

Budget policy and risk expenditures

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Governments use a number of policy tools to achieve their objectives, including taxes, spending and regulation. Governments can also affect resource allocation by shifting risk in the economy through financial instruments, such as concessional loans, guarantees and other contingent liabilities. Such 'risk expenditures' are generally less transparent, more poorly targeted and costly than direct outlays. This paper discusses the economic consequences of risk expenditures and budget processes that can improve the management of risk.

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Introduction

The classic role of the budget is to prioritise spending according to an overall fiscal constraint. Budget policy seeks to improve the process for making these decisions. For example, governments are better able to rank their priorities when spending options are appropriately costed. However, budget policy faces substantial challenges when governments seek to achieve policy outcomes through 'risk expenditures', such as concessional loans, guarantees and other contingent liabilities.

Risk expenditures

Risk and government

Risk is uncertainty around a specific outcome.² People tend to dislike risk, preferring certain outcomes to uncertain possibilities. Because of this, the existence of risk has significant value. There are a number of ways people can avoid risk. They can pay someone else to take it on – for example, people pay insurance premiums so that insurance companies pay the costs if their house is damaged or destroyed. They can avoid particular activities that lead to risks – such as choosing to swim at a beach patrolled by a life guard to minimise the chance of drowning, rather than at a beach that has more amenity. Any inconvenience or cost in travelling to a patrolled beach represents the value of the risk of drowning. Other swimmers may choose an unpatrolled beach, perhaps because they prefer the seclusion, consider themselves strong swimmers or have local knowledge of safe swimming areas. In this way, risk tends to be allocated to those most willing and able to bear it. If markets are well-functioning, society is better off overall (Arrow and Debreu 1954).

Another way people can avoid risks is by seeking to pass them to government. In some cases where markets are not well-functioning, this can be efficient since risks can be spread across the whole population rather than a narrow segment of it (Arrow and Lind 1970). For example, the Australian Government has established a concessional Higher Education Loan Programme for students because capital markets do not supply sufficient finance to prospective students for their education. The capital market is unlikely to provide sufficient income-contingent loans due to the problem of 'asymmetric information': potential student borrowers have better information than lenders on their true potential for earning income. Further, lenders have no collateral

2 Risk can be more narrowly defined as the volatility of observed outcomes around an average or expected outcome, and therefore distinguished from uncertainty where there is no information for forming expectations about specific outcomes (Knight 1921). In this sense, risk is a mathematical probability (see, for example, Markowitz 1991). However, since markets can and do price 'uncertainty', we include it in our definition of risk for the purposes of this paper.

to seize in the case of default, so they are much more reluctant to lend to students than to businesses borrowing to finance physical capital investments. Indeed, if they lend at all, markets will only provide loans to students at high interest rates sufficient to cover perceived risks.

However, there are only limited cases where governments are better risk bearers than private agents. While governments in the past may have been an important means for communities to diversify risk, today, world financial markets can shift risks far more broadly and use more sophisticated financial instruments than nearly any government (Shiller 2003). Further, when governments take on risk that is not addressing a market failure, they are shifting the risk to taxpayers. To the extent that tax rates are more volatile as a result of governments taking on risk, society is likely to be worse off (Hansen 2003).

While the general presumption is that governments are well-diversified given their size, this may not be the case in practice. Governments are not profit maximisers. Rather, they have a social welfare function (such as providing unemployment insurance), and their finances may be systematically exposed to certain risks, particularly those associated with an economic downturn. Additional risks that are likely to crystallise when economies slow may therefore be more costly for governments to bear than the private sector. Even more importantly, governments or their agents may not have appropriate incentives to manage risks well compared to private individuals who directly bear any gains or losses. Where governments take on risks that should be left to individuals to manage, despite some groups clearly benefiting from such a transfer, social outcomes may be worse (Kaplow 1991). Deciding which risks to take on and which ones to leave to the market is therefore an important policy choice for governments.³

The conceptual benchmark for risk expenditures

When a government transfers risk from one section of the community to itself (or to others), it affects the allocation of resources, changing distribution and (most likely) incentives. For example, some State governments provide drought assistance through interest-free loans to farmers. Farmers who receive such a loan benefit, compared to farmers and other members of the community who do not (the distribution effect). By taking on this risk, governments are encouraging investment in sectors of the economy that would otherwise face higher costs due to drought (the incentive effect).

