Organisation de Coopération et de Développement Économiques
Organisation for Economic Co-operation and Development

04-Jun-2013

English - Or. English

PUBLIC GOVERNANCE AND TERRITORIAL DEVELOPMENT DIRECTORATE
PUBLIC GOVERNANCE COMMITTEE

GOV/PGC/SBO(2013)7
Unclassified

Working Party of Senior Budget Officials

BUDGETING FOR CONTINGENT LIABILITIES
DISCUSSION PAPER

34th ANNUAL MEETING OF OECD SENIOR BUDGET OFFICIALS

OECD Conference Centre
Paris, 3-4 June 2013

This discussion paper has been written by Paul Lindwall.

For further information, please contact Ronald DOWNES at OECD Headquarters
Tel. +33 1 45 24 80 40 -- Email: ronald.downes@oecd.org

JT03340922

Complete document available on OLIS in its original format

English - Or. English

Executive Summary

Contingent liabilities are fiscal risks that are often hidden and potentially significant, and the implications of which are often poorly apprehended by governments and their citizens. This paper examines contingent liabilities, assesses the problems that they can pose for an economy, and proposes some measures which can mitigate those problems.

The paper categorises contingent liabilities across five dimensions as follows:

- **Magnitude / Impact**: this is the potential size of the contingent liability if realised. Governments can in many cases mitigate the extent of the magnitude by sound policies including a sound regulatory and supervisory environment. Poor policies, inadequate and ineffective regulation can magnify potential contingent liability impacts.
- **Probability**: by definition the probability that a contingent liability will be realised is less than 100 per cent. An event with a sufficiently large impact but tiny probability may still lead to a large expected cost. Humans tend to suffer a form of 'disaster myopia' which affects their ability to correctly judge low probability but high impact events. A long period of relative stability can encourage myopia and therefore inadequate provisioning against contingent liabilities.
- **Government influence**: a contingent liability is realised when one or more events occurs. But these events (both the estimated magnitude and probability) can be partly under the control of the government, hence partially endogenous. Governments can influence the probability and expected magnitude of contingent liabilities through, for example, expectations created when responding to past crises and the overall economic framework and soundness of public finances making the economy less vulnerable to a financial crisis.
- **Measurability**: there is a natural tendency to focus on those contingent liabilities that are easily measured. Some contingent liabilities can be unquantifiable but highly material.
- **Obligation**: contingent liabilities can be explicit or implicit. Explicit contingent liabilities are those based on a contract and (except for probability) are like conventional debt. Implicit contingent liabilities are political or moral obligations. Implicit liabilities are often hidden: not disclosed nor measured. Governments can 'convert' implicit contingent liabilities to explicit liabilities. Alternatively, an implicit contingent liability may in some cases be credibly denied. Experience highlights the difficulties in denying an implicit obligation as can be observed during a crisis when the government comes under pressure to bail out corporations or individuals for which there is no formal guarantee.

The financial sector is the single largest source of contingent liabilities, with estimates that 79 per cent of the total value of contingent liabilities over the period 2007-11 were due to guarantees given on the assets and liabilities of financial institutions. Overall, it is likely that:

- an economy with significant levels of contingent liabilities is more vulnerable to an economic crisis;
- contingent liabilities are more likely to be realised during a crisis;
- governments are more likely to convert implicit to explicit contingent liabilities during periods of economic weakness; or, rather, implicit contingent liabilities will most frequently be honoured during periods of economic weakness; and
- high levels of contingent liabilities tend to disguise weaknesses in an economy.

As well as being a hidden form of sovereign debt, there is good reason to be concerned about the extent of contingent liabilities because they are not treated neutrally with other ways in which the government can finance its programs. For example, frequently governments can issue guarantees without reference to the legislature, thus bypassing scrutiny that is given to other forms of appropriation even when the guarantee is more costly than a direct appropriation.

Government guarantees also affect the behaviour of individuals through moral hazard and adverse selection. Recipients of government guarantees can act in ways which increase the probability of the guarantee being called upon. Lenders, too, have less incentive to monitor the borrower's behaviour, knowing that the government has guaranteed the repayment of the loan.

Moral hazard can also be observed in institutions that are considered 'too big to fail' which have an implicit subsidy and were a significant factor in the growth of contingent liabilities following the global financial crisis. In such circumstances, there is a high likelihood that an implicit contingent liability might be called upon as the government is unable to credibly pre-commit to allowing the institution to fail.[1]

Policy Proposals

Some of the proposals in this paper would be challenging to apply, but they are designed to promote discussion. Governments need a framework that allows them to understand and manage as best as possible, and as efficiently and effectively, the risks which they bear and so help ensure that the fiscal position (over the medium to long-term) remains sound and sustainable.

A key objective of reform is to promote neutrality: policy makers should be fully informed of the expected effects of contingent liabilities and treat proposals consistently whether they are for direct budgetary appropriations, guarantees or loans. Where neutrality is assured, policymakers will be more likely to implement their decisions (be they good or bad) in the most efficient and effective manner, rather than favouring one form of implementation (such as a guarantee) for convenience or to evade fiscal rules (or parliamentary scrutiny).

A second objective is that contingent liabilities should be fully and transparently disclosed. This does not mean that every imaginable contingent liability should be disclosed, but as far as practicable contingent liabilities should be disclosed and commentary should be provided to explain the nature of the various contingent liabilities and they should be quantified where this is feasible. Quantification can be aided by clearly circumscribing the types of contingent liabilities on the books.

A third objective, where practicable, is for implicit contingent liabilities to be converted to explicit contingent liabilities except where the government can credibly (and sensibly) pre-commit to not honouring an implicit liability (in which case it would no longer be a contingent liability). Implicit contingent liabilities are difficult to understand, often unbounded and difficult to measure. They cannot be disclosed since the very disclosure creates an expectation. By making explicit a contingent liability, the cost can be constrained and expectations managed.

- Transparency is an important discipline that promotes accountability and sound decisions. It reduces the incentives for poor decisions when ministers know that their decisions will be fully open to public scrutiny. The disclosure of the potential costs of contingent liabilities should be made to policy makers before they take a decision. The costs of the various options should be disclosed, and where not quantifiable, there should be a clear statement of the expected

[1] The Financial Stability Board (2011) have a number of proposal to mitigate the costs of 'too big to fail' institutions.

probabilities and impacts of contingent liabilities. Crucially, ministers should be aware of the real costs of contingent liabilities and the opportunity cost of their decisions to offer guarantees.

- For non-quantifiable potential contingent liabilities, a 'traffic light system' could inform policy makers *ex ante*. Information would be provided in two dimensions: probability (low, medium and high) and magnitude/impact (low, medium and high). This would highlight to ministers the most important contingent liabilities, while providing improved reporting to aid accountability.
- For implicit contingent liabilities, governments should receive clear advice on the nature, scope and types of existing implicit contingent liabilities. They should be careful when considering future proposals that they do not inadvertently (or deliberately) create expectations that lead to further implicit contingent liabilities. Where feasible, governments should credibly pre-commit to remove such expectations, but otherwise consider cost-effective means to convert them to explicit contingent liabilities.[2]
- To promote neutrality, a market-based fee should be levied to reflect the expected cost to the government of a proposed government guarantee. The fee should include a risk margin to align the fee with an equivalent offered by the private sector in a competitive environment. Where a government wishes to offer its guarantee at a subsidised rate (or free), the difference between the market-based fee and the actual fee should be funded by an appropriation approved by the legislature. This would remove the incentive for the executive to by-pass the legislature by offering guarantees that can be more expensive than direct appropriations. Market-based fees on guarantees have the added benefit of reducing the incentives for governments to avoid fiscal rules through guarantees -- as the subsidy is covered by an appropriation, it is captured under fiscal rules.

Implementing the proposals in this paper could present challenges, especially for the 'first' country or group of countries. No doubt there will be significant resistance to change. By default, governments and bureaucracies can tend to favour non-transparent options for expending taxpayer resources, even when ultimately they can cause a government to come unstuck. Short-term motivations can outweigh a rational consideration of the long-term risks and threats to the sustainability of a budgetary position.

Yet these contingent liabilities exist, in implicit and explicit form, even when not fully disclosed or understood. If the government does not present the information in a credible fashion, other organisations (such as credit rating agencies) will make their own assessments of the risks faced by a country. The sovereign credit rating is based on such assessments. To the extent that agencies consider that a government is underreporting significant fiscal risks, it will apply a risk-premium to the country's rating. The provision of better and more credible contingent liability disclosure can aid all users of public budget data, not least rating agencies and institutional investors; and in principle could lead to lower borrowing costs by the government.

[2] In Australia, for example, there was a long period where governments of both sides stated that bank deposits were not guaranteed. Yet in every case of bank failure, the government did actually bail out depositors. It could never credibly pre-commit that deposits would be forfeited. Ultimately the government introduced a constrained bank deposit insurance scheme.

Table of Contents

Introduction 6
Contingent liabilities and fiscal risks 6
Categorisation of contingent liabilities 8
  Magnitude / Impact 10
  Probability 11
  Government influence 11
  Measurability 12
  Obligation 14
Extent of the problem 15
  Practices for reporting contingent liabilities 18
Types of contingent liabilities 21
  Government guarantees 21
  Public-private partnerships 23
  Concessions 24
Contingent liabilities -- specific areas for concern 24
  Neutrality and cost-benefit analysis 24
  Moral Hazard 27
Policy proposals 30
  Disclosures -- ex ante and ex post 32
  Traffic Light System 33
  Implicit contingent liabilities 34
  Fees and charges for guarantees 35
  Role of the debt management office 35
  Offset / funds 35
  Fiscal measures (e.g. EU Stability and Growth Pact) 36
Conclusions 37
References 39
Appendix A -- Costing Methodologies 42

Introduction

Contingent liabilities are fiscal risks that are often hidden and potentially significant, and the implications of which are often poorly apprehended by governments and their citizens. They appear in a number of guises, with practices varying in their estimation and disclosure. In effect contingent liabilities reduce transparency of a country's budget and may lead to complacency in understanding the longer-term sustainability of a budget.

While recent economic literature on the subject has drawn high-profile and public criticism, including on the crucial issue of causality, the broad conclusion remains that very high levels of public debt are associated with generally weaker economic performance, and indeed with systemic risk notably in the area of financial stability (Reinhart and Rogoff, 2011; Cecchetti, Mohanty, and Zampolli, 2011).

Contingent liabilities are a hidden form of sovereign debt, and as such, have the potential to act adversely upon economic growth prospects and increase systemic risk in the same manner as other more explicit forms of debt. Official debt statistics can, and do, systematically understate the level of debt borne by a government to the extent that contingent liabilities are unreported or underreported.

This paper looks at the various types of contingent liabilities, their potential causes and impacts and outlines some suggested policies to mitigate such fiscal risks.

Contingent liabilities and fiscal risks

The OECD's *Best Practices for Budget Transparency* defines contingent liabilities as

… liabilities whose budgetary impact is dependent on future events which may or may not occur (2002, p. 13)

The relevant International Accounting Standard (IAS 37) states:

A possible obligation that arises from past events and whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the entity. (International Accounting Standards Board, 2012)

There are various other definitions, but essentially all emphasise a liability which will directly, and negatively, affect a government's fiscal position if some future event (or events), generally not under the control of the government, occurs. A counterpart to a contingent liability is a contingent asset, which is realised on the occurrence of a specified event.

Not all contingent liabilities (or contingent assets) are quantifiable; even those that can be quantified are subject to significant measurement error. In principle an estimate can be made of the expected value -- probability of an event occurring multiplied by the expected magnitude (box 1).

Box 1: Expected value of a contingent liability

The expected value of a quantifiable contingent liability is the weighted average of the various estimates. In this example, it is estimated that there is a 25% chance of a $500m loss; a 35% chance of a $1000m loss and a 15% chance of a $2000m loss (and therefore a 25% chance of no loss).

