



'Flood and fire and famine': Tax policy lessons from the Australian responses to natural disasters

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‘Flood and fire and famine’:

Tax policy lessons from the Australian responses to natural disasters

Carolyn Palmer

7 October 2014

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Abstract

Recent years have seen a series of natural disasters place significant social and fiscal strain on a number of economies. Determining the appropriate tax response to a natural disaster involves multiple complex decisions that often need to be made under time pressure with limited information. While natural disasters are predicted to become more frequent and costly, there has been little focus on the links between taxation and natural disasters. This paper outlines the tax responses to the 2010-2011 Queensland floods and identifies potential tax policy lessons as a useful resource for future tax policy makers, both in Australia and elsewhere. The initial conclusions drawn in the paper are based on 24 semi-structured interviews with Australian tax policy makers (from central, state and regional government, professional organisations, policy think tanks, tax practitioners, tax academics and representatives from the insurance industry) and a review of policy advice documents, Government commentary, and media reports. The paper provides insights into the intent of the tax responses and the environment in which they were made. In addition, the paper discusses whether the responses followed standard tax policy principles, and whether any divergence from these principles was linked to the strength of the country’s tax policy framework and process.

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1. Introduction

Recent years have seen a series of natural disasters place significant social and fiscal strain on a number of economies. One such event was the 2010-2011 Queensland floods¹ in Australia, where for three months through the summer heavy rains resulted in extensive flooding. Three-quarters of the state of Queensland was declared a disaster zone (Hurst, 2011), 35 people were killed, over 200,000 people were affected and damage was estimated at A\$3.9 billion, or 1.1% of GDP (Deloitte, 2013; Smart, 2012). Interviews with tax policy makers about the responses to this event (discussed further in section 5) referred to the Australian experience of natural disasters noted in the iconic Australian poem ‘My Country’ by Dorothea Mackellar, “...[f]or flood and fire and famine she pays us back threefold...”, which inspired the title for this paper.

The global financial crisis of the late 2000’s has been a critical stress test of contemporary fiscal policy, challenging countries to re-examine settled doctrines and established practices (Schick, 2012). In the same way, determining the appropriate government response to a natural disaster, like the Queensland floods, involves multiple complex policy decisions that often need to be made under significant time pressure with limited information. One area where governments are called to respond is tax policy. However, while much has been written about the principles of good tax policy, recent tax policy reform has taken place in a period of reasonable stability (Barro & Ursúa, 2012).

This paper outlines the tax policy responses from the Australian government to the Queensland floods. Interviews with policy makers, in conjunction with an analysis of the key policy documents, allow a rich picture to be built up of the intent of the policy responses and the environment in which they were made, as a useful resource for future tax policy makers, both in Australia and elsewhere. Specifically, the paper seeks to answer whether Australia followed standard tax policy principles when responding to the Queensland floods and whether any divergence from these principles was linked to the strength of the country’s tax policy framework and process. In doing so, the paper directly addresses an omission from the literature.

While natural disasters are predicted to become more frequent, more intense and more costly in coming years (Freeman, Michael, & Muthukumara, 2003; Laframboise & Loko, 2012), there has been little academic focus on the links between tax policy development and

¹ Henceforth referred to as ‘the Queensland floods’.

responses to natural disasters, including the complex interactions amongst those involved in the formation of tax policy. The topic of natural disasters and their impact on tax policy is a neglected area, with scarce attention having been paid to natural disasters in the economics and political science literature (Cavallo & Noy, 2011; Cohen & Werker, 2008). In particular, there is limited discussion on business responses (Runyan, 2006; Webb, Tierney & Dahlhamer, 1999) and the literature that does exist is dominated by work undertaken in the United States (Dahlhamer & Tierney, 1996; Powell, Allan & Dravitzki, 2010; Runyan, 2006; Webb et al., 1999). In relation to the role of taxation, the literature that currently exists discusses the impact of natural disasters on government policy generally (for example, see: Freeman, Michael & Muthukumara, 2003, The World Bank, 2004, The World Bank, 2010, Todd & Todd, 2011, and United Nations, 2007). However, there is a gap in the literature considering the impact of natural disasters on tax policy. This paper addresses this gap.

In analysing the tax responses and identifying potential tax policy lessons, the paper uses an economic framework, consistent with the approach taken in contemporary international tax reviews (for example, Mirrlees, 2011, Tax Review 2001) and other research on natural disasters (for example, Sen, 1981, as cited in Cavallo & Noy, 2011). The initial sections of the paper consider what constitutes good tax policy (section 2) and the role of taxation in how agents respond to natural disasters, including whether standard principles should apply when responding to a natural disaster (Section 3). Section four of the paper discusses the research approach and Section 5 outlines the specific tax responses that were made to the Queensland floods. Finally, Section 6 of the paper concludes with policy lessons, including the impact of the Australian tax policy framework and process on the responses that were made.

2. Good tax policy

Before considering the extent to which Australia followed standard tax policy when responding to the Queensland floods, it is necessary to understand what this constitutes under normal circumstances. This section outlines the principles of good taxation set out in the economic literature and recent high profile tax reviews, along with other situational factors that must be taken into account in applying these principles, such as political influences, practical limitations and policy intent.

Principles of good taxation

Connolly and Munro (1999) recognise Musgrave's 1959 seminal work on public finance as identifying a set of generally agreed principles for a 'good' tax system. Musgrave's principles

of revenue adequacy, equity, efficiency, ease of administration and compliance, and consistency with fiscal policy have been broadly accepted as those defining good tax policy. “The theory of public finance: a study in public economy” (Musgrave, 1959) has been cited over 5000 times, by authors such as Auerbach and Hassett (1999), Heady (1993), Steinmo (2003) and Stern (1984). Recently, a number of high profile tax reviews have also largely adopted these same principles, as illustrated in Appendix 1. This demonstrates that Musgrave’s principles remain relevant for assessing tax policy. However, in applying these one must take account of political influences, practical limitations and policy intent, as standard policy principles are insufficient guidance on their own (Bird & Zolt, 2003, Musgrave & Musgrave, 1989).

Political influences

It is important to consider the policy process, as economic theories seldom take context into account (Hansen, 1983) and tax policy reflects political factors (Bird & Zolt, 2003; Mirrlees, 2011). Similarly, natural disasters occur in a political space and the literature on disaster prevention and response has acknowledged the political dimension of disasters (Cohen & Werker, 2008). In respect of a natural disaster, political commitments can influence choices over whether to fund or incentivise risk mitigation activities, and impact judgements over the tax treatment of immediate relief measures and decisions on how to fund recovery, rehabilitation, and reconstruction activities in the post-disaster phase. Where a country has a decentralized political tax system there will be specific implications for tax policy (Bird & Zolt, 2003; Kay, 1990). The need to factor in political influences has been addressed by the choice of a qualitative research approach. In particular, the use of semi-structured interviews with those involved in the development of tax policy advice provides an understanding of the social and political context in which the policy changes were made.

Practical limitations

Tax design must also take into account practical limitations and administrative capacity because economic concepts differ in how easily they may be applied in real life (Kay, 1990). Practical considerations include the robustness of the tax system, risk of tax avoidance and tax evasion, and the costs of tax compliance and administration. The level of electronic capability within a particular jurisdiction is also relevant as this opens up new ways that tax authorities can administer tax law, collect tax revenues and interact with the wider community (OECD, 1998). The need to take practical settings into account applies generally

but is particularly relevant to natural disasters. Settings which might operate well under normal conditions might not do so when responding to a natural disaster; e.g., restrictions on information sharing between government departments, reliance on face-to-face interactions between tax authorities and taxpayers, and strict record-keeping requirements.

Intent

Design choices are also influenced by the purpose of a particular tax. In general, taxes can be categorised into two types: revenue and corrective taxes, with both types relevant when considering tax policy responses to a natural disaster.

Revenue taxes are necessary to fund preventative activities and restore public finances and meet the public cost of natural disasters. Revenue taxes fund government spending by raising sufficient funds (Bird & Zolt, 2003; Kay, 1990; Tax Review 2001; Tax Working Group, 2010). In doing so, a long-term view is advocated. Tax systems should not normally be altered on a temporary basis to meet current year shortfalls, as frequent tax changes increase administration, compliance and efficiency costs (Bird & Zolt, 2003).

Corrective taxes may be relevant when considering risk reduction measures that might be taken in advance of a natural disaster (such as earthquake strengthening or taking out private flood insurance) or as part of economic redevelopment in the post-disaster phase. Corrective taxes are designed to pursue social or economic outcomes by promoting or discouraging behaviours (Kay, 1990; Tax Review 2001). This makes sense where the level of a particular activity is not socially desirable. When this occurs, governments may regulate, legislate, introduce direct subsidies or use corrective taxes (Bird & Zolt, 2003).

Corrective taxation is commonly applied in response to market failures associated with externalities or public goods (Kay, 1990). It usually takes the form of tax incentives to deliberately distort market signals about the relative attractiveness of activities (Tax Review 2001). However, there are concerns that the use of tax incentives may derive from paternalism (Kay, 1990) leading to over investment in subsidised activities (Bird & Zolt, 2003; Tax Review 2001), increased administrative and compliance costs, lobbying for further incentives and opportunities for tax avoidance (Bird & Zolt, 2003; Tax Review 2001), meaning costs may outweigh potential benefits.

3. The role of taxation in how agents respond to a natural disaster

In thinking about the role of taxation in how agents respond to a natural disaster, the literature generally identifies different stages in individual and government responses, each with a range of activities². Appendix 2 provides a summary of the issues that individuals and governments face in each phase, using Todd & Todd's (2011) three phase model (pre-disaster, disaster response, and post-disaster recovery). As natural disasters expose the cumulative implications of many earlier individual and collective decisions (The World Bank, 2010), this summary of issues is helpful for identifying the role of tax policy in a disaster response, and analysing whether Australia followed standard tax policy principles when responding to the Queensland floods.

3.1. Pre-disaster preparation

Disaster reduction and mitigation activities can lessen disruption caused by a natural disaster, save lives and protect property. For this reason, a variety of measures should be taken in advance. These include: risk identification, risk reduction, and risk transfer measures (Laframboise & Loko, 2012; Todd & Todd, 2011), as outlined in Appendix 2. However, a general theme in the literature is the lack of disaster preparedness by private firms and individuals (Spittal, McClure, Siegert & Walkey, 2008). Governments may be able to reduce losses where individuals under-prepare for disasters (Sawada & Shimizutani, 2008). However, this requires governments to act in advance, rather than waiting until after a natural disaster has occurred (Phaup & Kirschner, 2010; Popp, 2006). In doing so, there may be a role for tax policy.

Specifically, taxation has two distinct roles in the pre-disaster phase. The first is to raise revenue to fund future disasters, including mitigation activities. In this case, revenue should be raised as efficiently as possible (a tax system which is efficient, with minimal impact on economic decisions, and which is easy to administer and comply with). A key question in doing so is who should bear the burden of tax revenue. Disaster reserves must be paid for by current taxes, which may impact on the amount that individuals and firms invest in disaster mitigation. Where governments choose to finance the cost of disasters by borrowing, this will need to be repaid from future taxes. If local and state governments are responsible for making

² These phases do not have clear boundaries but overlap chronologically as well as in terms of ongoing activities (Todd & Todd, 2011).

preventative infrastructure investment, funding and maintenance decisions (Phaup & Kirschner, 2010), the tax system should provide sufficient revenue to fund these activities.

