavy on road vehicles."*[13]

Ironically, it is because those who receive fuel tax credits do the right thing – they reduce the overall admin and compliance costs of the nation as a whole by paying too much tax upfront and then getting reimbursed later – that they also open themselves up to the charge of "it's a subsidy".

No, it isn't.

Avoiding taxes on business inputs

Putting layers of tax on top of each other used to be how things were done: a sales tax – the alcabala – began to be levied in Spain in 1342, and turnover taxes were levied on Egypt when it was conquered by the Romans.

Yet 'taxes on taxes' accumulate fast, leaving considerable damage in their wake.

The 1971 paper by Diamond and Mirrlees gave considerable insight into the best tax systems – those that cause the least damage to living standards.

Mankiw at al note that Diamond and Mirrlees *"suggest that optimal taxes are zero on all intermediate goods. ... The intuition behind the ... result regarding intermediate goods is that, whatever the optimal allocation of final goods, a social planner would ensure that production of those goods was done as efficiently as possible. The insight of Diamond and Mirrlees is that the same set of*

[12] Senate Committee Hansard, Hearing before the Senate Economics Legislation Committee, Estimates, Treasury testimony – Mr Rob Heferen, Executive Director Revenue Group, Treasury, 5 June 2014. Emphasis added.

[13] Australian Treasury, 2019, *G20 commitment on fossil fuel subsidies*, https://treasury.gov.au/sites/default/files/2019-03/Document-19-2.pdf

relative prices as would obtain under a social planner can be achieved by a tax authority in a competitive economy through varying the set of taxes on final goods. The implication is that optimal taxes can leave the economy on its production frontier.

Maintaining productive efficiency rules out taxes with differential effects across industries, sectors, or time periods. It generally forbids taxes on intermediate inputs to production because they distort the allocation of factor inputs. It argues against taxes on corporate accounting profits because they distort the return to capital for a subset of the economy, encouraging capital to leave the corporate sector. Finally, it implies no taxation of human and physical capital because both are used as inputs to future production, so taxing them would put the economy inside its production frontier. …

Together, the Diamond and Mirrlees (1971) and Atkinson and Stiglitz (1976) results imply that indirect taxation ought to have a simple structure: taxes ought to avoid intermediate goods and be uniform across final goods." [14]

Or, to put that in somewhat plainer English, it is dumb to let taxes cascade on top of each other. Doing so is an own goal that unnecessarily reduces living standards.

Avoiding doing exactly that is, for example, the very same principle that underpins the GST system (whereby tax is not applied on business-to-business transactions through the use of GST input tax credits).

And avoiding doing that is also why fuel taxes are levied on consumers rather than on businesses – ensuring that, when the chain of sales finally does reach consumers, those families only end up paying one round of fuel taxes, rather than many such rounds.

How costly is it to make a mistake in taxing business inputs?

Some types of mistakes are more costly than others.

If governments do place 'taxes on taxes', what damage does that do?

It causes a cascade, because each intermediate level of production gets caught with a layer of tax. By the time a product is finally consumed, the failure to avoid taxing such 'intermediate goods' means that the effective rate of tax paid by families can differ widely across products.

The resultant uneven tax burdens create a range of unintended effects, including shrinking the economy relative to where it could be with a better tax system.

That damage to prosperity would be felt across all parts of the economy.

Addressing externalities

To summarise the above:

- It makes sense to charge users of government services – such as publicly provided roads – for their use. Federal fuel taxes sit alongside state and territory vehicle registration costs to do exactly that.

[14] See page 16 to 18 of Mankiw, Greg, Weinzierl, Matthew and Zagan, Danny, 2010, *Optimal Taxation in Theory and Practice*, https://scholar.harvard.edu/files/mankiw/files/optimal_taxation_in_theory.pdf

- However, it doesn't make sense to charge those who don't use roads for that as well: the tax system sensibly treats 'on road' and 'off road' use of fuels differently for tax purposes.

- Nor should tax fall on every use of fuel. The best tax systems tax things only once by the time consumers pay for them, thereby avoiding cascading 'taxes on taxes'. That's why there are input tax credits in the GST, and it's why there are fuel tax credits in the fuel tax system. Doing so maximises national prosperity, and ensures that families only pay one layer of fuel tax – not multiple layers.

