The Rationale for Including Behavioural Responses in Tax Revenue Estimation

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Executive summary

- This report outlines the rationale for including the behavioural responses of taxpayers to proposed changes in tax when estimating the revenue impacts of such proposals. The objective is not to examine the revenue impacts of any particular tax reform proposal, nor to consider what the parameters for measuring behavioural responses should be. Rather **this report establishes why it is important to start from the proposition that behavioural responses *should* be included**.

- There would be very few people that would argue that taxes do not affect the economy. Everyday, taxes affect decisions about whether to invest, to work, to save, or to spend. **International experience shows that taxation can have a big impact on economic growth.**

- In all cases, **the economic impacts of taxes come about because the behaviour of individual and/or corporate taxpayers is affected.** Indeed, changes in tax policy are often *intended* to produce a change in behaviour. **To fail to attempt to estimate the revenue effects of such changes, given their explicit purpose, would be a bizarre failure of policy: if their effects are not known, the basis for taking such action is similarly not known.**

- **Behavioural changes can have important consequences for the revenue because they can lead to multiplier effects throughout the economy** that can partially offset the direct revenue impact of the proposed tax change. A lower tax rate may boost economic growth, which will increase PAYE and company tax payments. The net tax impact would depend on the extent of the behavioural response and whether the increase in activity is 'new' activity or whether it has been diverted from elsewhere.

- There are three broad types of behavioural change that need to be incorporated in estimates of the impact on the revenue of changes to taxation:
  - the impact on the revenue of **economy-wide efficiency effects from fundamental tax reform**. Increased economic efficiency is often the motivating force for tax reform, so the beneficial revenue effects of improved efficiency should be taken into account;
  - **intended (or desirable) behavioural responses to specific tax measures.** Net efficiency gains from specific tax changes can also lead to increased tax revenue through higher wages paid and higher profits. And if the economy is operating at less than full capacity, tax changes may also lead to higher employment and/or capital capacity utilisation, which would boost tax revenue; but
  - it is also important to take into account **unintended (or undesirable) behavioural responses to specific tax measures**, which can arise from the interaction of proposed tax changes with a myriad of tax and non-tax factors.

- In the past, official estimates of the revenue impact of tax changes have not generally taken into account behavioural responses. In part, this has been because of the expenditure focus of the annual budget cycle, because of the inherent difficulty in estimating behavioural responses, and because 'that's the way its always been done'.

- But these are not sufficient reasons for ignoring the revenue effects of behavioural responses. Estimation difficulties notwithstanding, **revenue estimates will almost always be more accurate through the inclusion of relevant behavioural responses than if these responses are ignored**. Indeed, not to take such responses into account would lead to poor tax policy decision making and cast doubt on the value of tax reform proposals themselves.

1. Introduction

In the context of the current debate about the net revenue impacts of business tax reform, the Securities Institute of Australia has asked Access Economics to outline the rationale for including an allowance for revenue effects of behavioural responses of taxpayers to proposed changes in tax when estimating the overall revenue impacts of such proposals.

The objective of this report is not to examine the revenue impacts of any particular business tax reform proposal, nor to consider what the parameters for measuring behavioural responses should be. Rather this report establishes why it is important to start from the proposition that behavioural responses *should* be included. This general point applies to all forms of taxation reform (not just business tax reform) and applies prospectively as well as in the context of the current debate.

Following this introduction, the report outlines briefly how taxes can affect the economy. The impact that changes in tax can have on taxpayer behaviour and why these impacts should be included in revenue analysis is then discussed in Section 3. Some reasons why behavioural responses have not been included in official revenue analysis in the past are outlined in Section 4. That is followed, in Section 5, with an outline of the types of behavioural responses that should be included in estimates of the impact on the revenue of proposals to change tax. Some conclusions are then presented in Section 6.

2. How taxes affect the economy

The starting point for demonstrating the importance of taking behavioural responses into account when analysing the revenue impacts of proposed tax changes is to consider the economic impacts of taxation. There would be very few people that would argue that taxes do not affect the economy – and they would have great difficulty in sustaining their case, given the reality that the 'ideal' non-distorting tax is a figment of the public finance theoretician's imagination: fine in theory, inoperable in practice. Thinking about how taxes affect the economy is a useful starting point for thinking about how taxes can affect taxpayer behaviour.