The second role that taxation might play is to incentivise property owners and others to make the desired level of pre-disaster investment. In this case, tax policy deliberately aims to distort the investment decision by choosing tax settings that shift investment in the desired direction and by the desired amount. Considering the types of pre-disaster preparation, the role of tax policy with respect to risk identification by firms and households is likely to be limited. Where tax policy choices are likely to have real impact (and may therefore be either consistent or inconsistent with standard tax policy principles) is on the risk reduction and risk transfer activities that private households and firms take; for example, governments may choose to promote insurance coverage at an individual and firm level through the tax system³ (Laframboise & Loko, 2012; United Nations, 2007).

3.2. The immediate response phase

Tax policy's role in the response phase⁴ is to fund immediate relief. Governments must make decisions regarding the tax treatment of emergency support payments and may also allow individuals or firms to defer (or disregard) tax payments (Phaup & Kirschner, 2010; Venn, 2012). Tax policy settings also play a role in charitable relief, for example tax incentives for donations and tax exemptions for charitable entities. There are unique challenges arising from delivering policies and programmes in the aftermath of a natural disaster. Similar challenges are likely to apply to delivery of tax responses, and are discussed below.

Communication

When large numbers of people have been displaced from their homes and communication facilities have been damaged, one of the first challenges for policy implementation is to let people know about the types of assistance (including tax relief) that are available and ensure that contact with existing clients is not lost (Venn, 2012). Typically a multi-pronged communication strategy is used (Frost, 2013; Venn, 2012). Information on assistance programs should be clearly communicated, recognising firms and individuals are dealing with many other challenges arising from a natural disaster (Frost, 2013). It is also important that

³ Governments may also choose to obtain insurance at a national level, the cost of which will need to be financed from tax revenues.

⁴ This phase begins immediately after a disaster strikes and encompasses both immediate relief and medium-term responses which attempt to begin to re-establish functionality of systems and infrastructure (Todd & Todd, 2011).

there is good communication between agencies (Frost, 2013; Laframboise & Loko, 2012; The World Bank, 2010; Todd & Todd, 2011). Agencies should have coordinated arrangements for administering funding, application processes and points of contact (Frost, 2013). This means flexible administration and modern tax communication systems which help citizens cope with a natural disaster, including the ability for tax authorities to share taxpayer information and work with other government agencies to assist in responding to a natural disaster.

Resourcing

It is important to have an adequate number of service-delivery staff to quickly process a large number of requests for assistance, including requests for tax relief. As existing staff or assets may have been damaged in the disaster, agencies may need to bring in staff from non-affected regions and set up temporary offices (Venn, 2012).

Identification

The process of establishing identity and eligibility for assistance can be hampered if documents have been destroyed or are inaccessible. As most claimants apply in good faith, it is important to avoid cutting off assistance for those who genuinely need it but are unable to establish their identity or eligibility. Governments have helped people without documents access assistance by temporarily suspending usual procedures, using existing government databases to cross-check eligibility (such as taxpayer records), replacing government documents free-of-charge, relying on personal testimony and allowing claimants extended periods to confirm their identity and eligibility (Venn, 2012). However, despite these steps there is a risk that people will fraudulently claim assistance. Governments have responded to this risk by post-event auditing of claimants, legal prosecution and public naming of those caught making fraudulent claims (Venn, 2012).

3.3. The post-disaster phase

An assessment of whether the Queensland flood disaster responses follow standard tax policy principles needs to take account of the wider fiscal position. Natural disasters can place huge cash demands on governments at short notice and policymakers must decide to finance emergency-related spending and balance-of-payments shortfalls, or to reduce or divert spending to cover immediate needs (Laframboise & Loko, 2012). Despite measurement challenges, knowing a disaster's effects on fiscal sustainability is important for making informed decisions. Even if a country can borrow to fund a disaster response, the debts must

later be serviced by future taxpayers (Phaup & Kirschner, 2010; The World Bank, 2010). Where governments have unsustainable fiscal positions, increasing borrowing in response to a disaster can also increase the pain and necessity for future policy adjustment (Anderson & Sheppard, 2009; Auerbach & Gale, 2009). Similarly, seignorage has a number of negative consequences (Blanchard, 2009). The alternative (or in combination with the above options) is for governments to rely on taxation.

As a result, following a natural disaster, national and local governments need to establish a macroeconomic management scheme to tackle fiscal and current account effects, such as lower tax revenues, higher public spending, lower exports and higher imports (The World Bank, 2004). In general, the macroeconomic policy response to a major catastrophe will involve some combination of reserves drawdown, new financing and macroeconomic adjustment (Laframboise & Loko, 2012). The right mix will depend on a range of factors, including whether the government had taken steps to self-insure or privately insure, whether the impact of the natural disaster is expected to be temporary or permanent, the strength of the country's fiscal position and external balance, the exchange rate and the availability of domestic and external financing (Laframboise & Loko, 2012).

3.4. Fit with standard tax policy principles

Having understood the role that tax policy might play in a natural disaster, it is possible to stand back and consider how that role fits with the standard tax policy principles.

Revenue adequacy

Revenue adequacy is important when considering the funding of mitigation activities. Post disaster, it is an important consideration for governments contemplating how to finance both initial responses and longer-term rebuilding activities. Natural disasters also have a more general impact on public finances, which raises questions as to whether, post disaster, the revenue yield remains adequate.

Equity

The principle of equity needs to be considered as part of assessing tax responses to a natural disaster as the poor are especially vulnerable to natural disasters. They are more likely to live in areas known to be vulnerable (as they may be priced out of safer areas), with their assets more likely to be exposed to catastrophic risk (Freeman et al., 2003). As such, tax policy choices over the level of redistribution play a role in how natural disasters affect lower socio-

economic groups. Equity also needs to be considered when assessing post-disaster tax responses. The way funds are raised to finance initial and longer-term responses will have distributional impacts, including whether post disaster, the revenue yield remains adequate to provide services to those on lower incomes.

Efficiency

Where tax policy is not efficient it may impact on individual or firm decisions on whether to move or mitigate risk, thereby increasing the costs of a natural disaster. For example, property transaction taxes can reduce property sales and encourage undervaluation (The World Bank, 2010) and reducing insurance premiums through tax policy runs the danger of perpetuating inadequate adaption to the risk of natural disasters (Freeman et al., 2003). Governments also need to raise funds for responding and rebuilding in the most efficient manner, thereby minimising (as far as possible) impediments to economic growth.

Minimising compliance and administration costs

In the immediate response phase, tax compliance and administration costs need to be considered. There are unique challenges arising from delivering policies and programmes in the aftermath of a natural disaster, due to the scale and speed of the response required, as well as the difficult environment in which these must be delivered (Venn, 2012; Frost, 2013). Similar challenges are likely to apply to delivery of tax responses, with a well-operating tax system and its administration helping the economic and social recovery of the affected region and country (Inland Revenue, 2013).

Consistency with fiscal policy

Finally, when thinking about tax responses to a natural disaster, it is important to consider tax policy design within the context of broader fiscal policy. Effects of a natural disaster on individuals and firms translate into large and long-lasting macro-economic impacts (Freeman et al., 2003). Depending on how governments respond, natural disasters can have a negative impact on the fiscal accounts and levels of public debt. Typically, fiscal revenues (taxation) decrease as economic activity declines. At the same time, emergency relief and reconstruction lead to a surge in government expenditures. If governments borrow to fund the deficit, public debt ratios rise. Knowing a disaster's effects on fiscal sustainability is important for making informed decisions, as while governments can borrow to fund a disaster

response, they must ultimately pay these funds back, either from taxes or spending cuts elsewhere (The World Bank, 2010).

3.5. Differing tax policy in response to a natural disaster

While it is possible to see how standard tax policy principles play a role in response to natural disasters, a key question in assessing whether Australia followed standard tax policy principles when responding to the Queensland floods, is whether they should do so? While there is limited discussion on natural disasters and taxation, some guidance is provided more generally as to whether the standard principles of tax policy apply equally in good and bad times. A substantial literature on war financing notes that unusual macroeconomic conditions prevail during war (Caplan, 2002). Cappella (2012) concludes that leaders choose between alternative means of war finance, including taxation, based on their bureaucratic capacity to extract revenue, currency reserves and leaders' preferences. Grossman and Han (1991) argue that a state's choice of war financing involves weighing the cost of spending in reducing consumption against the benefit of avoiding defeat. More recently, public finance literature has discussed responses to the global financial crisis. Schick (2012) writes that a financial crisis takes more time and resources to resolve than a conventional recession and therefore generally requires different policies and remedies. LeBlanc, Mathews and Mellbye (2013) note that, following the global financial crisis, tax policy has been shaped by shorter-term fiscal and macroeconomic considerations. Based on this literature, there may be a case for tax policy responses to natural disasters to depart from standard tax policy principles.

One way that tax policy may differ when responding to a natural disaster is through a different weighting being placed on the standard tax policy principles, as while there is broad agreement on the principles, there is less accord about how to make trade-offs between the principles. Adam Smith (1776) suggested that nations should endeavour "*to render their taxes as equal as they could contrive; as certain, as convenient, ... and, ... as little burdensome to the people*". However, the only guidance he gave was to value certainty over equity. Musgrave similarly provides limited guidance, only noting that the objectives will not always be in agreement, and where they conflict, trade-offs will be required (Musgrave & Musgrave, 1989). It was not until Mirrlees developed optimal tax theory in 1971 that a framework for the careful analysis of tax policy trade-offs was developed (Kay, 1990). However, the Mirrlees framework is complex, relatively few general results emerge, and practical conclusions for policy cannot readily be drawn (Creedy, 2011; Kay, 1990).

In response to this need for a practical approach to making trade-offs, various international tax reviews have addressed the issue. The need to make trade-offs was recognised in the Tax Review 2001; however, they argued that the conflict can be overstated (Tax Review 2001). Henry et al (2010), henceforth the Henry Review, acknowledged that judgements are required and provided a list of broad objectives, though the list is barely more than a restatement of the standard policy principles. Most recently, the Mirrlees Review (Mirrlees, 2011) used an optimal tax theory approach, applying the guidelines of neutrality, simplicity and stability. However, as noted above this approach has been criticised as overly theoretical. Conclusions from optimal tax theory for tax policy in practice can be hard to identify, or even if they can be identified, they are often difficult to implement.

The lack of guidance about how to make tax policy trade-offs was addressed to a certain extent by the Tax Working Group (2010), who adopted a model of rational policy analysis (Creedy, 2010). They noted that choosing between reform options will depend on value judgements that are required where competing objectives are involved, and the scale of reform that the government is willing to undertake. To help make these value judgements, the Tax Working Group (2010) identified various tax reform options. To help make trade-offs, each scenario was tested against the standard tax policy principles to identify the costs and benefits of various reform choices.

Another recent example of how trade-offs might be made is the work of Ball and Creedy (2013). They use a range of two-period models to highlight some of the important tax policy inter-relationships and trade-offs involved when governments are faced with the possibility of funding a future contingency. They conclude that the size of the potential future tax-financed cost and its associated probability are the major determinants of the optimal tax policy, with potential future expenditure needing to be relatively large before ex ante action is taken (Ball and Creedy, 2013). However, the models are highly simplified and no consideration is given to distributional issues. Barro (2009, as cited in Cavallo & Noy 2011) argues that disasters have a much larger welfare cost than economic fluctuations of lesser size, which means distributional issues are highly relevant. This paper will analyse what actually happened with a real life natural disaster.