3 Risk is one of the five elements of Treasury's wellbeing framework – the others being the level and distribution of consumption possibilities, complexity and freedom. See 'Policy Advice and Treasury's Wellbeing Framework' (*Economic Roundup*, Winter 2004).

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A risk expenditure is a benefit (or cost) to an individual that occurs when government changes the allocation of risk in society. In concept, the government could replace the risk expenditure with a subsidy for insurance premiums sufficient for the private sector to take on such risks and provide loans.⁴

The economic costs of risk expenditures

Costing risk expenditures

The costing of a spending programme is critical to evaluating whether it is a higher priority than other expenditures, is the least-cost option, and fits within the fiscal constraint. However, the costing of risk expenditures is often difficult because of the complex nature and large variety of potential financial policy instruments, including concessional loans, guarantees and investments in non-traded equity. These instruments can either be tradable or non-tradable (such as legislative guarantees).⁵ The nominal (or face) value of the financial commitment is generally not the cost to government of making the risk expenditure. For example, the cost of a concessional loan is not the face value of the loan but the difference between the face value and the discounted present value of the loan repayments adjusted for risk, which is generally more difficult to calculate.

In principle, risk expenditures can be costed by benchmarking them against the equivalent outlay necessary for the government to avoid taking on the risk. Such a benchmark is equivalent to determining how much subsidy would make the recipient of a risk expenditure equally well off. The strength of such a framework is that it aims to create consistency across policy instruments which also rely on market prices. If there are market failures that distort the cost of direct outlays, then they should also distort the cost of the risk expenditure. Any benefit from the risk expenditure should then be assessed separately against the costs. Such a framework effectively requires all risks to be valued on a 'certainty equivalent' basis.

This can be done by defining the risk expenditure as the market value of the financial instrument minus the present value of the payments to government from taking on the risk. Importantly, when costing risk expenditures it is the market value, not the expected value, that should be used (Hörngren 2003b). The expected value already discounts future cash flows by the risks surrounding an event. For example, the

4 In practice the Australian Government provides interest rate subsidies for drought assistance, rather than direct loans, for many of the reasons discussed later in this paper.

5 Even where financial credits are not explicitly tradable, modern financial markets can often make them so. For example, legislative guarantees are effectively tradable when companies are bought and sold, even providing their owners significant returns when supported companies are in bankruptcy (Akerlof and Romer 1993).

expected value from receiving \$1 billion or nothing from a coin toss is \$500 million. However, the market value of such a bet will also take into consideration how much the community values the risk. If the community is risk-averse, then the market value (or how much the marginal person would be willing to bet) would be something less than \$500 million.

An example of costing a risk expenditure

Farmer Pickles wants to increase sunflower production by investing in new sunflower growing technology. He needs \$100,000, and because the investment is so risky, the best he can borrow from a bank is 15 per cent per annum repaid in five years; implying he must pay back \$201,136. Farmer Pickles thinks that sunflowers would not earn sufficient returns to make the investment worthwhile, and declines the bank's offer.

However, a government wishes to assist Farmer Pickles and offers to provide a similar loan at the government's own borrowing rate of 5 per cent if he invests in sunflowers. Farmer Pickles thinks it's a good deal and takes up the offer. There is no obvious cost to the government — even if the government borrows \$100,000 from the market to give to Farmer Pickles, this could be repaid with the \$127,628 Farmer Pickles intends to repay in five years time.

So what is the cost to government?

The government is bearing the risk that Farmer Pickles may not be able to pay back the loan as agreed. The economy is bearing the cost of resources being diverted from producing something else to investing in the rather risky sunflower industry.