The expected value of the contingent liability is (0.25)(500)+(0.35)(1000)+(0.15)(2000)

That is: $775 million.

Source: author

Fiscal risks, by contrast, are a broader category of factors that could materially affect a government's fiscal and budgetary outlook. As such, contingent liabilities are a subset of fiscal risks generally. Fiscal risks are defined as

changes in economic and other parameters; particularly global economic developments; matters not included in the fiscal forecasts because of uncertainty about their timing, magnitude or likelihood; and the realisation of contingent liabilities or assets. (Australian Government, 2012a, p. 8.3)

While fiscal risks (other than contingent liabilities) may clearly affect a fiscal outlook, it is not obvious that they could systematically lead the budget to understate (or overstate) ongoing fiscal deficits and sovereign debt levels. So, for example, various reviews of forecasting and projection consistently find that forecasting is frequently wrong even if not systematically biased.[3] It is very difficult for forecasters to judge a turning point in an economic cycle, hence forecasts tend to lag behind long periods of relatively strong economic growth and then take time to be revised downwards following a downturn.

By contrast, the treatment of contingent liabilities (and, separately, contingent assets) does lead to reasonable concerns about a systematic misrepresentation of an underlying budget position.

This paper principally concentrates on contingent liabilities, rather than contingent assets, for two reasons.

First, the former tend to dominate in magnitude and probability. For example, the Australian Government disclosed quantifiable contingent liabilities totalling $A 122.8 billion in its 2012 Budget and 50 other unquantifiable contingent liabilities. At the same time, it disclosed just two unquantifiable contingent assets (Australian Government, 2012a).

Second, applying the principle of conservatism suggests that focus should be on factors which might understate fiscal deficits and debt, rather than those that work in the opposite direction. That said, a good reporting system should properly and usefully disclose both contingent liabilities and contingent assets.

Having established that a country's stock of contingent liabilities generally significantly exceeds its stock of contingent assets, and that they are not fully accounted in the fiscal position, it is axiomatic that the stated government debt levels are systematically understated, since there is a positive probability that some

[3] In 2012, the Australian Treasury initiated a review of its forecasting methodology and performance (Australian Treasury 2013). While offering a number of recommendations, the review found little evidence of systematic bias. This was consistent with an earlier review which found some evidence of a tendency to underestimate large changes (in either direction) (Ewing, Gruen, and Hawkins, 2005). While there may not be a systematic forecasting bias, there is evidence of a deficit bias — Independent Fiscal Institutions (especially Fiscal Councils) have been proposed as an antidote to deficit bias.

contingent liabilities will be realised. This, then, justifies measures that will improve the treatment of contingent liabilities in the fiscal accounts both *ex ante* when a government is considering proposals, and *ex post* in accounting and reporting to the public on such liabilities.

Categorisation of contingent liabilities

As discussed above, contingent liabilities are a form of fiscal risk for the government which are often hidden. They are effectively a form of sovereign debt, albeit one that is not normally measured on the balance sheet of a country.[4]

[4] Conceptually contingent liabilities may be less different to recorded debt than supposed. Contingent liabilities are a form of debt with a probability of being paid less than 100 per cent. But recorded debt, too, often has less than 100 per cent chance of being repaid, hence the creation of the Paris Club for sovereign debt reconstruction.

Table 1: Government fiscal risk matrix

Sources of obligations	Direct liabilities (obligation in any event)	Contingent liabilities (Obligation if a particular event occurs)
Explicit Government liability as recognised by a law or contract	Sovereign debt (loans contracted and securities issued by central government) Expenditure composition (nondiscretionary spending) Expenditures legally binding in the long term (civil service salaries and pensions)	State guarantees for non-sovereign borrowing by, and other obligations of, sub-national governments and public and private sector entities (development banks) Umbrella state guarantees for various types of loans (mortgage loans, student loans, agriculture loans, small business loans) Trade and exchange rate guarantees issued by the state State guarantees on private investments State insurance schemes (deposit insurance, income from private pension funds, crop insurance, flood insurance, war-risk insurance
Implicit A moral obligation of government that reflects public and interest group pressures	Future public pensions (as opposed to civil service pensions) Social security schemes Future health care financing Future recurrent costs of public investment projects	Default of a subnational government or public/private entity on nonguaranteed debt/obligations Banking failure (support beyond government insurance, if any) Clean-up of liabilities of entities being privatised Failure of a nonguaranteed pension fund, employment fund, or social security fund (protection of small investors) Possibly negative net worth and/or default of central bank on its obligations (foreign exchange contracts, currency defence, balance of payments) Other calls for bailouts (for example, following a reversal in private capital flows) Environmental recovery, disaster relief, military financing

Source: Polackova Brixi and Schick, 2002, p. 23

Government liabilities can be decomposed as part of an overall matrix of fiscal risks which has four categories (table 1 above):

- explicit direct liabilities;
- implicit direct liabilities;
- explicit contingent liabilities; and
- implicit contingent liabilities.

As can be seen, it is not only contingent liabilities that are not fully accounted on a government's balance sheet-- so too are direct and implicit liabilities such as future public pensions and health care financing. These, while not a subject for this paper, are a significant future risk to the fiscal performance of many countries in the light of changing demographics; that is, an ageing population putting pressure on health and social security expenditure.

While table 1 divides contingent liabilities between explicit and implicit obligations, it is helpful to examine contingent liabilities through a number of prisms or dimensions. This paper considers that five dimensions (table 2) are sufficient to examine the most important factors affecting the budget from the perspective of contingent liabilities. While these five dimensions form a useful way in which to examine contingent liabilities, there are some interactions between the dimensions; they are not purely independent in a practical sense. Nonetheless, advisers could usefully consider proposals against these categories when bringing them to ministers.

Table 2: categorisation of contingent liabilities

Magnitude / Impact	High ⟷ Low
Probability	High ⟷ Low
Government influence	Exogenous ⟷ Endogenous
Measurability	Quantifiable ⟷ Unquantifiable
Obligation	Explicit ⟷ Implicit

Source: Author

Magnitude / Impact

Perhaps the most important of the five dimensions, this is the potential size of the contingent liability if realised. This can range from small and insignificant potential liabilities to cataclysmic liabilities. A number of individually small, but collectively significant contingent liabilities that are correlated may warrant further investigation, although justifiably the focus should be on contingent liabilities that are expected to have a material impact.

Governments can in many cases mitigate the extent of the magnitude by sound policies. As will be seen, the largest contingent liability is usually found in the financial sector. From the payments system outwards, the systemic risks in the financial system can be substantial. This warrants prudential regulation, which is a more intense form of regulation and supervision than corporation regulation. This intense regulatory framework is required because of the complexity of financial products and the potentially adverse

consequences of a breach of a financial promise; that is, where the risks of market failure are the greatest, including the risks of a flow on of failure across the economy (Wallis, 1997).

A sound regulatory environment involving prudential supervision of the financial sector (in particular, banks and other deposit-taking institutions and insurance organisations) can limit and reduce the potential magnitude of a contingent liability.

On the other hand, poor policies, inadequate and ineffective regulation can magnify potential contingent liability impacts by allowing them to flow through the financial sector and causing the realisation of further contingent liabilities and creating expectations of government support which cannot be resisted.

An objective of government should be to reduce the magnitude of expected contingent liabilities where it is cost effective. This can, however, raise expectations of government support. For example, the fact that government regulates the financial system can create an expectation that it is providing some form of guarantee — community expectations of government support in the event of a failure in the financial sector are widespread, especially for what are perceived as 'critical' financial products (Davis, 2004).

Probability

By definition the probability that a contingent liability will be realised is less than 100 per cent (otherwise it would be a direct liability). Like impact or magnitude, probability ranges from very low and insignificant up to almost certain. An event with a sufficiently large impact, but tiny probability may still lead to a large expected cost. For example, the probability that a large asteroid might hit the earth is tiny, yet the impact would be devastating; the expected value (if measureable) could be substantial.

On the other hand, a sufficiently low probability, in conjunction with relatively modest estimates of impact can lead to the conclusion that a given contingent liability is insignificant.

Unfortunately humans appear unable to properly interpret low probability events. This 'disaster myopia' (Herring, 1998) reflects a fundamental weakness in the ability for humans to accurately assess low frequency (but high cost) shocks such as speculative bubbles, shifts in policy regimes and abrupt relative price changes. In effect, low frequency / high cost shocks are systematically underestimated (and often out of the range of the data set used in modelling contingent liabilities). In particular, many years of stability tends to encourage myopia and therefore inadequate provisioning for such shocks. Conversely, it appears that individuals tend to overestimate the probability of low frequency events which have recently occurred.

So one area of difficulty in the analysis of contingent liabilities is a systematic underestimation of low probability / high magnitude events.

Finally, and as noted below, government actions (or inactions) can alter the probability of a contingent liability. Some contingent liabilities can be correlated, so the realisation of one can affect the chance of the realisation of other contingent liabilities.

As for impact, governments should seek to reduce the probability of contingent liabilities where it is cost effective.

Government influence

A contingent liability is realised when one or more events occurs. But these events (both the estimated magnitude and probability) can be partly under the control of the government – hence partially endogenous (Polackova Brixi, 2012). Of course they may be fully exogenous and outside the control of the government.

Some of the ways in which governments can influence the probability and expected magnitude of contingent liabilities include:

- through expectations created when responding to past crises;
- by the overall economic framework and soundness of the public finances which make an economy more or less vulnerable to a financial crisis;
- by the design of programs which can either encourage or discourage moral hazard;
- by the quality of regulations, their enforcement and supervision; and
- by the transparency of the fiscal position which makes explicit the types of contingent liabilities held by the government and which can then frame expectations.

Ostensibly there are advantages and disadvantages when a government has some influence over the magnitude and probability of contingent liabilities. On the one hand, it allows the government to reduce (at least to some extent) both the expected magnitude and probability of a contingent liability. On the other hand, governments may be pressured (and succumb to such pressures) to take decisions which increase the probability and magnitude of contingent liabilities.

By legislating and creating strong frameworks which reduce the ability for government to exercise discretion, it is feasible to reduce the scope for government to influence the probability and magnitude of expected contingent liabilities. But poor design could in fact increase the expected value of a contingent liability while removing the discretion for the government to take decisions which might mitigate such liabilities. For example, legislation that forces a government to provide equal compensation to those affected by a natural disaster may limit the government's ability to provide strong incentives for individuals to purchase private insurance.

Overall, it seems unclear whether it is on balance better for governments to have greater or lesser influence over the estimated probability and magnitude of contingent liabilities. In part it depends on the government and its motivations.

That said, though, a well-informed policy process, in conjunction with substantial transparency and disclosure, should lead to an understanding of these risks and to their mitigation and reduce the incentives for ministers to take decisions which could increase the expected value of contingent liabilities.

Measurability

W. Edwards Deming considered that an excessive focus on measurement was one of the 'seven deadly management diseases':

Management only by use of visible figures, with little or no consideration of figures that are unknown or unknowable. (Deming, 2000, p. 98)

So, too, is there a focus on measurable contingent liabilities. Most governments that report on contingent liabilities generally classify those between quantifiable and unquantifiable (a brief discussion on some measurement tools may be found at appendix A). Accounting standards, too, are explicit about measurability: IAS 37, for example, states that a contingent liability should not be recognised if it

… cannot be measured with sufficient reliability. (International Accounting Standards Board, 2012)

Yet an unquantifiable contingent liability could be highly material and become a significant burden to taxpayers. Indeed, some unquantifiable contingent liabilities can dominate many quantifiable contingent

liabilities. This is a serious flaw in the analysis and reporting of contingent liabilities — just because a contingent liability cannot be measured does not make it any less real.