4. Analysing tax policy responses to the Queensland Floods – research design

This paper discusses the tax responses to the Queensland floods. It is part of a broader qualitative study investigating tax policy changes made in response to recent natural disasters

in Australia, New Zealand and Japan and whether the principles of good tax policy still hold when a country is faced with a large economic shock.

A qualitative approach has been adopted because it aids interpretation of tax policy responses by allowing a picture to be formed of the features of the environment in which they were made, creates awareness of the full range of factors that led to the particular tax policy outcomes and caters for the complexity of the situation where it is not possible to hold everything else constant while only the tax treatment of a particular area is tested. It is also suited to investigating exploratory and descriptive questions which are not covered in the existing literature.

The primary data source for the Australian component of the study was 24 semi-structured interviews⁵ with Australian tax policy makers (from central, state and regional government, professional organisations, policy think tanks, tax practitioners, tax academics and representatives from the insurance industry). Participants were selected on the basis of their differing roles in the tax policy development process. They were recruited through a professional network of tax contacts and interviewed in their places of work. The aim was to try and gain as complete a picture as possible of how tax policy principles were applied in responding to the Queensland floods and whether the ability to respond in line with standard tax policy principles was linked to the strength of the existing tax policy framework. An emergent design (and sampling strategy) approach was applied.

As well as providing data for analysis, the interviews offered insights into the environment and clarified details in written documents. These secondary data sources included: relevant policy advice documents, Government commentary, such as material from Treasury and tax authority websites, academic and practitioner commentary on the policy changes, and media reports.

This wider study adopts an ‘interpretive-descriptive’ approach (Belenky, 1992, cited in Maykut and Morehouse, 1994) to qualitative analysis. This approach is appropriate where the research is primarily concerned with accurately describing what was understood and reconstructing the data into a ‘recognizable reality’ for the people who have participated in the study (Strauss and Corbin, 1990; Maykut and Morehouse, 1994). In this case, the aim is to understand more about and describe the tax responses to the Queensland floods, and to develop statements of fact from a rigorous and systematic analysis of the data. Specifically,

⁵ Human Ethics Committee approval granted by Victoria University of Wellington.

Glaser and Strauss's (1967) constant comparative method of data analysis has been adopted. The methodology also draws on the work of Lincoln and Guba (1985) and Taylor and Bogdan (1984), and involves:

- Discovery – analysis of the data to identify recurring themes and topics as coding categories.
- Preliminary coding – using NVivo software, coding of a selection of sources to preliminary categories.
- Refinement – development of a category rule for each theme and coding of the remaining data based on these rules for inclusion.

This paper reports on the first two parts of this methodological process.

A key limitation that arises from qualitative research is the potential for subjectivity in the analysis, with subjects selected by the researcher (such as a focus on policy makers as opposed to individuals affected by natural disasters) and data interpreted with the particular beliefs of the researcher (such as the experience of the researcher as an advisor on the New Zealand tax policy changes). However, it is acknowledged that researcher awareness of these limitations may assist in reducing their influence on the research output. In conducting the analysis it is important to be aware of prejudices, viewpoints or assumptions regarding the phenomenon under investigation which may be influencing what one is trying to understand (Katz, 1987). The research design for this study also incorporated a number of procedures for data collection and analysis to increase the validity of qualitative research. These included multiple methods of data collection, with data gathered from original policy documents in combination with interviewing the policy makers involved. Using multiple data sources helps address subjectivity within particular sources and improves the external validity of the research. Member checks were also conducted, with research participants confirming that interview transcripts accurately described their experience.

5. Tax responses to the Queensland floods

The following section outlines the tax responses to the Queensland floods using Todd & Todd's (2011) three phase model (pre-disaster, disaster response, and post-disaster recovery).

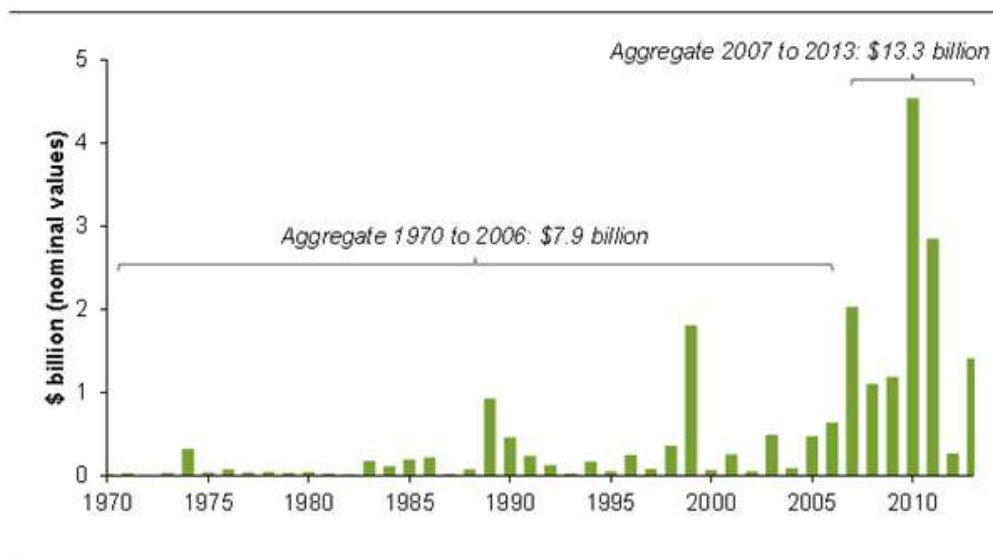
5.1. Pre-disaster phase

Government funding arrangements

Australia is exposed to both frequent and large natural disasters. Interview participants referred to Australia's disaster season, noting that *"this is even reflected in the Dorothea Mackellar poem, 'My Country'... . We have floods, we have bush fires, and they are an annual event. So it is really quite silly to be having to step up and pay for the odd one of these as we go along. They happen all the time"* (tax academic).

Between 2000 and 2012, losses borne by insurers totalled A\$16.1b, an average of A\$1.2b per year (Deloitte, 2013) and the costs are growing as illustrated in Figure 1.

Figure 1 – Insurance costs of natural disasters 1970 – 2013



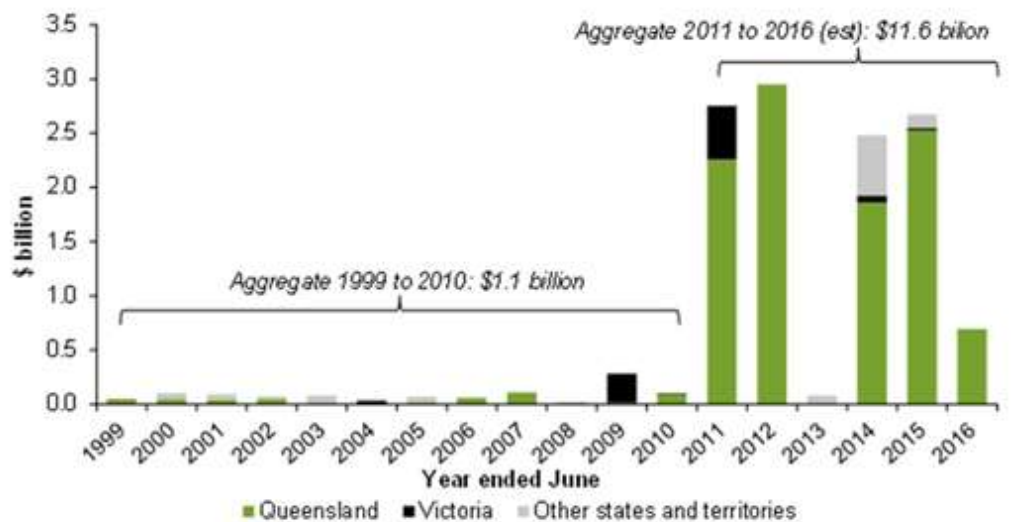
(Productivity Commission, 2014, p.4).

Despite the risk that natural disasters pose in Australia, there is no formal natural disaster scheme⁶. Instead, the primary mechanism through which the Australian Government funds

⁶ Australia does have a Terrorism Insurance Scheme, established under the Terrorism Insurance Act 2003. This minimises wider economic impacts from the withdrawal of terrorism insurance in the wake of the September 11 attacks. It has been reviewed a number of times, most recently in 2012. However, due to the continued lack of commercial terrorism reinsurance on reasonable term, the reviews have recommended that the scheme continue in operation. The scheme provides \$13.43bn in capacity for insurance claims. This capacity is split into several layers. The first A\$100m in losses is to be met by the industry. The second layer of cover is provided by A\$375m from the scheme's reserved fund. The remaining cover is provided by purchased terrorism reinsurance and then an A\$10bn Commonwealth guarantee. Insurers pay premiums to the scheme for reinsuring their terrorism risk and may pass on the cost to their policyholders. One of the recommendations of the 2012 review was for the scheme to pay an initial dividend to the Commonwealth Government of \$400 million, to be spread over four years (The Australian Treasury, 2012a).

disaster relief and recovery activities by state and territory governments is the Natural Disaster Relief and Recovery Arrangements (NDRRA). The NDRAA have over time constituted the majority of Australian Government spending on natural disasters. The scale of these payments is shown in Figure 2:

Figure 2 – Australian Government NDRAA payments 1999 – 2016^a



^a Actual cash payments to the states and territories. Some payments may relate to natural disasters that occurred in previous years. Figures for 2014–2016 are forward estimates from the 2013-14 Mid-Year Economic and Fiscal Outlook.
Sources: Attorney-General's Department (2012a); Commonwealth of Australia (2013); Treasury (various years).

(The Australian Treasury, 2012a, p.11).

The arrangements were established in 1974 and are intended to assist state and territory governments with the fiscal burden of large scale expenditure on disaster relief and recovery payments and infrastructure restoration (The Australian Treasury, 2012a). The NDRRA operate by reimbursing states and territories for a portion of their expenditure on eligible disaster recovery activities and measures, once particular thresholds have been exceeded:

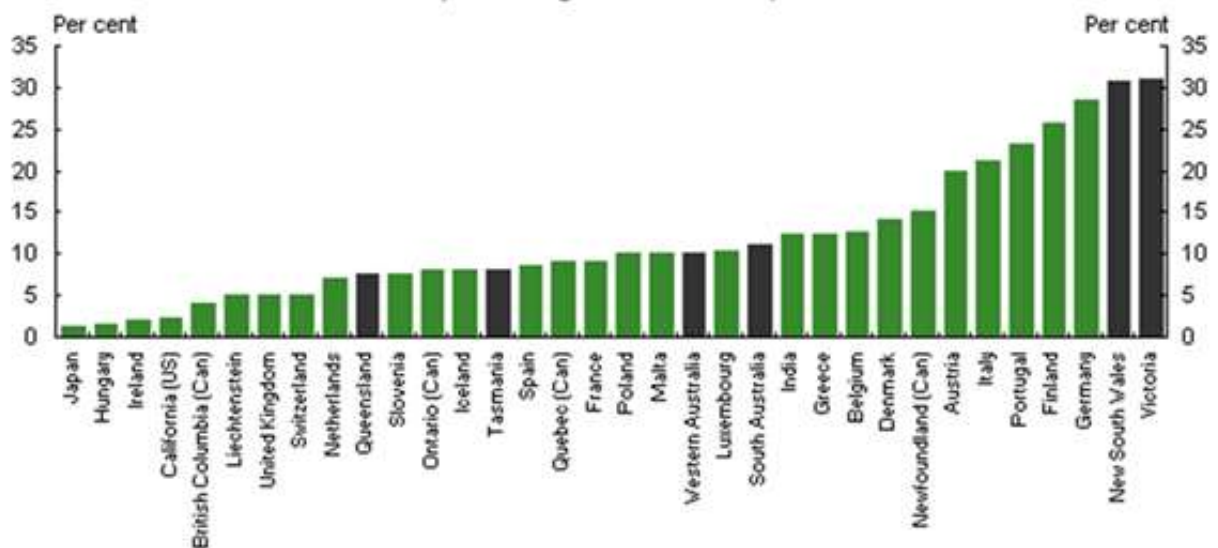
- 50% of a state's disaster expenditure on individual and community recovery packages, if the state's first expenditure threshold has not been exceeded;
- 50% of a state's disaster expenditure on restoration of public assets if the state's first expenditure threshold has been exceeded; and
- 75% of any excess expenditure, above the state's second threshold. (Attorney-General's Department, 2012).