The cost of the risk expenditure is the difference between the \$100,000 provided to Farmer Pickles and how much he will eventually pay back, discounted by the market risk:

Risk expenditure = market value of financial instrument less the net present value of payments to government

$$= \$100,000 \text{ less } [\$127,628 / (1.15)^5] = \$36,546$$

Rather than taking on the risk itself, the government could have provided Farmer Pickles with a direct subsidy of \$36,546 towards his bank interest bill. Both he and the bank would have been happy and the government would have borne less risk.

A final noteworthy point is that the risk expenditure changes resource allocation — that is, Farmer Pickles' farm now produces more sunflowers — even if he eventually pays back the loan.

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The market value generally includes a market risk premium for systematic market (or non-diversifiable) risk associated with an event, whereas the expected value is simply the average outcome. Market risk is inherent in the prices of all assets and commodities the government buys and therefore needs to be included when assessing risk expenditures. Ignoring market risk when assessing specific risk expenditures would bias government to taking on more risks than may be desired through a more coordinated financial risk management strategy. The decision about how much the government should care about such risk is one the government makes after looking at the overall financial portfolio risk (not the risk associated with specific risk expenditures).

In practice, proxies for market value may well be needed. This can be as rudimentary as determining the expected value and adding a market risk premium calculated through historic financial returns. Alternatively, risk-adjusted returns from similar assets or liabilities can be used. For example, government loan guarantees can be costed by looking at the different interest rates charged on an equivalent non-guaranteed loan (Mody and Patro 1996). More complex methodologies, such as the Black-Scholes option pricing model or Monte-Carlo simulation, are also a possibility, but probably only for large and significant risks, such as those contained in major private financing arrangements.⁶

The economic consequences of risk expenditures

Even though they can be compared to traditional outlays in terms of cost, risk expenditures are likely to be less efficient policy instruments because they are:

- **Less transparent.** There is no commonly used international standard for the presentation of risk expenditures. In particular, the International Monetary Fund's Government Finance Statistics framework (IMF GFS) provides little guidance on how to value and present many risk expenditures in government financial statements. In general, financial derivatives are recorded on the balance sheet at their market value. However, other financial instruments used to make risk expenditures are treated inconsistently and often in ways that do not reflect the true underlying economic substance of a transaction. For example, concessional loans are recorded at their face value with no provisioning for bad and doubtful debts.⁷ The IMF GFS also explicitly excludes assets and liabilities that contain contingent risks, even risks that are 'probable' – that is, have more than a 50 per cent chance of occurring – from the balance sheet (IMF GFS 2001).

⁶ These techniques are discussed in more detail in Irwin (2003).

⁷ The Australian Government departs from GFS and makes provisions for bad and doubtful debts in its balance sheet to avoid overstating the value of its assets.

Risk expenditures are therefore attractive for governments which may want to create the illusion of meeting fiscal targets, while still reducing net worth (Easterly 1999). Transparency is also affected because some of the risks government is asked to take on may not have readily available markets for costing purposes. Risk expenditures can also be complex and are therefore often difficult to understand.

- **Distorting to incentives.** Risk expenditures are worth more the more risky the beneficiary. This creates an *adverse selection bias* where more risky individuals or businesses are likely to prefer – and therefore lobby more strenuously for – a government guarantee than other forms of assistance. When government takes on risk it also often creates a *moral hazard problem* since the beneficiary has less incentive to reduce the risk themselves. For example, the generous benefits under the United States flood insurance programme have resulted in excessive construction of houses in flood-prone areas (Polackova 1998). Further, governments may face conflicting incentives when managing such risks. Indeed, for developing nations, large infrastructure projects backed by government guarantees can be subject to government interference since they are largely sunk – the assets cannot be used elsewhere without great cost – and often highly politicised because they provide ‘essential services’ with monopolistic elements (Irwin et al, 1999).
- **Less targeted.** Outlays can generally be targeted directly to meet a specific government priority, whereas risk expenditures are often more indirect and therefore less efficient. For example, cash outlays to farmers during a drought directly target their low income and longer term viability. In contrast, zero interest loans tied to farm production provide an income benefit but also encourage increased indebtedness, inefficiently biasing farm production. Further, while the value of an outlay is known with certainty, the value of a risk expenditure varies with the economic circumstances surrounding the risk, which is much harder to know. This makes risk expenditures harder to target directly to social needs.
- **More costly financing.** Both traditional outlays and risk expenditures ultimately need to be financed by taxes. However, both outlays and risk expenditures for a time can be financed by issuing a liability; a debt liability for traditional outlays and a contingent liability for risk expenditures. Debt issuance is generally a cheaper form of financing government activities than issuing contingent liabilities. Contingent liabilities (or assets) such as guarantees (or concessional loans) are generally illiquid, if they are marketable at all. This reduces the market demand for such financial instruments, and therefore any liquidity premium the markets may otherwise provide. Often, risk expenditures are not market-tested, suggesting there could be windfall benefits to the beneficiary even if some

