

## OPINION

# Climate change insurance

Greenhouse gas emissions can be cut at a moderate cost to the nation, say *Philip Adams and Peter Dixon*.

**R**ecently, a petition was circulated among senior academic economists seeking endorsement for a statement on climate change. Key points were that warming of the world's climate through human activity is undeniable; that preventive policies, such as carbon taxes, are urgently needed; and that developed countries such as Australia should demonstrate leadership by being involved in international efforts to cut emissions. We signed the petition for the following connected reasons.

First, compelling advice from the scientific community, including CSIRO, suggests that a sharp cut in world greenhouse gas (GHG) emissions would substantially reduce the risk of catastrophic climate change over the next century.

Second, as part of a worldwide effort, Australia could achieve deep cuts in its own GHG emissions at only a moderate cost in terms of reduced economic welfare. It is on this second point that economists have

particular expertise, justifying the presentation of an economists' petition.

Cutting GHG emissions is like buying an insurance policy: we incur a cost (a loss in GDP) to reduce a risk (catastrophic climate change). In any insurance decision, the cost matters. If a worthwhile reduction in risk costs 50 per cent of income, then living with the risk may be preferable. But if it costs 1 per cent of income, then taking the insurance policy may be the best option. So what will it cost?

For the last 20 years, we have undertaken economic modelling exercises for Australian and overseas organisations on the costs of GHG reductions. Our modelling and that of other quantitative economists around the world supports the claim in the petition that:

“Credible estimates suggest that a 50 per cent emissions reduction is achievable for less than one year's economic growth.”

Exactly what this means can be explained in terms of the report by the Allen Consulting Group to

## AUSTRALIAN BANKS

## Risk reporting

**O**perational risk (OR) is a key risk faced by banks, but traditionally it has not been a focus for markets or for regulators. Even defining OR has proved a challenge for both the industry and its regulators. The disclosure of key areas of risk is important for both market discipline and effective bank regulation. Financial industry estimates suggest that operational risk contributes approximately one quarter of total bank risk. OR has also been the source of substantial bank losses – a recent example occurred in 2004 when the National Australia Bank lost \$360 million as a result of operational risk in its foreign exchange options trading area. This study of voluntary operational risk disclosure

in Australian bank annual reports was undertaken between 1998 and 2003 during a period in which substantial regulatory change had been foreshadowed, but not yet formally implemented. The research offers the first empirical investigation of whether Australian banks have changed their level of OR disclosure.

During the period of this study, the Basel Committee on Banking Supervision (BCBS) formulated a standard definition for OR and announced a new Basel Capital Accord (Basel 2) on OR disclosure and minimum capital requirements. Thus, banks had an incentive to reveal their level of operational risk as it would help prepare them for the formal requirements of Basel 2. There was also an incentive to show that formal requirements were unnecessary by implementing high levels of disclosure.

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the Business Roundtable on Climate Change (March, 2006). Modelling we contributed to that report shows Australia's real GDP growing between now and 2050 at an annual rate of 2.2 per cent under the assumption of no new GHG policies. In this scenario, Australia's GHG emissions by 2050 are 80 per cent above their level in 2000.

In an alternative scenario, Australia introduces an Emissions Trading Scheme (ETS) to reduce its GHG emissions by 2050 to 60 per cent below their level in 2000.

### **As part of a worldwide effort, Australia could achieve deep cuts in its own GHG emissions at only a moderate cost in terms of reduced economic welfare.**

Even with this very deep cut in emissions, Australia's GDP grows between now and 2050 at an annual rate of 2.1 per cent. The implication is that a massive 60 per cent cut in GHG emissions (relative to the 2000 level) costs about 20 months growth – the level of GDP that we would have reached on 1 January, 2050 is not reached until 1 September, 2051. A lesser cut would incur a lower cost. Taking account of non-linearities (the first 1 per cent

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Basel 2 is due to be implemented in Australia on 1 January 2008. Over the six years of the study, only 10 Australian banks afforded access to full annual reports. Trends in the quantity and quality of disclosure were examined. The absolute data was then tabulated and ratios calculated relative to the relevant total risk report.

The initial response of the Australian banking sector was to increase the *quality* of reporting on OR. But in the absence of a formal requirement, there has not been a significant increase in the *quantity* of reporting and not all banks specifically discussed OR in their annual reports over the study period. This is surprising given the regulatory environment. However, when the formal regulatory requirements are in place in January 2008, substantial change should be expected. ■

#### AUSTRALIAN BANKS

## Safety net

**B**ankers say no thanks, supporters hope it will liberate Australia's financial system and the financial press sit somewhere in the middle.

