

Agricultural Competitiveness White Paper:
Submission in response to the Green Paper
– Multi-Peril Crop Insurance

Executive Summary

A Taskforce convened by Grain Producers Australia has concluded that farm business managers require tools to better assist in the management of production and marketing risks in their enterprises. These risks are evidenced in the highest levels of volatility in quantity and value of agricultural production across the Australian economy and in comparison to our international competitors.

The Taskforce has proposed options that will assist in the development of multi-peril crop insurance (MPCI) that will meet the needs of Australian farmers.

Historically, the Australian farm sector has proven its capacity to successfully manage the risks of agricultural production over the long run. However the ongoing decline in agricultural terms of trade means the impacts of these risks on the farm sector now undermine farm financial resilience and increase mortgage default risk significantly.

Similarly risks are increased with farm consolidation; which whilst driving economies of scale and the opportunity to hold margins against declining terms of trade has reduced farm equity through the associated debt financing requirements. This leaves farm businesses more vulnerable to risks of de-capitalisation following production catastrophe.

Historically asymmetric information, adverse selection and moral hazard have been key barriers to success of MPCI models in Australia. The Taskforce found that the development of relevant datasets to drive actuarial models behind these insurance products is important to overcoming these barriers; and that the integration of disaggregated farm business data with improved remote sensing capacity are necessary enablers to overcoming these barriers.

Cost of MPCI and farmer awareness of the benefits of insurance has meant a preference for other risk management strategies, despite the fact that these strategies often had higher opportunity costs than insurance; however opportunities for increased farm business strategy and management training will assist farmers to make better management decisions on-farm to maximise their profits and reduce their risk.

The Taskforce also reviewed the recently introduced cost of production insurance model and noted that observations from its first year of operation indicate:

- A positive impact on farm productivity through confidence in investing in crops to their seasonal potential.
- That while the use of the global reinsurance market assists to spread MPCI risks beyond Australia, reinsurers also need the capacity to manage risk exposure within Australia. This requires greater depth to datasets to better calculate the distribution of maximum probable losses in Australia.
- Opportunities exist to manage moral hazard through the use of conditions placed on insurance policies, such as farm agronomy and marketing plans.
- Opportunities exist to link seasonal finance to cost of production insurance.

Whilst agriculture is positive that a market for commercially underwritten and reinsured MPCl policies can successfully operate in Australia, the Taskforce believed that Government has an important role to play in establishing such a market.

The Taskforce proposed that Government should enter into a three year pilot programme to assist in meeting this objective. The key features of this programme are:

- Government measures that provide a financial incentive to farmers to undertake strategic farm business management. This should include the assistance to undertake production audits necessary for applications to take out an MPCl policy.
- Introduction of a refundable tax offset scheme with a gross up of 150% for all eligible expenditures on crop insurance cover with a refundable cash offset of 30%.
- Assist in the development of actuarial models and datasets that will encourage the entry of commercial underwriters and reinsurers offering MPCl products.
- Funding a 200% maximum stop loss ratio on losses reinsurers could be exposed to in any one extreme season from extreme weather event(s).
- Introduce a 'self insurance bond' which allows a business entity to deposit cash into a Government fund and be able to claim a full tax deduction on deposit and be fully assessable on withdrawal.

The Taskforce propose that detailed data collected from the pilot could be used to model the impact of MPCl on agricultural productivity and farm profitability and the overall efficacy of the scheme prior to the introduction of any potential cross-commodity industry wide model.

The Taskforce believe that these measures could be implemented:

- An acceleration in the adoption rate by farmers of MPCl products;
- Short term budget neutrality with respect to recovering accelerated tax expenditures with an increased quantum of tax receipts and reduction in transfer payments;
- Managing the cost of MPCl products by managing the maximum probable losses and loss distributions reinsurers are exposed to; and
- Increasing the liquidity of self-insurance financial resources held by farm businesses.

The Taskforce proposed that in the alternative Government could consider the development of a rural innovation fund which would seek to establish private public partnerships to develop or establish risk management products, including new MPCl models that will work to assist Australian farmers.

Introduction

The Multi Peril Risk Management Taskforce is the product of a grains industry stakeholder meeting convened by Grain Producers Australia, held on 8th September 2014 in Melbourne. Members were invited on the basis of them being key stakeholder representatives of the grains industry but not limited to their scope across commodities. This meeting had representation from Researchers, Farm Representatives, Banks & Multi National Companies attend. A small group was formed at the completion of the meeting to progress outputs from this meeting as set out below.

- Fiona Simson, Chairman NSW Farmers Association;
- Garry Gale, National Agri Business Development Manager, National Australia Bank;
- Andrew Weidemann, Director, Chairman Grain Producers Australia;
- Peter Mailler, Consultant, Grain Producers Australia;
- Mark Bennett; National Agri Business Manager, ANZ Bank;
- John Thomson, Director, RSM Bird Cameron, Chartered Accountants;
- Michael Robertson, CSIRO;
- Mick Keogh, Farm Institute of Australia.