A cursory analysis of these reported contingent liabilities might lead to an analyst summing the quantifiable contingent liabilities and noting the number of unquantifiable liabilities.[5] This makes it difficult to reach an understanding of the quantum of contingent liabilities and may lead to a government focussing / managing only those contingent liabilities which have been measured. After all, publishing point estimates of contingent liabilities acts as an encouragement to sum the quantifiable contingent liabilities.[6]

This tendency to focus on measurable contingent liabilities can lead to a blinkered approach highlighted by Keynes, whereby governments collectively ignore potentially catastrophic contingent liabilities because others will also be similarly affected.

A sound banker, alas, is not one who foresees danger and avoids it, but one who, when he is ruined, is ruined in a conventional way along with his fellows so that no one can really blame him. (Keynes, 1931, p. 176)

There are, however, some practical ways in which policy makers may bring more attention and focus to unquantifiable contingent liabilities.

First, by being more explicit about the boundaries and nature of a contingent liability can make it easier to measure. This will not be practical for some extreme (and implicit — see below) contingent liabilities, but can be a useful way to reduce the number of unquantifiable contingent liabilities.

Second, while many such contingent liabilities may not be measurable, there is often scope to assess in a broad sense the potential magnitude and probability of contingent liabilities over a range such as

- highly likely, likely and unlikely (for probability); and
- small, medium and large (for magnitude).

While this is not as satisfactory as a point estimate (or range), at least policy makers can have a better appreciation of the concern with which they should greet a given contingent liability.

Third the use of a range, rather than a point estimate, for a contingent liability can be a useful discipline and help bring a better understanding. Some point estimates, at worst, can be misleading -- a range can better reflect the uncertainty in the estimation / quantification of a contingent liability, but also a fuller understanding of its potential impacts. Point estimates can give a false sense of precision and a move away from precision may in fact lead to a better understanding by the community of the nature of contingent liabilities.

Related to the use of a range in the estimation of contingent liabilities (which can apply to both the magnitude and probability), is the use of sensitivity analysis to improve the estimation of contingent liabilities (the measurement of contingent liabilities is discussed further below when looking at some

[5] Which the author did in comparing contingent liabilities and contingent assets in the Australian budget -- without a disclosure of potential magnitude, it is difficult to do otherwise.

[6] It is also possible that a contingent liability is reported as 'unquantifiable' because the analysts who have disclosed the contingent liability do not have the tools in which to make an estimate, or they may not be sure of a point estimate, even if they could provide a reasonable range of estimates.

costing methodologies) and to give a better understanding of the likely ranges over which sensible estimates can be made.

Rather than listing contingent liabilities as 'unquantifiable', therefore, it would improve transparency and understanding if disclosure of contingent liabilities provided some sense of the likely orders of magnitude involved in estimating both impact and probability. By providing such a disclosure, the inherent uncertainty in estimating contingent liabilities would be better understood, and the use of a range rather than point estimates would also reduce the tendency to provide a false level of precision.

While efforts should be made to provide better information about unquantifiable contingent liabilities, the design of contingent liabilities can also assist their measurability. For example, guarantees (the most significant contingent liabilities and discussed below) can be sufficiently circumscribed: they could be limited in time and scope which would aid their measurability and reduce their expected cost. Thus when presented with two options for expending resources through a contingent liability, the government should normally favour the measurable to the unmeasurable, unless the former is likely to involve sufficiently higher expected costs.

Obligation

The final important classification of a contingent liability is whether it is explicit or implicit.

Explicit contingent liabilities are those which are based on a contract and in that sense (except for probability) are like conventional debt. Implicit contingent liabilities, by contrast, are political or moral obligations. (OECD, 2005)

Implicit contingent liabilities are often hidden: not disclosed, not measured. This is understandable, for the disclosure of an implicit contingent liability almost makes it certain that a government will feel obliged to honour that commitment should the contingent event occur.

On the other hand, it can be difficult, if not impossible, for governments to credibly pre-commit to deny an implicit contingent liability. *Ex ante* a financial crisis, for example, a government might make a clear statement that, in the event of a failure, it will not act to compensate affected persons for the failure. But, if a crisis occurred, the pressure on a government can be sufficiently strong that it capitulates and expends money on a contingent liability it previously denied.

A caveat emptor approach -- credibly pre-committing to deny an implicit liability -- requires strong market discipline, and strong government solidarity to resist calls for compensation, often at a time when a government is most vulnerable to pleas for assistance. And once a government has acted to compensate a party in one instance, it sets a strong precedent for future compensation.

An explicit guarantee, by contrast, provides for a timely response and greater certainty for recipients of the guarantee about its coverage and the potential scale of compensation. A circumscribed and clearly articulated explicit guarantee can, therefore, be ultimately less costly than an implicit guarantee that is called upon.

A couple of examples highlight the point.

Prior to the introduction of an explicit deposit guarantee scheme in Australia on 12 October 2008, Australia had an effective implicit guarantee on deposits (Prime Minister of Australia, 2008; Davis, 2004). Successive governments and treasurers had stated that depositors were protected by the twin arms of

prudential regulation/supervision and depositor preference,7 effectively denying an implicit contingent liability.

Yet in every collapse of a deposit-taking institution in Australia (including an insurance company, HIH), the Australian Government (or the relevant State Government) felt obliged to assist depositors and policy holders. Thus they were, in fact, implicit contingent liabilities (Davis, 2004; Australian Government, 2011b).

Another example is the incidence of floods and fires. In isolation, governments are usually able to apply a caveat emptor approach, with affected persons taking a significant loss if they do not have property insurance. Yet, when a natural disaster causes the loss of homes through the ravages of floods or fires, governments often step in to provide support (Polackova Brixi and Schick, 2002).

A final example is where the owner of a chemical plant protects that plant from cyber-attack up to the value of that plant to the owner; the residual risk to the community around the plant will remain and government will be expected to cover in event of attack -- this is an implicit contingent liability (Schneier, 2012).

Implicit contingent liabilities are therefore difficult to manage and difficult to measure. Ideally many implicit liabilities would be converted to explicit contingent liabilities, unless they can be credibly denied. Not only would this give greater confidence in the fiscal position of the government (since explicit contingent liabilities should ideally be fully disclosed), but potential recipients of government assistance under an implicit guarantee can be more sure of the nature, size and scope of assistance. In addition, an appropriate fee can be charged for the provision of the explicit guarantee that cannot effectively be levied on implicit guarantees.

Where the implicit liability has been credibly denied, potential recipients will tend to behave in a fashion that will mitigate their risks (such as by taking out insurance).

Even where implicit contingent liabilities have been converted to explicit contingent liabilities, or effectively denied, there will (justifiably) remain a residual-- those extreme impact, low probability catastrophes for which no government can or should relinquish responsibility. So, for example, following the September 2001 terrorist attacks in the United States, the government provided support to airlines, as it did to financial institutions following the global financial crisis (Polackova Brixi and Schick, 2002). These threats will remain a residual risk of any sovereign government, but a sound economic system in conjunction with a sustainable and strong fiscal position will give greater scope for a government to mitigate the effects of such catastrophes.

Extent of the problem

Experience shows that contingent liabilities tend to grow during times of financial stress, as governments make explicit what were previously implicit contingent liabilities. Chart 1 shows the quantifiable explicit contingent liabilities estimated by Eurostat for the EU27.[8] The increase in contingent liabilities is consistent with a growth in direct government liabilities during such periods — in the OECD, government debt increased from already elevated levels by a further 30 per cent of GDP between 2007 and 2011 on average (Rawdanowicz, Wurzel, and Ollivaud, 2011). The data show that around 79 per cent of the total value of contingent liabilities provided over the period 2007-11 were due to guarantees given on the assets and liabilities of financial institutions, 15 per cent on the value of securities under liquidity schemes and 6

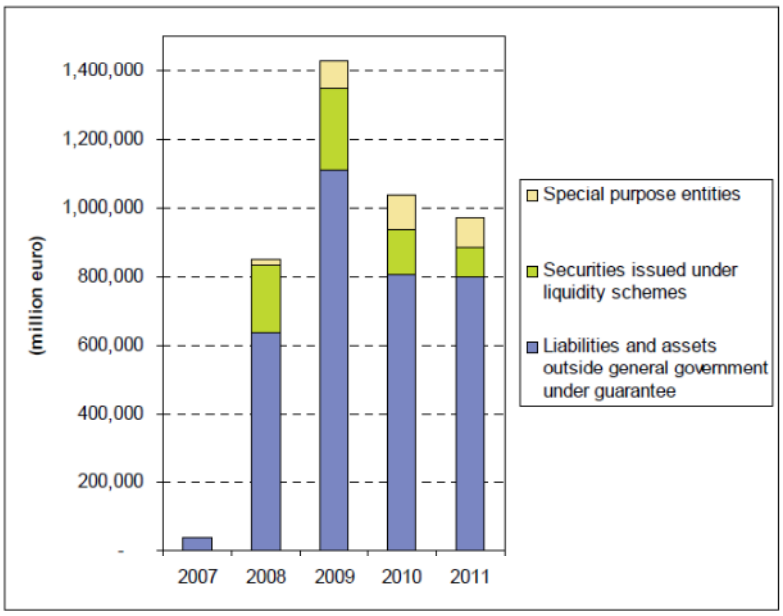
7 Whereby, in the event of a deposit-taking institution being wound-up, the depositors would rank first as creditors.

8 Again, it is worth noting that this excludes potentially large unquantifiable contingent liabilities.

per cent for operations on special purpose vehicles (Eurostat, 2012). The IMF estimated in 2009 that the median advanced economy had announced guarantee programs worth 16.4 per cent of GDP – 200 per cent in Ireland, 50 per cent in the UK and 34 per cent in the Netherlands (*Economist*, 2009).

The increase of contingent liabilities following an economic crisis is due in part to the creation of explicit contingent liabilities from existing implicit contingent liabilities, but the existence is also a factor that directly contributes to economic and financial crises (Polackova Brixi and Schick, 2002). This is not surprising -- an economy which has significant contingent liabilities, on top of high deficits and debt levels, is likely to be more vulnerable to a financial crisis than an equivalent economy with fewer such liabilities, *ceteris paribus*. Similarly, an economy that is suffering from a financial crisis is more likely to find that the contingent liabilities are realised. Finally, it is during a financial crisis that the pressure to accept implicit contingent liabilities will be most acute.

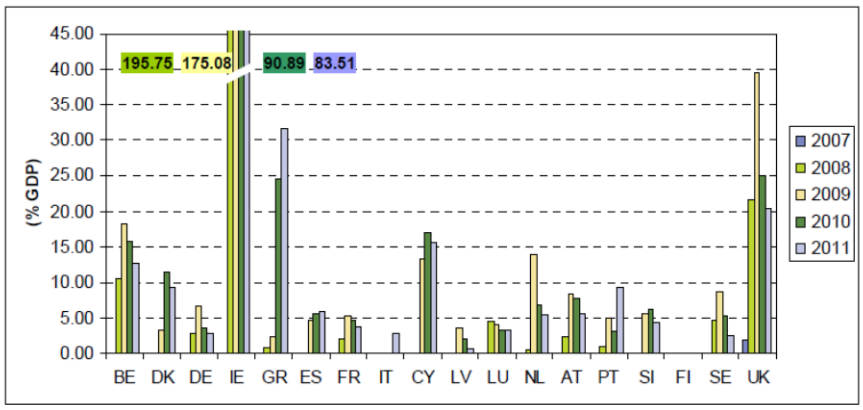
Chart 1: Structure of contingent liabilities, EU27 (€ million)



Source: Eurostat, 2012, p. 13

There are significant variations among countries in the extent of their explicit (and quantifiable) contingent liabilities as shown in chart 2. The highest level of measurable contingent liabilities among European economies was in Ireland which peaked at around 196 per cent of GDP in 2008, with Belgium, Denmark, Greece, Cyprus, the Netherlands and the United Kingdom reporting significant quantifiable contingent liabilities during the period following the global financial crisis.