The paragraphs below briefly outline some of the more important ways in which economic aggregates - themselves the summation of individual decisions on spending, saving, investing, etc - can be affected by taxation. The list is by no means comprehensive; instead the focus is on the key transmission mechanisms. The material draws on the economic literature and econometric studies, as summarised in papers by the Organisation for Economic Cooperation and Development (1997), the International Monetary Fund (1995), and the US Congressional Budget Office (1997).

Saving and investment

Taxation can have a big impact on saving (and hence consumption) and investment through its impact on the net rate of return to these activities. Taxation affects investment directly through its impact on the cost of capital (ie the pre-tax rate of return that investment has to earn to achieve a given post-tax rate of return). It is not just the 'headline' rate of tax that is

important, but all of the factors that contribute to the 'effective' rate of taxation – factors such as depreciation arrangements and other investment incentives. Taxes can affect not only the level of investment, but also its composition (for example, if the tax system favours one sector over another or if tax distortions lead to higher effective tax rates in one industry than in others) and the location of financial capital (corporate profits, interest and dividend earnings), especially by multinational corporations.

The impact that taxation can have on investment is shown in the simple example in Table 1. This table shows the profits generated by two alternative investments that would involve the same outlay (ie the same purchase price). Investment A would generate profits of 120, while investment B would generate profits of 110. Investment B is a relatively capital-intensive investment and therefore benefits from accelerated depreciation under the current system.

Table 1: The Impact of Taxation on Investment – A Simple Example

	Current		After reform	
	A	B	A	B
Profit	120	110	120	110
Accelerated depreciation	10	40	0	0
Tax	-40	-25	-36	-33
After-tax profit	80	85	84	77

Because of the operation of accelerated depreciation, less tax is paid (at 36 per cent) on investment B. In fact, so much less is paid that the after-tax profit for investment B is greater than the post-tax profit for investment A. Investment B will therefore be preferred over investment A even though it is investment A that produces more pre-tax profits. After tax reform (shown in the simple example as lowering the tax rate while removing accelerated depreciation), the after-tax rate of return is higher for investment A than for investment B. Investment A will now be preferred over investment B, in line with the before-tax rates of return. Thus a change in the tax system has changed the composition of investment. This example also highlights an important point in respect of economic efficiency (which is discussed below)[1].

Reducing the net return to saving by imposing a tax is also generally believed to reduce the level of private saving and the OECD believes that the increase in total taxes across OECD countries over the past decade may have contributed to the observed fall in household savings. Lower private saving can also have important implications for the current account deficit (increasing it) if investment levels are maintained and if higher public saving does not fully offset the fall in private saving.

[1] The example is not an argument against accelerated depreciation, *per se*. The loss of economic efficiency is in relation to the specific example. In broader terms, however, accelerated depreciation may improve economic efficiency if there is a market failure that works, for example, against long-lived, capital intensive investments.

Employment

Labour taxes (including PAYE tax) drive a wedge between what workers receive and what businesses pay, and empirical evidence suggests that employment falls as a result. The extent of the fall depends on many factors, including labour-market institutions and wage bargaining behaviour. In countries with flexible labour markets, the taxes tend to get shifted back onto labour, reducing the take-home pay and thereby reducing labour supply (or the participation rate). In countries with inflexible labour markets, labour taxes tend to be shifted forward to businesses and consumers and therefore reduce the demand for labour. This reduces employment and lowers growth. Labour taxes may also affect human capital investment by reducing the return that people get from investing in human capital – the greater the progressivity of labour taxes, the greater this negative impact.

As with taxes on investment, it is not just the 'headline' rate of tax that is important. Effective labour-tax rates are often much higher than headline rates, especially at low income levels, because social welfare benefits are withdrawn as private income increases. This can also affect labour supply.

Overall economic growth

Given the many factors that contribute to overall economic performance, it can be difficult to discern an overall impact of taxation on economic growth. Using a simplified 'top-down' approach based on cross-country comparisons, the OECD has found that the increase in the average (weighted) tax rate across the OECD countries over the past 35 years may have reduced OECD annual growth rates by about ½ of one percentage point. That is, in the absence of the increase in the overall tax burden over that period, annual average economic *growth* in the OECD could have been ½ a percentage point higher each and every year. This loss to output growth accumulates, so that, over a 10 year period, the level of annual output would be around 7 per cent lower.