The scope of the Taskforce was to review the introduction of all Multi Peril Crop Insurance ('MPCI') programs currently being offered in Australia. Respective Taskforce members were to report back to their respective stakeholder organisations in order to better identify barriers to the establishment of a competitive commercial market for the underwriting of multi-peril insurance policies for farm businesses with the aim of establishing policy recommendations to achieve this outcome. In undertaking this role, the Taskforce was to contribute its findings into the consultation that the Australian Government is undertaking in the development of its Agricultural Competitiveness White Paper to contribute to the discussion necessary to deliver this outcome.

The willingness of the Taskforce to work together and contribute collectively in policy development is a clear indication of how important the successful development of alternate risk management products is being considered. Whilst respective commercial and policy objectives of the stakeholders represented upon the Taskforce are acknowledged and respected they should not in any way detract policy development that will encourage multiple entrants into the comprehensive group insurance market. All stakeholder groups have a vested interest in the long term financial stability of agriculture. If the grains industry is not successful in developing a sustainable comprehensive risk product then it is highly unlikely other industry segments will be successful in attracting risk capital.

In line with the key stated objective of the Australian Government's agricultural policy, that of achieving a better farm gate return to ensure a sustainable and competitive Australian agriculture sector, the Taskforce is heartened by the initial observations of the impact of MPCI products on farm productivity. These observations suggest that these types of insurance product provide the confidence to farmers to invest in the productive potential of any given season and make the necessary decisions to maximise on favourable marketing conditions. With this in mind the paper comments on:

The nature of MPCl products, their availability to Australian farm businesses and factors that have constrained this availability

- Options that will facilitate the entrance of commercial underwriters and reinsurers of MPCl policies; and
- Propose a pilot programme to better evaluate the costs and benefits of MPCl to farm businesses and the Australian economy over all.

In making these comments, the Taskforce has considered it necessary to articulate what it considered the boundaries of the purpose of MPCl to be. Specifically, due to the systemic risk and moral hazard associated with the insurance of farm businesses in prolonged drought conditions, it is unlikely that MPCl policies would be made available in these circumstances or at least at premiums commercially affordable by these businesses. However MPCl has the ability to play an important role in providing farm businesses as a risk management option that:

- Promotes profitable operation of farming businesses in favourable seasons enabling financial consolidation;
- Facilitates appropriate seasonal financing of operations reducing the requirement to fund working capital against land values managing risks to farm business equity; and
- Protects necessary reinvestment in farming businesses in the drought recovery process.

On this basis, the Taskforce promotes MPCl, and government measures that facilitate its adoption, as a suitable mechanism to meet the following objectives of the Intergovernmental Agreement on National Drought Program Reform:

- *'assist farm families and primary producers adapt to and prepare for the impacts of increased climate variability'*; and
- *'encourage farm families and primary producers to adopt self-reliant approaches to manage their business risks'*.

Further, Revenue Crop Insurance has the ability to make a positive impact on policy areas such as natural disasters covered by the Natural Disaster Relief and Recovery Arrangements (NDRRA); as well as providing greater self reliance for farm businesses impacted by other natural occurrences not covered by either the NDRRA or drought policy, such as frost.

Background

A key role of the Taskforce is to harness the energy and innovation of stakeholders. This can be achieved by encouraging bipartisan support in developing innovative policy to recapitalise agriculture and regional communities from the resources of the global reinsurance markets. In order for agriculture to have the capacity to continue to invest in productivity improvements the current farm businesses need to be sustainable.

The consolidation of farm land has resulted in unprecedented levels of debt with associated high debt servicing commitments. Whilst farm consolidation has resulted in economies of scale and an opportunity to hold margins against continuing decline in terms of trade, this debt servicing

requirement associated with these expansion efforts limits the ability of these businesses to consolidate operating surpluses into equity.

The risks of high debt levels exponentially accelerate risk of the de-capitalisation of farm businesses following a production catastrophe. The risk of bankruptcy is now as much as a risk for entrepreneurial farm businesses, as those farmers with smaller levels of investment and production due to the scale of working capital needed to finance seasonal cropping programs.

Australian farms face risks associated with both the production and marketing of their outputs. The first being the uncertainty created by the potential adverse impact of growing seasons, disease and pests on the quantity and the quality of produce, the latter brought about by uncertainty over price paid for inputs and received for produce. The Australian Farm Institute has identified that with regard to the volatility of production of crops, Australian agriculture has the highest volatility globally both in terms of production and the value of production. Agriculture also has the highest volatility with regard to annual value of output in the Australian economy for a period that has extended over forty years.¹

Noting that despite this volatility and a continuing deterioration in terms of trade Australian farmers were able to maintain profitable outcomes, the Australian Farm Institute concluded that the Australian farmer is a formidable manager of risk. Never the less, noting the trends above there is a need to provide Australian farmers with new risk management tools to deal with this volatility.

