



**Innovative  
Risk Transfer**  
Pty Limited

# Comments on Information Paper

## Multi-Peril Crop Insurance incentive measures

Independent Pricing and Regulation Tribunal  
(IPART)

## Executive Summary

Stakeholders have been given an opportunity to comment on a number of issues discussed in the Information Paper on Multi-Peril Crop Insurance (MPCI) incentive measures. We have taken this opportunity to address two of these issues.

### *What are the barriers to the offering and uptake of MPCI in NSW?*

- ◆ There are four potential barriers to the offering of MPCI and they are:
  - The availability of capital for offering of MPCI.
  - The ability to price MPCI — rudimentary farm revenue modeling tools are available and are currently being used by the NSW DPI — this deals with the issue of *incomplete information*.
  - A commercially viable MPCI product design — Innovative Risk Transfer have developed an innovative MPCI product that deals with the *systemic risk*, *adverse selection* and *moral hazard* issues discussed in this commentary.
  - A cost-effective method to distribute the MPCI product — geographic remoteness makes any insurance product offering to farmers expensive.
- ◆ There are three barriers to the uptake of MPCI and they are:
  - The existence of free alternative financing or relief — *crowding out*.
  - An unrealistic perception of the risk by farmers.
  - High frictional costs — costs of capital, data collection and distribution.

### *What issues should IPART take into account when designing a measure to reduce the upfront cost of MPCI premium?*

- ◆ The potential for premium subsidies to:
  - distort the planting intentions of farmers;
  - increase the value of farming property; and
  - reduce self-reliance and the timely adoption of adaptive strategies.
- ◆ Making capital available to insurers to reduce the cost of capital component of premiums, either through the provision of:
  - seed capital for an insurer;
  - catastrophe reinsurance capital; or
  - reinsurance capital during times of prolonged drought.

Subsidizing premiums will be giving MPCI away at below cost — great for farmers but bad for their self-reliance and for the taxpayers.

Given that governments will be pressured for drought assistance, a self-reliant, farmer-financed and commercially viable MPCI product would be the most cost effective way for the NSW Government to solve any unfunded exposure to the State budget. In our view, the most effective way the NSW Government could assist with the reduction of MPCI premiums in the long term is with capital assistance/guarantees for insurers during the startup phase and in the event of a prolonged drought.

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## Background

Civilization has been built on the surpluses generated through agriculture. Although the survival of agriculture is critical to the continuation of civilization, over the last 10,000 years, no commercially viable financial product has been developed that can transfer farmers' risk of revenue loss as a consequence of a natural event like drought.

Many governments have introduced subsidized schemes that are not funded from farmers' premiums alone. These have the unwanted side effects of distorting planting intentions, inflating farm property values and preventing self-reliance and appropriate adaptation strategies.

There are many reasons for this failure to develop a commercially viable risk transfer MPCCI product. They include:

### Asymmetry of information

- Farmers have a better understanding of their risks through decades, if not generations, of local experience.
- Insurance underwriters (**underwriters**) have lacked the ability to achieve an equal level and quality of understanding so are at a disadvantage when trying to price a risk transfer product such as MPCCI for farmers.

### Adverse selection

- Adverse selection is said to exist when only worse than average risks are insured, thus undermining the underwriters' pricing.
- As a consequence of this asymmetry of information, underwriters' premiums have been based on aggregate data that produces a community rate that will underprice higher than average risk farmers.
- A higher proportion of these higher risk farmers will insure and the premium set by the underwriter will be inadequate to pay the losses.
- Over time the accumulated effect of this is a non-viable product.

### Systemic risk

- A systemic risk is one where there is a strongly positive correlation in loss events — this is the case with drought risk or mortgage default risk.
- The basis of insurance is to spread the premiums of the many amongst the losses of a few — systemic risks cannot be insured as the losses are highly correlated so most policyholders will suffer a loss at the same time.
- For a systemic risk such as drought, solutions must be found to remediate the exposure to loss by spread the losses over more policyholders' premiums.

### Moral hazard

- A moral hazard is said to exist if an insured takes out cover with the intention of claiming non-fortuitous or fraudulent losses.
- Underwriters' risk assessment must be robust enough to prevent farmers who represent a moral hazard from becoming part of their portfolio.
- Underwriters' products must also have adequate protections to prevent farmers who have already experienced a loss or know they are almost certain of suffering a loss from taking out insurance and becoming part of the insurer's portfolio.



### Morale risk

- Morale risk is said to exist if the existence of the insurance will alter a policyholder's behavior.
- Underwriters must design their products in such a way as to minimize the likelihood that the existence of the insurance cover will alter the risk minimizing behavior of insured farmers.

Insuring farmers' revenue losses is the most challenging underwriting task. It is not for the inexperienced and requires underwriting insight and ingenuity.

### A fresh approach

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We believe we have created a commercially viable MPCCI product design that addresses each of these reasons for failure in the past. In addition to this innovative product design, there are a number of developments that make the implementation of a viable MPCCI more feasible now than in the past.

### Pricing model

Several rudimentary revenue modeling tools<sup>1</sup> have already been developed. With some recalibrating these modeling tools could be used by underwriters to price individual farmer's risk. A pricing model fit for the purpose of pricing the farmer's risk is a fundamental prerequisite for a commercially viable MPCCI product.