The points above describe in large part the system that Australia already has.

Yet there's an important complication. The basic principle of avoiding 'taxes on taxes' by avoiding taxing intermediate inputs comes with a key caveat – one that arises when there are important externalities in play: *"Exceptions to these benchmark results [of Diamond and Mirrlees] have been noted. One well-known exception is for goods that generate externalities and that therefore justify corrective, Pigovian taxes or subsidies."*[15]

Similarly, the Henry review noted that *"the excess burden of fuel excise may be overstated to the extent that there are social and environmental costs of fuel consumption. These externalities may be reduced as excise curbs fuel consumption, which would improve welfare"*.[16]

The importance of this exception has been better recognised over time as the challenges of global warming have mounted.

So, what is the best way to get the tax system to avoid the damage of 'taxes on taxes' while also avoiding damage to the environment and the fight against global warming?

The answer to that question lies in the final principle considered in this chapter.

'Targets and instruments'

Back in 1952 Jan Tinbergen noted that the number of policies needed is at least equal to the number of targets being pursued.[17]

The phrase 'hitting two birds with one stone' is used to describe something remarkable – certainly more remarkable than it would be to hit two birds with two stones.

Tinbergen's insight was that policymakers shouldn't try to make their task harder than it needs to be.

In this particular case, there are indeed two policy aims in play:

- Avoiding cascading taxing on taxes, while also

- Assisting in the fight against global warming.

In turn, that suggests the best approach is to have two different policies:

[15] See page 16 of Mankiw, Greg, Weinzierl, Matthew and Zagan, Danny, 2010, *Optimal Taxation in Theory and Practice*, https://scholar.harvard.edu/files/mankiw/files/optimal_taxation_in_theory.pdf.
[16] See Commonwealth of Australia, 2010, *Australia's Future Tax System*, at page 375.
[17] See Tinbergen, Jan, 1952, *On the Theory of Economic Policy*, New York, North-Holland.

- As discussed above, the first of those is Australia's existing framework for fuel tax credits.

- The second involves carbon pricing.[18]

Recent developments[19] mean that Australia now has several implicit carbon pricing schemes[20] in place. That includes the safeguard mechanism for large industrial emitters,[21] the renewable energy target for energy[22], and new vehicle efficiency standards.[23]

As discussed above, Australia uses the instrument of fuel tax credits to hit the target of avoiding (1) taxing intermediate inputs and also (2) avoiding placing road user charges on the off-road use of fuels.

It is the safeguard mechanism for large industrial emitters that is Australia's second instrument (an implicit carbon price) for the target of lowering emissions from the industrial use of fuel:

- The safeguard mechanism operates via the use of caps on the emissions of some 220 of Australia's largest mining, gas and industrial facilities. These caps are reduced by between 1% and 5% each year.

- Reduced industrial emissions in the safeguard mechanism includes, of course, fuel emissions.

- Operators can directly reduce their emissions, or they can buy and surrender 'credits', such as the Australian carbon credit units (ACCUs) issued under the carbon offset scheme.[24]

- Like other major reforms, this policy will need to be assessed over time. A review is scheduled for 2026-27, and that will be important to ensure the transition is manageable and on track.

Other things equal, Tinbergen's rule suggests that:

- Australia's two distinct targets require two distinct policy instruments.

- If one of those policy instruments isn't successfully achieving its target, then the policy task becomes to change that instrument (rather than the other one).