The Taskforce has concluded farm business managers are looking for a suite of tools that will assist them to better manage the production and marketing risks in their enterprise. In this process the Taskforce drew on an understanding that while income replacement insurance products for named perils, such as hail and fire, play an important role in managing production risk, the limitations of these products continue to place critical capital of farm enterprises at risk. On this basis, MPCl offers an additional tool that will assist in managing the financial impact of agricultural production and marketing risk.

Multi-Peril Crop Insurance

The Australian MPCl experience

The Taskforce conducted an extensive review of papers published since 1980 by industry, Government and private sector consultants considering the viability of introducing various forms of MPCl. While this submission does not proposed to recite the history of Australian crop insurance programs,² the following comments summarise the review undertaken by the Taskforce:

¹ Mick Keogh, 'Including risk in enterprise decisions in Australia's riskiest businesses' (Paper presented at the 56th Annual Conference of the Australian Agricultural and Resource Economics Society, Fremantle, February 2012), 2.

² For a more thorough examination of weather-related crop insurance see National Rural Advisory Council, *Feasibility of agricultural insurance products in Australia for weather-related production risks*, (September 2012).

- The majority of papers recited the findings of previous papers replicating their findings without submitting any new initiatives or recommendations;
- The attempts to calculate the cost of MPCl appeared flawed on the basis the projections used broad based averages and failed to provide any estimates in respect of the distribution of loss history;
- The models proposed and attempted to be marketed to farm businesses were index insurance models, weather derivatives or tax arbitrage schemes all having been critically reviewed as not being effective in other countries without substantial Government support; and
- There was no attempt to apply granular information on specific historical farm business performance combined with a revenue driver to calculate the sum insured.

In summary agriculture in Australia has marked time while the balance of the world's developed countries have at least implemented risk programs for crops, albeit in many cases they only survive due to high levels of tax payer funds being contributed to sustain their operation. However the Taskforce has become aware of niche commercially driven MPCl products that have operated alongside Government subsidised products in the Canadian market since 2011.³ Whilst being a new product in the Canadian market, its market share is rapidly gaining acceptance on the basis the cover is linked to cover critical loss of production costs rather than replace the loss of revenue as the result of a nominated peril.

Development of MPCl products for Australia

Asymmetric information, adverse selection and moral hazard have been historically key barriers to success of previous schemes. The development of relevant datasets to drive actuarial models behind these insurance products is important to overcoming these barriers.

The higher number of schemes developed in Western Australia can be linked to CBH's access to production data. However the Taskforce consider it important to distinguish production data from farm business financial data, which takes into account revenue derived from production and the costs associated with this production.

While MPCl offers the potential for more efficient on farm risk management, the delivery of insurance products in a way that is relevant to the risks of the farm business and cost affordable is severely limited by the lack of reliable disaggregated farm business data. Until recently the capacity to integrate soil, frost, rainfall and temperature data with disaggregated farm business data has been restricted. With these opportunities becoming more widely available, the Taskforce expects that commercial insurance providers will be better placed to engage in more competitive pricing and mitigate the risk of product failure due to excessively high initial premiums especially in the introductory phase.

³ Canadian Underwriter, *New multi-peril, revenue-based insurance coverage available for farmers* (21 March 2011) < <http://www.canadianunderwriter.ca/news/new-multi-peril-revenue-based-insurance-coverage-available-for-farmers/1000405411/>>.

This modelling is further supported by the real time information that remote sensing provides, which is most likely to satisfy the needs created by current data gaps. The Taskforce submits there is an ongoing role for Government in improving access to data held by Government agencies who are currently demanding payment for access. If research and development falls to the private sector exclusively it is unlikely there will be a rapid expansion of revenue insurance products to the other agricultural product segments.

No farmer or farm business is a representative of standard risk to insurance, with each respective farm business comprising of a set of complex matrix of inputs and outs. Without an individual risk assessment based on a detailed analysis of this matrix, insurers are faced with the difficulty of accurately assessing the risk of an individual farm business. The adoption of individual assessment is likely to result in premium pricing which highly correlates with risk. The Taskforce believe that one of the primary reasons why index insurance fails to meet the needs of farm businesses, even in jurisdictions with subsidies, is these products lack capacity to price very accurately and therefore reward those farmers who fall below the average. Evidence supporting this assertion can be found in the Western Australian Planfarm Bankwest Benchworks publication which can be used to conclude that rainfall is no indication of farm management and Australian farmers are good at working the season.

Insurers offer policies on the basis of standard assumptions on a farmer's behaviour. Therefore a key objective of individual declarations and financial analysis is to provide a mechanism to take out the rogues which have the potential to destroy program. The capacity to accurately calculate the gross distribution is the key to first and then maintaining access to comprehensive crop insurance. Without the appropriate quantum and quality of data this is simply not possible.

Factors impacting farmer take up of MCPI

As observed above, Australian farmers have been resilient managers of farm business risk; however current risk management strategies have potentially high but largely hidden costs, and are rarely acknowledged by farm business managers. For example, while high equity is a valid short and medium term strategy in managing risk, it also contains high opportunity costs by limiting further development of the farm business through debt financing. Further the real cost of self-insurance only becomes measurable when a production catastrophe occurs. Likewise commodity diversification may lead to opportunity costs through a less productive use of land.