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compensation is paid to the government for taking on the risk. Institutional uncertainty about the legal or moral circumstances under which risks are likely to become payouts also makes them a relatively expensive form of financing.

- **More difficult to manage.** Accountability mechanisms are far less clear for risk expenditures than debt. Traditional outlays face a budget constraint and debt financing is generally carefully controlled by central agencies. There is no similar budget constraint for the amount of risk expenditures that can be made. 'Soft' or uncertain budget constraint makes it particularly difficult for governments to rank risk expenditures by their social value. This can lead to a build-up of liabilities, particularly if fiscal institutions are weak as in many transitioning or emerging markets. For example, contingent liabilities, such as guarantees issued to state-owned enterprises, added around 3 to 4 per cent of GDP to the Czech Republic budget deficit in the late 1990s (Islam, Ghanem and Polackova 1999).

Managing risk expenditures

The issue of how governments should manage risk expenditures is receiving increasing attention internationally (see Polackova-Brix and Schick 2002). The Asian financial crisis in the late 1990s may have spurred some of this interest. Countries with apparently sound fiscal records suffered extreme crises of confidence associated with the presence of large contingent liabilities, such as concessional loans to business, explicit and implicit guarantees to the financial sector and currency conversion commitments. Guarantees to the banking system emerging from the Asian financial crisis in 1997 added some 50 per cent of GDP to the stock of Government debt in Indonesia, 30 per cent in Thailand and over 20 per cent in Japan and Korea (Polackova-Brix and Schick 2002). Unlike many of its neighbours and trading partners, Australia suffered virtually no ill effects from the crisis, at least partially due to the sound way that it manages financial risk.

There are three broad but critical elements of a successful budget framework for managing risk expenditures. First, budget *transparency* ensures that the community can hold the government accountable for its risk expenditure choices (Schick 2002). The best practice benchmark for the fiscal framework is outlined in the International Monetary Fund's *Manual of Fiscal Transparency 2001*. The manual proposes that governments adopt accrual accounting, including presenting assets and liabilities on a balance sheet. For Australia, this has led to a greater focus on non-cash expenses and non-debt liabilities, including the financing of superannuation liabilities (currently valued at around A\$100 billion).

However, many contingent risks do not meet accounting definitions of expenses or liabilities. For many of these, the manual proposes that governments make annual

statements of all contingent risks associated with current and previous risk expenditures, quantified where possible. For example, the Australian Government, as part of its budget documentation, publishes a Statement of Risks outlining the fiscal risks and contingent liabilities that may affect government finances. Such statements are important for identifying the potential scope of financial risks. The manual also proposes that governments issue long-term fiscal reports. These reports are becoming common practice for many governments. In Australia, it is a requirement under the *Charter of Budget Honesty Act 1998* that the government publish an Intergenerational Report, every five years, showing the long-term fiscal implications of current government policies. Such reports provide the community with information on the fiscal risks associated with existing government policies. This is particularly important if there is a significant delay between making a risk expenditure and its budget consequences.