Following the Queensland floods, the Australian Productivity Commission has been asked to assess Government funding arrangements for natural disasters, including the NDRAA, with their report to be completed by December 2014 (Productivity Commission, 2014).

Insurance

One of the issues being considered by the Productivity Commission is the impact of Government funding arrangements on the level of private insurance (Productivity Commission, 2014). In Australia, private insurance plays a key role in providing coverage for natural disasters; For example, private insurance met 77% of the costs of the 1999 Sydney hail storm, 66% of funding for Cyclone Larry in 2006 and 43% of the costs of the 2009 Victorian bush fires (Latham, McCourt, & Larkin, 2010). However, a number of recent reviews have criticised the current tax treatment of insurance. Insurance premiums attracted State and Territory stamp duty at rates of between 7.5% and 11% (at the time of the Queensland floods), a fire service levy on insurers in Victoria, NSW and Tasmania, and GST. Driven by increases in insurance premiums, these taxes have been a growing revenue source for the States⁷. Compared to other countries, Australian taxes on insurance are relatively high, as illustrated in Figure 3.

Figure 3 – International comparison of insurance taxes (excluding VAT/GST)



(Henry Review, p.472).

⁷ Revenue from state taxes on insurance increased 112% from A\$2b in 1998/99 to \$4.3b in 2007/08 (Henry Review).

The Henry Review recommended that all specific taxes on insurance products should be abolished, with insurance products treated like most other services consumed in Australia and subject to only one broad-based tax on consumption. Similar recommendations were made by the Victorian Bushfires Royal Commission (2010). They recommended replacing the fire services levy with a property based levy, which would result in a substantial reduction in the amount that consumers pay for a given level of insurance cover. Assuming stamp duty on insurance and GST are retained, the cost of insurance would fall by 45% for a country business, by 34% for a metropolitan business, by 24% for a country house, and by 17% for a metropolitan house. Finally, the National Disaster Insurance Review (National Disaster Insurance Review Panel, 2011) also considered this issue. Submissions from insurers (and a number of individuals) argued for the removal of State taxes on insurance as an efficient method for governments to improve the affordability of insurance. The Review noted that the purchase of insurance by consumers represents a conscious attempt by them to take responsibility for the management of the risks that they bear, which should be encouraged. However, while the Review Panel endorsed the recommendations of the Henry Review and others, they acknowledged that these taxes are a significant source of revenue for State and Territory governments, and any consideration of their removal would need to be made in the context of broader State level fiscal reform efforts.

The rationale for the proposed changes was concerns over efficiency, equity, and compliance and administration costs. The Henry Review citing a number of reports (IPART, 2008; The Centre for International Economics, 2009; Freebairn, 2009), observed that insurance taxes can impose significant costs and are one of the least efficient taxes available to states. Insurance taxes mean that people pay more to achieve the same level of risk reduction which can reduce the level of cover they purchase or deter them from insuring at all. This reduces the size of the insurance market and therefore the ability to pool risk, further increasing premiums. While States with higher taxes do not always have higher rates of non-insurance and under-insurance, the Henry Review cited studies which found a correlation between taxes on insurance and the level of non-insurance (Tooth & Barker, 2007; and Tooth 2007). By encouraging under-insurance and non-insurance, insurance taxes may lead to an increase in government expenditure in the event of a disaster.

The various reviews were also concerned about inequity and lack of transparency with the current arrangements, as rates of non-insurance generally decline with higher incomes, and non-insurance can also be higher for certain demographic groups, such as retirees and single

parents, who because of their financial positions may be more vulnerable in the case of loss (Tooth & Barker, 2007). In respect of fire services, those with a higher fire risk have higher insurance premiums and therefore pay a high fire services levy, which is equitable. However, those with higher risks not related to fire services, contribute more. The uninsured do not generally contribute and no fire services levy is collected on motor vehicle insurance, despite motor vehicle owners receiving around 15% of the benefits of the service (2009 Victorian Bushfires Royal Commission, 2009). While there are some cost-recovery mechanisms, these tend to be applied only to businesses, meaning the insured bare a higher burden for funding services. The Henry Review noted that one option for increasing equity might be to consistently apply cost recovery. However, due to the public good nature of fire services, it could create a risk that the uninsured do not call the fire service, increasing the risk of damage to other properties.

Finally, in relation to compliance and administration costs, the Henry Review noted that one of the attractions of such taxes is their ease of administration. However, the fire services levy requires insurers to forecast the market when applying the tax, as this is required to be paid in advance.

In response to these concerns, action has been taken by State governments to reduce the impost on insurers. The Victorian Government announced that it will replace the Fire Services Levy with a property based payment and abolition of the levy was also an election commitment of the NSW Government (National Disaster Insurance Review Panel, 2011). This will significantly reduce the cost of insurance policies in these States.

The final report of the Natural Disaster Insurance Review also included a recommendation for the Commonwealth Government to create a system of premium discounts so that purchasers of home insurance, home contents and home unit insurance policies in areas subject to flood risk be eligible for discounts against the full cost of flood insurance (National Disaster Insurance Review Panel, 2011). The discount facility would be funded by claim subsidies from the Commonwealth Government under a Commonwealth Government guarantee, and supplemented by contributions from the State in which the event causing the funding shortfall occurs. However, concerns were raised about the cost of these proposals for the taxpayer and no such scheme has been established: “...*the report entrenches the taxpayer as the insurer of last resort. The Review Panel legitimises and encourages moral hazard by recommending discounted premiums and rejecting home and contents insurance be*

compulsory. That is, the cost of those uninsured and underinsured will continually be met by taxpayers while discounted premiums will be underwritten by taxpayers” (Mahon & Mahon, 2012, p.1).

Taxation

In investigating the tax responses to the Queensland floods, it is necessary to consider the pre-existing rules for dealing with natural disasters that had developed within the tax policy framework and policy processes in place prior to the Queensland floods. In addition to the taxation of insurance, Australian tax legislation includes a number of measures targeted at natural disasters. References to natural disasters in the *Income Tax Assessment Act 1997* and *Fringe Benefits Tax Assessment Act 1986* include:

- Sections 30-45A, 30-46 – Deductions for gifts to disaster relief funds.
- Section 35-55 – Deferral of deductions for non-commercial operations. The Commissioner has discretion not to apply this rule where business activities have been affected as the result of a natural disaster.
- Sections 124-85 and 124-95 – Capital gains roll-over relief. New asset treated as pre-CGT asset if the original asset was lost or destroyed as a result of a natural disaster.
- Sections 393-1, 393-15, 393-40 – Farm management deposits. A deposit repaid within 12 months as a result of a natural disaster is still treated as deductible.
- Section 995-1 – The definition of “Emergency Management Minister” means the Minister who administers the Social Security Act 1991, insofar as it relates to Australian Government Disaster Recovery Payment.
- Section 58N – An exempt benefit includes emergency assistance provided by an employer to an employee.

Other special tax rules for natural disasters include: the ability for businesses affected by a disaster to vary their pay as you go tax instalments (Farmer, 2011) and discretionary relief under the non-commercial loss rules and deemed dividend rules where the taxpayer’s business activity has been adversely affect by floods (PricewaterhouseCoopers Australia, 2011).

5.2. Immediate response phase

Immediate tax responses to the Queensland floods have been classified into administrative and emergency support measures, and are discussed below.

Administrative responses

The Australian Taxation Office (ATO) has centralised business continuity arrangements with a fulltime staff of nine people to coordinate any responses and crisis planning. The model involves 24-hour capability with ongoing monitoring of risks and has operated for several years following a review by the Australian National Audit Office. The ATO integrate business continuity arrangements into all planning and response issues for people, buildings, systems, services, and communications. Under these arrangements, the ATO made a number of administrative responses to the Queensland floods.

The ATO (2011) provided disaster response information. This included an emergency information line, dedicated call centre support for affected people and specific pages on the ATO website, including frequently asked questions. There was ATO support for tax agents, including a dedicated natural disaster line and a personal contact from an ATO relationship manager. The ATO also clarified the tax treatment around common issues such as donations, grants and capital gains taxation.

The Commissioner of Taxation announced extensions of time. The Commissioner has the authorisation to make blank automated deferrals for a class of taxpayer. *“We identify them and automatically place deferrals ... on their accounts”* (Government tax officials). Businesses located within the flood affected area could obtain an extension of time to lodge certain tax documents and pay taxes, in many cases without interest and penalties (ATO, 2011; Farmer, 2011). The State authorities in New South Wales, Queensland and Victoria also announced temporary relief from the payment of state taxes and the lodgement of returns for businesses affected by the floods (Farmer, 2011).

Finally, the ATO outlined practical approaches to dealing with record reconstruction, including use of reasonable estimates for lost records and assistance visits where ATO officers would assist in the reconstruction process (ATO, 2011; Farmer, 2011).

In implementing administrative responses, the ATO links in with the wider Australian government response. The tax office worked as part of a coordinated response with other government agencies and industry groups like the Australian Chamber of Commerce and the Council of Small Business of Australia. They deployed 550 staff out in the field, running small business seminars, and providing staff to help process emergency payment claims (ATO, 2011). They mobilised representation from the ATO to sit on a crisis committee established by the Attorney General, and later, a recovery committee.

The wider government response in Australia includes clear definition of responsibilities. The Department of Human Services is the first agency into a disaster affected area after Defence. If the disaster event exceeds the capabilities of state-based agencies, they will activate a national emergency call centre⁸. If the scale of the incident exceeds Department of Human Services' capability, then the ATO provides additional contact centre resources.

Similar lodgement and payment extensions were also made by the State Revenue authorities (Office of State Revenue, 2011).

Emergency support

As well as administrative responses, the Australian Government also made a number of emergency support responses. Emergency support measures made in response to the Queensland floods were in the nature of income tax exemptions for government assistance and tax changes to facilitate charitable funding.

The Australian Government provided financial assistance to households through:

- The Australian Government Disaster Recovery Payment;
- The Disaster Income Recovery Subsidy;
- Assistance through the NDRAA; and
- Ex gratia payment for New Zealanders affected by flooding.

The Australian Government Disaster Recovery Payment is a non-means tested payment of A\$1,000 for adults and A\$400 for children who are affected by a major disaster (Productivity Commission, 2014). Historically, different definitions of 'adversely affected' have been applied. However, in respect of the Queensland floods, this was defined as a person who, as a direct result of the disaster:

- was seriously injured;
- had an immediate family member killed;
- had their principal place of residence destroyed or sustain major damage;
- was unable to gain access to their principal place of residence for at least 24 hours;
- was stranded in their principal place of residence for at least 24 hours;

⁸ This can be activated by a State or by the Prime Minister and Cabinet.