- Or, to put that differently:

    - You shouldn't change the safeguard mechanism if Australia is having trouble in avoiding cascading 'taxes on taxes', and

[18] Global warming is a global fight, meaning that global policies and new technologies are both important. A handy summary of where the world is up to is here: https://www.noahpinion.blog/p/a-bunch-of-handy-charts-about-climate.
[19] See https://www.infrastructure.gov.au/department/media/publications/cleaner-cheaper-run-cars-australian-new-vehicle-efficiency-standard-consultation-impact-analysis.
[20] See https://theconversation.com/labors-fuel-efficiency-standards-may-settle-the-ute-dispute-but-there-are-still-hazards-on-the-road-222875.
[21] See https://www.cleanenergyregulator.gov.au/NGER/The-Safeguard-Mechanism.
[22] See https://www.cleanenergyregulator.gov.au/RET/About-the-Renewable-Energy-Target.
[23] See https://www.infrastructure.gov.au/department/media/publications/cleaner-cheaper-run-cars-australian-new-vehicle-efficiency-standard-consultation-impact-analysis.
[24] See https://theconversation.com/the-unsafe-safeguard-mechanism-how-carbon-credits-could-blow-up-australias-main-climate-policy-213874.

- You shouldn't change the fuel tax credit system if Australia is having trouble in meeting its emission targets.

3. The views of officialdom

Discussions of fuel tax credits often generate more heat than light.

For that reason, the views of public sector agencies and officials are a handy benchmark.

The Parliamentary Budget Office

In 2022, the Parliamentary Budget Office noted that the *"The economic rationale for refunding fuel excise to businesses is that imposing general revenue raising taxes on business inputs is economically inefficient.*

- *The full FTCs paid to businesses for fuel used for a creditable off-road use fully refunds the excise included in the price of fuel and ensure that no excise applies.*
- *The partial-FTC for fuel used on public roads by heavy vehicles is an example of a tax being used to recover particular regulatory costs or as a charge for the provision of public goods or services. Use of taxes and tax offsets in this way can be an economically efficient way of implementing a user pays regime."* [25]

Federal Treasury

Treasury's 2019 briefing indicated that: *"Fuel Tax Credits are not a subsidy for fuel use, but a mechanism to reduce or remove the incidence of excise or duty levied on the fuel used by businesses off road or in heavy on road vehicles. The incidence of fuel tax is intended to fall on fuel use in private vehicles or for other private purposes and in light on road vehicles used by business. …*

A carbon price is the most efficient way to reduce emissions and drive the transformation to a low carbon economy. Putting a price on carbon is the only economically responsible way to achieve Australia's bi-partisan emissions reduction targets."[26]

Treasury has made the same point for a long time (and it has done so under governments of all stripes).[27]

Similarly, in testimony to the Senate on 5 June 2014, Mr Rob Heferen of Treasury has noted that fuel tax credits are: *"… there to ensure that the double taxation does not occur. So the tax that is on the business input is relieved from the business activity. It is particularly important from a tax policy point of view. Certainly, with export competing industries, that double taxation obviously would be problematic."*[28]

Mr Heferen added that *"The fuel tax credits—it is an outlay; it is not a tax expenditure…... The net amount paid for the fuel—so the amount of tax itself, to the extent that someone is entitled to either be exempt from that or have that refunded—to the extent that it is an off-road use, as in manufacturing, mining, agriculture and those sorts of things, would ordinarily be included as part of the base and*

[25] See https://www.pbo.gov.au/about-budgets/budget-insights/budget-explainers/fuel-taxation-australia
[26] See treasury.gov.au/sites/default/files/2019-03/Document-19-2.pdf
[27] See https://www.theaustralian.com.au/national-affairs/treasury/greens-hit-roadblock-on-fuel-tax-as-treasury-argues-for-diesel-rebate/news-story/30d8b3119749021a370762c00b44d260
[28] Senate Committee Hansard, Hearing before the Senate Economics Legislation Committee, Estimates, Treasury testimony – Mr Rob Heferen, Executive Director Revenue Group, Treasury, 5 June 2014.

therefore the departure from the base is not a tax expenditure. It is not a subsidy. It is just what the base ought to be."[29]

The Parliamentary Library

The assessment of Richard Webb of the Parliamentary Library in 2012 was that: *"In summary, the rebate for excise paid on fuel that eligible businesses use as inputs is not a subsidy to fuel use. Rather, the rebate is designed to relieve businesses of input taxes that can reduce output and living standards. The Productivity Commission does not consider the rebate to be a form of assistance."*[30]