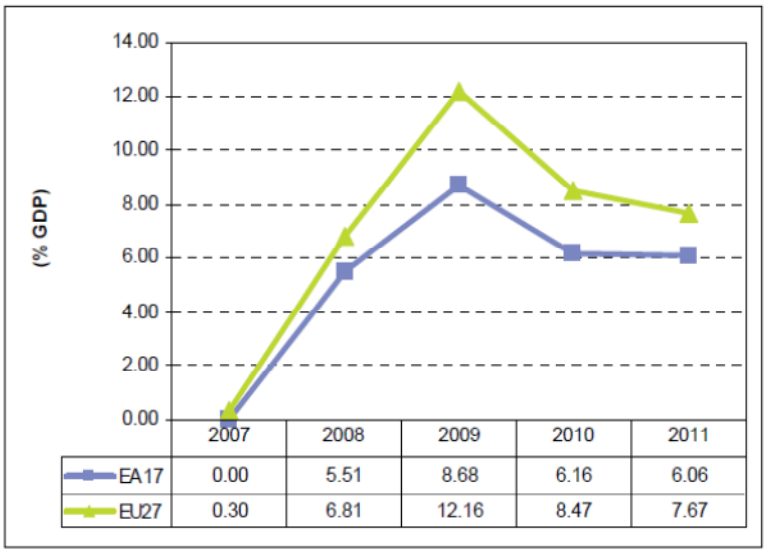
Chart 2: Level of contingent liabilities (% GDP)



Source: Eurostat, 2012, p. 14

Following a similar pattern to previous financial crises, the levels of measured contingent liabilities increased significantly following the financial crisis, before falling slowly (chart 3).This represented a winding back of government guarantee schemes across the OECD as concerns about the extent of the crisis abated.

Chart 3: Level of contingent liabilities, Euro area and EU27 (% GDP)



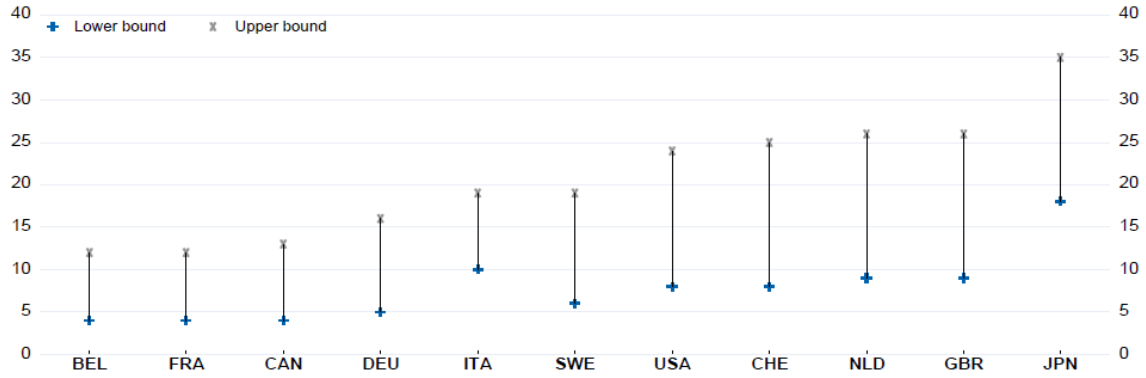
	2007	2008	2009	2010	2011
EA17	0.00	5.51	8.68	6.16	6.06
EU27	0.30	6.81	12.16	8.47	7.67

Source: Eurostat, 2012, p. 14

The above estimates are derived from quantifiable explicit contingent liabilities. Estimating potential total contingent liabilities is very difficult, as the implicit contingent liabilities are, by definition, not accounted. Standard & Poors uses a method that looks at the potential proportion of liabilities in the private sector and nonfinancial public enterprises that could become problematic during a recession. These gross problematic assets are then multiplied by domestic credit as a percentage of GDP to measure a range of potential contingent liabilities against the size of the economy for the banking sector (chart 4). These total contingent liabilities in the banking sector can then be inferred as implicit contingent liabilities of the

government. Further work to provide stronger estimates of total contingent liabilities, including unquantifiable explicit contingent liabilities, could prove valuable.

Chart 4: S&P's estimated total contingent liabilities related to the banking sector



Source: Rawdanowicz, Wurzel, and Ollivaud, 2011, p. 26

This relationship between contingent liabilities and financial crises was also observed in work by Kharas and Mishra (2001) who examined 32 countries between 1980 and 1997 and found that reported (or conventional) budget deficits did not have a systematic link to currency crises. But what they termed "hidden deficits" -- the cost of realised contingent liabilities and realised risks in the government debt portfolio -- appeared to have a significant association with the number of currency crises. For calculating the estimated 'hidden deficit', Kharas and Mishra used an actuarial budget deficit which was calculated as the change in the stock of public debt and the money base (total stock of government liabilities). The difference between the actuarial and conventional deficit was the "hidden deficit'".

Overall, we can draw from the body of evidence, partly outlined in this section, a number of stylised points:

- an economy with significant levels of contingent liabilities is more vulnerable to an economic crisis;
- contingent liabilities are more likely to be realised during a crisis;
- governments are more likely to convert implicit to explicit contingent liabilities during periods of economic weakness; or, rather, implicit contingent liabilities will most frequently be honoured during periods of economic weakness; and
- high levels of contingent liabilities tend to disguise weaknesses in an economy.

Practices for reporting contingent liabilities

Most countries use public sector accounting standards that are based on private sector accounting standards, with a number of variations. Cash accounting is still prominent among OECD countries (table 3), although a number of countries have adopted accrual budgeting and accrual reporting.

Even among countries that have adopted accrual accounting, cash measures remain important, especially for the purposes of macroeconomic management.

Under neither cash nor accrual accounting are contingent liabilities taken account in the balance sheet, although there is commonly a separate disclosure of contingent liabilities in a statement of risks. So, while

there are significant advantages in the management of government resources by using an accrual accounting system, the choice has little effect on the treatment of contingent liabilities.

In Australia, for example, there was use of Australian Accounting Standards (now based on International Accounting Standards) and the IMF's Government Financial Statistics (GFS) System. This provided two systems for reporting to Parliament, including the separate statement of risks. A harmonisation project ensued, and since 2008-09 reporting in Australia is effectively under the GFS with the relevant Australian Accounting Standard being harmonised (Barton, 2011). The GFS system is effective at providing information for both fiscal policy management and the accountability of Government operations to the legislature.

A key difference in the accounting system required by governments and the private sector is the role of government, which is funded principally through taxation and compulsory levies. The sovereign right to tax is a crucial difference between government and the private sector, as are its operations in the non-market sector, and contingent liabilities which would never be observed in the private sector.

Table 3: accounting basis: OECD economies

	Full accrual basis	Accrual basis, except no capitalisation or depreciation of assets	Cash basis, except certain transactions on accrual basis	Full cash basis
Australia	X			
Austria				X
Belgium			X	
Canada	X			
Czech Republic				X
Denmark			X	
Finland	X			
France	X			
Germany				X
Greece				X
Hungary				X
Iceland		X		
Ireland				X
Italy		X		
Japan				X
Korea				X
Luxembourg				X
Mexico				X
Netherlands				X
Norway				X
New Zealand	X			
Poland			X	
Portugal				X
Spain				X
Sweden	X			
Switzerland	X			
Turkey				X
United Kingdom	X			
United States	X			
Total	9	2	3	16

OECD 2009, p. 139.

As noted, under no accounting standard, including the IMF's GFS, is a contingent liability directly applied to the balance sheet of assets and liabilities. To do so would fly in the face of standard accounting practice, because of the uncertainty of the contingencies and the risk to the credibility of the budget balance.

This leads to a conflict. On the one hand, contingent liabilities are a significant risk to the fiscal position and should therefore be treated on a like-for-like basis with other risks such as excessive debt levels. On the other hand, the estimation of contingent liabilities does not reach the levels required for reporting under contemporary accounting standards.

To apply the expected value of contingent liabilities directly to the fiscal position of a budget would probably be a bridge too far.

But the use of market-based fees (as discussed above, and proposed below) in the issuing of government guarantees, for example, allows a government to put on its budget, and treat consistently, a guarantee versus direct expenditure. As guarantees are the most significant contingent liabilities, this should be a significant advance on present practice among most OECD countries.

In conclusion, it does not seem appropriate, nor necessary, to account for the expected value of contingent liabilities on the balance sheet of governments.[9] They should, however, be fully disclosed in a statement of risks.

Types of contingent liabilities

The most important and significant contingent liabilities relate to government guarantees. This section examines government guarantees in more detail as well as the other significant contingent liability risk of public-private partnerships. To provide an example of other ways in which governments are exposed to contingent liabilities, the paper discusses the example of a concession. The government can be exposed to contingent liabilities in other ways too, such as the threat of major lawsuits against the government, although these are generally not material.

Government guarantees

Government guarantees are the most significant form of explicit contingent liability, just as potential guarantees are the most significant form of implicit contingent liability, yet in many countries the government (and its agencies) may offer guarantees without reference to the legislature.

Guarantees can be in a number of guises. For example, they can provide export credits to companies, subsidise housing production and assist tertiary students. They can be provided to private partners for infrastructure (see below), and offer assistance in areas such as terrorism, flood and airline disaster insurance. They can be provided to sub-national governments or to wholly-owned government enterprises.

By providing the backing of the State, the guarantee effectively allows the borrower to approach a private financial institution and appear as a government borrower. From the perspective of the lender, the guaranteed borrower has the same risk as the government.

Being off-budget, guarantees often escape the scrutiny that applies to traditional expenditure decisions by governments, and have thus been used to assist low priority projects which often protect an incumbent rather than foster competition. In such circumstances, the guarantee not only acts as a potential burden to the taxpayer, but also acts to inhibit the flow of resources to their most efficient use. As noted by Polackova Brixi and Schick (2002),

In most countries, government can offer a promise of future contingent support without seriously considering the future cost to the taxpayer.

One way in which neutrality could be ensured is to levy a market-based fee for the provision of a guarantee. This could be levied on the recipient of the guarantee (in full or part) and / or an appropriation by the legislature to offset the estimated cost of the guarantee. Yet the quantum of fees overall has so far

[9] That said, there are sound reasons for favouring a conservatism principle which is biased towards reporting measures which detract from the budget rather than potentially improving the budget. See for example Levenstein and Talbut (2012).

fallen well short of the value of the guarantees extended Rawdanowicz, Wurzel and Ollivaud (2011), for example, estimate that fees associated with guarantees have had a "negligible impact on budget balances".

Unfortunately, the use of market-based fees, or any fees, is haphazard. For example, the United States expenses (via a fee) the discounted costs of guaranteed loans (eg: student loans) in the budget, but it does not expense insurance programs and other contingent liabilities (Schick, 2012). This in itself can further distort the understanding of contingent liabilities: fees can appear in the current budget and be treated as a positive to the overall fiscal position, even when they are insufficient to meet the expected value of estimated contingent liabilities -- that is similar to an insurance company systematically underestimating insurance premiums and then finding itself in financial peril following a string of significant claims.[10]

The importance of neutrality should not be underestimated -- the way in which a government provides support matters a great deal to efficiency and effectiveness. If market-based fees on guarantees are charged, in principle a government decision-maker should be indifferent to the means of support, and thereby more likely to choose the most efficient means of support (once the decision to provide support has been taken). Neutrality helps promote the budget discipline of trading off government outlays against one another, recognising opportunity cost. Hidden contingent liabilities, by contrast, provided through guarantees do not appear to crowd out alternative spending proposals and can thus systematically lead to excessive, and unplanned, government expenditure. On this, John Taylor noted

... how tempting it would be to exclude certain new proposals from this trade-off process. If loan guarantees, for example, were excluded the pressure to extend loan guarantees to beat the constraints of the budget caps would be huge. I think there would be an explosion of loan guarantees much larger than we have already seen. It is on this margin of the trade-off that there would be great distortions and inconsistencies. (Taylor, 1992, p. 125)

In principle, the cost of a government guarantee is the expected value of that guarantee, calculated as the present value of estimated government payments under the guarantee multiplied by the respective probabilities (OECD 2005). However, an appropriate risk premium should be added to that cost to determine the price of the guarantee. In a competitive environment, a potential guarantor would offer a guarantee at a price above the expected value of the guarantee to allow a buffer for the uncertainties in estimating the guarantee and to provide a return for the capital tied up in the buffer. This market-based fee is the appropriate amount to charge for the provision of a guarantee to ensure neutrality.