These modeling tools collect individual data on past yields, quality, climate data, soil types and revenue and expense performance. This level of detail has not been collected and used for risk pricing before. This development will solve the issue of *incomplete information*.

### Adverse selection

By individually assessing each farmer's performance to the level of detail of these pricing models, the potential for adverse selection is minimized. Fair and accurate pricing will eliminate underpricing and the possibility of adverse selection based on price.

### Systemic risk

Insuring a systemic risk such as drought on an annual policy is not sustainable. Innovative Risk Transfer has conditional support from reinsurers for a five year MPCCI policy period that would alleviate the problem of funding the systemic risk of drought. This provides a temporal spread of risk that would make MPCCI commercially viable for average drought but not an event like the Millennium Drought<sup>2</sup>.

### Moral hazard

The type of product structure that we propose would require a close working relationship between insurer and farmer. This level of relationship with the farmer

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<sup>1</sup> Ausfarm, is the most advanced of two series of models developed by as part of the 'Grazplan' project at CSIRO. Another widely-used model is APSIM and this model has been around for a while, and is now distributed through the APSIM initiative, which is a joint venture between CSIRO, University of Queensland and Queensland Department of Agriculture.

<sup>2</sup> In the last section of this submission we address the potential for government support for insurers through an extended drought if a longer policy period is unavailable.



would allow underwriters ample opportunity to assess the moral hazard of the individual farmer and avoid poor moral hazard individuals.

### Morale risk

The product design we have created has several components that would either prevent altered farmer behavior or incorporate sufficient disincentives to minimize the risk of reduced risk minimization practices by an insured farmer.

### Our proposal

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We have had over twenty years' direct experience with insuring farmers' cropping income risk. This has provided us with the insight needed to develop an innovative product design that we believe would make a commercially viable MPCCI product a reality. However, the complexities of this undertaking cannot be over emphasized.

We would be happy to outline our product design features on a confidential basis to allow the Independent Pricing and Regulatory Tribunal the ability to assess our proposal.



## Barriers to the offering of MPCCI

The barriers to offering MPCCI cover to NSW farmers are surmountable, provided:

- capital is available<sup>3</sup>;
- there is an ability to individually price the risk;
- the right product is available; and
- it can be distributed to farmers in a cost effective way.

These barriers are discussed below.

### Individual pricing

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No two farmers will have the same risk profile — soil types, topography, risk tolerance and farm practices all vary, even between neighboring farmers. That is why each farmer needs to be individually rated. Failure to do this will lead to terminal adverse selection.

We believe that rudimentary farm revenue modeling tools can form the basis of a risk pricing model for insurance purposes and that these tools already exist. These tools are data hungry but produce a revenue model that will be of value to the risk conscious farmer. Once the historical data has been collected, the ongoing maintenance of these tools is manageable.

There are additional benefits to making the effort to populate these modeling tools. The distribution of probable revenue outcomes can be used by the farmer to better evaluate the value of the MPCCI cover. They can also be used to model likely climate change to better understand the future revenue outcomes and consider adaptation strategies.<sup>4</sup>

The barrier to adopting this approach is the cost to gather the data to populate the modeling tool. Commonwealth funds exist to fund some of this cost but additional State funds would be useful.

### Problems with other data sources

Other sources of data are not fit for underwriting purposes for the following reasons:

- Accounting data is financial in nature with averaged out yield and quality variations across the farm that conceal peril related losses through the averaging process.
- Accounting data can also aggregate crop results from multiple seasons for crops that can be stored across financial years.

For these reasons, underwriters need to collect more detailed field and seasonal data such as:

- Field by field yield and quality data over many seasons.
- Field by field soil type information.
- Climate data.

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<sup>3</sup> The issue of the availability of capital is a complex one and we leave this to the section on designing measures to reduce the upfront cost of MPCCI premium.

<sup>4</sup> See paper presented at the ABARES Outlook 2016 by Dr Jason Crean – NSW DPI

- Agronomic practice — changes in crop types or varieties grown, minimum till practice, and precision agriculture practices.

### Initial complexity

It is likely that not all this data will prove significant in determining the appropriate premium rate for an individual farmer. The 80/20 rule is often referred to by underwriters — 80% of the result can be achieved with only 20% of the data. The problem at the commencement of underwriting a new class of product is that you cannot identify which 20% of the data will give you the 80% result.

For this reason, we envisage a feasibility phase with the aim of streamlining the pricing model before moving to the commercial implementation phase. This would result in a more administratively effective pricing model and reduce the complexity for both distributor and farmer.

### The right product

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It is our view that none of the existing MPCCI products are viable. The reasons for this are that they are being selected against, they are not adequately dealing with the systemic drought risk and they have not adequately dealt with the moral hazard associated with the way the product is offered and morale risk of their product designs.

### Adverse selection

The existing MPCCI products have been demand driven. The most desperate farmers have created a demand that intermediaries rather than insurers have responded to. This has resulted in the highest risk farming — dryland winter cropping — being selected as the starting point for MPCCI.

If a supplier, an underwriter, were to drive the introduction of MPCCI then dryland winter cropping would be the last risk to tackle rather than the first. The preferred target market would be profitable farmers rather than those desperate in the face of impending drought. This fundamental adverse selection will doom these early MPCCI products to failure.