The acknowledgement of the availability of and the associated opportunity costs of other risk management strategies correlates strongly with the suggestion that the inability of farmers to accurately assess the benefits against the costs of insurance is an inhibiting factor in farmer willingness to purchase MCPI.⁴

With this in mind, the Taskforce consider it pertinent to draw attention to factors associated with farmer adoption of innovation. Studies have identified size of farm, whether the farm was owned,

⁴ See Geoffroy Enjolras, Fabian Capitanio and Felice Adinolfi, 'The demand for crop insurance: Combined approaches for France and Italy', *Agricultural Economics Review* 13 (2012) 5, 6.

leased or share farmed, education, access to extension services and credit as being factors that impacted on the speed of adoption when innovations are at their early stage of dissemination.⁵

Whilst the Taskforce has not conducted any research into what farmers consider an affordable premium, they have identified a knowledge gap between insurance product developers and farmers. As a result, the Taskforce recommends that Government should be involved in risk management education programs that include the availability and the benefit cost of investment in MPCl.

Cost of production insurance

For the first time in 2014, a cost of production based crop insurance policy was offered to Australian farm businesses, with over 25 policy holders. Through a symposium held on 2 December 2014, the Taskforce was updated on the operation of this type of MPCl product, hearing the perspective of farmer policy holders and their advisors, the underwriters and reinsurers and other members of the financial sector.

Impact on farm productivity

In considering the key objective outlined by the Federal Government's agricultural policy, being that of achieving a better return at the farm gate to ensure a sustainable and competitive agriculture sector, the Taskforce considered observations on farm business confidence from the first year of the availability of revenue insurance. These observations indicated promising signs on the impact of the product on the investment confidence of participating farm businesses, including where investment in crop inputs were funded by increasing debt.

Agronomists working with these farm businesses reported a demonstrated enthusiasm for planning for target income, reviewed rotations and agronomic planning. There appeared to be reduced concern over seasonal conditions and an increased focus in farmers 'just doing their job'.

Observations also indicated evidence of farmers increasing the rate agronomic innovation uptake and more confidence is spending money on proprietary products. Concurrently there was consensus the trigger point for comprehensive crop insurance should be no higher than the cost of production to reduce the risk of moral hazard. Comprehensive crop insurance programs should be limited to and focus on replacing costs including drawings, financing, viable and fixed costs.

The Taskforce further formed the opinion that the use of a cost of production insurance model has the ability to facilitate greater confidence in farmers to use forward selling strategies in marketing crops, on the basis that insurance is able to indemnify losses that may arise as a result of production risk.

The Taskforce considered that the operation of a pilot program would provide the opportunity for CSIRO to model the productivity benefits that cost of production MPCl can have on agricultural productivity and farm gate profitability.

⁵ Gershon Feder and Dina L. Umali, 'The Adoption of Agricultural Innovations: A Review', *Technological Forecasting and Social Change* 43 (1993) 215, 234.

Perspective of reinsurers

At the symposium, representatives from the reinsurers associated with the cost of production model informed the Taskforce that given the severity of drought in northern NSW and Southern Queensland, they were encouraged by the loss ratio for the 2014 winter season. This was less than 200%. However concerns over the depth of the data set and limitations this places on calculating the distributions of maximum probable losses were raised.

The flexibility to quarantine bottom bands in high rainfall areas so farm businesses could self-insure the lowest risk part of their annual revenue assisted greatly in reducing the total risk to insurer. The Taskforce was informed that 31 March 2015 is expected to be the closing date for policy acceptance in the southern areas and 30 October 2015 for northern areas on the east coast to avoid moral hazard where farmers determine the seasonal prospects prior to purchasing insurance.

The grain marketing and management plans submitted by farmers will be incorporated into the contract of insurance in 2015 in order to strengthen the program's resilience against moral hazard. Claims are paid on actual losses and not on assessment such as hail or fire. The decision to take out hail or fire to insure income against these perils is an optional extra considered by those with comprehensive crop cover.

The Taskforce was briefed on how the calculation of gross loss distribution is the key to working out the reinsurance peak and loss. Reinsurers will forgo the peak gains which cost them cash to offset the extreme losses. Reinsurance is about balancing risk across the pool of policies with the aim of ensuring premiums received substantially outweigh those claiming against the pool. Reinsurers are keen to balance northern hemisphere with southern hemisphere exposures despite the difference in quantum of exposure. They also need for non-correlating risk within and outside of Australia which is encouraging for the proposed programs for sugar and irrigation crops.

Due to the surplus of reinsurance capital, Australia has the opportunity to access a very soft reinsurance market. This has been assisted by the growth in Insurance Linked Securities where large and often institutional investors place cash into trusts and risk this capital based on risk modelling and analytics for an appropriate fee.

Banks and other financial providers

The Taskforce was encouraged by the contribution and interest taking by the banking community in encouraging the development of MPCl. However they qualified this support by requiring the product to have a track record of paying claims and encouraged the entry of other providers and products into the market place.