A guarantee fee that is below the market-based fee amounts to a state subsidy and should be disclosed as a form of government support to a recipient of the guarantee.

Ideally the recipient of a guarantee should pay the estimated market based fee for receiving the guarantee. But the government may decide that it wishes to subsidise the recipient by charging a lower than market-based fee. In such circumstances, the difference should be funded directly by the government through an appropriation. This ensures neutrality in the treatment of the guarantee, and provides for sufficient funds to meet future calls on the guarantee.

Over time, estimates of the value of a guarantee will change, as new information comes to hand, or the assessment of the relative risks changes. This may mean that the fee needs to be increased or reduced. However, by setting an appropriate market-based fee which includes a risk premium, there should be sufficient buffer in the public finances to account for such changes, assuming that the government's guarantee portfolio is reasonably diversified.

[10] Although this comparison is moot: as noted by the Congressional Budget Office, no government obligation is 'unfunded' given the government's sovereign power of taxation to meet its obligations. (Congressional Budget Office, 2004)

The government will also accumulate sizable fees (either from the recipients of guarantees and/or from direct appropriations) over time. These should not be treated as 'free money' which can then be expended elsewhere -- they have been received to provide an offset to expected calls upon the government guarantee. This suggests that a reserve fund of some form might be established where the fees can be held and separately reported upon.

The fund might be a notional (or reporting) fund, or a separate fund such as a sovereign wealth fund (eg: the Australian Future Fund or the Norwegian Government Pension Fund). There are advantages and disadvantages to both treatments, and in part it depends on the expected size of the fund (and the economies of scale in managing the fund), how its assets might be invested and how its reserves may be drawn upon. In part this leads to a consideration as to whether the government net assets will be in the form of (relatively) higher gross debt and gross assets or (relatively) lower gross debt and gross assets.

For the purposes of this paper, though, the purpose of market-based fees on the issue of government guarantees is to ensure neutrality in the provision of government support. It is not to accumulate large sovereign wealth funds, but to ensure the sustainability of the government's budget and the credibility and accuracy of its reporting. As such, a notional fund which reports on expected losses from guarantees and which is regularly reviewed and updated to reflect new information is favoured. Fees that are collected should be used to repay existing gross debt rather than accumulate new gross assets.

Public-private partnerships

PPPs have been a widely used (and misused) tool for promoting the construction of infrastructure projects and often involve some form of government guarantee. When subject to a rigorous cost-benefit analysis there can be a number of advantages which can ensure an overall efficiency gain in building and operating infrastructure. On the other hand, PPPs have also been misused as a way to hide the full costs from public scrutiny. In Australia and the United Kingdom, PPPs account for about 5 and 16 per cent respectively of public investment in infrastructure (Chan, Forwood, Roper, and Sayers, 2009).

PPPs can expedite the delivery of infrastructure projects and may offer whole-of-life savings and increased efficiencies. However, they can involve high transactions costs, which include costs for arranging and managing finance and those associated with the uncertainties with the availability of finance.

Key factors which are important for PPPs to outperform traditional infrastructure projects include competition, risk transfer and measurability of risk and demand (OECD, 2012a). In some cases, the PPP contract requires the government, rather than end-users, to pay the private partner:

In the case of traditional infrastructure procurement, government directly services the debt and pays the operational expenditure, while in the case of a PPP government pays these indirectly by paying the private partner a fee or user charge, with the private partner servicing the debt and paying the operational expenditure. (OECD, 2012a, p. 25)

So there can be significant advantages in using a well-designed PPP contract that has been subject to thorough cost-benefit analysis. Unfortunately, too often PPPs have been a tool to escape budget discipline (and fiscal limits) and shift expenditure from the government's budget. Too often, too, they come with some form of guarantee from the government (whether it is explicit or implicit) (Schick 2010).[11]

[11] That said, the Eurotunnel project provides a good example of one where the risk was fully transferred to the private sector (subsequently making substantial losses) while the UK and French governments were able to withstanding rent-seeking efforts to recoup private sector losses (Li and Wearing, 2000; Gourvish, 2006).

Neutrality in the treatment of PPPs can be promoted through transparency. But the provision of guarantees under PPPs should also be made explicit with an *ex ante* market-based fee levied for the provision of the guarantee. Together with the use of a thorough cost-benefit analysis when deciding to embark on a PPP, these measures should align incentives and promote appropriate risk sharing.

Concessions

Another common way in which governments provide indirect support is through a concession, where a valuable (often underused) asset is made available to a private organisation, often at a deep discount to a relevant market rate.

One example is the Parisian Vélib' shared bicycle system. The Paris City Council signed a concession agreement with the advertising corporation JCDecaux on 27 February 2007 for a 10-year shared bicycle system involving 20 600 bicycles in 1 451 stations. The concession allowed the advertising company to the free use of 1 628 of $2m^2$ and $8m^2$ street information scrolling displays (JCDecaux, 2007).

This was, of course, not free from the perspective of the Parisian ratepayers. The opportunity cost was the alternative use of that advertising space.

Experience with the new system showed a higher than expected vandalism rate, and the Paris Council ultimately agreed to cover $500 of the cost of replacing each damaged bicycle at an estimated cost to the Council of €2 million a year (Beardsley, 2009).
This example demonstrates the importance of well-considered contracts which clearly outline the degree of risk sharing: the additional cost to the Council was unplanned and was effectively a contingent liability for the Paris Council. The system was provided through a non-transparent and off-budget concession, yet led ultimately to direct costs to the Council's budget. It is unclear whether the Council considered thoroughly alternative financing arrangements which might have proved more efficient and less costly (when considered broadly including foregone revenue from the advertising concession).

Contingent liabilities -- specific areas for concern

In the previous sections, the discussion has been focussed on the principal types of contingent liabilities and the extent of their likely impacts. This section narrows down to some specific areas of concern. As has been noted, an important objective of public policy is to promote neutrality in decisions, with an aim to achieve the most efficient and effective means to implement a government objective. In particular this requires a comprehensive application of cost-benefit analysis which aids policy makers and ministers to reach informed decisions based on evidence.

A second specific factor is that of moral hazard, where policies affect the behaviour of individuals and organisations. Moral hazard should be accounted in policy design, as it is in cost-benefit analysis.

Neutrality and cost-benefit analysis

The examples above are but some of the ways in which governments can implement programs and policies. Each can have its merit, but unless compared on a like-for-like basis, taking account of risks, policy makers have little to base their decisions upon. Well considered cost-benefit analysis should be an integral part of major decisions that involve significant potential government expenditure (including contingent liabilities). But even a cost-benefit analysis might not provide the most efficient result if there are artificial barriers that tend to favour one form of implementation method. So, for example, fiscal rules which exclude contingent liabilities might lead to the cost-benefit analysis favouring the provision of a guarantee or PPP even if, under a neutral treatment, a direct appropriation would achieve the highest net present value for the proposed project. So the use of cost-benefit analysis is a necessary but insufficient

condition for improving the allocation of government resources -- also required are appropriate budgetary rules (both national and supranational) to ensure neutrality.

Box 2 compares three alternatives for providing support: grants, direct lending and a credit guarantee. In essence once government has decided on a particular program or policy, there are a number of financing vehicles to effect the policy. These financing vehicles vary in their transparency and how they are treated on the budget. But they also vary according to:

- Risk management -- the assignment of non-diversifiable project risks and management of the overall project risk
- Transaction costs -- the cost of arranging and managing finance, and costs associated with delay or uncertainties with availability of finance
- Exposure to market or other disciplines -- the extent to which borrowers and lenders share, signal and can act on information on project prospects and risks in the expenditure decision. (Chan, Forwood, Roper, and Sayers, 2009, p. xxiii)

Box 2: Three ways of providing support to an organisation

In principle a government can provide taxpayer support to an organisation in multiple ways. This box considers three: a grant, direct lending, and a government guarantee. In this example, the government wants to provide support of $10 million in present value terms. We assume the government can borrow at 4% per annum; an external creditor can borrow at 6% per annum and the borrower might borrow at 10% per annum but the subsidised loan is at 8% per annum. Loans will be over 10 years and there is a 20% probability of the organisation defaulting on the loan -- for simplicity we assume that the debt is repayable in one lump sum at the end of the 10 years.

Grant

If the government provides a $10 million grant to the organisation, it is immediately recognised as an expense on the government's accounts and will require an equivalent increase in the government's debt (or reduction in its liquid assets) unless offset by a new tax. Over 10 years, the future value of the $10 million grant at the 4% government rate is $14.91 million.

Direct Lending

Now the government provides a loan to the organisation of $55.54 million, repayable in 10 years as a single lump sum with an interest rate of 8% per annum (the organisation could have borrowed at 10% per annum so the value to the organisation of the subsidised loan is exactly $10 million).[12] The government expects to receive $98.62 million in 10 years after accounting for the 20 per cent default rate.

As for the grant, the $55.54 million loan affects the government's budget immediately (as a cash outlay), leading to an increase in public debt of $55.54 million. The cost to the government of the loan over 10 years is $82.8 million.

...cont'd...

[12] At 10% PA, a $55.54 million will compound to $150.35 million in 10 years. At 8% PA, the same amount will compound to $123.28 million. The difference is $27.07 million, the present value of which is $10 million.

Box 2 (continued)

Credit Guarantee

In this scenario, the government provides a guarantee for the $55.54 million loan. A private financial institution provides the credit. In this case, the government's budget is not affected, except for a possible disclosure of a contingent liability. Under the terms, the government would repay the full $123.28 million in 10 years should the borrower default. With an estimated 20% probability of default, the government has an expected value of its contingent liability (in 10 years) of $24.66 million ($16.54 million in present value terms). In this example, the private financial institution has benefited significantly since it is certain of being repaid the full $123.28 million in 10 years, yet its cost of funds are only $101 million.

Comparison

In all three cases, the subsidised institution receives the equivalent support of $10 million in present value terms.

The grant costs the budget immediately $10 million (it being treated as an expense). The direct loan will appear as expenditure in the first year of $55.54 million, with a contingent asset of an expected value of $98.62 million in 10 years (the present value of which is $66.2 million). The expected profit to the government (reflecting its low borrowing costs) is $10.62 million.

The credit guarantee is invisible on the budget, except if disclosed in a statement of risks. The expected cost to the government is $16.54 million in present value terms, so this option is more costly than a direct grant, but also less transparent.

Source: author

Moral Hazard

One of the most important factors in any discussion of contingent liabilities is moral hazard-- which affects the incentives and behaviour of individuals and organisations.

Moral hazard occurs when people take risks knowing that they are protected against financial loss. It is intrinsic to insurance, as is its counterpart adverse selection.[13] Moral hazard affects behaviour and changes the incentives faced by those receiving a guarantee (whether explicit or implicit). Moral hazard can encourage risk-taking and increase the risk of failure and hence the probability of a guarantee being called upon.

When a government provides a guarantee for a loan, it affects the incentives faced by the borrower and the lender. This is due to the nature of a loan: it is a contract between a borrower and a lender whereby an amount of money is lent for a specified period and in exchange the borrower will repay the principal and interest at agreed periods. From the perspective of the lender, the return is at most the interest earned on the loan as there is generally no profit-sharing arrangement.

[13] Adverse selection is a factor of information asymmetry and is relevant to behaviour before a contract is signed. At any given premium, relatively higher-risk persons will be more attracted to the policy than lower-risk persons. Moral hazard, by contrast, relates to the behaviour (and incentives) after a contract is signed.