In addition to the high risk nature of the farmers attracted to the current MPCCI products, farmers can determine close to planting if they want to insure or not. Farmers will know at the beginning of the season if they have a higher than average probability of loss. This allows them to insure knowing that the probability of drought in the coming season was higher than the period used to determine the average rate required to cover the historical losses. Conversely, if the risk of drought is low, then the insurance premium would be uncommercial and the insurance not taken.

This is an insurmountable problem for MPCCI products that continue to be provided on an annual policy basis — the timeframe is too compressed, allowing farmers to adversely select against the insurer.

### Systemic risk

Drought is a systemic risk, as it will affect many if not all farmers in a region at the same time. This eliminates the ability to offset the losses of the few farmers against the premiums of the many farmers. Insuring a systemic risk such as drought on an annual basis, as is the case with the existing MPCCI products, is courageous to say the least.

There are two options for dealing with the systemic risk of drought.



- The first, is to *spread the risk geographically*. This would aggregate a number of climate zones into the portfolio of insured farmers so the probability that the majority of farmers are affected by drought at the same time is reduced. Although Australia is prone to drought, the size of the country means that there are several different climate zones which are negatively correlated for drought. This gives the opportunity to develop a commercially viable MPCCI product that does not exist in say Europe where the risk is lower but the loss correlation is strongly positive.
- The second, is to *spread the risk temporally*. This can be achieved in two ways.
  - One way would be to insure farmers who have already diversified their risk across winter and summer cropping — northern NSW offers a good place to start such an MPCCI program. These farmers have the flexibility to plant summer crops if the winter cropping outlook is poor or swap to winter cropping if the summer crop outlook is poor.
  - The other way is to spread the risk temporally across multiple seasons. Drought is a cyclical systemic risk that spans one or more seasons. If a policy period is long enough, then the good seasons premium can pay for the bad season losses.

Systemic risks have traditionally been dealt with by matching the duration of the risk with the duration of cover. An example would be mortgage insurance where the duration of the policy matches the duration of the loan. Pooling risk from many loans over many years provides an adequate premium pool to fund systemic default periods.

MPCCI products should be for a duration of at least five years, and ideally seven. Enquiries made with the international reinsurance market indicate that the current maximum policy period is five years. Periods longer than this have regulatory considerations — mortgage insurance policies have traditionally had additional reserving and capitalization requirements to protect policyholders.

Multi-season MPCCI policies will also have additional conditions. These covers would only be available for new farmers in good or average seasons. This would be to provide the premiums necessary to fund the drought seasons ahead. Like household insurers, new cover for homeowners during bushfires or imminent cyclones is not available. Similarly, MPCCI insurers would close their books for new business during drought years but be locked in for the remainder of the five-year policy period for existing policies.

The problem for this approach would be during a Millennium Drought scenario. For example: an MPCCI insurer may have been happy to offer a five-year contract in January 2002, but come renewal in January 2007 the existing insurer may not have been prepared to offer or have the capital to support the renewal of the policy for a further five years, leaving the farmer without financial support.

A longer policy period would be preferable, say seven years, as this would straddle a Millennium Drought like event. In the absence of a longer policy period, governments may need to offer temporary prolonged drought reinsurance for MPCCI insurers to provide the capital to renew existing policies.

## Moral hazard



Under our definition, moral hazard relates to the insurability of the individual farmer. An indicator of poor moral hazard farmers would be a history of fraudulent claims. It is the responsibility of the underwriter to protect policyholders' premiums from farmers who are likely to make fraudulent claims. So, moral hazard minimization is a proactive pre coverage attachment issue for underwriters that focuses on the individual farmer seeking cover.

Under our proposal, we will be working very closely with the farmer and their agronomist during the risk pricing phase. This will give us the opportunity to assess the moral hazard posed by each farmer to the pool of insured farmers.

### Morale risk

Under our definition, morale risk is created by the existence of the insurance so is a post coverage attachment issue for underwriters that focuses on the portfolio of insured farmers. It is minimized through specific product design features that impose stipulated actions that must be undertaken under set conditions and design features that ensure that the farmers share in the losses so that an incentive to minimize the loss is maintained.

These measures already exist in traditional insurance covers but are more important for MPCCI products. An example of a morale risk prevention mechanism would be the implied condition of all policies that the policyholder must take all reasonable steps to prevent or minimize further loss — in most policies this is only implied but in some crop policies it is written into the contract and the insurer undertakes to reimburse farmers for the reasonable costs incurred.

Under our proposed product design, we have built in many conditions and risk sharing elements that we believe will minimize the likelihood of farmers materially altering their risk minimization behavior.

### Distribution

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The distributing of any insurance product to farmers face the barrier of geographically distant policyholders. The MPCCI product will be no exception. The administrative requirements of pricing the risk will result in significant upfront costs being incurred to distribute the product.

Traditionally, insurers have either developed a direct sales force or used insurance intermediaries. Both these options are expensive. Rural insurance brokers are used to commission levels between 10% and 20%. An MPCCI product cannot absorb this level of frictional cost. This is dealt with in more detail in the next section.