The Productivity Commission

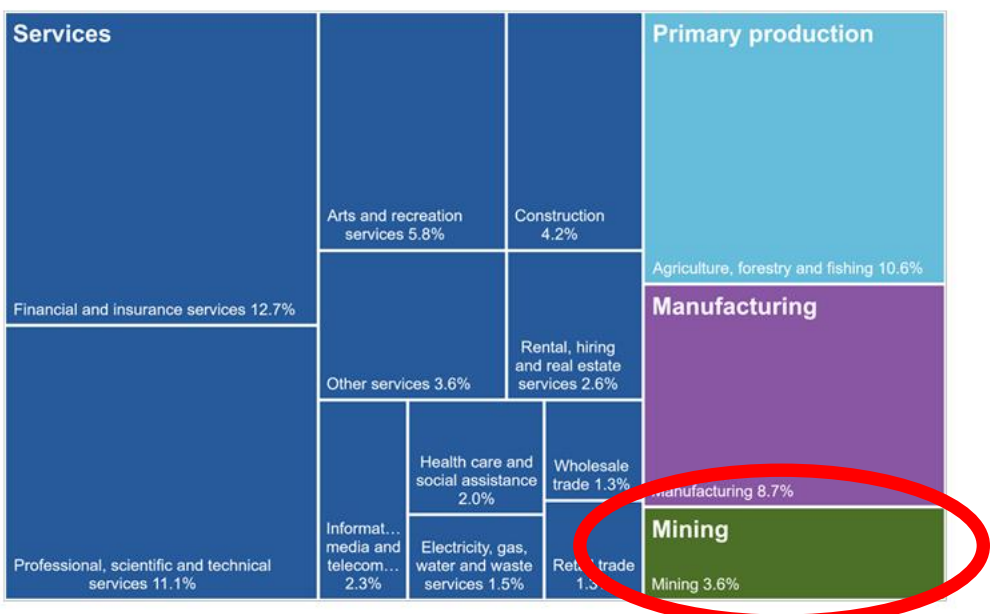
The Productivity Commission's measures of trade assistance[31] collate measures of industry support. These reports, which stretch back in various forms over half a century, do not (and never have) included fuel tax credits as an industry subsidy.

In fact, and as the next two charts (drawn from the Productivity Commission's latest review, at pages 15 and 16, respectively) show, mining receives less industry support than do other sectors, measured either as a share of assistance relative to the size of the sector, or in relative terms.

Chart 4: Budgetary assistance by industry – dollars

Figure 1.7: Services received the most budgetary assistance[a]

Sectoral share of budgetary assistance, broken down by ANZSIC division, 2022-23



a. Other services also includes transport, postal and warehousing (1%), accommodation and food services (0.7%), administrative and support services (0.5%), education and training (0.5%), and public administration and safety (0.4%). Figure excludes $3.3 billion that cannot be allocated to any sector and $1.0 billion that can be allocated to a sector but not to a specific ANZSIC industry (e.g. unallocated services).

Source: Productivity Commission estimates.

[29] Ibid.
[30] See https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/FlagPost/2012/May/Fuel_tax_credits_are_they_a_subsidy_to_fuel_use
[31] See https://www.pc.gov.au/ongoing/trade-assistance/2022-23.

Chart 4, above, shows that mining receives 3.6% of industry assistance in the federal budget. That is a long way short of its 14.3% share of the Australian economy.[32]