For the borrower, there is an incentive to take risks to increase profits. The additional profits are received by the borrower, while the lender (or the guarantor) faces an additional default risk. Lenders thus have a strong incentive to monitor borrowers to ensure their solvency and reduce the likelihood of default.

Where the debt is guaranteed, the lender does not face the same risk -- the debt and interest will be repaid irrespective of whether the borrower takes excessive risks which increase the probability of default. Thus it has less incentive to monitor the borrower, and may decide to write off a loan prematurely because of the guaranteed return, even when there is significant scope for a restructuring of the borrower's operations which would reduce default risk (OECD 2005).

This is an example of moral hazard; it can be ameliorated to some extent by ensuring that the lender bears some credit risk, such as by not guaranteeing 100 per cent of a loan and thus ensuring that it is not just the government's money at risk.

The provision of a deposit guarantee provides another example of moral hazard. Since deposits are guaranteed, the depositor has no incentive to monitor the risks taken by the financial institution and has a strong incentive to chase higher returns (interest) since there is (from the depositor's perspective) no additional risk. This can create a competitive dynamic where depositors chase higher interest (for no increase in perceived risk) forcing financial institutions to compete with each other in offering higher interest products. This, in turn, tends to encourage financial institutions to undertake riskier activities to be able to finance the addition interest costs.

Similarly, insurance guarantees encourage policy holders to chase lower premiums, by considering that all insurance companies are equal due to a guarantee. Again, this creates a competitive dynamic where insurers lower premiums and invest those premiums in a riskier portfolio.

The essential counter to these incentives is a strong prudential regulatory environment, yet this can lead to regulatory forbearance as in the example of the US savings and loans crisis (box 3) where regulators can 'turn a blind eye' to some troubled institutions knowing that consumers are protected and hoping that the institution will recover.

In addition to a strong regulatory environment,[14] levying appropriate risk-based fees can provide a better match between incentives and behaviour, although setting fees is complex and difficult and may be too high for some companies while allowing moral hazard to remain in others.

Importantly, too, is confining guarantees to the most vulnerable consumers rather than giving blanket guarantees to large and informed investors. This is a justification for limiting the size of bank deposit guarantees; although it should be noted that canny investors can split their deposits among many banks. This points, again, to the importance of good design when implementing guarantee schemes.

[14] But note that it is not clear that increasingly complex regulation and supervision (such as through the Value At Risk (VaR) model is superior (see, for example, Haldane, 2012). While VaR ostensibly encourages banks to hold sufficient capital to meet measured risks, it is unlikely to take account of extreme risks — the very risks which are likely to threaten a bank's survival.

Box 3: US Savings and Loan (S&L) crisis and regulatory forbearance

The S&L industry has a long history in the United States, the first being established in 1831. The original purpose of an S&L was to make fixed rate, long-term residential mortgages backed by short-term savings deposits (Barth and Litan 1998).

Because of this industry structure, and the absence of appropriate hedging instruments like interest rate swaps, the S&L industry had a fundamental asset-liability mismatch (Herring 1998).

While this worked in favour of the S&L industry up to the early 1970s, rising inflation and nominal interest rates (with various shocks, particularly in 1974 and 1979) in the mid to late 1970s led to S&L's short-term liabilities having rising interest rates while their long-term assets (often over 30 years to maturity) rose commensurately more slowly.

Further, S&Ls did not have diversified assets, being specialised in residential mortgages and often geographically constrained. This inevitably led to erosion in the net worth of S&Ls. Herring (1998) estimated that the negative net worth of S&Ls at the end of 1981 was $US 100 billion. This was far in excess of the value of the Federal Savings and Loan Insurance Corporation of $US 6.5 billion.

This led to one of the worst examples of regulatory forbearance in history. In response to the problems, the regulatory authorities lowered capital requirements on S&Ls and even broadened the measurement of capital to include items not acceptable under the then US generally accepted accounting principles (GAAP).

The S&L management teams (and owners) lobbied – successfully -- Congress and other authorities to forbear. There was effectively a gamble (funded by the US taxpayer) that interest rates would fall and that the crisis gripping S&Ls would disappear of its own accord.

Meanwhile, S&L supervisors were captured. To act against failing S&Ls would be tantamount to an admission of failure on behalf of the supervisors. As Barth and Litan (1998) note, an average of 3½ years elapsed before action was taken against individual S&Ls.

Again, this episode demonstrated that as financial entities approach insolvency, they take greater and greater gambles for resurrection.

The S&L crisis was not resolved until the late 1980s at a cost to taxpayers of between $US 175 billion and $US 225 billion (Moskow 1998). It was a very good example of the old saying "capitalise the gains, socialise the losses".

Too big to fail

A significant moral hazard is also present in financial institutions deemed 'too big to fail'. Concerns about 'too big to fail' have been expressed during the most recent financial crisis, but it has featured frequently in banking and financial crises. As a financial institution grows ever larger in a country, the risks to the systemic stability of the country grow commensurately larger and hence the incentives for governments to honour an implicit (or explicit) contingent liability increase. This can, in extreme cases, encourage the financial institutions to gamble for their survival knowing the government stands ready to bail them out and cannot credibly refuse.

There have been a number of proposals to ameliorate the risks associated with 'too big to fail'. Some relate to breaking up financial institutions into smaller entities, or by splitting an organisation between an investment bank and a commercial bank. Other proposals involve additional supervision and regulation.

The growth and poor management of very large financial institutions is reflected in a comment from the US Financial Crisis Inquiry Commission.[15]

Many of these institutions grew aggressively through poorly executed acquisition and integration strategies that made effective management more challenging. The CEO of Citigroup told the Commission that a billion [dollar] position in highly rated mortgage securities would "not in any way have excited my attention," and the co-head of Citigroup's investment bank said he spent "a small fraction of" of his time on those securities. In this instance, too big to fail meant too big to manage. (2011, p. xix)

Financial institutions considered 'too big to fail' have an implicit subsidy, and were a significant factor in the growth of contingent liabilities following the crisis. Some of the proposals canvassed to mitigate the costs imposed by "too big to fail" include (Financial Stability Board, 2011):

- imposing higher required capital ratios on larger financial institutions;
- splitting banks into investment versus commercial sides;
- specifying a maximum size for financial institutions and breaking up institutions exceeding the specified size
- imposing a 'too big to fail' tax on large financial institutions
- additional regulatory measures to allow for regulators to resolve failing financial firms in an orderly manner

One of the reasons cited for the growth in the size of banks has been economies of scale; although this does not appear credible. There are many small, dynamic and competitive banks in the world with high credit ratings. Global Finance (2012) reports that all of the top rated (by Fitch, S&P and Moody's) banks are relatively small.

Yes, there are economies of scale, but so too are there diseconomies of scale. As technology has improved, along with communications, the advantages of scale have fallen -- it is now feasible for a relatively small bank to have a global reach through an online presence.

For the purposes of contingent liabilities, however, explicit and defined boundaries for government support is likely to be the best approach. In extreme cases, a government might find it necessary to acquire the bank (at a deep discount) and have it restructured and sold off; potentially making a profit. But it is crucial in a market economy to allow failure: this ensures that new and more efficient firms can displace those which no longer meet the needs of the community. Management and shareholders should not be protected -- giving appropriate incentives to managers such that they feel vulnerable should their mismanagement risk the future of the firm would be a good start.

Policy proposals

Governments will always bear risk -- it would not be desirable, nor possible, for governments to eliminate all of the risks that could potentially come their way. Some of the risks include catastrophic events (financial meltdown, natural disasters, etc.) that the private sector would not be willing, nor able, to assume.

[15] The US Financial Crisis Inquiry Commission is among a plethora of post-crisis reports. Others include: the European Commission's Larosière Report, the UK's Turner Report, the US' Volcker Report, and the UK's Walker Review.

However, governments need a framework that allows them to understand and manage as best as possible, and as efficiently and effectively, the risks which they bear. Some remote but extreme risks will be beyond the capability or capacity of even sound governments to manage and these require adequate contingency plans to ameliorate or mitigate. Ultimately such risks can be a threat to national sovereignty.

But for the majority of risks borne by a government, there is substantial capacity to better understand and manage such risks ex ante so that the government's fiscal position remains sound and sustainable.

Crucially, policy makers should be fully informed of the expected effects of contingent liabilities and treat proposals consistently whether they are for direct budgetary appropriations, guarantees or loans. Neutrality is the key here -- there should be no inherent bias towards one form of support over another, and they should all lead to the same expected impact on the budget for consistency. Where neutrality is assured, policymakers will be more likely to implement their decisions (be they good or bad) in the most efficient and effective manner, rather than favouring one form of implementation for convenience or to evade fiscal rules (or parliamentary scrutiny).

Second, contingent liabilities and other fiscal risks, broadly defined, should be fully and transparently disclosed. Risks include unpredictable events (such as natural disasters and financial crises in other countries to which the domestic financial sector is highly exposed) and more predictable events (such as long-term demographic changes). All of these events put strain on the budget due to decisions taken (or implied) by government.[16]

Third, where practicable, implicit contingent liabilities should be converted to explicit contingent liabilities except where the government can credibly (and sensibly) pre-commit to not honouring an implicit liability.[17]

Implicit contingent liabilities are difficult to understand, often unbounded and difficult to measure. There has been little disclosure of such liabilities because governments do not wish to acknowledge or create the expectations of such an exposure. But history shows that under times of crisis, it is almost inevitable that governments will succumb to pressure to convert an implicit contingent liability to a direct expenditure. Thus implicit contingent liabilities are insidious and potentially costly but are not transparent. When organisations and individuals are bailed out because of an implicit contingent liability, the amount paid is often discretionary and this adds to the uncertainty.

Ideally governments should credibly dampen expectations of implicit contingent liabilities, but this is usually impractical as rational agents will expect that in times of stress a government might feel inclined to recognise implicit liabilities.

By converting implicit liabilities to explicit contingent liabilities, a clear boundary can be drawn around the potential liabilities making the liability more measurable.

Yet, as noted above, many explicit contingent liabilities are unable to be measured sufficiently accurately and they have been disclosed as unquantifiable. This has been unhelpful to decision makers who do not

[16] While full and transparent disclosure should be the aim, it is also important to be realistic and practical. The disclosure of a myriad of extremely low probability events (such as an asteroid destroying all life on the planet), could lead to an unwieldy number of disclosures and crowd out the understanding of the most important. Nonetheless, all government decisions which affect contingent liabilities and other fiscal risks should be fully disclosed.

[17] In some cases where the expected value of the implicit contingent liability would be significantly increased as an explicit contingent liability it might also be appropriate to not convert to an explicit contingent liability.

fully understand the potential magnitudes involved (both probability and impact). Over time, too, contingent liabilities need to be managed: the expected probabilities and impacts will change.

It is with the above in mind that the following policy proposals are offered. The objective is to promote sound government decisions based on

- allocative efficiency: when looking at the full fiscal costs over the medium to long-term of proposals so that they can be assessed against competing programs on a like-for-like or consistent basis; and
- operational efficiency, so that programs ameliorate both the risks of moral hazard and exposing the government to unexpected and unnecessary additional risks.

The proposals are not mutually exclusive, nor are they meant to be comprehensive. They are merely a series of reflections which should be both feasible and tractable.

Disclosures -- ex ante and ex post

Transparency is an important discipline that promotes accountability and sound decisions. If government ministers are aware that their decisions will be revealed to public scrutiny and that they could then be attacked for implementing poor policies or favouring special interests, they are more likely to reflect carefully before committing government expenditure.

As has been argued in this paper, government decisions which create or extend contingent liabilities are just like those that increase government spending, only they are more hidden. Such contingent liabilities include, especially, the granting of the government guarantee.

Yet it seems that ministers do not fully understand the implications of extending that guarantee. While some decisions involving guarantees may be a deliberate way to subvert public scrutiny or evade a fiscal rule, one suspects that guarantees have often been extended by ministers not fully understanding the potential fiscal costs to which government has been exposed or the opportunity costs relating to such decisions.