## Barriers to the uptake of MPCCI

The barriers to the uptake of MPCCI products are real but, with time and understanding from farmers, not insurmountable.

For the uptake of MPCCI to be at a viable level for insurers, farmers need to understand that there will be no guarantee of a government bailout for them. The existence or the perceived existence of government funds being available if they get into trouble needs to be withdrawn. The direction the government is taking in emphasizing the need for farmer self-reliance and drought preparedness is a step forward. However, if MPCCI is to be considered seriously, the perceived need for a MPCCI product in the minds of farmers cannot be crowded out by the perception of the existence of government assistance.

Existing risk funding through Farm Management Deposits (**FMDs**) should be made more freely accessible. We see FMDs as complementary to our MPCCI product, not competing with it. Self-funding through FMDs is an important component of farmers being self-reliant and should be encouraged through being more general availability to farming enterprises. Ideally, a combination of a MPCCI product and a FMD should be seen by the farmer as the only financial solutions to surviving a drought.

If the MPCCI product is no longer crowded out of the minds of farmers, then there will remain two barriers to the uptake of MPCCI products. These are:

- the difference in the perception of risk between underwriters and farmers; and
- the burden of frictional costs.

These barriers combine to make a MPCCI product seem uneconomic for farmers and will impede uptake.

### Risk perceptions

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Farmers and underwriters are at opposite ends of the risk assessment spectrum — their career choices have led them there. Farmers are incredibly optimistic when assessing the chances of growing a crop while underwriters would only see uncertainty and risk. If underwriters were farmers, we would most likely all starve.

This would not matter if farmers were not likely to need insurers' capital to survive the uncertainties of climate change. Farmers perceive the cost of their risk as around 5% of their revenue. This number is derived from what they think they can afford as much as it is a true evaluation of the probability of losses over the medium term.

Underwriters perceive the cost of risk as somewhere north of 10% of revenue. This number too is derived from guess work without a clear understanding of the product or the level of self-assumption of risk by the farmer. These two different perceptions create a significant gap between what farmers think they should be paying and what underwriters think they need to charge.

Our flexible MPCCI product design features will allow farmers to self-assume risk that will get the underwriting rate closer to the farmer's perception of risk. Through the revenue modeling exercise farmers will also get a better understanding of the probability of losses and see that their original perception of risk was overly optimistic. It is expected that these factors will shrink the risk perception gap to an acceptable margin and allow sufficient uptake.



But frictional costs will widen this gap again.

### Frictional costs

Some farmers have an attitude that: if MPCCI insurance is not a better bet than putting all their money on black at the casino, then they won't buy it. This goes some way to explaining why other countries have implemented subsidized MPCCI products where farmers collectively receive claim payments that are multiples of the premiums they pay. These products meet the unrealistic expectation of farmers but at taxpayers' expense.

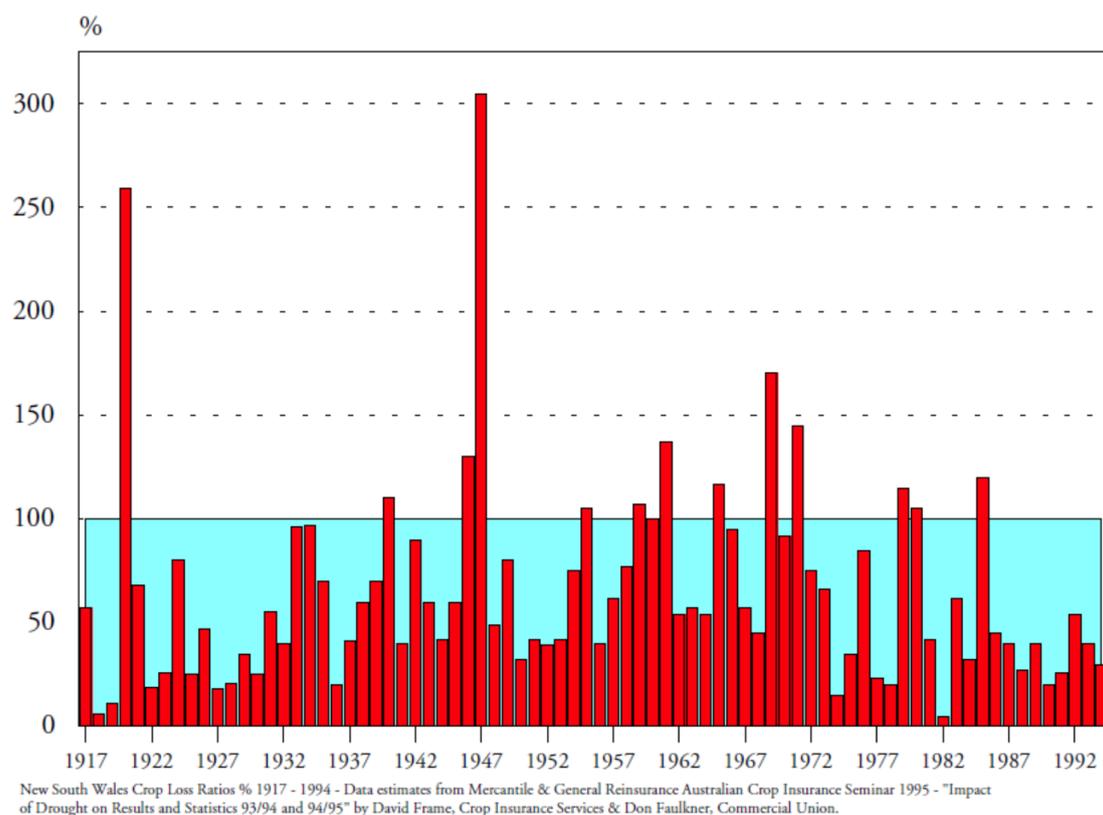
This expectation is unrealistic for two main reasons.

