Tax Facts

A knowledge-based series by the Tax and Transfer Policy Institute

Good Tax Policy: Broadening the Tax Base and Lowering Tax Rates

Economists usually consider that a broad-based tax is more efficient than a tax that has many exclusions or is only levied on very specific activities. But what is a broad-based tax? Why is it more efficient and what does this mean for the tax rate?

The tax base

Central to these questions is the *tax base*. The term 'tax base' is another way of describing the value of the economic activities that are subject to the tax. For instance, the tax base for Australia's goods and services tax (GST), a value-added tax on the sale of goods and services, is the value of all goods and services sold to consumers in a given year. The tax base for stamp duty – a tax levied by the states and territories upon the sale of property – is the value of all properties sold in a given year in the relevant jurisdiction. The tax base for land tax is the value of all properties within a jurisdiction, regardless of whether they have been sold in that year.

It is worth distinguishing between the *potential* tax base and the *actual* tax base. The potential tax base includes all relevant economic activity, while the actual tax base is often much smaller because governments grant exemptions. For example, while the potential tax base of the GST includes all goods and services sold in Australia in a given year, the actual tax base excludes many goods and services. For instance, the sales of certain foods, childcare costs, and health services are GST exempt.

While there are at least a hundred different taxes, there are only three fundamental tax bases [1]. These are the earnings from labour, capital and land or other natural resources. All payments from taxpayers come from one of these sources of earnings. For example, a consumption tax on tobacco products will be paid by consumers using income from either their wages or their earnings from any capital investments or land that they own.

The tax rate

The tax rate is the amount of tax that must be paid per dollar of the actual tax base. This is usually a percentage. For instance, in Australia the company tax rate is 30% for large companies. Company tax is levied on company profits, so the potential tax base is all company profits from large companies in Australia in a given year. If there were no exemptions, company tax revenue could be calculated by simply multiplying the total amount of company profits in Australia in a given year by 30%. Because tax concessions reduce the *potential* tax base, tax revenue is calculated as:

Tax revenue = *actual* tax base * tax rate

Broad bases and low rates

As can be seen in the above equation, if the tax base or tax rate are reduced, so is tax revenue. If the tax base is broadened to include more economic activities (or if the value of existing activities increases), tax revenue will go up even if the tax rate stays the same.

A government can charge a lower rate of tax to get the same amount of revenue if it levies the tax on a broader set of activities. For example, the GST exemptions for food reduce GST revenue by roughly $7 billion per year [2]. If all GST exemptions were removed, the government could lower the GST rate to less than 10% and receive the same amount of revenue. Conversely, if the GST was narrowed to only be applied to clothing, the government would have to accept less revenue or raise the tax rate above 10%.

The situation is even more complex because people change their behaviour in response to taxes. In this case, if the GST was only applied to clothing, then people would buy less clothing. This is referred to as deadweight loss or excess burden [see our tax fact on **deadweight loss**]. People avoid engaging in (or engage in fewer) activities that are taxed. As a result, taxes with narrow bases tend to raise even less revenue than would be expected from looking at the above equation, because the tax base shrinks when people start to change their behaviour. This not only reduces tax revenue, but also represents a loss of benefits to consumers and producers through an efficiency loss in the economy. People choose not to engage in activities that would otherwise have benefited them, and may instead engage in less beneficial activities.

A simple historical example of harmful behavioural change resulting from a tax is the 'window tax' imposed in England and Wales from 1696 to 1851. This tax was paid by the occupants or landlords of dwellings based on the number of windows the dwelling had. Because more windows meant more tax, many dwellings had windows boarded over to avoid the tax. Analysis of local records from the time shows that the window tax led many people to live in very dark houses and in environments that had significant, negative effects on their health [3].

Table 1. Marginal excess burdens of taxes (as a percentage of net revenue from the tax change)

Tax change	Marginal excess burden
Company income tax (CIT)	
Increase from 25% to 30%	139%
Increase from 20% to 25%	96%
Increase from 15% to 20%	68%
Personal and super income taxes	
Personal income tax surcharge	41%
Personal income tax income levy	31%
Personal income tax bracket creep	18%
Labour income levy	33%
Asset income levy	18%
Reduce franking credits	16%
GST	
Raise GST rate	18%
Broaden GST base to include fresh food	10%
Payroll tax	
Raise payroll tax rate	37%
Reduce payroll tax threshold	24%
Property taxes	
Municipal rates	23%
Land tax	48%
Conveyancing duty (residential)	87%
Conveyancing duty (commercial)	196%
Insurance taxes	58%

Higher tax rates tend to change people's behaviour much more than low tax rates. To take this into account, economists often try to quantify the *marginal* excess burden. This refers to the behavioural response caused by each additional dollar of revenue raised by a certain tax. If a tax has a high marginal excess burden, it means that raising an *additional* dollar of revenue from a tax will result in a substantial loss of consumer and producer benefits. The estimated marginal excess burden of different taxes in Australia is detailed in Figure 1 [4].

This table highlights the principle that taxes with narrow tax bases and high rates will typically result in greater efficiency losses than those with broad bases and low rates. This is because there is more opportunity for people to change their behaviour to avoid a tax if it is only levied on a small subset of activities. The incentive for avoidance also increases as the tax rate increases. For instance, raising the GST rate has roughly twice the marginal excess burden of broadening the base.

It is worth noting that company tax is estimated to have a very high marginal excess burden, even though it is levied broadly on all Australian company profits. This is because Australian company profits represent a small share of global company profits. Since international investors can invest anywhere, high taxes reduce investment in Australia in favour of other international destinations.

There are some notable exceptions to the broad base, low rate principle [see our **taxing negative externalities** tax fact]. This is relevant to Australia's GST, as many of the goods and services that are excluded from the GST were excluded because they were viewed as having positive social impacts (that is, positive externalities).

It is also important to bear in mind that the total economic burden of a tax includes the direct cost to the taxpayer and the indirect excess burden of the tax arising from behavioural responses to the tax.

[1] Australian Treasury (2008), *Architecture of Australia's tax and transfer system*.
[2] Australian Treasury (2018), *Tax Expenditures Statement 2017*.
[3] Oates, W & Schwab, R (2015), 'The Window Tax: A Case Study in Excess Burden', *Journal of Economic Perspectives*, 29:1, pp. 163-180.
[4] Murphy, C (2016), *Efficiency of the tax system: a marginal excess burden analysis*, TTPI Working Paper 4/2016, Tax and Transfer Policy Institute, Canberra.

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Contact the director at robert.breunig@anu.edu.au | Contact us at tax.policy@anu.edu.au
https://taxpolicy.crawford.anu.edu.au/

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