These estimates are likely to be an underestimate of the impact of taxation on economic growth because they don't include the economic efficiency costs of different rates of tax *within* a given overall tax burden. The simple example in Table 1 can be used to demonstrate such efficiency costs. Under the current tax system, Investment B will be preferred over investment A even though it is investment A that produces more pre-tax profits. In economists' terms, this is where the inefficiency lies. The pre-tax profits are telling us which investment is the best one from an economic perspective because it generates the higher economic return for the same investment. But because of the interference of the tax system, resources are being attracted away from investment A toward investment B. The result is a misallocation of resources and a loss of economic efficiency.

Reducing tax distortions within a constant overall tax burden can improve economic efficiency, leading to higher employment, higher investment, and increased tax revenue.

3. Tax changes and their impact on taxpayer behaviour

In all cases, the economic impacts of taxes described above come about because the behaviour of individual and/or corporate taxpayers is affected. In the case of investment, taxes on

capital lead to lower investment because businesses get a lower after-tax rate of return and decide to invest less than they otherwise would. Similarly, individuals decide to save less, or work less, because the imposition of taxes reduces the after-tax return (say, after-tax interest or wages) on those activities. The observed economic impacts don't come about by themselves; they are the combination of changes in behaviour *brought about by taxes*. As noted earlier, some theoreticians talk about non-distorting taxes, often using these as a benchmark against which to measure the (in)efficiency of existing taxes. Lump-sum or poll-taxes are sometimes cited as realistic examples. Apart from being politically unacceptable, even lump-sum taxes may be distorting (eg, if taxpayers leave the country imposing them).

This same point applies to *changes* in taxes. Changes to tax policy will inevitably alter private sector behaviour. Indeed, changes in tax policy are often *intended* to produce a change in behaviour. The introduction of both capital gains tax and fringe benefits tax were *intended* to induce some taxpayers to reduce the amounts of capital gains and fringe benefits (relative to other forms of income) that they gained. The introduction of accelerated depreciation and the investment allowance in 1992 were *intended* to encourage businesses to invest more to help ensure recovery from the recession at that time. The introduction of tax penalties and incentives in respect of private health insurance were *intended* to change individuals' and families' decisions about whether or not they purchased private health insurance.

The above says nothing about the merits or otherwise of the changes, merely that they were intended to produce changes in taxpayer behaviour. To fail to attempt to estimate the effects of such changes, given their explicit purpose, would really be a bizarre failure of policy: if their effects are not known, the basis for taking such action is non-existent.

In terms of assessing the revenue impact of proposed changes in taxation, these behavioural changes can also have important consequences for the revenue. If a change in tax is intended to lead to an increase in investment, then the increase in investment may lead to additional employment and profits. That is, there may be multiplier effects throughout the economy[2], which will increase PAYE and company tax payments. Those additional tax payments will help to offset the initial cost of the tax reduction.

This does not mean that there will be no *net* cost to the revenue from tax reductions. The net tax impact would depend on the extent of the behavioural response and whether the increase in activity is 'new' activity or whether it has been diverted from elsewhere in the economy. (These issues are discussed below.) Rather, the point is that such behavioural responses need to be taken into account when assessing the impacts of changes in taxes.

[2] This will only apply to the extent that there is a net increase in activity, such as that arising from an increase in economic efficiency or increased utilisation of unemployed (or underemployed) capital and labour. Increased activity in one area that is at the expense of activity in another area will generally not increase overall taxation revenue. Indeed, to the extent that the activity which increases is taxed at a lower rate than the activity which decreases, there would be a loss of revenue from that change in the composition of activity. It is therefore necessary to take into account all of these behavioural responses. These issues are discussed further in Section 5 below.

Fundamental tax reform and economic efficiency

Changes in taxpayer behaviour can be particularly important (and significant from a national perspective) when fundamental tax reform is being considered. The current Review of Business Taxation is one example of fundamental tax reform where large changes in taxpayer behaviour could be expected. Allowing for these behavioural responses is important in evaluating both the economic 'payoff' and the revenue effects from tax reform.

It follows from the discussion in section 2, that gains to economic efficiency can arise when the extent to which the taxation system interferes with economic decisions is reduced. This will not necessarily follow in all cases (for example, if taxes are being used to correct a market failure) but it will follow in most cases.

The fundamental reason for the existence of the Australian tax system, like any tax system, is to raise revenue in the economically least damaging way possible. But there are a myriad of ways in which revenue can be raised, each of which will potentially have different impacts on businesses, people, and the economy more broadly. To assess these impacts policymakers make judgements about the adequacy or otherwise of tax systems in respect of three additional criteria: economic efficiency; equity; and simplicity.