- Firstly, risk transfer is a form of risk funding so is ultimately a form of profit smoothing, not a way of making additional profits.
- Secondly, risk transfer is a cost plus exercise. That is, premiums must cover claims plus expenses — it is not frictionless. Frictional costs include the costs of the capital needed to augment premiums in high loss seasons, distribution costs and insurer administration costs.

Farmers need to accept that MPCCI will cost them profit, not make it for them.

### Costs of capital

Insurance is a capital intensive business. Pure risk premiums are estimated based on average historical losses — on average there will be sufficient premium to cover losses. However, by definition, one season in two, losses will exceed the premium collected. In these seasons capital will be needed to make up the short fall between premium and losses.



The graph on the previous page shows the loss ratio — claims paid divided by premiums paid — for winter crop hail losses in NSW from 1917 to 1994. For seasons with a loss

ratio of less than 100%, no capital was required. However, in a season like 1947 with a loss ratio of over 300%, capital of over two times premium was required to be available to pay claims.

As a general rule of thumb, insurance capital providers look for a 10% rate of return over the risk free rate of return — say the risk free rate of return is 3% then the required return would be 13%. Due to the capital not being immediately needed, insurers invest their capital and earn the risk free rate of return so policyholders need to fund the 10%.

For this portfolio of winter crop hail losses, experience would dictate that an insurer would need about two times the premium in capital to cover a catastrophic season. In rating terms, this would add 20% to the pure risk premium to cover the cost of capital — 10% of 200%.

As this example illustrates, the volatility of the underlying risk will determine the amount of capital required and therefore the cost of capital that needs to be added to the pure risk premium. With the systemic nature of drought risk — not so much a factor with hail losses — the expectation would be that the volatility would be much higher than for the hail risk and that proportionally more capital would be required for an MPCCI product.

The cost of capital would then be a significant additional cost on top of the pure risk premium — hence the widening gap between farmers' and underwriters' expectations of the cost of MPCCI.

There are two main methods available to reduce the costs of capital. These are:

- Reduce the volatility; and
- Purchase reinsurance.

#### Reduce the volatility

As previously discussed, there are numerous underwriting methods for reducing the volatility. The most obvious one available in this example would be to write business in other States, thus increasing the geographical spread of risk and reducing the volatility. Although this will increase the premium pool and thus the absolute amount of capital required, the proportional amount of capital required compared to premium will reduce with the reduction in volatility and therefore the proportional cost of capital will reduce.

In the case of our MPCCI product, design features relating to the temporal spread of risk — such as a five-year policy period and initially insuring farmers' with seasonal diversification in their cropping — the volatility should be reduced and therefore the cost of capital should reduce.

But the volatility of a MPCCI product and therefore the cost of capital is still going to be higher than that for hail.

#### Purchase reinsurance

In a way this is another method for achieving the same result as reducing the underlying risk volatility outlined above. If we stay with the hail risk example, reinsurers will insure many insurers hail portfolios from many countries, so their geographical spread of risk is significantly broader and their risk volatility significantly lower, than any individual insurer. This means their cost of capital will be lower than the individual insurer.



**Distribution costs**

One of the reasons MPCCI is championed by intermediaries is that the value of commissions involved in MPCCI is breathtaking. With an expectation of 10% to 20% commissions based on other farm insurances and rates on revenue of 5% to 10%, intermediaries are drawn to MPCCI by the enormous potential commissions to be made. However, for farmers paying premiums, this level of commission for a high loss ratio business is uneconomic and would be a serious barrier to the uptake of MPCCI.