It would seem appropriate, therefore, for full disclosure of the potential costs of contingent liabilities to be made to decision makers (including ministers) before they have taken a decision. In this way, they will have to take decisions in two dimensions: first, whether or not to agree a proposal that involves cost to the budget and second, what is the best method to implement that proposal: whether a direct appropriation, a loan or a guarantee.

Consulting the relevant debt management office (see below) prior to taking these decisions would enhance the information available to decision makers. The costs of the various options should be disclosed to ministers, but where it is not quantifiable, a clear statement of the expected probabilities and impacts of contingent liabilities (perhaps using the traffic light system discussed below) should be available.

In addition, ministers should be aware when taking decisions as to their effect (if any) on existing contingent liabilities. For example, a proposed new contingent liability could directly affect the estimated probability / impact of an existing contingent liability.

Improving the quality of the disclosure of contingent liabilities, both before and after decisions about them are taken, should improve the understanding of the full and pernicious implications of contingent liabilities and their threat to fiscal sustainability. In summary, this requires

- an understanding of the probability and impact of contingent liabilities (even if offered in orders of magnitude or ranges rather than by point estimates);
- improved analysis and costing of the main contingent liability (government guarantee) with market-based fees set on the advice of the relevant debt management office to be coherent with overall debt management strategies;
- an appreciation that contingent liabilities impose real costs on the economy and come at the opportunity cost of potentially better and more efficient means to achieve a policy objective;
- the decision of policies which fully account for moral hazard and have appropriate strategies for its mitigation; and
- an understanding of implicit contingent liabilities, if not the full disclosure of those which could increase the expectation of an implicit contingent liability.

A budget framework that systematically requires ministers to receive full advice on contingent liabilities prior to decisions being taken, removes a defensive shield from ministers who, ex post, seek to claim ignorance for the threats a revealed contingent liability has imposed on the economy.

Traffic Light System

Some countries use a 'traffic light system' to help advise government on the implementation of strategic programs (Wanna, 2007). In Australia, for example, the Cabinet Implementation Unit is responsible for providing advice and support to the Prime Minister and Cabinet on strategic priorities and progress on the implementation of programs that deliver on those priorities.

Among other tools, a traffic light system provides an alert to ministers of potential problem areas. The Australian Department of the Prime Minister and Cabinet gives the following definitions for the alerts:

Red: Implementation is highly problematic. Implementation failure has occurred or is likely and/or the initiative has not had the desired effect. Initiatives which receive a red rating require specific intervention (e.g. revisit objectives and develop a different strategy/approach) and resolution may not be within the department/agency's control.
Amber: There are real or potential implementation difficulties and risks which should be brought to the Prime Minister's attention even if the initiative is being well managed. This includes: (a) problematic implementation timeframes, delays, stakeholder and/or budget issues; and (b) major problems and/or barriers, regardless of whether they were foreseen, how well they are being managed, or whether they are within the department's/agency's control. A measure receiving an amber rating may still be successfully implemented if it receives the right level of attention, and/or the risks are effectively managed.
Green: Implementation is on track or only requires minor refinement; there are no significant difficulties and/or risks emerging. (Australian Government, 2011a)

A variation of the traffic light system could be used in proposals going before decision makers and in transparent reports (such as in budget reports), with two dimensions:

- Probability: red (high probability), amber (medium probability), green (low probability)
- Potential magnitude: red (high impact), amber (medium impact), green (low impact).
  Alternatively, if a single indicator was preferred, a colour could be chosen from a matrix (table 4).

Table 4: Matrix of probability and impact

		MAGNITUDE / IMPACT		
PROBABILITY	Assessment	Low	Medium	High
	Low	GREEN	GREEN	AMBER
	Medium	GREEN	AMBER	RED
	High	AMBER	RED	RED

Source: author

Using the traffic light system would be particularly helpful for the treatment of unquantifiable contingent liabilities. It would allow ministers at a glance to focus on the most important contingent liabilities, while providing improved reporting to aid accountability. Even where contingent liabilities are quantifiable, it may be helpful to include such a technique to aid communication.

Implicit contingent liabilities

As noted in this paper, implicit contingent liabilities are particularly insidious, being difficult, if not impossible, to measure, manage and disclose.

Governments should receive clear advice of the nature, scope and types of existing implicit contingent liabilities. They should be careful when considering future proposals that they do not inadvertently (or deliberately) create expectations that lead to further implicit contingent liabilities.

As has been argued in this paper, where feasible, governments should make credible pre-commitments that remove expectations of the implicit liability; that is, to extinguish the implicit contingent liability.

In practice, it is often extremely difficult if not impossible for governments to make such credible pre-commitments, especially when a future government might reverse such statements. In such circumstances, where it is cost effective and practical, implicit contingent liabilities should be converted to explicit contingent liabilities with defined perimeters and qualifying rules.

Ideally, therefore, governments should reduce the number of implicit contingent liabilities either by credibly eliminating them or converting them to explicit contingent liabilities. The full disclosure of the remaining implicit contingent liabilities is then desirable for transparency, acknowledging that its disclosure will enhance expectations of the implicit liability. However, disclosure could be a tool also for managing those expectations, perhaps dampening expectations and putting constraints around potential future payments.

It would be undesirable to remove all implicit contingent liabilities. There are some where the magnitude is so great, the probability so low that they are justifiably extreme events for which a sovereign government bears ultimate risk. But the government should be cognisant of such contingencies, including having credible plans to manage the aftermath of such catastrophes.

Fees and charges for guarantees

As has been discussed, government guarantees constitute the most significant contingent liabilities. In general, a market-based fee should be levied to reflect the expected cost to the government of a proposed government guarantee. The fee should not only cover the expected cost of the guarantee, but include a risk margin to align the fee with an equivalent offered by the private sector in a competitive environment. Conceptually, the fee should make decisions to take a guarantee neutral and not offer a competitive advantage to recipients of the guarantee.[18]

While the levying of a market-based fee on a government guarantee should be the underpinning objective, occasionally a government may legitimately wish to offer its guarantee at a subsidised rate. In such circumstances, the difference between the market-based fee and the actual fee (if any) should be funded by an appropriation approved by the legislature. This would remove at a stroke the incentive for governments to evade parliamentary scrutiny by extending guarantees, and ensure the neutrality of the treatment of guarantees vis-à-vis direct expenditure decisions.

In estimating the appropriate market-based fee, it should be standard practice to receive advice from the relevant debt management office.

Role of the debt management office

Many OECD countries have a sovereign debt management office, sometimes independent, which is used for managing the relevant government's debt and minimising financing costs by issuing and managing securities with different characteristics (for example, duration).[19]

These agencies have a strong competitive advantage in the analysis and management of debt portfolios, and there are likely to be economies of scale in the analysis of both conventional debt issuance and guarantee issuance (OECD 2005). Yet, too often, they have not been consulted prior to governments taking decisions to extend (and price) the government guarantee to an organisation.

It is likely that the decision-making process would be enhanced if debt management offices were systematically consulted prior to any decisions to extend the government guarantee. Among other things, the debt management offices can provide advice on the appropriate structure and parameters of any guarantee, and recommend a fee that should be charged for the provision of the guarantee. This consultation would have further benefits by enabling the debt management office to understand and comment upon the potential linkages, overlaps and effects of a proposed guarantee on the existing stock of direct liabilities and contingent liabilities.

Offset / funds

For significant contingent liabilities it may be prudent for either a notional or actual fund to be created to provide an offset should the risk be realised. This requires that the contingent liability be measurable that the fund be carefully monitored so that it size is commensurate with the estimated cost of the realisation of the contingent liability.

[18] Notwithstanding potential problems relating to adverse selection.

[19] Offices include the Australian Office of Financial Management, the Austrian Federal Financing Agency, the Agence France Trésor, the New Zealand Debt Management Office, the UK Debt Management Office and the US Bureau of Public Debt among others.

Over time, the expected cost of a contingent liability will vary, either because of additional information and analysis, or because of changing probabilities of trigger events.

Where a fund is established, it is important that it keep pace with the expected cost of the contingent liability to which it is matched. Again, the relevant debt management office will have the expertise to monitor the liabilities and advise on the appropriate size of the fund.

As recommended in this paper, market-based fees should be charged for the provision of the government guarantee (either paid by the recipient of the guarantee or via an appropriation).

There are some advantages and disadvantages to the establishment of sovereign wealth funds (such as the Australian Future Fund). These require sound investment strategies and are invested (depending on their size) in a variety of assets which provide a diversified risk that the government is willing to accept. However, where an actual fund is established to offset a government guarantee, there may be a mismatch between the risk profile of the fund (as an asset) and the risk profile of the guarantee (as a contingent liability). This would give an added reason for closely and frequently monitoring the performance of the fund and how it matches the expected size of the guarantee.

However, it is not necessary to establish sovereign wealth funds to accumulate market-based fees for the provision of government guarantees. A notional fund is sufficient, this being a reporting item to show the disposition of fees that have been collected and how they match the risks of the contingent liability.

As OECD countries generally have relatively high levels of sovereign debt, it would seem prudent for fees to be used to retire existing debt rather than building up a large asset to offset the sovereign debt portfolio. The issue of whether to establish a sovereign wealth fund is not likely to matter until gross debt levels fall to reasonable and manageable levels.

Fiscal measures (e.g. EU Stability and Growth Pact)

Narrow fiscal targets, such as the European Union's Maastricht criteria for deficit and debt, can create strong incentives for governments to issue guarantees (and other forms of contingent liabilities) to implement their policy decisions. Under Europe's Stability and Growth Pact, it is provided that member states should run budgets that are broadly balanced over the cycle, and thereby ensure that the annual budget deficit does not exceed 3 per cent of GDP; and that public debt is kept (or brought) lower than 60 per cent of GDP.20 Importantly, the criteria do not account for contingent liabilities.

The European Union's set of economic governance reforms introduced since 2011 involve a much clearer specification of fiscal objectives (OECD 2012b), both during the "preventive" and "corrective" phases of fiscal management. Among other things, the measures impose limits on the rate of annual expenditure growth, and minimum targets for the annual rate of reduction of excessive debt levels.

However, while contingent liabilities merit a mention in the Fiscal Frameworks Directive ("Member States shall publish relevant information on continent liabilities with potentially large impacts"), there is no requirement that they be accounted for within the budgetary figures.

Even under the revised arrangements, a European Government faced with taking an investment decision can take a direct expenditure decision (and thereby increase the budget deficit and affect measurement

[20] Gross debt under the Maastricht criterion does not include trade credits and advances. Under Maastricht, too, government bonds are valued at nominal values but at market value or at issue price plus accrued interest under the System of National Accounts rules (OECD 2010)

against the deficit and debt criteria and indeed against the expenditure rule) or offer a guarantee (which will be invisible to the SGP rules unless and until a payment is required under the guarantee).

This is a serious limitation in the SGP rules and has the potential to distort decision making significantly.

The fiscal rules can have other pernicious effects, by diverting expenditure to off-budget means, which may include running down public assets, deferring needed structural reform, and even assuming long-term liabilities in exchange for cash.

In the United States, the Gramm-Rudman-Hollings Balanced Budget Act of 1985, which had as its principal objective the reduction of the fiscal deficit, led to the Congress cutting direct lending by $50 billion and increasing loan guarantees by $178 billion (Polackova Brixi and Schick, 2002).

Clearly fiscal rules which do not account for contingent liabilities create a strong incentive to favour (potentially less efficient) policies such as guarantees over other forms of support. A budget system should, as best as practicable, be neutral in its treatment of the implementation of policies so that they can be assessed using cost-benefit analysis and the optimal implementation be chosen.

As discussed in this paper, government guarantees are the most important contingent liabilities. By consistently levying a market-based fee (whether collected from the recipient of the guarantee or via a budget appropriation) the treatment by the budget of the principal source of contingent liability will be neutral and these contingent liabilities will be appropriately captured under fiscal rules.