It is these three criteria that the Ralph Review used as the basis for suggesting three national objectives for business tax design:

- optimising economic growth through enhanced efficiency;
- ensuring equity; and
- facilitating simplification.

It is the first of these three objectives that is relevant in terms of assessing the national-level behavioural impact of tax reform on economic efficiency. Improving economic efficiency has been the object of tax reform exercises in the past (including in respect of indirect tax reform) and was the key objective for the Ralph Review (p.19):

> *Motivating reform of the Australian business tax system must be the delivery of higher levels of economic growth. This is the overarching objective that has motivated our deliberations.*

Improved economic efficiency is the economic 'payoff' from tax reform and the key *economic* reason for bothering with tax reform[3]. In the absence of an increase in economic efficiency, the case for tax reform would be weaker.

An improvement in economic efficiency will lead to higher levels of economic output and, potentially, higher levels of wages and profits. In the period in which the changes take effect, economic growth will be higher, hopefully resulting in a permanently larger economic 'cake'. It is important, therefore, that estimates of the impact on the revenue of tax reform take into

[3] Of course, there are other factors that could justify tax reform (including increased equity and/or simplicity).

account the boost to economic growth – the growth dividend. In the context of the current Review of Business Taxation (p.19):

> *... a major issue for the Review has been the identification of the growth dividend reflecting the increased Commonwealth tax revenue likely to flow from increased economic growth attributable to the recommended reforms. Such revenue needs to be included in the revenue neutrality assessment as it is clearly a benefit of the proposed reforms.*

While there is room to debate how big the boost to overall economic efficiency (and hence to revenue) may be, the fundamental point is that these effects *should* be included in assessments of the economic impact and the revenue impact of tax reform.

4. Why haven't behavioural responses been included in revenue estimates in the past?

To date, the inclusion of behavioural responses in *official* estimates of the revenue impact of proposed tax changes has been the exception rather than the norm. Where tax changes have been directed at closing off perceived loopholes, the assumption that the tax change will close the loophole encompasses an implicit behavioural response – that taxpayers will no longer avail themselves of what was a tax advantage (because the advantage will not exist after the change). But in most cases in the past, the impact on the revenue of behavioural responses to tax changes have not been taken into account.

The 1985 Draft White Paper, for example, clearly recognised the behavioural responses that would be likely to result from the various options for reform, but the revenue estimates were broadly prepared on the basis of no change in behaviour. It was also recognised, however, that not taking into account behavioural responses made some of the revenue estimates implausible. In relation to the proposal to move to a real income tax base for business income, the Draft White Paper noted (p. 207):

> *Estimates can be made on the assumption that nothing else changes, ... [but] as the figures shown there suggest, this assumption is highly implausible. The figures are best considered as indicating the considerable pressures for change in business practices that would flow from the implementation of a real income tax base.*

A better approach would be to try to capture behavioural responses within the revenue estimates to provide a better guide to policymaking.

Given the desirability of including behavioural responses in revenue estimates, it is reasonable to ask why they have generally not been included in the past. There are several (related) reasons for this past practice.

Firstly, the process for estimating revenue impacts grew up in the context of the annual budget cycle. The focus of the annual budget cycle is the estimation of government spending for the year (financed by the revenue raised). Budget outlays primarily relate to the

redistribution of income (through the social security system), the provision of government services (such as health and education) and the funding of government operations. While government spending is sometimes used to generate a response by people and businesses (such as through a government subsidy), these outlays are a relatively small proportion of total outlays. Because of this, the expenditure estimation process is based on accounting (how many people receive a given dollar outlay) rather than on economic relationships. Official revenue estimation has therefore evolved in an environment where the focus is on accounting (how many people or businesses get a given percentage tax cut) rather than on what response tax changes might engender.

Secondly, the standing procedure has generally been not to take into account behavioural responses. Behavioural responses haven't been included because 'that's how its always been done'. In recent decades there have been significant improvements in the quality and quantity of taxation and economic data and in the computing capacity to process this information, but historical precedent has worked against their use in estimating behavioural responses.

Thirdly, in the context of specific tax measures, it has generally been assumed that any change in behaviour would be unlikely to have an overall impact on the revenue because there would be offsetting factors at work. In the case of a tax cut, for example, it has generally been assumed that any increase in the activity benefiting from the tax cut would be at the expense of lower activity elsewhere (ie in activity not benefiting from the tax cut). But, as discussed in the following section, where there is an overall change in economic efficiency, or where the economy is operating at less than full capacity, such assumptions are unlikely to be appropriate.