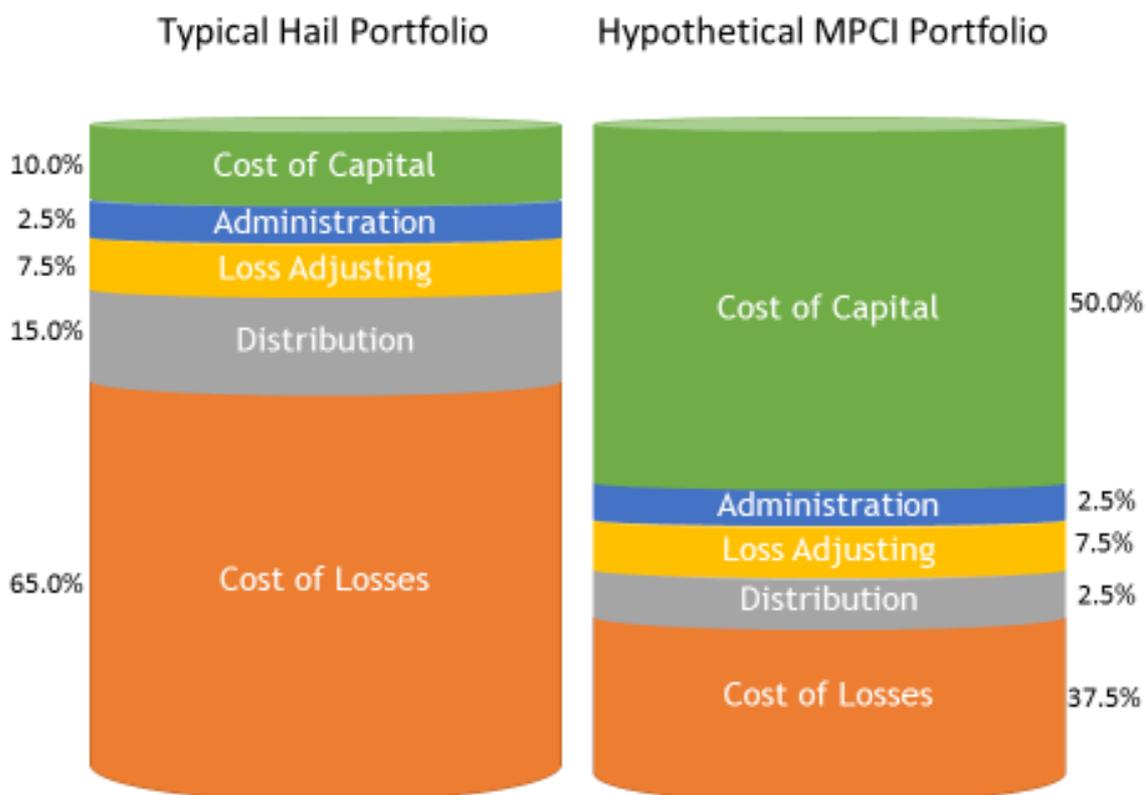
Intermediary expectations of the level of commission for MPCCI products needs to be managed. Recognition of the effort involved in the initial collection of the data necessary for the pricing model will need to be given but commission levels for other high loss ratio classes of insurance business such as workers compensation at 2.5% should be the starting point, not the 20% commission for low loss ratio farm insurance.

**Insurer administration costs**

Finally, the insurer will incur administrative costs in the form of loss adjusting, claims handling and policy administration costs in addition to the costs involved in pricing the MPCCI product to begin with. These need to be funded from the premium.

**Summary of cost structure**

Below is an example of two cost structures. On the left is a typical hail insurance portfolio cost structure. Under this structure, 65% of the premium is set aside for paying claims. Even at this relatively high return of 65¢ in the dollar, many farmers self-insure.



If we hypothesize on a likely cost structure for MPCCI and the cost of capital was limited to five times the premium — a 600% assumed maximum loss ratio of say double that for



hail and we can limit distribution costs to 2.5% — then the amount of premium available to pay claims reduces to 37.5%. This is shown in the cost structure on the right.

A return to farmers of only 38¢ in the dollar will be a barrier to the take up of MPCCI. Any insurance product (other than very low frequency and very high severity products) that returns as little as 38¢ in the dollar will struggle — for farmers with a better understanding of the risk, it will not be commercial.

*In our view, the main barrier to the uptake of MPCCI is the amount of capital that will be needed to support this volatile drought risk which has a direct influence on the premium that is paid. So if the NSW Government was considering reducing the upfront costs of MPCCI, it is the cost of capital that should be the main issue to assess.*

*A final self-evident remark on barriers to the take up of a MPCCI product would be that adding a tax in the form of stamp duty would be unhelpful. At a gathering of Asian crop insurers in Kuala Lumpur in July 2014, other Asian participants found it difficult to believe that Australia didn't subsidize crop insurance premiums — they didn't take me seriously when I also told them that the State Governments taxed the premium. Taxing the prudent adoption of MPCCI will not foster self-reliance and will add a barrier to an already cost burdened product.*



## Reducing the cost of MPCCI

Most countries around the world have adopted the premium subsidy solution to reducing the cost of MPCCI. We argue against this approach. Instead, we believe an indirect subsidy in the form of insurance capital will aid uptake while interfering with the market the least.

To recap on our earlier comments, MPCCI premiums that are subsidized by governments have three undesirable consequences:

- They distort plantings — farmers in marginal cropping areas will plant non-viable crops as it is a no lose bet;
- They have the effect of increasing property values — higher average incomes from a combination of cropping and a higher return than the premium paid for MPCCI, push up the value of farming land and discourage sales as rental returns are higher; and
- They delay adaptation strategies — by distorting planting decisions, the substitution of viable crops in marginal areas is delayed and the tendency to lease farming land limits the ability of better farmers to continue to grow their farms to maintain economies of scale.

One of the reasons Australian farmers are amongst the most adaptable in the world is that they have to be. Without subsidized MPCCI returns are lower and land values reflect this — allowing the better farmers to thrive at the expense of the poorer farmers. This free-enterprise — adapt or die — environment has created the adaptive Australian farmer. In an environment of climate change this process must be allowed to continue to ensure that limited resources are allocated to viable adaptation strategies, not doomed farming practices.