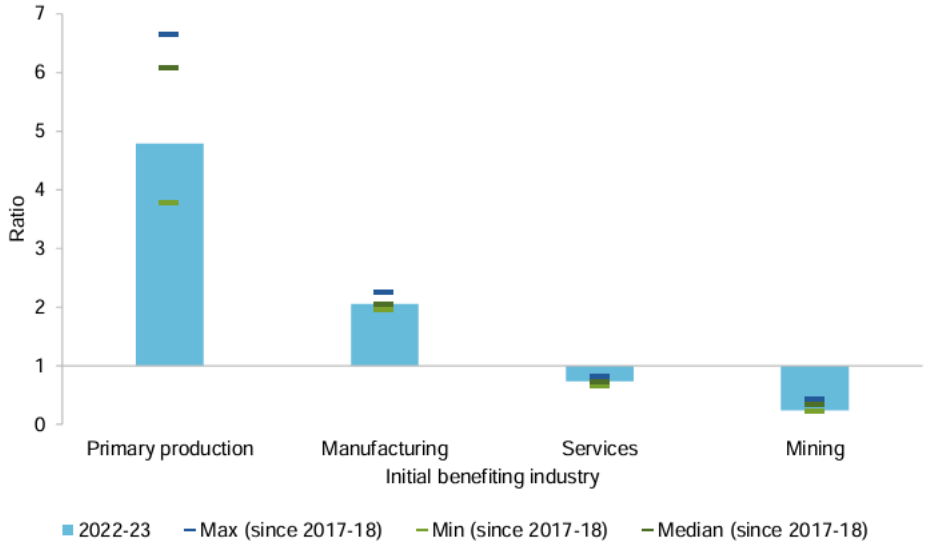
Chart 5, below, is the one that shows industry support in relative terms. Because mining receives less support than other sectors, it therefore shows up as 'negative support'.

Or, to put that differently, if all industry support measures – both spending and tax concessions – were to be abolished overnight, then mining would be relatively better off than it is today.

Chart 5: Budgetary assistance by industry – relative

Figure 1.8 – Primary production and manufacturing attracted large shares of budgetary assistance relative to their size[a]

Ratio of sectoral shares of allocated assistance to sectoral share of industry gross value added, 2022-23



GVA = gross value added, which is the sectoral share of GDP. **a.** The ratio of share of assistance to share of GVA is the share of each sector's budgetary assistance divided by the sector's share of GVA. Some assistance cannot be allocated to an initial benefitting industry. A ratio greater than 1 indicates that the sector received a share of assistance greater than its share of GVA.

Source: Commission estimates.

[32] See https://www.rba.gov.au/snapshots/economy-composition-snapshot/#:~:text=Industry%20Share%20of%20Output%20key,5.7%25%2C%20Construction%207.1%25.

4. Policy conclusions

In sum, the consideration of the tax principles discussed in this report suggests that Australia has twin policy aims, requiring two different policy levers:

- Having a fuel tax credit regime of the kind that Australia already has, thereby avoiding adding taxes on taxes (and road user charges on non-road users), with that being of particular importance for the sectors that make use of fuel tax credits (as, in the main, those sectors compete on world markets), while

- Also having an effective mechanism to reduce carbon emissions.

So Australia faces two distinct challenges – the need to correctly tax business inputs such as fuel, as well as the need to reduce carbon emissions.

Those are two very different things, and there are dangers in trying to hit two birds with one stone:

- Australia already has a good policy structure in place around fuel tax credits.

- Our key policy to help bring down emissions is the safeguard mechanism. The latter, introduced in 2016 and updated in 2023, applies to large industrial facilities, whose net emissions are tied to a baseline. If a facility exceeds its baseline emissions, it can buy carbon credits or, if there is insufficient available, it can pay a penalty.

The safeguard mechanism approach isn't perfect, and its carbon reduction incentives don't one-for-one overlap with those who qualify for fuel tax credits. But it certainly suggests that any further changes to policies aimed at reducing carbon emissions should be focussed on those policies rather than on policies that focus on policies that are aimed at avoiding the double taxation of business inputs.

Or, to put that differently, it would be a backward step to mess up Australia's treatment of fuel tax credits. In particular, messing up the treatment of fuel tax credits would come with a range of costs to Australian families and businesses.

The conclusion is simple: if the intent is to do the right thing on the tax front and the right thing in helping to fight global warming, then the key is to have two good policies rather than one flawed one.

With respect to fuel tax credits, the current arrangements are already good policy.

With respect to global warming policies, the government has embarked on major changes to the safeguard mechanism, and industry is now adapting to those changes. This policy establishes a carbon budget for large industrial emitters. Reduced industrial emissions in the safeguard mechanism includes, of course, fuel emissions.

Like other major reforms, this policy will need to be assessed over time. A review is scheduled for 2026-27, and that will be important to ensure the transition is manageable and on track.

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