As could be expected lenders will be expecting the policy to have the capacity to be assigned and the appropriate security interests to be able to be registered and enforceable. Taskforce representatives from the banking sector supported the use of MPCl to reduce the risk and increase the propensity of Australian farm businesses to adopt farm succession strategies.

Taskforce Proposal

The Federal Agriculture Minister, Barnaby Joyce, when announcing the terms of reference for the Agricultural Competitiveness White Paper identified farmer education being central to the promotion and adoption of sustainable risk management strategies. Efforts that reduce the adoption period of MPCl will facilitate outcomes in line with the Intergovernmental Agreement on National Drought Program Reform. Tax incentives have been demonstrated to be an incentive for farmers to adopt new business models, notwithstanding it is arguable farmers should adopt such strategies from a best business management perspective. The key to reducing the impact on public resources is to encourage mechanisms supporting sustainable risk management strategies.

Tax expenditures which directly assist with the demand for counter cyclical assistance measures will allow expenditures in the areas of agriculture research and export development to be strengthened. In conjunction with Revenue Insurance this is more likely to establish pathways to reform by helping continuing farmers to adjust to changes in market forces enhance both structural change and improve capital liquidity in agriculture.

The Australian Cost of Production MPCl model is unique to Australian conditions and has been developed outside of Government demonstrating Australian agricultural entrepreneurs has the capacity to be world leaders.

The proposed strategies set out below will be required to be both adopted and implemented concurrently if they are achieve the following outcomes:

1. An acceleration in the adoption rate by farmers of MPCl products;
2. Short term budget neutrality with respect to recovering accelerated tax expenditures with an increased quantum of tax receipts and reduction in transfer payments;
3. Managing the cost of MPCl products by managing the maximum probable losses and loss distributions reinsurers are exposed to; and
4. Increasing the liquidity of self-insurance financial resources held by farm businesses.

The Taskforce believes market failure currently exists with respect to the adoption of comprehensive crop risk management strategies by farm businesses. The reasons why farm businesses are reticent to adopt new strategies and technologies have been the subject of many academic research projects. It is the view of the Taskforce that Government intervention is warranted in facilitating the transition of Australian farmers from predominantly self-insuring to accessing capital from the global reinsurance markets. The role of Government is to intervene where a long term public benefit can be both identified and supported.

A summary of the recommendations are set out below followed by a detailed explanation of each recommendation:

1. Government should develop financial assistance measures that support strategic farm business planning. Undertaking production audits necessary for a MPCPI policy should meet the criteria for any support under such a programmes.
2. Introduction of a refundable tax offset scheme with a gross up 150% for all eligible expenditures on crop insurance cover with a refundable cash offset of 30%;
3. Assist in the development of actuarial models and data sets that will encourage the entry of commercial underwriters and reinsurers offering MCPI products.
4. Funding a 200% maximum stop loss ratio on losses reinsurers could be exposed to in any one season from extreme weather event(s);
5. Introduce a 'Self Insurance Bond' which allows a business entity to deposit cash into a Government fund and be able to claim a full tax deduction on deposit and be fully assessable on withdrawal.

The Taskforce propose that a three year pilot should be established to examine the impact of these measures on promoting self reliant risk management measures by farmers and of MPCPI policy on agricultural productivity and farm profitability. This would see incentives to take out MPCPI provided upon a requirement of the recipient farmer to provide the CSIRO any data that they are required to submit to underwriter of the policy.

An alternative proposition for the consideration of Government would be the establishment of a rural innovation fund, which could be utilised to establish private public partnerships that would develop wholesale, low cost risk management products that provide a return to both investors. These investments could take the form of injecting capital into existing MPCPI products or the development of new models with the aim of establishing a competitive market that will drive lowest cost for optimum coverage. Models for such investment can be found in the government's establishment of the Primary Industries Bank of Australia (PIBA), which was founded to develop new products for rural lending. Once commercialised, PIBA was sold to Rabobank providing a return to government. The fund could have a broader remit, to also engage in the development of new products that could assist young people into agriculture through the use of innovative funding arrangements, such as equity partnerships.

Support for farm business planning

The review of the West Australia Drought Pilot made the recommendation that governments 'have a role in providing support for strategic farm business planning'. This was made both on the general basis of the impact of education and skill level as a driver of productivity and the specific public good benefits derived from education in the farm sector.

Further in considering the Farm Planning programme rolled out as part of the pilot, the Review proposed that the assistance government provides should enable flexibility in delivery and incentives to implement and regularly review their business' strategic plan. In considering policy approaches to encourage self-reliant approaches to managing farm business risk, the Taskforce support the development of an assistance measure that provides an incentive for the development of strategic risk management planning on farm.

In addition to the rationale proposed by the Review of the Drought Pilot, the Taskforce believes that Government support for assistance to undertake strategic planning will better equip farmers to assess the benefits of taking out MPCI and therefore see improvements in adoption. To further assist the linkage between the development of strategic farm plans and on farm implementation of these plans, the Taskforce recommends that the criteria for measures included within such a scheme includes professional services that develop production audits or other disaggregated farm data required as a condition of a MPCI policy.