The counter argument — that MPCCI uptake is best encouraged by subsidizing premiums — is driven by insurer self-interest. Insurers will be supportive of a premium subsidy as it would allow the charging of cost plus premiums without this impeding the uptake of the MPCCI product. The Government would all but guarantee the profitability of MPCCI and encourage a re-allocation of insurer capital to MPCCI business.

This would appear to have several downsides:

- It would undermine the sense of self-reliance if farmers see the Government subsidizing premiums to a significant degree;
- Insurers' underwriting mistakes would be funded by the Government as they are effectively underwriting the risk through premium subsidies.
- Government subsidy of premiums would reinforce the view, as evidenced in other parts of the world, that MPCCI is a form of farm 'income support' rather than a risk transfer tool.

### Subsidizing the premium is a bad idea

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As discussed above, we have two principle concerns with any Government subsidy of the premium:

- They distort the market; and
- They reduce insurer efficiency.



### Distort the market

Premium subsidies distort the agricultural market at three levels.

- Firstly, the existence of a below cost to farmers MPCPI product gives them a no lose bet. If they plant a crop and it fails, they get a claim payment that over time is more than the premium they pay, so they make a profit from the insurance. If the crop succeeds, then they make a profit from the crop. The premium subsidy effectively gives them two sources of profit — farming plus a government premium subsidy.
- Secondly, this additional income increases the value of farming land. This makes it more profitable for small landholders to retain the land and rent it out to other farmers. This distorts the property market making it more difficult for better farmers to buy out their neighbor's properties to retain the economies of scale necessary to remain viable.
- Thirdly, the existence of the insurance delays adaptation as uncommercial cropping is made commercial through the MPCPI claim payments.

These combined agricultural market distortions are a drag on adaptation which increases the risk that then needs to be added to the MPCPI premium. Ultimately, premium subsidies only increase the systemic risk of the farming community and the cost to taxpayers. In our view this alone makes premium subsidies bad policy.

But in addition to this, there are two other points to make.

- Premium subsidies send the wrong message to farmers as it undermines the Government's message of self-reliance — how does subsidizing premiums increase self-reliance?
- Government subsidy of premiums would create a form of farm 'income' rather than a legitimate risk transfer mechanism.

Overall, these market distortions should be avoided as they result in the inefficient allocation of limited farming resources and use taxpayer money to do it.

### Reduced insurer efficiency

Premium subsidies also remove the incentives for insurers to manage the risk transfer mechanism efficiently. As the diagram on page 13 shows, the premium is made up of various components. Subsidizing the premium effectively subsidizes all these components. A premium subsidy would remove the incentive for insurers to efficiently manage these components as they remove the commercial incentive to minimize them.

The effect of the premium subsidy on the non-capital components would be;

**Cost of Losses** — with an un-subsided insurance product, there is a strong incentive to ensure that these costs are minimized. Functions like product design, risk evaluation, loss adjusting and claims management are all taken very seriously as they effect the maintenance of capital and the viability of the insurance product. With a premium subsidized insurance product, the government is effectively creating a cost plus pricing mechanism where insurers use the cost of losses to justify the premium subsidy required — perversely, the higher the cost of losses the higher the premium subsidy and the more insurers stand to make. Premium subsidies can provide a disincentive for insurers to efficiently manage the claims function by removing the financial incentive to re-calibrate the product design, write more business by reducing

the risk evaluation criteria, and be less rigorous with loss adjustment and claims management.

- **Distribution, loss adjusting and administrative costs** — when these costs affect the profitability of the insurer there is a strong incentive to manage these efficiently. Under a premium subsidy these costs become a cost plus item so the incentive to manage them is removed.

This leaves the capital component. If the Government were to subsidize part of the capital requirement of a MPCCI product the best of both worlds could be achieved. The financial incentive to efficiently manage the non-capital components of the premium would be maintained — as insurers still stand to lose their own capital — while still providing capital support in bad seasons.

This would provide:

- Unsubsidized support for farmers where the farmers are funding their own losses and the costs involved — no profit from MPCCI and therefore no market distortion;
- Financial incentive for insurers to manage the non-capital components of the premium efficiently — cost minimization would increase profitability.

*Due to the market distortion and insurer inefficiency created by premium subsidies, we argue strongly against them. Our alternative suggestion would be to subsidize the capital and there are a number of alternative approaches to achieve this.*

### Reducing the cost by subsidizing capital

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There are at least three ways we have identified for the Government to subsidize the cost of MPCCI through making State capital available.

- Providing insurer capital;
- Providing catastrophe layer reinsurance capital; and/or
- Providing prolonged drought reinsurance capital.

#### Providing Insurer capital

We believe a preferable way to reduce the cost of MPCCI would be to provide return free capital to insurers. To explore this concept, we need to first have an understanding of how insurers are capitalized. Insurers can be capitalized in three main ways:

- Tax payers;
- Policyholder; or
- Shareholders.

Whichever method of capitalization is used, the insurer will also use reinsurers' capital to augment their own, as this comes at a lower cost as discussed above — see page 12.

#### Tax payers

In the event of insurance market failure or for reasons of the common good, governments are often required to capitalize insurance entities. Although considered unfashionable, the need for governments to occasionally use taxpayer funds to provide insurance is real. Last century saw Australian State Governments establish State Insurance Offices to underwrite a new and commercially unsupported form of



insurance —Workers' Compensation. In NSW today, taxpayers are still guaranteeing the solvency of the NSW workers compensation scheme.