- was without electricity, water, gas, sewerage service or another essential service for at least 48 hours; or
- is the principal carer of a child to whom any of the previous situations applied (Social Security (Australian Government Disaster Recovery Payment) Determination 2011 (No. 1).

The payment is administered by Centre Link and as a one-off compensation payment was exempted from income tax (Section 52-10, Income Tax Assessment Act 1997).

The Disaster Income Recovery Subsidy was an income replacement payment⁹. It provides income support recovery assistance for individuals who have lost their main source of income as a direct result of a natural disaster, including small businesses and farmers. It consisted of ex-gratia payments equivalent to the maximum applicable rate of the Newstart Allowance (unemployment benefit) or Youth Allowance (benefit for those 16 to 24 who are studying or looking for work). It was payable for a maximum period of 13 weeks from the start of the flooding in Queensland, or from when the claimant's loss of income commenced. It is paid in addition to the primary Commonwealth payment made to individuals in the wake of disasters, the Australian Government Disaster Recovery Payment (Social Security Legislation Amendment (Disaster Recovery Allowance) Bill 2013).

Those eligible to receive the payment were working age Australian residents living in Australia, or foreign nationals living or working in Australia at the time of the disaster, who derived an income from the area affected by the disaster, or resided in the area affected, and who did not receive another income support payment or pension. The payment was subject to an income test to determine eligibility (Department of Human Services, 2013; Social Security Legislation Amendment (Disaster Recovery Allowance) Bill 2013).

The Disaster Income Recovery Subsidies were not legislated for and have been paid as ex gratia payments. The decision to make ex gratia payments is made by the Prime Minister and/or Cabinet with the basis of their authority to do so emanating from the government's executive powers under section 61 of the Constitution. The government can call upon the ex gratia power to deliver financial relief quickly at short notice. As such, the power to make ex gratia payments provides flexibility to government to be able to offer assistance to those in

⁹ This payment was announced by the Government in the aftermath of the Queensland floods in January and February 2009 and the Black Saturday bushfires in Victoria in February 2009 (Social Security Legislation Amendment (Disaster Recovery Allowance) Bill 2013).

need quickly. However, such payments are not subject to the range of accountability measures that apply to payments made under legislation. Another drawback is that access to information about the payment is much more limited compared to legislative schemes. The rules establishing these schemes are not subject to the same kinds of publication and tabling requirements as legislative instruments are and the details of such schemes may not be readily available online. As such, in 2013 a decision was made to allow for payments to be made in similar circumstances but under a legislative scheme (the Disaster Recovery Allowance) (Social Security Legislation Amendment (Disaster Recovery Allowance) Bill 2013).

Disaster Income Recovery Subsidy payments are generally taxable. However, the Australian Government has declared that, for some recent natural disasters, these payments are exempt income. You do not pay tax on exempt income but you include the amount when you work out your tax loss. The Tax Laws Amendment (2011 Measures No.1) Bill 2011 exempted the Disaster Income Recovery Subsidy paid to those affected by the floods in Australia on or after 29 November 2010 and by Cyclone Yasi.

In respect of assistance for individuals, the Australian Government will reimburse 50 per cent of State or Territory expenditure on personal hardship and distress assistance under the NDRAA. This is generally for emergency aid for clothing, food, accommodation, repairs to housing and replacement of essential household items and personal effects (Commonwealth of Australia, 2013a). For the Queensland floods, personal hardship and distress assistance was available in 25 local government areas. In addition, communities were eligible for essential services safety and reconnection grants of up to \$5,000 and funeral and memorial grants of up to \$10,000 (Commonwealth of Australia, 2011).

NDRRA payments are generally taxable. However, in respect of the Queensland floods, emergency assistance grants were treated as non-taxable (ATO, 2012).

Following diplomatic pressure, the Australian Government announced special flood relief measures for New Zealand non-protected special category visa holders adversely affected by the Queensland floods (NZPA, 2011; The Australian Treasury, 2012b). These ex gratia payments made available funds equivalent to the Australian Government Disaster Recovery Payment to New Zealanders who would otherwise be ineligible for this kind of assistance. In

2011/2012, around 202 ‘non protected’ SCV¹⁰ holders were granted lump sum payments following disasters, worth approximately \$232 000 in total (Social Security Legislation Amendment (Disaster Recovery Allowance) Bill 2013). The Australian Government legislated to exempt these payments from income tax (Tax Laws Amendment (2011 Measures No.1) Bill 2011).

The other form of emergency support responses related to charitable relief. The Queensland Premier declared the floods to be a disaster, allowing the ATO to follow normal procedures with respect to disaster relief¹¹. However, as well as following normal procedures, the Australia Government also made a legislative change with respect to the charitable status of bodies involved in rebuilding activities following the Queensland floods. Australia recently introduced a statutory definition of a charity¹². Previously they relied on the common law definition. Following the experience in Queensland, as part of enshrining the definition in law and following the natural disaster insurance review, they extended the common law definition to enable charities to rebuild not-for-profit community assets.

5.3. Post-disaster phase

Post-disaster tax responses to the Queensland floods have been classified into funding and rebuilding measures, and are discussed below.

Funding

On 27 January 2011, the Australian government announced that it would impose a flood levy (the Temporary Flood and Cyclone Reconstruction Levy) on individual taxpayers for the 2011/2012 financial year to assist in funding the re-building of flood affected areas and infrastructure (Farmer, 2011). The levy was set at 0.5% on income from A\$50,001 to A\$100,000 and 1% for income above this level. Income below A\$50,001 was not subject to the levy. In addition, anyone who received an Australian Government Disaster Recovery Payment was not subject to the levy (Farmer, 2011). The flood levy and associated budget

¹⁰ New Zealand citizens in Australia on ‘non protected’ Special Category Visas (SCVs) (subclass 444). ‘Non protected’ refers to those New Zealanders who have come to Australia on SCVs since 26 February 2001. Pre-2001 SCV holders (referred to as ‘protected’) are entitled to similar benefits as Australian permanent residents under social security law (Social Security Legislation Amendment (Disaster Recovery Allowance) Bill 2013).

¹¹ Refer Sections 30-45A and 30-46 of the Income Tax Assessment Act 1997 which allow deductions for gifts to disaster relief funds.

¹² In the 2011/2012 Budget, the Australian Government announced it would introduce a statutory definition of charity. This definition is based on the 2001 Report of the Inquiry into the Definition of Charity and Related Organisations, also taking into account later judicial decisions. Legislation to progress this measure received royal assent in June 2013 and commenced on 1 January 2014 (ATO, 2013b).

cuts were expected to raise A\$1.8 billion (ABC News, 2011). This expansion of the Federal Government's revenue base, as an alternative to debt issuances, allowed the federal government to fund 50% or A\$5 billion of the flood reconstruction fund (Smart, 2012). The levy was enacted on 22 March 2011.

In addition to an immediate funding response, following the Queensland floods, the Australian Productivity Commission has been asked to assess Government funding arrangements for natural disasters in the longer-term (Productivity Commission, 2014).

Rebuilding

Tax measures to support rebuilding following the Queensland floods were in the nature of capital gains roll-over reliefs and tax exemptions for certain small business and primary producer recovery grants.

In an Australian-first, the Lockyer Valley Regional Council unveiled a plan to relocate residents from the flood-devastated community of Grantham to safer ground. The deal between the Council and the community gave flood-devastated residents the option to move to higher ground as part of a voluntary land-swap initiative (Lockyer Valley Regional Council, 2011). While there were already existing capital gains tax (CGT) roll-over relief provisions for natural disasters, it was felt that these were not sufficient to cover the land swap arrangements proposed. As such, the Australian Government announced a number of additional CGT tax reliefs for taxpayers that participate in Australian government replacement asset programs. These included:

- maintaining pre-CGT status for replacement assets;
- maintaining pre-CGT status where a taxpayer builds a dwelling on replacement land;
- separate CGT taxing point for participating taxpayers if their dwelling is destroyed as a result of the natural disaster;
- CGT exemption for rights arising under assistance programmes for taxpayers affected by natural disasters; and
- extending the CGT main residence exemption when a taxpayer's main residence is destroyed (The Australian Treasury, 2011a).

Initial consultation on these measures by the Australian Treasury in October 2011 (The Australian Treasury, 2011a) was followed up by a second consultation paper in June 2012 (The Australian Treasury, 2012c). However, no tax legislation was forthcoming.

In December 2013, The Assistant Treasurer announced the outcome of consultations over the backlog of 92 announced but unlegislated tax and superannuation measures. Of the 64 measures that were considered further, 16 will proceed and 48 measures will not proceed. Those that are not proceeding include the CGT relief for taxpayers affected by natural disasters. However, the announcement noted that the decision on CGT relief would not adversely impact the property owners in Lockyer Valley who were devastated by severe storms and floods and had entered into the land swap program (Commonwealth of Australia, 2013b).

While the federal tax changes did not occur, Queensland State tax changes to facilitate the land swap (such as transfer duty relief) did proceed (Queensland Reconstruction Authority, 2011).

The Australian Government also provided recovery assistance to small business owners and primary producers through the NDRAA. Under these arrangements, the Australian Government may reimburse 50 to 75 per cent of State or Territory expenditure on measures including concessional interest rate loans to small businesses, primary producers, and voluntary non-profit bodies. In severe events, funding for a community recovery package is available to help affected communities recover. The community recovery package may include the following assistance measures:

- Small business recovery grants to assist with clean-up and recovery costs; and
- Primary producer recovery grants to assist with clean-up and recovery costs (Commonwealth of Australia, 2013a)¹³.

Generally, amounts received by way of grants or subsidies will be assessable either as ordinary income or statutory income (ATO, 2013a). However, in response to the Queensland floods, the Australian government legislated to provide an income tax exemption for the 2500 Clean-up and Restoration Grants to small business and primary producers, at an estimated cost of \$A6.9 million (Tax Laws Amendment (2011 Measures No.1) Bill 2011; The Australian Treasury, 2011b).

¹³ In response to the Queensland floods, concessional interest rate loans of up to \$250,000 were made available for small businesses and primary producers, as well as freight subsidies of up to \$5,000 for primary producers. Tier 1 clean up recovery grants of up to \$5,000 and Tier 2 grants of up to \$20,000 were available for primary producers and small businesses (Commonwealth of Australia, 2013c).

In addition to exempting restoration grants received by primary producers, amendments were announced in the 2011/2012 Budget to allow farmers affected by a natural disaster to access their farm management deposits within 12 months of making a deposit while retaining the concessional tax treatment (The Australian Treasury, 2011c).

6. Concluding policy lessons

The final section of this paper identifies potential tax policy lessons from the Australian response to the Queensland floods as a useful resource for future tax policy makers, both in Australia and elsewhere. These initial policy lessons are based on analysis of the data to identify recurring themes and preliminary coding of interviews with Australian tax policy makers. As part of the broader study, these conclusions will be tested in coding of the remaining data and comparison with the tax policy changes made in response to natural disasters in New Zealand and Japan.