Refundable Tax Offsets

There is precedent in the Australian Taxation System for policy initiatives to be made more attractive and their uptake accelerated by introducing a range of both refundable and non-refundable tax offsets. An overview of several of these is set out below:

- Primary producers who purchase new conservation seeding equipment and receive a Research Participation Certificate can apply to the Australian Taxation Office (ATO) for a 15 per cent refundable tax offset.
- The R&D Tax Incentive provides eligible companies with a tax offset for expenditure on eligible R&D activities. The two components of the program are: a 45 per cent refundable tax offset (equivalent to a 150 per cent deduction) for eligible R&D entities with a turnover of less than A\$20 million per annum; and a non-refundable 40 per cent tax offset (equivalent to a 133 per cent deduction) for all other eligible R&D entities.
- If you are a primary producer, tax averaging enables you to even out your income and tax payable over a maximum of five years, to allow for good and bad years. This ensures that you do not pay more tax over a number of years than taxpayers on comparable but steady incomes. When your average income is less than your basic taxable income you receive an averaging tax offset. When your average income is more than your basic taxable income you must pay extra income tax on the averaging component of your basic taxable income.

Farmers, like other businesspeople, are responsible for managing risks that will occur from year to year. When extreme events happen which are uninsurable, simply because there is no insurance cover offered, there may be both a moral and economic argument short-term tax payer funded assistance may be necessary to help viable farmers survive. Notwithstanding farmers who both expect and receive direct payments are less likely to master market conditions.

Agricultural policy reforms should encourage farmers to adopt strategies which allow long term structural reform. The adjustment by farmers to supporting their grain producing enterprises with MPCI has brought challenges to the promoters of these products in Australia due primarily to some farmer's poor understanding of their financial position. It is the view of the Taskforce that tax policy could be used by Government as a way to accelerate introduction of MPCI, with the aim of increasing farmers understanding of the underlying financial position of their enterprise, increasing farm business resilience and autonomy, while also underwriting the sustainability of rural

communities. This could be done through the use of a refundable tax offset as an incentive to purchase MPCl.

Based on (the Planfarm Bankwest 2012/13 Benchmarks and) ABS data for in Western Australia the table below used area sown to produce grain or seed as a basis to estimate the cost to the Federal Government any RTO tax expenditure based on an assumed premium for cost of production MPCl policy of 8%

The Taskforce has prepared these calculations with the primary objective of illustrating the concept and highly recommends actuarial assessment of the cost estimates.

Table 1: Cost of RTO for Western Australia

	Cap Tax Rate 30%	Average Tax Rate 20%
Total Area Cropped	6,141,548	6,141,548
6 Year Average Revenue Per Hectare Adopting the Planfarm Bankwest Benchmarks 2012/2013	375 x 76% = 285	375 x 76% = 285
Total Value of Crop	1,750,341,180	1,750,341,180
Maximum Insured Value	70% x 1,750,341,180 =1,225,238,826	70% x 1,750,341,180 =1,225,238,826
Maximum Premium Paid	98,019,106	98,019,106
Maximum RTO	98,019,106 x 1.5 x 30% =\$44,108,597	98,019,106 x 1.5 x 20% =\$44,108,597
Expected Uptake Rate	20%	20%
Projected Annual Cost	\$8,821,719	\$5,881,146

Source Data: <http://www.abs.gov.au/AUSSTATS/abs@nrrp.nsf/Latestproducts/5Industry12007-2011?opendocument&tabname=Summary&prodno=5&issue=2007-2011>

The estimate cost of the proposed RTO can be directly offset by the following:

- An increase in income tax payments from those farming businesses who adopt Revenue Insurance on the basis a claims payment will be assessable income and therefore likely to reduce any carried tax losses from a disastrous production year to nil;
- A reduction in Centrelink transfer payments on the basis Revenue Insurance will increase taxable incomes;
- On the basis that income will exceed the thresholds given the receipt of an insurance claim MPCl policy holders will not meet criteria for prospective ad hoc disaster payments; and
- Both the social and economic cost of Australia's regional population continuing to relocate to coastal city hubs.

Table 2 below sets out the reduction in costs for a Revenue Insurance premium following the introduction of a RTO adopting Planfarm Bankwest 2012/2013 Benchmark data: [Table 2: Reduction in Premium Post Introduction of Rebatable Tax Offset](#)

	Top 25%	Average	Bottom 25%
Farm Liabilities	1,727,568	1,517,608	1,289,095
Debt to Income	1.2	1.3	1.5
Farm Income	2,073,082	1,972,890	1,933,643
Grain % Gross Farm Income	87%	76%	69%
Gross Grain Income	1,803,580	1,499,397	1,334,213
Premium Based on 8% of Sum Insured 70% of Rolling 6 Year Average	101,000	83,966	74,716
Refundable Tax Offset 150% x 30%	45,450	37,784	33,622
Net Cost After RTO	55,550	46,182	41,094
% Gross Revenue After RTO	3%	3.1%	3.1%

Companies have previously been allowed to carry back tax losses to get a refund of past tax paid claiming on the basis this policy setting will help ‘companies innovate and adapt in an economy in transition’. Conceptually a farming business is no different except that agriculture is challenged more by production catastrophes than other Australian enterprises attempting to reposition themselves in an increasing globalised economy. Whether a company claims back past tax paid or a current farm business passes less tax in the current year the impact on tax revenues is the same therefore it is equitable to provide both sectors with an opportunity to ‘innovate and adapt in an economy in transition’.