Finally, it is often quite difficult to estimate the impact of a behavioural response (even with improvements in data and computing capacity). It would generally be the case that the broad direction of a behavioural response would be known (for example, an increase in business investment would have been expected to follow the introduction of accelerated depreciation in 1992). But it is often much harder to determine the likely magnitude of the expected behavioural response (for example, by how much would business investment have been expected to rise after 1992?).

This difficulty is clearly recognised in the Ralph Review's report to Government (page 696):

> *The motivation for most of the reforms proposed by the Review is to change taxpayer behaviour by changing the incentives taxpayers currently face. Consequently these intended changes in behaviour can be an important factor in estimating the revenue impact of particular measures.*
>
> *Little information is typically available about the likely magnitude of taxpayer responses to changed taxation arrangements. The Review has attempted to identify possible behavioural responses and, where they are likely to be significant in terms of revenue, include the likely impact in the revenue estimate. Such estimates are always very difficult and in some cases the Review has identified a response effect but not felt able to make any estimate at all.*

Notwithstanding the difficulties, the Ralph Review has at least attempted to take into account some behavioural responses. There may be scope for debate about some of the specific

parameters used in estimating the behavioural responses, but the decision to include behavioural responses is the only sensible approach to take. Indeed, not to do so would cast doubt on the value of the tax reform proposals themselves. Revenue estimates will almost always be more accurate through the inclusion of some behavioural response (where relevant) than if these responses are ignored.

5. Allowing for changes in behaviour in revenue estimation

There are three broad types of behavioural change that need to be incorporated in estimating the impact on the revenue of changes to taxation:

- the impact on the revenue of economy-wide efficiency effects from fundamental tax reform;
- intended (or desirable) behavioural responses to specific tax measures; and
- unintended (or undesirable) behavioural responses to specific tax measures.

These issues are discussed, in turn, below.

Economy-wide efficiency effects from fundamental tax reform

Where proposed tax reforms are broad ranging and aimed at improving overall economic efficiency, it is necessary to include an estimate of the overall gain to the revenue that would be expected to flow over time. As discussed on page 3, the tax system can have an important influence on economic growth, in terms of both the overall tax burden and the composition of taxation within that overall burden. Improving economic efficiency is often one of the objectives of fundamental tax reform (as in the case of the current Review of Business Taxation).

While these effects on the revenue should be included, they are notoriously difficult to estimate. Estimates of efficiency gains from changes in taxation involve making a lot of assumptions that are difficult to validate. Changes in assumptions can have a big impact on the estimates. Analysis in the US and by the OECD on the economic benefits of fundamental tax reform suggest that different assumptions and models can produce very different results.

For the Review of Business Taxation, the Ralph Committee decided to use an informed judgement about the broad economic benefits from their proposals as the basis for determining an estimated impact on the revenue. Again, there may be scope for debating whether the judgement about the magnitude of the likely benefits is sound, but the fundamental point is that an amount *should* be included to the extent that economic efficiency will be enhanced as a result of the reforms. Why undertake reform otherwise?

Intended behavioural responses to specific tax measures

Economic and revenue effects arising from behavioural responses can also be important in respect of specific tax measures. Wherever taxes impact on decision-making by people and businesses, changes in tax can affect those decisions. This applies in all of the areas outlined in section 2. Where specific tax measures are likely to impact on taxpayer behaviour, those behavioural responses should be taken into account.

In some cases there will be net efficiency gains from a specific tax change that will add to economic activity (and hence tax revenue). In most cases, a reduction in the level of tax will create efficiency gains, the positive revenue effects of which should be incorporated in the revenue estimates for the measure. (Depending on the proposal, there may also be offsetting negative revenue impacts from unintended behavioural responses. This is discussed below.)

When incorporating in the revenue estimates any identified efficiency gain (or loss) from a specific tax proposal, it is also important to recognise that the revenue impacts arising from the efficiency gain (or loss) are likely to be evident beyond the transaction to which the tax is applied. That is, there will be flow-on – or multiplier – effects.

Take, for example, a situation where the production of, say, oranges is currently taxed at a high rate and it is proposed to reduce the rate of tax to align it with the rate of tax on the production of other fruit. An increase in the production of oranges would be expected (which would help to reduce the net cost of the tax rate reduction). But it would also be important to take into account the impact on the revenue from the *net* increase in wages paid and profits that would flow from the increased production.