Administrative responses – starting and stopping

Australia's exposure to frequent and large natural disasters has led the ATO to develop centralised business continuity arrangements which are integrated into all planning and response issues for people, buildings, systems, services, and communications. The business continuity arrangements operate under the Commissioner's broad discretionary powers and use a standardised disaster response framework. The framework is internal guidance rather than a legislated set of responses, as outlined by one of the tax officials interviewed. "*We have got this menu ... that we basically work our way through*". Based on the standardised framework and an assessment of impacts, ATO staff recommend a response for approval by the Commissioner. The ability to rely on a broad discretionary power avoids the need for a rushed legislative response, allowing a faster response in a disaster situation. This flexibility is seen as useful in a natural disaster situation, as noted by one of the tax academics interviewed. The "*Commissioner has the responsibility, and this implies powers too, for the general administration of the Act. That ... can be interpreted very broadly. It is precisely for this kind of thing*".

Having a framework of responses also recognises that different disasters have different impacts. The administrative framework allows the ATO to alter its responses depending on the scale and impact of the natural disaster, and also to ensure a consistent approach is taken. As such, the ATO's administrative framework provides significant flexibility for responding

to natural disasters. However, there are different views on whether broad discretionary powers are a good idea, as evidenced by the following comments. Some policy makers think that it *“is not the right way to run a system because everybody should know what the rules are, and the rules should be the same for everybody”* (tax academic). However, others recognise that *“Life is just not like that”* and *“there is a lot to be said for having flexibility in administration”* (tax academic).

A policy alternative between the need for ex post legislative amendments and a broad discretionary power could be a limited discretion that only comes into effect once a state of emergency is declared. This would help balance concerns about generic discretionary powers and the benefits of speed and flexibility from an operational power.

The other key issue in relation to administrative responses for natural disasters is when to cease these special arrangements and return to normal, particularly as impacts can differ between taxpayers, as noted by one of the tax officials interviewed. *“There are a lot of businesses and taxpayers impacted and the impacts will go on for many years, and some businesses will be unviable after significant events. It is case by case support, and that is available any time for any person in any kind of situation”*. It is important that there is clear communication about when special measures will come to an end and that there is sufficient time for taxpayers to then meet their obligations. Specific legislative responses are likely to have a set expiry date and may need to be rolled-over, leading to taxpayer uncertainty and extra administration and legislative costs. Administrative responses provided under a discretionary power have more flexibility, as evidenced by the ATO’s case by case approach. However, such flexibility does need to be applied in a consistent way. In the ATO’s case this is assisted by their administrative framework.

Information sharing

Responses to natural disasters require a coordinated cross-government response. As such, tax authorities are often required to work closely with other government agencies. This can be problematic due to standard tax secrecy laws. The Australian arrangements for information sharing in the event of a natural disaster offer a useful example as to how to deal with this issue.

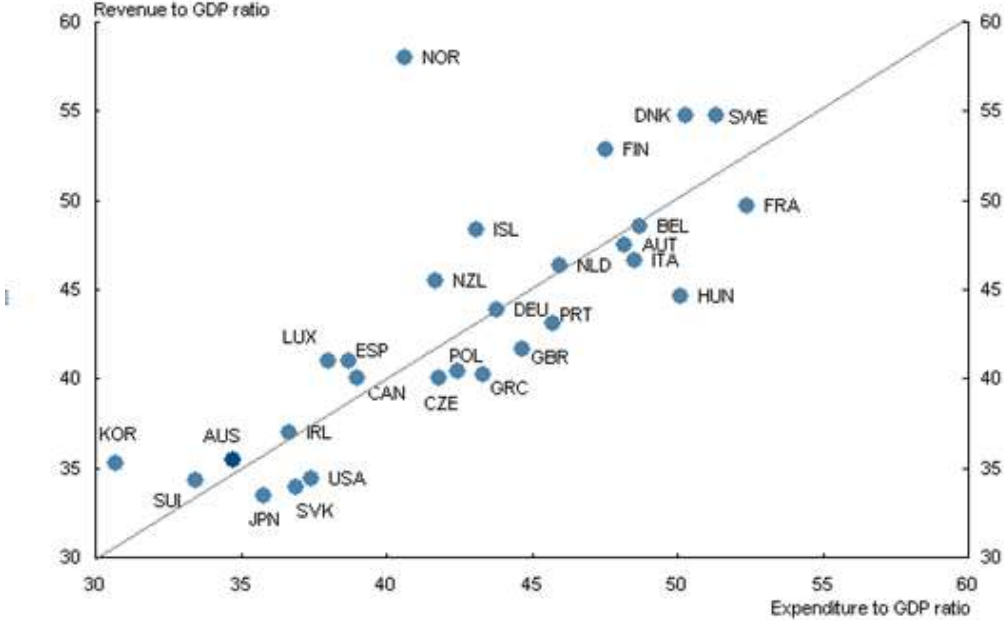
To support the cross-government operational arrangements in the event of a natural disaster, Australia has specific measures in place for the sharing of taxpayer information. These include a cross-government information sharing instrument that can be signed off by the

Attorney-General’s Department when a state of emergency is declared. Australia also allows for taxpayer-approved information sharing, which supports the provision of one-stop shops for government assistance as noted by one of the tax officials interviewed. “When we start getting to the point of recreating peoples identity and reissuing their tax file numbers, even if the ATO people and immigration people etc. are not in the same tent, then the guys out in the field have the documentation to be able to go ‘sir, would you like to sign this so that we can share it with other agencies as well’”. The Australian model therefore offers two forms of amended tax secrecy to deal with the unique circumstances of a natural disaster response. These provide flexibility to support cross-government cooperation in the immediate response phase while avoiding the need to make rushed legislative changes or alter standard tax secrecy provisions.

Role of the existing policy framework and process

While Australia’s administrative responses offer useful lessons for future policy makers, Australia’s legislated responses have a number of failings. By OECD standards Australia has a low tax and expenditure framework, as illustrated in Figure 4.

Figure 4 – Size of government – OECD 2007



Notes: Data for Mexico and Turkey not available. Revenue refers to receipts of tax and non-tax revenue.

(OECD, 2008).

Australia's mix of direct and indirect taxes is broadly comparable to other OECD countries, but the composition differs, due to its dividend imputation system and lack of social security tax¹⁴. Compared with other OECD countries, Australia has a low share of tax revenue from labour income and broad-based consumption taxes and greater reliance on tax revenue from capital (with an above average company tax rate and higher percentage of taxes on property). The tax-transfer system is highly redistributive (The Australian Treasury, 2008).

Australia also has a federal system of government and taxation. The fiscal relationship between the Australian government and the States is characterised by 'vertical fiscal imbalance', where the States' own revenue sources are insufficient to fund their expenditure responsibilities. In 2006/2007, taxes levied by the States accounted for 15 per cent of total tax revenue, and included transaction taxes and taxes levied on narrow tax bases¹⁵. Thresholds, rates and the range of exemptions from these taxes differ between the States (The Australian Treasury, 2008).

In terms of the Australian tax policy process, Heferen, Mitchell & Amalo (2013) summarised this into a number of distinct stages. The Treasury has primary responsibility for advising on tax policy development. In close conjunction with the ATO¹⁶, the Treasury formulates and provides advice to government on options, produces regulation impact statements and prepares official costings, which together with the overall revenue forecasts underpin government budgets. In doing so, Treasury officials apply both the standard tax policy principles and the Treasury wellbeing framework. This framework requires them to take a view that "*encompasses more than is directly captured by commonly used measures of economic activity*" (The Australian Treasury, 2012c). In providing tax policy advice, Treasury officials are required to consider the set of opportunities available to people, the distribution and sustainability of those opportunities, and the level and allocation of risk and complexity of choices borne by individuals and the community. While there are similarities between the wellbeing framework and various international reviews, there is no single agreed set of principles.

¹⁴ While there is no social security tax as such, Australian tax residents are required to pay a levy, calculated at a flat rate of 2% of a taxpayer's taxable income over a certain level, to help fund Medicare, a scheme that gives access to free or low cost medical care.

¹⁵ The composition of state government revenue was: A\$29 billion of specific purpose payments, A\$40 billion GST revenue, A\$36 billion other own-source revenue and A\$49 billion of state taxes (The Australian Treasury, 2008).

¹⁶ There are also a number of other tax governance bodies, each serving a perceived need (refer Appendix 3).

Tax policy in Australia is an increasingly contested policy debate, as evidenced by the following comments from tax officials (*“there is a lot more toing and froing throughout the process and there is not necessarily a common understanding, or a common agreement”*). It is *“a lot more of a tussle in tax policy rather than a collaborative approach”*. Tax policy options are generated by a multitude of sources, including electoral parties, Senate inquiries, academics, think tanks, lobby groups, and tax representatives. The media also plays a role, as indicated by one tax practitioner (*“if something is released, it will hit the papers and be reconstructed often to the detriment of the Treasury and the ATO”*). Consultation does form part of the tax design process, with a large number of measures subject to consultation in both the policy design and draft legislation phases¹⁷. Consultation usually involves the public release of an initial discussion paper, followed by an exposure draft of legislation or regulation. Occasionally, consultation is more targeted, either to a public audience or to a more confidential group. However, it was the role of political influence that was strongly emphasised by interview participants, including the following comment by a tax practitioner. *“I used to think tax reform was about rational tax policy and that provided you could create a sufficiently rational vision and had the skill set to convince a sufficient number of people that it was a rational vision, that you could go forward on that basis. I don’t believe that anymore”*. *“The government will change the tax basis, notwithstanding that it breaches those principles, and they won’t consult with industry”*.

Once a political decision requiring legislative change is made, the Treasury is responsible for instructing legislative drafters in the Office of Parliamentary Counsel on tax matters, producing explanatory materials and regulation impact statements for tabling, conducting community consultation on tax policy, managing the legislation program, and assisting the government to secure passage of bills through the Parliament. For a tax bill to become an Act, it must be passed in the same form by the House of Representatives and the Senate and then assented to by the Governor-General. While all tax bills must originate in the House of Representatives, the Senate's role in tax policy is important. The Senate performs a 'house of review' function through its committees, with tax policy considered by the Senate Standing Committee on Economics.

An outcome of both the strong political influence and lack of collaboration over tax policy has been lengthy delays in legislating tax changes. This is view was shared by Government

¹⁷ Until the early 2000s, tax policy consultation in Australia was infrequent and largely confined to administrative matters (Heferen et al., 2013).

tax officials (“*It’s common knowledge that we have a legislative backlog*” and “*It’s not as planned, as evidenced by over a hundred announced but not enacted measures*”) and tax academics. “*They use the tax system for political motives and so make announcements here, there and everywhere, so it just backs up. What we have got is legislation by announcement*”. These delays have resulted in reliance on administrative practice. For each tax announcement, the ATO decides whether it is prepared to allow taxpayers to file on the basis of announced tax changes. Where the discretion applies, taxpayers who have chosen to follow the announcement and then need to amend their tax returns are not subject to a penalty.

The final phase of the policy process is post-implementation. As part of the regulation impact analysis, departments are required to provide information on how the preferred regulatory option will be implemented, monitored and reviewed. Formal post-implementation reviews are required for all regulation that initially proceeded without a compliant regulation impact statement. In addition, specific post-implementation reviews on tax policy are conducted by the Board of Taxation. Australia also has a rich history of tax policy reviews¹⁸.

The Henry Review raised a number of areas for reform with respect to the Australian tax system. They concluded that Australia had too many taxes and too many complicated ways of delivering multiple policy objectives through the tax and transfer system. There are at least 125 taxes paid by Australians every year¹⁹. Many taxes are levied on essentially similar transactions by different Australian governments with little consistency across jurisdictions (The Australian Treasury, 2008). The resulting complexity exceeds the capacity of legislative systems, operating platforms and taxpayers, meaning the tax and transfer architecture is beginning to fail in dealing efficiently and effectively with multiple policy goals and demands.