This underlines the importance of having well defined explicit and measurable contingent liabilities with a fee charged for their issue.

Thus fiscal objectives should be broadened to include contingent liabilities and contingent assets to the best extent. By following some of the other proposals, which lead to more measurable, manageable and understandable contingent liabilities, it becomes easier to implement such proposals.

Conclusions

Contingent liabilities constitute a major distortion in the fiscal positions of most countries. Their treatment and disclosure has been inadequate, and this has led to governments favouring the extension of such contingent liabilities as guarantees instead of potentially more efficient, less costly and more transparent forms of government expenditure.

But contingent liabilities have real costs and create real distortions. They also affect the incentives facing individuals and other market participants.

The measures discussed and proposed in this paper would significantly improve the treatment of contingent liabilities in the budget, and give pause to policy makers who might be considering offering support in that form.

Governments will always bear risks, especially the implicit low probability but high magnitude catastrophes which the private sector is unable to bear. But a consistent and transparent treatment of such risks will lead to a more sustainable budgetary position and highlight to both decision makers and the people to who they are accountable the opportunity costs of government decisions.

No doubt there will be significant resistance to change. Governments like non-transparent options for expending taxpayer resources, even when ultimately they can cause a government to come unstuck. That

is, the short-term motivations can outweigh a rational consideration of the long-term risks and threats to the sustainability of a budgetary position.

It is hoped that these discussions will continue, and governments will increasingly see benefits in a fully transparent budgetary system that opens the books on contingent liabilities and other fiscal risks.

References

Australian Government (2011a), *Cabinet Implementation Unit Traffic Light Report Debrief*, Australian Department of the Prime Minister and Cabinet.

Australian Government (2011b), *Financial Claims Scheme Consultation Paper*, Australian Treasury.

Australian Government (2012a), *Budget Statement 8: Statement of Risks 2012-13*, Australian Government Budget 2012.

Australian Government (2012b), *Charter of Budget Honesty Policy Costing Guidelines*, Australian Departments of Treasury and Finance and Deregulation.

Australian Treasury (2013), *Review of Treasury Macroeconomic and Revenue Forecasting*.

Barth, J. R., and Litan, R. E. (1998), "Lessons from Bank Failures in the United States", in G. Caprio Jr, *Preventing Bank Crises: Lessons from Recent Global Bank Failures*, World Bank.

Barton, A. (2011), *Adoption of the Government Financial Statistics Accounting System by Australian Governments*, Ghent University.

Beardsley, E. (2009), *Rental Bikes in Paris Prove Popular with Vandals*, National Public Radio, August 3.

Cecchetti, S. G., Mohanty, M. S., and Zampolli, F. (2011), *The Real Effects of Debt*, Bank for International Settlements.

Chan, C., Forwood, D., Roper, H., and Sayers, C. (2009), *Public Infrastructure Financing: An International Perspective*, Productivity Commission, Staff Working Paper, Australia.

Congressional Budget Office (2004), *Measures of the U.S. Government's Fiscal Position Under Current Law*, United States Congressional Budget Office.

Davis, K. (2004), *Study of Financial System Guarantees*, Australian Government.

Deming, W. Edward, *Out of the crisis*, 2000, Massachusetts Institute of Technology.

Economist (2009), "Fiscal iceberg" *The Economist*, September 24.

European Central Bank (2010), *Euro Area Fiscal Policies and the Crisis*, European Central Bank.

Eurostat (2012), *Eurostat supplementary table for the financial crisis*, European Commission, Eurostat.

Ewing, R., Gruen, D., and Hawkins, J. (2005), "Forecasting the Macroeconomy", Australian Treasury *Economic Roundup*, 11 - 25.

Financial Crisis Inquiry Commission (2011), *Final Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States*, United States Government.

Financial Stability Board (2011), *Policy Measures to Address Systemically Important Financial Institutions*, Financial Stability Board.

Global Finance (2012), *Annual Survey: World's Safest Banks 2012*, Global Finance Magazine.

Gourvish, Terry (2006), *The Official History of Britain and the Channel Tunnel*, Routledge.

Haldane, A. G. (2012), *The Dog and the Frisbee*, Bank of England Speech.

Herring, R. J. (1998), "Banking Disasters: Causes and Preventative Measures, Lessons Derived from the US Experience", in G. Caprio Jr, *Preventing Bank Crises: Lessons from Recent Global Bank Failures*, World Bank.

IMF (2001), *Government Finance Statistics Manual*, International Monetary Fund.

IMF (2007), *Manual on Fiscal Transparency*, International Monetary Fund.

International Accounting Standards Board (2012), *IAS 37: Provisions, Contingent Liabilities and Contingent Assets*, International Financial Reporting Standards Foundation.

JCDecaux (2007), *Press Release for self-service bicycle scheme*, March 1, JCDecaux.

Keynes, J. M. (1931), "The Consequences to the Banks of the Collapse in Money Values", in J. M. Keynes, *Essays in Persuasion*, Collected Writings of J.M. Keynes, Macmillan.

Kharas, H., and Mishra, D. (2001), "Fiscal Policy, Hidden Deficits and Currency Crises", F. Rogers, and L. Squire, Eds., *World Bank Economists' Forum*, pp. 31-48.

Levenstein, B., and Talbut, R. (2012), "End the pernicious influence of US accounting rules", *Financial Times*, November 23, p. 9.

Li, Carmen, and Wearing, B., (2000), *The Financing and Financial Results of Eurotunnel: Restrospect and Prospect*, University of Essex.

Moskow, M. H. (1998), "Regulatory Efforts to Prevent Banking Crises", in G. Caprio Jr, *Preventing Bank Crises: Lessons from Recent Global Bank Failures*, World Bank.

OECD (2002), *OECD Best Practices for Budget Transparency*, Organisation for Economic Co-operation and Development.

OECD (2005), *Advances in Risk Management of Government Debt*, Organisation for Economic Co-operation and Development.

OECD (2009), *Budgeting Practices and Procedures in OECD Countries*, Organisation for Economic Co-operation and Development, 30th Annual Meeting of OECD Senior Budget Officials.

OECD (2010), *Economic Outlook: Sources and Methods*, Organisation for Economic Co-operation and Development.

OECD (2012a), *PPP Governance in Indonesia: Policy, Process and Structure*, Organisation for Economic Co-operation and Development (GOV/PGC/SBO(2012)1).

OECD (2012b), *Economic Outlook*, Organisation for Economic Co-operation and Development.

Polackova Brixi, H. (2012), "Avoiding Fiscal Crisis", *World Economics*, 13(1), 27-53.

Polackova Brixi, H., and Schick, A. (2002), *Government at Risk: Contingent Liabilities and Fiscal Risk*, World Bank.

Posner, P., Ryu, S., and Tkachenko, A. (2009), "Public-Private Partnerships: The Relevance of Budgeting", *OECD Journal on Budgeting*, 1, 1-26, Organisation for Economic Co-operation and Development.

Prime Minister of Australia (2008), *Global Financial Crisis*, Media Release, October 12.

Rawdanowicz, L., Wurzel, E., and Ollivaud, P. (2011), *Current Issues in Managing Government Debt and Assets*, Organisation for Economic Co-operation and Development.

Reinhart, C. M., and Rogoff, K. S. (2011), *This Time is Different: Eight Centuries of Financial Folly*, Princeton University Press.

Schich, S., and Kim, B.-H. (2011), "Guarantee Arrangements for Financial Promises: How Widely Should the Safety Net be Cast?", *OECD Financial Market Trends*, 1-35, Organisation for Economic Co-operation and Development.

Schick, A. (2009), "Crisis Budgeting", *OECD Journal on Budgeting*, 3, 1-14, Organisation for Economic Co-operation and Development.

Schick, A. (2010), "Post-Crisis Fiscal Rules: Stabilising Public Finance while Responding to Economic Aftershocks", *OECD Journal on Budgeting*, 2, 1-17, Organisation for Economic Co-operation and Development.

Schick, A. (2012), "Lessons from the Crisis: Will the Crisis Change Budgeting?", Organisation for Economic Co-operation and Development (GOV/PGC/SBO(2012)2).

Schneier, B. (2012), *Crypto-Gram*, November 15.

Taylor, J. B. (1992), "The budgetary arithmetics of loan guarantees and deposit insurance - a comment", *Carnegie-Rochester Conference Series on Public Policy*, 37, pp. 123-126.

Wallis, S. (1997), *Financial System Inquiry, Final Report*, Australian Government.

Wanna, J. (Ed.). (2007), *Improving Implementation: Organisational Change and Project Management*, Australian National University.

Appendix A -- Costing Methodologies

Most methods at costing a proposal boil down to the application of the cost (or revenue) = quantity by price principle (Australian Government, 2012b). This requires a thorough understanding of the drivers of quantity and price for the given proposal and the clear articulation of any assumptions (including behavioural assumptions and price and income elasticities) that need to be made in assessing the cost. Ideally a costing exercise should able to be replicated by a third party, and assumptions should be realistic and based on evidence.

For estimating guarantees (which are the most significant contingent liabilities) there are a number of techniques which also form part of the setting of an appropriate fee for the provision of the government guarantee (OECD, 2005).

The market-based fee for a government guarantee in principle should be the difference between the price at which the borrower could normally source funds (without a guarantee) and the market value of risk-free government bonds of equivalent maturity and structure. Whether the fee is actually paid is irrelevant -- this is a method to estimate the cost of the guarantee.

Bond price

As a bond price contains relevant information on the credit risk of a borrower, it can be used to assess the appropriate fee that should be charged on a guarantee. Where an organisation issues its own bonds, that is a direct market valuation of its credit risk. If the company does not issue its own bonds, those issued by other organisations in a similar industry might serve as a reasonable proxy. Similarly, a credit rating issued by a ratings agency can be drawn upon to assess yield spreads and hence any guarantee price.

Option models

A government guarantee is similar to a put option as it entitles the guaranteed lender the right to sell the loan at par value to the government. As such, with the requisite distributional assumptions, an option pricing model such as Black-Scholes can be used. As with all option pricing models though, the unobservable volatility is critical and there tends to be an underestimation of extremes (this being a frequent problem of observed data which have insufficient information for the tails). Black-Sholes is also based on a European-style option which may only be exercised at expiry, and can give misleading estimates for a guarantee which is effectively an American-style option (which may be exercised at any time up to its expiration). There are other, more complicated, methods which can be used for American-style options. Whichever method is chosen, however, the underlying assumptions are crucial and should be fully disclosed to allow the replication of the results.

Simulation models

A third method is through the use of simulation models that generate a distribution of losses from the guarantee to the government. Using such a technique (for example, a Monte Carlo simulation model) allows the estimation of the expected cost of a guarantee and the likely maximum loss for a given probability. Scenarios that occurred most often would indicate the average expected fiscal cost of the guarantee, while those that occur at pre-determined probabilities indicate the cost at risk.

Conclusion

As noted in OECD (2005), debt management offices usually have expertise in the pricing of government debt including the techniques mentioned above. Drawing upon this expertise in the pricing of government guarantees would be a significant advantage and assist in providing policy makers with sound

judgements on the extent and potential costs of guarantees that they are considering. To integrate independent debt management offices into this estimation process should be a standard practice and is one of the proposals outlined above.

As should be clear, estimations of the cost of guarantees (and other contingent liabilities) are subject to estimation error and revision. Crucially, assumptions will often make significant differences to the estimates reached. Sometimes, for important and material contingent liabilities, it would be wise to use a combination of techniques to be confident that the estimates are soundly based. So, too, the use of sensitivity analysis would aid in building confidence to the credibility of the estimates, with a range being useful to indicate that confidence.

Above all, though, the transparency in the process of estimation is important, and the methods chosen, assumptions made and justification for the technique should ideally be fully disclosed. Transparency promotes both confidence in, and credibility of, the estimates.