Deposit insurance is a guarantee that if a bank or insurer goes down, insured depositors get something back. There are two types of insurance: explicit and implicit. Explicit deposit insurance is an unequivocal agreement that bank deposits or insurance policies are protected up to a limit. With implicit deposit insurance the public remain uncertain if the Government will step in and pay out deposit holders in the case of corporate failure. Australia has an implicit deposit insurance system although for political reasons most governments have eventually jumped in after a collapse such as in the case of Pyramid Building Society in Geelong and HIH Insurance.

A new proposed scheme for retail depositors only put forward by the Council of Financial Regulators (CFR) wants the Government to provide a certain percentage (90 per cent and up) of a prescribed amount (proposed \$20,000) of the money lost. When the bank is fully wound up, the liquidator reimburses the

### **With implicit deposit insurance the public remain uncertain if the Government will step in and pay out deposit holders in the case of corporate failure.**

Government and if there's insufficient funds, other surviving authorised deposit-taking institutions (ADIs) would be levied.

At the moment, Australian depositors are protected by the 'depositor priority' rule or provision contained within the *Banking Act 1959*. This states that, "depositors in Australia have first claim on the assets of an ADI in Australia should it be unable to meet its obligation or should it suspend

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cut is much easier than the last 1 per cent cut), a reasonable estimate for the cost of the 50 per cent cut mentioned in the petition is 12 months growth.

This suggests that the national macroeconomic impacts of an ETS are moderate, but does this carry through at an industry level? The modelling cited above showed that potentially some industries will be adversely affected, but that those adverse affects could be mitigated by targeted allocation of permit revenue. There are two main alternatives for permit allocation: auctioning with the permit revenue retained by the government, or grandfathering in which the permits are given to emitters free of charge. In the scheme modeled for the Business Roundtable, a hybrid system was designed to lessen effects on areas of the economy likely to be most adversely affected by the scheme. Some permits were freely allocated to those affected owners of generators to ameliorate the impacts on their rate of return, while the remaining permits were auctioned. The auction revenue was then used, first, to compensate trade-exposed, energy-intensive industries such as metal manufacturers. The purpose here was to offset the impact of the ETS on energy costs and thereby neutralise the effects of the ETS on each industry's international competitiveness. The remaining auction revenue was used to fund assistance measures for households, regions or small businesses deemed to have been 'unfairly' affected by the scheme.

Why do modelling results suggest that GHG emissions could be sharply reduced at seemingly moderate cost in terms of lost real GDP for the nation? Are these results plausible?

The main GHG-emitting activities are fossil-fuel-based provision of electricity and motor fuels. In Australia, these account for about 5.4 per cent of GDP. Advice from scientists and engineers indicates that the adoption of current alternatives to fossil-fuel-based technologies would no more than double the costs of electricity and motor fuels. As a back-of-the-envelope calculation, this suggests that Australia could make a 50 per cent switch to alternative technologies at a cost of 2.7 per cent of GDP, a little over an average year's growth. But this is a pessimistic view of the costs of climate insurance. If the world embraced the need for deep cuts in GHG emissions, we would expect rapid technical progress in GHG-benign technologies which would reduce the costs of their adoption. ■

**Professor Philip Adams and Professor Peter Dixon**  
Director and former Director of the Centre of Policy Studies, Monash University

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payment". To support depositors' interests, the Banking Act requires ADIs that take Australian retail deposits to hold assets here equal to their deposit liabilities.

Some worthy facets of the CFR insurance scheme are that it helps protect small depositors and encourages them to save; it stabilises the banking system; and it forces individuals with deposits over the stipulated limit to more closely monitor their bank's activities.

However, the proposal has its problems. The insurance could cause banks and depositors to become more complacent. It may also create a 'moral hazard' – both ADIs and insured depositors may adopt more risktaking activities to maximise their returns knowing their funds are covered. The adverse effects of this could spread throughout the banking sector. However, this moral hazard is minimised by the CFR recommendations that do not entirely eliminate the risk for both ADIs and depositors.

A key difference between the current implicit and the proposed explicit system is how they are funded. The current system is taxpayer funded, but any excesses not covered under the proposed explicit system by asset sale fall on the surviving institutions in the same pool as the failing institution. Rather than obtaining funding from all financial institutions and general and life insurance companies when, say, a credit union fails, the scheme limits the pool source. If a failure occurred in one sector such as a credit union, only the ADI funding pool is liable.

The CFR has proposed an ex post-funding arrangement based on other institutions in each pool. The levy will be based on surviving institutions' share of total insured deposits. The other option for explicit deposit insurance would be a pre-funded arrangement where institutions pay a levy each year to add to the pool.

How much each institution should contribute is another contentious issue. Theoretically, riskier firms should contribute more, but the CFR applies funding levies based on the insurance deposit base as a percentage of the total pool of insured