Similar concerns have been made by other commentators and by the tax policy makers interviewed for this project (“*There is naturally a bit of work to do, particularly around opportunities to increase efficiency*” (tax official). “*Everyone knows our income tax system has got all these anomalies which are costing money*” (tax academic). “*In one sense it is sort of a patchwork approach*” – tax practitioner). The Australian Treasury (2008) commented that “*levels of complexity and operating costs are likely to be above the level that is optimal*

¹⁸ Significant reviews prior to the Henry Review include the 1975 Taxation Review Committee full report (the Asprey review) and the 1999 Ralph Review.

¹⁹ Of these, 99 are levied by the Australian government, 25 by the States and 1 by local government (The Australian Treasury, 2008).

for society as a whole". A survey by Per Capita which explored the public's attitude towards taxation and government expenditure revealed that Australians find the tax system 'burdensome' (Heferen et al., 2013). This finding is consistent with the fact that over 70 per cent of Australian tax lodgers rely on tax agents to complete their personal tax returns, resulting in Australia having the 3rd highest rate of personal tax returns filed by tax agents in the OECD (Heferen et al., 2013).

The Henry Review also recommended changes with respect to Australian tax policy-making and administration processes. They noted that these should be as responsive as possible for problems experienced by taxpayers, which required Australia to move to a more transparent and understandable system. It also required more effective mechanisms to respond to both policy and administrative issues as they arise. Smith (2009) also commented on the lack of transparency in the Australian tax policy process. He noted that while tax reform sometimes involved proposals developed by expert bodies using open consultative processes, at other times the executive has used its bureaucratic advisers to develop behind-doors, in-house reform packages, akin to the semi-secretive budget formulation process.

These features of the Australian tax policy framework and process can be seen in Australia's legislated responses to natural disasters. Prior events have meant the Australian tax legislation has been adapted to deal with the tax issues which arise in respect of natural disasters. Perhaps in recognition of Australia's annual disaster season from late November to early March, there are a number of generalised natural disaster measures. However, these rules have developed on an ad hoc basis in response to numerous previous natural disasters rather than as a result of any systematic policy process. This view was reflected in comments by tax academics ("*We have floods, we have bush fires, and they are an annual event*"), tax practitioners ("*I think that maybe in one sense we are a bit used to it*" as "*we get seven major disasters over a 10 year period in different parts of Australia. That is why we have the structures already in place to deal with that*") and tax officials ("*There are a few small bits in the Capital Gains Tax Main Residence Exemption for natural disasters*"). Similarly, "*FBT actually has an exemption already built in for emergency relief assistance*" (tax practitioner), and "*...for farmers and business people, trading stock rollovers and depreciating asset rollovers are important. My understanding is that those rollovers are not as generous or easy to access as the capital gains relief. I don't think there is any internal consistency there*" (tax academic).

This lack of consistency can be seen in the legislated responses to the Queensland floods. A number of tax exemptions were made in respect of various Government support payments. Ex-gratia Disaster Income Recovery Subsidies²⁰, which are an income replacement payment for individuals, small businesses and farmers who have lost their main source of income as a direct result of a natural disaster, have generally been taxable. However, the Australian Government has declared that these payments are exempt income for some recent natural disasters. This included the Queensland floods. The Australian Government also provides assistance to small businesses under the NDRAA, which is generally taxable. However, the Australian Government declared that these emergency assistance grants were non-taxable for some recent natural disasters. This included the Queensland floods (ATO, 2012b).

Australia's reliance on State insurance taxes is also problematic, with concerns raised in a number of reviews about efficiency, equity and compliance and administration costs as well as negative impacts on the level of private insurance cover. However, this is one area, where following the Queensland floods, Australia may be moving closer to 'good' tax policy, with changes being made to the state taxation of private insurance.

Finally, Australia's highly political tax policy process, lengthy delays in legislating tax changes and reliance on administrative practice had an impact on the response to the Queensland floods. While Australia was quick to announce additional CGT tax changes to support the innovative Lockyer Valley land swap programme and ran a public consultation process in respect of the changes proposed, it was nearly three years after the floods that a further decision was taken to cancel these changes as part of addressing the backlog of announced but unlegislated tax and superannuation measures (Commonwealth of Australia, 2013b). This legislation by press release, and subsequent back-tracking, causes considerable uncertainty for taxpayers who have already suffered the emotional and financial effects of a large scale natural disaster.

To levy or not?

The final policy lesson from responses to the Queensland floods is around short versus longer-term funding for natural disasters. While the design of the Temporary Flood and Cyclone Reconstruction Levy itself was broadly consistent with standard tax policy

²⁰ In 2013, a decision was made allow to for payments to be made in similar circumstances but under a legislative scheme. This included a permanent tax change to so that the tax liability is effectively extinguished (Social Security Legislation Amendment (Disaster Recovery Allowance) Bill 2013).

principles, the decision to impose an ex post levy rather than rely on long-term funding raises a number of policy questions.

The literature identifies the pre-disaster phase as important for lessening disruption caused by a natural disaster, saving lives and protecting property. Governments may be able to reduce losses where individuals under-prepare for disasters. However, this requires governments to act in advance, rather than waiting until after a natural disaster has occurred. However, despite the risk that natural disasters pose in Australia, there is no formal natural disaster prefunding or insurance scheme, such as those that exist in New Zealand and Japan. Instead, the Australian government imposed a 'one-off' ex post flood levy on individual taxpayers for the 2011/2012 financial year to assist in funding the re-building of flood affected areas and infrastructure (Farmer, 2011).

Good tax policy should ensure an adequate revenue yield. Therefore, there may be cases where a tax increase is required following a natural disaster, even where prefunding arrangements exist. However, the introduction of the levy in Australia appears more of a political rather than policy response. At the senate hearing for the levy, the committee heard evidence from a number of economists who suggested that there were several options available to the federal government for funding the rebuilding process. *“There are at least three main ways to finance rebuilding. The first is to raise taxes, which further reduces private demand and therefore reduces economic activity even further. The second is to cut government spending, which also reduces economic activity even further. The third is to increase the fiscal deficit temporarily”* (The Senate Economics Legislation Committee, 2011, p.15).

The Australian government did source funds for part of the rebuilding package by deferring some infrastructure projects and making some budget cuts to deliver two thirds of the \$5.6 billion needed to rebuild flood affected regions. However, some commentators considered that further reductions could have been identified. *“In my view, there certainly would have been scope for further reductions in government spending”* (The Senate Economics Legislation Committee, 2011, p.15).

Rather than an imposing a levy, the economists speaking before the senate committee recommended funding the remainder of the response to the natural disaster by borrowing, resulting in a temporary increase in the fiscal deficit. *“The advantage of borrowing is that this does not directly reduce economic activity today, but spreads the cost of rebuilding over*

many decades into the future. The macroeconomic goal should be to reduce the negative effects of the disaster soon after it occurs. Only borrowing achieves this objective” (The Senate Economics Legislation Committee, 2011, p.16). Another reason for increasing debt rather than imposing a levy is if most of the recovery spending is investment in nature then having the current generation pay for this is not efficient or equitable. Future beneficiaries of the investment should also pay, via debt and future repayment out of future taxes.

In respect of the Queensland floods, borrowing was seen as particularly suitable given the relatively small amount of funding required. *“...the numbers entailed here, the \$5.6 billion, represent a very small proportion of GDP, about 0.4 per cent of one year’s GDP. Bear in mind that we are talking about a sum being spent not in one fiscal year but rather spread over two or three fiscal years. As a proportion of any one year’s GDP, the additional borrowing that might be entailed if the government chose to fund all of it through borrowing would be about 0.2 per cent of GDP”* (The Senate Economics Legislation Committee, 2011, p.16).

Despite these arguments, the government appeared committed to obtaining a budget surplus in 2012/2013, arguing that imposition of a levy was necessary given Australia would be undertaking an unprecedented rebuilding programme after a summer of natural disasters. *“Rebuilding flood-affected regions across Australia is going to be an immense national challenge with the Commonwealth’s costs expected to be in the vicinity of \$5.6 billion. The levy is estimated to raise \$1.8 billion towards these costs”* (The Senate Economics Legislation Committee, 2011, p.17).

While the unusual circumstances of a natural disaster could justify a one off tax increase, Australia has a history²¹ of ‘one-off’ levy payments for various reasons:

- In response to the 1996 Port Arthur massacre, then Prime Minister John Howard temporarily raised the Medicare levy by 0.2 per cent to 1.7 per cent to fund his firearms buy-back program.
- The Howard government also imposed a temporary levy to partially offset Australia's defence costs in East Timor, commencing on 1 July 2000. Individual taxpayers earning more than \$50,000 paid the levy at a rate of 0.5 per cent and those with a taxable income above \$100,000 paid a 1 per cent levy.

²¹ More recently, levies have been announced to fund a national disability insurance scheme (The Australian, 2013) and temporary budget repair levy (Commonwealth of Australia, 2014).

- A domestic sugar levy was introduced on 1 January 2003 to fund a support package for sugar farmers at a time of plummeting world sugar prices, and was abolished in 2006. A \$10 levy was imposed on plane tickets in October 2001 to help pay for workers' entitlements after Ansett's collapse a month earlier. It was scrapped in 2003 (The Australian, 2013).

These taxes are inefficient in terms of increasing the dead weight loss of the tax system and leading to uncertainty for taxpayers and investors. The flood levy was therefore subject to substantial public comment, criticism and calls for a review of funding for natural disasters. *“In light of the many natural disasters that have occurred in a relatively short space of time in both Australia and the Asia-Pacific region the committee believes it would be prudent to examine the adequacy of its preparedness for future reconstruction efforts following a natural disaster, and its impact on the economy”* (The Senate Economics Legislation Committee, 2011, p.20).

This has led to the Australian Productivity Commission being asked to assess Government funding arrangements for natural disasters in the longer-term (Productivity Commission, 2014). The outcome of this review is likely to be of considerable interest to future tax policy makers.

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Appendix 1: Comparing Musgrave to recent international reviews

	<i>Revenue adequacy</i>	<i>Equity</i>	<i>Efficiency</i>	<i>Ease of administration and compliance</i>	<i>Consistency with fiscal policy</i>
Musgrave & Musgrave, 1989).	Good tax policy should ensure an adequate revenue yield.	The distribution of the tax burden should be equitable.	Taxes should be efficient, with minimal impact on economic decisions.	The tax system should permit fair and non-arbitrary administration and be understandable to the taxpayer.	The tax system should facilitate the use of fiscal policy for stabilization and growth objectives.
The Tax Review 2001.		Described as fairness. Stressed the need to understand who bears the consequences of a tax, as the economic impact will often be different from its statutory impact. Identified a number of characteristics of fairness: ability to pay, even handedness, user pays and transitional fairness.	Described as reducing economic distortions. Tax policy design should aim to reduce the costs of imposing taxes by keeping differences in effective tax rates as low as possible, and applying a similar tax treatment to closely substitutable activities.	Identified reducing administration costs (the cost of the tax authority, courts, and executive and legislative processes) and reducing compliance costs (the costs of obtaining information and advice, preparing and filing returns, making payments, and resolving disputes).	
Victoria University of Wellington Tax Working Group (2010).	Gave the principle a temporal dimension, taking a longer-term view of revenue adequacy.	Introduced a temporal element, including how equity compares over peoples' life-times.	Advocated for efficiency in tax policy design. Taxes should be efficient and minimise (as far as possible) impediments to economic growth. The tax system should avoid unnecessarily distorting the use of resources by causing biases toward one form of activity versus another.	The tax system should be as simple and low cost as possible for taxpayers to comply with and for the tax authority to administer. Emphasis on policy coherence and consistency for the tax system as a whole. Recognised lobbying costs associated with taxpayers seeking concessions.	Review was conducted in the early days of the global financial crisis. Stressed the need for tax reforms to be affordable given fiscal constraints.