Second, risk expenditures require *centralised risk management* to identify and advise governments of fiscal risks. Risk expenditures are like normal outlays in that they imply a potential future call on government resources. Internationally, cash or debt management practices for financing outlays are traditionally closely monitored by central government agencies. However, risk expenditures financed by contingent liabilities may not be subject to the same level of oversight. Where risk expenditures are an important tool for government, there is a strong case for the centralised risk manager to monitor and manage both debt and contingent liabilities (Magnusson 1999, Currie and Velandia-Rubiano 2002). Debt managers are likely to have the high-level financial skills for assessing and pricing contingent liabilities (see for example, Hagelin and Thor 2003). A central risk manager is also best placed to identify any systematic relationships between risks, as well as any potential gains from trading them.

Further, a centralised risk manager can oversee the budget rules that allow agencies to make risk expenditures. The specific rules need to reflect the institutional arrangements in a particular country. For example, countries that make particularly significant uses of risk expenditures may consider placing budget caps on the numbers of risk expenditures allowed in a year. Turkey limits the number of government guarantees each year to a fixed percentage of revenues (Schick 2002). Other potential budget reforms include provisioning and appropriating risk expenditures and charging government departments for issuing them, to change the incentives facing agencies. For example, the Netherlands reports as expenses the expected losses on government guarantees and the United States requires agencies to appropriate the expected losses on concessional and guaranteed loans (Schick 2002). By law, Sweden charges fees based on the risk borne by the government for any guarantees provided to the private sector (Hörngren 2003a). In Australia, the government charges agencies insurance premiums even though it self-insures government property. By changing financing costs, such steps improve agency decision making.

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Finally, governments should develop a *clear and stable policy framework* for the types of risks that they intend to bear and those that should be left to the market. Clear government public policy intentions with regard to risk expenditures assist in limiting their use to where they are most justified. Credible policy pre-commitments can assist in ‘hardening’ the budget constraint in many areas (Kornai et al, 2003). The Australian Government has issued guidelines for agencies issuing guarantees that ‘as a matter of principle, risks should be borne by those best placed to manage them – that is, the Australian Government should generally not accept risks which another party is better placed to manage’ (Department of Finance and Administration 2003). In practice, the guidelines limit the use of risk expenditures, mainly to cases of clear market failure. Even in cases of capital market failure, other policy tools may be preferable to risk expenditures. For example, improving corporate disclosure regulations and enforcement are better ways of dealing with financial market information failures than providing government guarantees to private firms.

Apart from addressing market failures, governments may be better at bearing financial risks where they have more information over potential outcomes. Governments tend to have better information than markets about their own future actions. Private investors would simply charge too much for having to bear such risk. For example, the Melbourne City Link is a private toll road where investors bear most operational risks, such as demand and payment risks, but the State Government bears several risks that are tied to its own actions. If a future government were to ban tolls on City Link, then it would need to compensate investors (Irwin et al, 1999).⁸ Of course, the principle of government bearing sovereign risk should not be taken too far. All investments have some degree of ‘sovereign risk’ – governments would raise little revenue if they were expected to compensate taxpayers for taxes paid. Further, if government institutions are poor, governments may not be responsive to the bearing of financial risks that are ideally better controlled by them than private agents. Financial outcomes will only improve if governments respond to financial incentives. These factors suggest that only where sovereign risk is clear and exceptional should guarantees be considered in place of direct outlays.

Conclusion

Budget policy faces substantial challenges when governments seek to achieve policy outcomes by taking on risk. Risk expenditures are likely to be less efficient policy instruments than general outlays as they are less transparent and more difficult to

⁸ Private financing arrangements (or ‘public/private partnerships’) often contain significant financial risks for governments. In response, the Australian Government has issued guidelines that require such arrangements to represent ‘value for money’ (Department of Finance and Administration 2002).

manage. This paper does not argue that risk expenditures should never be made. Rather, if government intervention is justified, consideration ought to be given to whether other policy tools, such as direct outlays, would be more effective. Governments can also take steps to improve the management of risk by adopting budget frameworks that enhance transparency, have a clear and stable policy framework for allocating risk and have a centralised process for identifying and prioritising risk expenditures.

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