Diversion from taxed activities

The above section refers to the gains to the revenue from a *net* increase in wages paid and profits. It is only the *net* increase that is relevant because some of the expected increase in activity (in the case of the example, increased orange production) will be at the expense of lower production of other activities (in the example, the production of apples may fall as the relative tax advantage that apples had is reduced). To the extent that there is some reduction in activity that was taxed, it is only the overall increase in production that will have a net impact on the revenue. Nevertheless, it remains the case that the flow-on effects in terms of wages paid, profits etc. from the *net* increase in activity should be included in the revenue estimation.

In that regard, for some proposals it may be necessary to consider the extent to which activity is shifted from other countries to Australia (and vice versa). A proposal that increases foreign investment in Australia would be one example where such issues could be important.

When considering specific tax measures that are proposed in the context of a broader tax reform package, it is also important to ensure that there is not double counting of the revenue impacts from the efficiency changes associated with the package as a whole and the efficiency gains from the specific measures. By the same token, it is likely that there will be a need to make estimates of both specific and broad efficiency effects for a comprehensive tax reform package. This is because specific efficiency effects may be identifiable for some specific measures, but only broad efficiency effects may be able to be identified for *other* parts of the package.

Increased utilisation of unemployed capital and labour

Over a period of many years it is therefore principally the gains (or losses) in economic efficiency arising from either fundamental tax reform or specific tax measures that will drive the revenue effects of behavioural responses to tax changes.

In the short term, however, there may be additional effects on the revenue from behavioural responses where the economy is operating at less than full capacity. Where unemployment is above the 'structural' or 'natural' rate of unemployment and where there is room to increase the capacity utilisation of the capital stock, a reduction in tax may lead to higher levels of employment and capacity utilisation, which would also lead to higher tax revenue. This effect would be above and beyond the efficiency effects discussed above.

Unintended behavioural responses

Much of the material above has focussed on behavioural responses *intended* to result from changes in taxation. However, some changes in tax can result in *unintended* behavioural responses, which should also be taken into account when estimating the likely revenues effects of the proposed tax change.

Unintended behavioural responses are generally much harder to foresee - let alone to quantify - than are intended behavioural responses. This is because intended behavioural responses are often the objective of changing taxation arrangements, while unintended behavioural responses can arise from the interaction of the proposed tax change with a myriad of other tax and non-tax factors.

For example, the (original) infrastructure tax concession was introduced as a means of encouraging private sector infrastructure development (in part, by correcting a perceived market failure in the private provision of finance for very long-lived projects). At the time of the introduction of the tax concession, it would have been foreseen that some taxpayers would alter their behaviour to take advantage of the concession (without necessarily assisting private infrastructure). However, it would not have been possible to foresee the extent to which unintended taxpayer responses would eventually put several billions of dollars of revenue at risk. That said, consideration of good tax design principles can generate *ex ante* warnings about the likelihood of unintended or undesired responses to taxation changes

Even though unintended responses to tax changes can be difficult to foresee and to quantify, it remains the case that these effects should be considered as far as possible when preparing estimates of the impact on the revenue. In the context of the current Review of Business Taxation, unintended behavioural responses are likely to result, for example, from the lower tax rate on capital gains on assets held for more than one year by an individual. And while there may be reason to debate the parameters of that response, at least the Review has attempted to quantify this behavioural response in its revenue estimates.

6. Conclusions

The above analysis has demonstrated that it is essential to take into account the behavioural responses of taxpayers to assess properly the revenue impacts of proposed tax changes. Behavioural responses are often difficult to asses, but that is not sufficient reason for them to be ignored. Indeed, given that tax changes are often directed at achieving a change in taxpayer behaviour, it is not logical, nor sensible for such behaviour to be left out when estimating revenue effects. Even if potential changes in behaviour are not the specific objective of proposed tax changes, behavioural responses (including unintended responses) can often have a large bearing on the revenue effects of tax changes.

There is also an important benefit from comprehensive analysis of taxpayer responses to proposed tax changes – improved tax policy. By incorporating behavioural responses in the revenue estimates for proposed tax changes, decision-makers will have better information on which to make decisions about tax policy. Moreover, the analysis of behavioural responses that is necessary to prepare revenue estimates will provide richer and more complete information on the likely real-world effects of tax changes. It is hard to see how this additional analysis and information could result in anything other than superior tax policy outcomes.

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