<p>The Henry Review.</p>	<p>Focused on the concept of revenue sustainability.</p>	<p>The tax system should reflect vertical equity (requiring tax burdens to be distributed progressively) and horizontal equity (people in the same economic position should bear the same tax).</p>	<p>Linked the principles of equity and efficiency. The tax system should raise and redistribute revenue at the least possible cost to economic efficiency.</p>	<p>Encouraged simplicity. The tax system should be easy to understand and simple to comply with. Emphasis on policy coherence and consistency for the tax system as a whole.</p>	<p>Considered the context in which the tax system operates: demographic change, changing social context, rising expectations about living standards, the shifting centre of world economic activity, globalisation, importance of national savings, and growing environmental pressures.</p>
<p>The Mirrlees Review (Mirrlees, 2011).</p>	<p>Focussed on equity and did not identify either revenue adequacy or sustainability as a key tax policy design principle.</p>	<p>The tax system should have a process and institutional context which is seen as fair. Rather than trying to resolve every complaint, policy makers should be transparent about the objectives, arguments, evidence and consequences of proposals.</p>	<p>Linked the principles of equity and efficiency. Defined efficiency as minimising the negative effects of the tax system on welfare and economic efficiency.</p>	<p>Advocated for a tax system that people understand. Emphasis on policy coherence and consistency for the tax system as a whole.</p>	<p>Taxes need to be designed for the economies in which they operate. The level of economic development, types of income, growing inequality, and labour market change and technology need to be factored in when designing a tax system.</p>

Appendix 2: Phases of the disaster management cycle

	Firms and individuals	Governments
Pre-disaster: Risk identification	The cost of a natural disaster can be substantially reduced if people are well informed and motivated towards a culture of prevention. This requires the collection and dissemination of information on hazards, vulnerabilities and capacities (United Nations, 2007).	Knowledge of vulnerabilities helps governments determine how much to insure and spend on mitigation (IPCC, 2012; Laframboise & Loko, 2012). As the cost of a disaster can be reduced if people are well informed, this information should also be made available to individuals (The World Bank, 2010).
Pre-disaster: Risk reduction	Individuals may choose to rely on ex post assistance, as paying for prevention is costly while receiving relief from others is free (Cavallo & Noy, 2011; Cohen & Werker, 2008; Freeman et al., 2003). Alternatively, firms and individuals could respond by moving to a safer location. Households and firms can also choose to save and accumulate reserves to cushion the welfare loss from disasters (Phaup & Kirschner, 2010). Finally, agents may choose to invest to reduce damage. From a purely economic point of view, investing in risk reduction pays off (Freeman et al., 2003; The World Bank, 2004). However, mitigation requires resources and involves an evaluation of the impacts and probabilities of a disaster occurring (Cavallo & Noy, 2011). With respect to evaluating risk, people differ, they do not always correctly perceive risk and they may not always act in their own best interests (The World Bank, 2010).	Governments can take a range of risk reduction activities: legislating for risk reduction, allocating resources to risk management, promoting community participation in risk reduction, natural resource management, protecting and strengthening critical infrastructure, promoting public-private partnerships for risk reduction activities, and land-use planning (Laframboise & Loko, 2012; The World Bank, 2010; United Nations, 2007). However, Governments have strong incentives to invest in ex post assistance at the cost of ex ante prevention. Politicians and policy makers face weak incentives for adopting preventative measures (Healy & Malhotra, 2009). Diverting resources away from current services has a visible opportunity cost. Disasters are also considered to be “acts of God” and politicians are not blamed for a lack of preparation (Cavallo & Noy, 2011). In contrast, officials are held accountable and rewarded for responding quickly once a disaster occurs (Phaup & Kirschner, 2010). Even if governments want to take action, they must finance preventative measures, trading-off between the cost of ex post responses as compared to pre-disaster activities (Cohen & Werker, 2008).
Pre-disaster: Risk transfer	Insurance plays a significant role in coping with disasters by transferring risk to those willing to bear it (Freeman et al., 2003; The World Bank, 2010). However, many private households and firms are inadequately or inappropriately insured (Powell et al., 2010). This may be linked to a number of problems associated with insurance coverage for large natural events, for example: uncertainty with regard to the size of potential losses, moral hazard, adverse selection, highly correlated risk (Cavallo & Noy, 2011; Kunreuther & Pauly, 2009); and uneven protection (Freeman et al., 2003). Due to these challenges, governments may choose to mandate the purchase of private insurance or offer insurance to property owners directly (Phaup & Kirschner, 2010). However, mandated insurance policies have higher administrative costs resulting in higher premiums (Phaup & Kirschner, 2010).	Governments can transfer risk by taking out private insurance (Freeman et al., 2003; Phaup & Kirschner, 2010; The World Bank, 2010). Insurance can be beneficial where premiums are lower than the expected loss (The World Bank, 2010). Risk assessment to determine the amount of insurance and payment of premiums focuses attention on mitigation prior to a loss event. The transfer of funds also puts money beyond the reach of politicians and officials who might otherwise divert funds. Disadvantages with insurance are that it leaves the government with counterparty risk (Phaup & Kirschner, 2010) and contracts can be expensive, with prices fluctuating every time there is a major event (Cavallo & Noy, 2011). An alternative is a catastrophe bond. However, the market for such instruments is in its infancy (Cavallo & Noy, 2011). Governments may also self-insure by establishing a general fund or annual budget allocation to provide for natural disaster expenditure (Freeman et al., 2003; Laframboise & Loko, 2012). These provide incentives to undertake mitigation activities and

	Individuals also bare counterparty risk, although this may ultimately be passed back to the government. Where insurance is provided directly by the government, there can be challenges with controlling costs as there may be political pressure to lower premiums, opposition to risk-based pricing and capping coverage (Freeman et al., 2003; The World Bank, 2010).	reassurance to potential insurers and donors (Freeman et al., 2003). However, fully funding disaster costs may be expensive (Cavallo & Noy, 2011) and will divert resources away from other infrastructure and social spending (Laframboise & Loko, 2012). An alternative is to adopt a stable, sustainable fiscal policy, which gives governments the ability to fund responses by increasing international borrowing (Phaup & Kirschner, 2010).
Immediate response	The response phase begins immediately after a disaster happens and includes both immediate relief and responses to re-establish systems and infrastructure (Todd & Todd, 2011). For firms and households, the focus is fast effective relief – to help those affected to recover from the immediate effects of the disaster by providing food, shelter and medical care (Freeman et al., 2003, The World Bank, 2004; Todd & Todd, 2011; Venn, 2012).	In determining how to respond, governments assess physical damage and the likely impact on economic activity (The World Bank, 2010). An assessment of the effects of the disaster is needed to guide decisions on the level of relief to provide as support is limited by the government’s fiscal situation (The World Bank, 2010). Governments also need to consider how their recovery responses impact on private incentives to prepare for disasters, as Government relief can displace the efforts of others and increase the cost of government responses (Phaup & Kirschner, 2010). Government relief in this phase often takes the form of transfers in cash or in kind. Short-term measures like income support and wage subsidies are used to help workers who have been displaced by temporary firm closures and to provide support for firms to preserve jobs (Venn, 2012). Medium-term government responses can also include public works programmes to employ displaced workers and financing for firms affected by a disaster (Venn, 2012).
Post-disaster	This phase includes recovery, rehabilitation, and reconstruction activities (Venn, 2012), and may also include developing risk reduction measures to reduce future vulnerability (IPCC, 2012; The World Bank, 2004). Medium term responses take the first steps towards recovery by assessing damage to infrastructure, communities, institutions, and business and planning restoration activities (Todd & Todd, 2011). Assessing the impact of a natural disaster on individuals and firms is likely to identify a reduction in productive capacity caused by damage to business assets and infrastructure, and damage to agriculture (The World Bank, 2004) and natural resources (Freeman et al., 2003). There is also likely to be change in demand (negative for those with reduced clients and positive for those involved in construction or outside the affected areas), banking losses, increased insurance premiums, reduced employment and decreased housing market activity, followed by property and rental increases where the loss of dwellings outstrips the loss of population (Parker & Steenkamp, 2012). These impacts on individuals and firms raise a number of issues for governments.	Private effects of a natural disaster translate into large long-lasting macro-economic impacts (Freeman et al., 2003). Disasters impact the level of GDP, leading to a worsening fiscal position as the tax base contracts and spending needs rise (Freeman et al., 2003). They result in a weakening trade balance as the capacity to produce exports falls and reconstruction needs increase imports and divert domestic products to the home market (Laframboise & Loko, 2012). This (and foreign investors’ concerns about future earnings and tax pressures) puts downward pressure on the exchange rate (Freeman et al., 2003). Inflationary pressures arise from an excess of monetary holdings in the face of reduced incomes and wealth, monetization and exchange rate depreciation (Freeman et al., 2003). Natural disasters can also have a negative impact on the fiscal accounts and levels of public debt. Typically, tax revenues decrease as economic activity declines and emergency relief and reconstruction lead to an increase in government expenditures (Melecky & Raddatz, 2011). If governments borrow to fund the deficit, public debt ratios rise. A fall in domestic savings is also likely, leading to an increase in borrowing abroad. While these economic impacts are relatively well understood, quantifying the economic impact can be difficult as it is hard to disentangle the effects of the disaster, and timely and reliable data can be hard to obtain or interpret (Parker & Steenkamp, 2012).

Appendix 3: Other Australian Tax Governance Bodies

Name	Entity type	Role
Board of Taxation	Non-statutory advisory body	The Board advises the Treasurer on improving the general integrity and function of the taxation system. It provides business and broader community perspectives. Established in 2000.
Inspector General of Taxation	Independent statutory agency	Identifies systemic issues in tax administration and reports to the Government with recommendations for improving tax administration. Does not review tax policy. Established in 2003.
Taxation Ombudsman	Independent statutory agency	Investigates complaints from taxpayers and tax professionals about the administrative actions of the Australian Taxation Office (ATO). Also uses information from complaints to identify potential systemic problems in tax administration. Established in 1995.
Australian National Audit Office	Independent statutory agency	Undertakes financial statement audits and performance audits examining the economy, efficiency and administrative effectiveness of the ATO's administration of the tax system.
Tax Practitioners Board	Independent statutory board	The Board is responsible for the registration and regulation of tax practitioners and for ensuring compliance with the <i>Tax Agent Services Act 2009</i> . Replaces six state based Tax Agents' Boards.
Tax and Transfer Policy Institute	Independent research centre	The institute was established in 2013 as an independent centre for excellence at the Australian National University Crawford School of Public Policy.
Parliamentary Budget Office	Parliamentary department	Informs the Parliament by providing independent and non-partisan analysis of the budget cycle, fiscal policy and the financial implications of proposals. Established in 2011.
Joint Committee of Public Accounts and Audit (JCPAA)	Statutory Committee in Parliament	Since 2007, JCPAA has conducted public hearings with the ATO Commissioner with respect to the administration of the tax system.
Senate Economics Committee	Statutory Committee in Parliament	Investigate specific matters of policy, government administration or performance.

(Heferen et al., 2013, p.12).

About the Authors

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