In the wake of the 9/11 terrorist attacks, insurance on tall buildings became unobtainable so the Commonwealth Government had to set up the terrorism pool and levy insurers to fund the pool. Australian taxpayers are still the insurers of last resort if the pool is exhausted.

Why would securing our food supply be any less worthy of considering government capital support in the twenty-first century?

### Policyholders

Mutual insurers have also fallen out of favor, but they work very effectively because the policyholders, having provided the capital, own their own insurance company. Under this structure there is no conflict of interest between policyholders and shareholders as they are the same people — Comminsures scenarios just don't eventuate for a mutual insurer.

Great trust resides in this capital structure as the policyholders will benefit from profits when premiums are too high and have to contribute additional capital if premiums are too low. This structure creates solidarity between good underwriting and the policyholder customers. For a product like MPCCI, this would be a self-reliant way of capitalizing an insurer and create trust in the value of the premiums and the quality of the product being provided.

### Shareholders

The most common form of capitalizing insurers is through shareholders' capital. Although common, it is the least desirable from the standpoint of the policyholder as shareholder interests are paramount — think Comminsures.

New high risk ventures, such as MPCCI, are seldom initiated by shareholder capital insurers. Capital is generally allocated where the returns are highest so participating in a high risk speculative new insurance product like MPCCI is problematic for them. The exception to this would be where the government subsidizes the premium and they can't lose.

***Based on these three alternative capital structures for insurers; the reluctance of insurers to risk shareholder capital on high risk products like unsubsidized MPCCI; and farmers' current perception of the risk, we believe that State capital is the most likely way to successfully introduce a viable MPCCI product. In our view, establishing a small State insurer in NSW to establish the feasibility of MPCCI is a lower cost alternative to offering an open ended premium subsidy on a product that will be difficult to price appropriately in the initial seasons.***

The minimum capital under the Australian Prudential Regulation Authority (APRA) is \$5 million. With appropriate reinsurance support, this could be enough to set up and run an MPCCI insurer during the feasibility phase.

It could also be preferable that over time, this State capital is replaced by policyholder capital and that this entity becomes a Farmers' Mutual. The point being that a long term commitment to an insurance entity, from the Government, should not be necessary.

### Provide catastrophe layer reinsurance capital

Another way to limit the amount of capital required by an insurer is to cap their losses in any policy period to a pre agreed limit. This would most likely take the form of a “Stop Loss” reinsurance treaty. Under this reinsurance treaty structure, the State Government could insure losses over say a 300% loss ratio. This would have the effect of limiting the amount of capital that insurers have to have to support MPCCI claims and return the cost structure to a similar level as hail insurance currently — from only 38¢ in the dollar to 77¢ in the dollar (assuming distribution costs can be reduced from 15% to 2.5%).

This would have three main benefits for the Government:

- As the type of event that would give rise to a claim under the Government Stop Loss Treaty would be an event that the Government would currently have to fund, it would not materially increase the exposure to budget;
- As claims would be paid through the MPCCI insurance policies, insurance loss adjusters would verify the loss so only those farmers who have actually suffered a loss would be paid rather than all areas within the line drawn on a map; and
- The Government may not give this cover for free but could charge insurers a premium that would offset losses that are currently unfunded — unfortunately this would increase the premium cost again.

### Provide prolonged drought protection

As discussed above, it is unlikely that a policy period that will straddle all droughts will be available in the short term. This leaves farmers exposed to non-renewal at the end of a policy period that is in the middle of a prolonged drought. The solution we suggest is that the State Government provide Prolonged Drought Reinsurance.

A prolonged drought could be defined as one that exceeds the length of the MPCCI policy period and only be triggered if the MPCCI insurer had insufficient capital to continue writing renewal business. Again, the advantages of this are similar to those for the catastrophe layer reinsurance.

These two approaches are not mutually exclusive.

### Summary

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In times of extreme hardship, a community will inevitably turn to their Government for assistance. In a country with a climate such as ours, severe drought is one example of such extreme hardship that is unfortunately inevitable. Robust, sustainable MPCCI products are perhaps as close to 'drought-proofing' as we can get. Any long-term, sustainable MPCCI product must be able to survive without ongoing Government subsidization.

Innovative Risk Transfer has over 20 years' experience in developing and distributing crop insurance policies. We have tackled MPCCI on a number of occasions over this period, and have used this experience to develop a product that is fit for purpose, sustainable and commercially viable.

We are currently in negotiations with reinsurers and insurers about taking a new MPCCI product to market. We believe we have overcome the disadvantages and weaknesses of



the currently available MPCCI products and are able to offer farmers long-term protection in the face of increasing climate and commercial instability.

In our experience, the best assistance any Government can provide to the establishment and ongoing success of any long-term MPCCI product is, as detailed above, in the provision of a capital to assess the feasibility of it and in the longer term, provide a capital guarantee for participating insurers under extreme climate conditions. This ultimately serves the dual purpose of encouraging farmers to take responsibility for their own enterprises, while still providing some financial certainty to the Government's inevitable role as insurer of last resort.

We would welcome the opportunity to discuss the issues raised in this commentary with IPART.