The rate of gross up of the sum insured and the rate of tax applied to the grossed up amount drive the quantum of the RTO. From a policy perspective RTOs should be designed to cover the minimum amount of insurance to ensure the farming business can survive to have the opportunity to produce a crop when seasonal conditions return to a longer term trend. Given different regions have different risk profiles and cost structures policy makers face the dilemma of setting a maximum RTO gross up amount.

Tax policy settings are used to assist the allocation of resources in the economy by supporting entrepreneurial activity and sensible risk taking. The objective is to encourage businesses to pursue new investment opportunities, compete strongly in export markets and create employment. A central challenge in estimating the effectiveness of tax policy is finding a suitable quantitative measure of policy that is exogenous and that exhibits sufficient variation to identify the effect of the policy. The rigorous evaluation of the impact of MPCl will allow a quantitative approach in evaluating the effect of fiscal incentives. This matter is expanded upon below.

Assist in the development of actuarial models and data sets

Further, the use of a Refundable Tax Offset could be utilised to encourage farmer participation in the evaluation of the impacts of MPCl on agricultural productivity and farm profitability and develop robust datasets to inform the continued development of a commercial MPCl market. This could be through making the RTO conditional on engagement in the evaluation of MPCl with the requirement that audited production data be made available to CSIRO or other selected research agency. This data could then be correlated with other data sets such as ABARE and private consultants. A mechanism, such as the creation of a Research Participation Certificate used in the Conservation Tillage Refundable Tax Offset program, could be used to verify the holding of insurance and participation in evaluation.

The data used for the statistical analysis would include a mix of farmers who registered to receive an RTO and other farmers with observably similar characteristics that are not registered to receive the RTO. The objective will be to ascertain whether there is a statistical relationship between the tax incentive and the adoption of MPCl.

Further, once collated in a manner that protects the identity of individual farm businesses, the data collected provides a valuable set of information that can be used to drive decision making by underwriters and reinsurers. This will continue to assist in overcoming market failure related to asymmetrical information in agricultural insurances.

200% Maximum Loss

The current reinsurance offer to MPCl product providers are likely to be in the form of a loss quota capped with maximum loss reinsurance cover. The concept of providing 200% maximum loss to reinsurers is likely to strongly encourage the flow of reinsurance capital into the comprehensive crop insurance product. This is because for the insurer's perspective it is the concentration risk of specific geographical areas and historical durations of drought which has hindered previous attempts to introduce similar products into Australia.

The 200% stop loss mechanism can be implemented by the Federal Government and the risk cover funded by a levy on all crop insurance cover. Actuarial estimates of both the cost and frequency will need to be undertaken. Any top up payments required by the Federal Government should be considered a co contribution by the Government with the objective of moving a portion of the current ad hoc payments to the world's insurance underwriters based on actuarial projections.

It was the view of the Taskforce that without this measure, the above concentration of risk within Australia combined with the lack of robust data sets about the distribution of this risk, entry into the Australian MPCl market by reinsurers is likely to be limited. However, with further development of relevant data sets and actuarial models through the operation of a market for reinsurance of MPCl policies in Australia, it is possible that the market may mature to the point that it would be commercially sustained without the support of the stop loss guarantee. As such the Taskforce recognise that at the conclusion of a proposed three year pilot appropriate reviews should be undertaken to ensure this level of government assistance remains necessary for the market's operation.

Self-Insurance Bonds

Insurance means that the cost of losses arising from the pure risks are borne directly by the farming business and not transferred to a third party. The result of this is that the farming business suffers a reduction in net worth through either a reduction in assets or an increase in liabilities as a direct result of the loss. Whilst farm businesses seek to ensure that all retention of risk is planned this is simply not possible if insurance cover is not offered.

The quantum of self-insurance a farming business either chooses or is forced to be exposed to due to the absence of an insurance option will have a direct impact on the volatility of farm incomes and therefore both fiscal receipts and payments. Planned or active retention of risk means that losses have been identified, measured and steps taken to provide for their payment when they arise. There is evidence adopt this process through diversification of crop and livestock enterprises supported by maintaining a low level of debt. Self-insurance is undertaken where there is conceptually sufficient range and spread of exposures and the benefits outweigh the costs.

Table 2: Self Insurance Matrix

Type of Loss	Frequency	Severity	Predictability	Impact	Decision
Trivial	Very High	Very Low	Very High	Negligible	Non Insurance
Small	High	Low	Reasonable Within 1 Year	Insignificant	Self-Insurance
Medium	Low	Medium	Reasonable Within 10 Years	Serious	Part Self Insurance Part Transfer
Large	Rare	High	Minimal	Catastrophic	Insure

An organisation which elects to self-insure should be able to predict loss with a reasonable confidence. A number of conditions have to be satisfied before self-insurance can be undertaken:

- There must be a sufficiently large number of units of exposure;
- The entity must have sufficient financial strength to absorb losses as they occur; and
- Management must be willing to undertake the necessary management strategies to support a self-insurance approach to risk management.

Clearly Australian farm businesses are challenged by all of the above criteria. For the majority of dry land farmer's self- insurance is the only option currently available them with the exception of specific perils such as hail and fire.

The concept of Self-Insurance Bonds flows from the tax laws which related to the taxation of insurance companies where amounts provided for future losses can be deducted against current income. These provisions relate substantially the same for both large 'public offer' insurance companies as they do to private insurance companies known as captives.

Whilst it is technically possible to encourage the rapid adoption of captives in Australia this will only increase the demand on the limited resources available to the Commissioner of Taxation and limit the economic benefits to the larger more sophisticated farm businesses.

The alternative is to offer farm businesses a streamlined facility whereby the funds can be lodged with the same financial institutions as those eligible to hold Farm Management Bonds. The distinguishing features of this concept could include:

- Deposits can be made and deductions claimed against primary production income by entities including companies, fixed and non-fixed trusts and individuals;
- Deposits or any portion are assessable upon redemption;
- Where any of these entities are members of a partnership it is only the partner entity which is to be eligible and not the partnership;
- There is to no cap on the amount allowed to be deposited;
- The depositor to received interest payable at the prescribed rate;
- The funds pooled to assist the Federal Government fund the insurance premiums on insurance contracts reducing their exposure the maximum potential loss claims by comprehensive agricultural insurance providers.

The objective of this strategy is assist the Federal Government fund the index insurance needed to reduce their losses in a catastrophic seasonal event. In addition it is a mechanism for farm businesses to take more responsibility for the protection of their farm business working capital.

An alternative approach for Government is to establish a mutual fund from which payments are made to farmers in conjunction with Revenue Insurance model. In these circumstances if sustenance was paid to a farmer then this year could be excluded from the five year rolling average calculation and therefore protecting a higher level prospective protection for those farming businesses prepared to protect their farming businesses. Farmers who are the recipients of Government payments would be required to repay these amounts over subsequent production years. The insertion of a requirement to repay the funds will improve the equity between those benefiting and others who have been denied access notwithstanding the reason being they were in receipt of sufficient moisture to establish a crop.

On the basis the insurers are in the business of delivering Revenue Insurance the same distribution and administration channels could be used for the Government mutual fund. Historically Governments have found it both expensive and thwart with moral hazard when the distribution

function is left with both politicians and government bureaucrats. The Government has already an established precedent by adopting this approach other previously exclusive government programs.

Conclusion

The successful introduction of a commercial market for MPCl will have positive impact towards the Australian Government's policy objective of improving farm gate returns and agricultural productivity. MPCl, and government measures that facilitate its adoption, will result in greater ability of farm businesses to adopt self reliant approaches to managing business risks, including climate and other natural phenomena.

While MPCl is likely to have limited value during prolonged drought it has the ability to play an important role in providing farm businesses as a risk management option that:

- Promotes profitable operation of farming businesses in favourable seasons enabling financial consolidation;
- Facilitates appropriate seasonal financing of operations reducing the requirement to fund working capital against land values managing risks to farm business equity; and
- Protects necessary reinvestment in farming businesses in the drought recovery process.

Impediments continue to exist to the development of a fully functioning commercial market for MPCl. The Taskforce recommend that Government undertake implement a pilot programme based on the following:

- Provision of financial assistance that support strategic farm business planning, that can include development of production audits.
- Introduction of a refundable tax offset scheme for MPCl premiums
- Assist in the development of actuarial models and datasets that will encourage the entry of commercial underwriters and reinsurers.
- Providing a 200% maximum stop loss guarantee to losses reinsurers could be exposed to in any one season from extreme weather event(s).
- Introduce a 'Self Insurance Bond' which allows a business entity to deposit cash into a Government fund and be able to claim a full tax deduction on deposit and be fully assessable on withdrawal.

The Taskforce believe that these measures could be implemented

- An acceleration in the adoption rate by farmers of MPCl products;
- Short term budget neutrality with respect to recovering accelerated tax expenditures with an increased quantum of tax receipts and reduction in transfer payments;
- Managing the cost of MPCl products by managing the maximum probable losses and loss distributions reinsurers are exposed to; and
- Increasing the liquidity of self-insurance financial resources held by farm businesses.

In the alternative Government could consider the development of a rural innovation fund which would seek to establish private public partnerships to develop or establish risk management products, including new MPCI models, which will work to assist Australian farmers.