IPART
New South Wales

Independent Pricing and Regulatory Tribunal

Review of multi-peril crop insurance incentive measures

Assessment against the drought program evaluation framework

Other — Final Report
October 2016

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ISBN 978-1-76049-019-5 S9-114

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1 Executive Summary

As part of the NSW Drought Strategy, the NSW Government is exploring the potential for multi-peril crop insurance to help achieve the strategy's main aims. These are to support farmers to become more resilient and better prepared for drought, and to reduce their reliance on government drought assistance.

In March 2016, the Premier asked the Independent Pricing and Regulatory Tribunal (IPART) to review five existing or proposed drought assistance measures that have been identified as options for increasing farmers' uptake of multi-peril crop insurance.

We released an information paper in April and a Draft Report on our findings in July 2016. We have considered all stakeholder feedback in response to the Information Paper and Draft Report and have now finalised the review. This report explains our findings and recommendations.

1.1 What were we asked to do?

We were asked to assess each measure against the Drought Program Evaluation Framework (the drought framework) that we developed earlier this year. The purpose of the drought framework is to enable the NSW Government to identify the set of drought assistance measures that delivers the greatest net benefit for the available funding, accords with the 2014 Intergovernmental Agreement on National Drought Program Reform (the IGA) and complements the objectives of other drought programs.

A measure will comply with the drought framework if it meets requirements in three stages:

1. It addresses at least one of the IGA's objectives and is consistent with the IGA's core principles, occurs where there is a clear role for government action, and is effective, efficient, equitable and effectively administered.
2. It is complementary with other NSW Government programs
3. The net benefits of the program can be estimated. A measure may comply with the drought framework even if it does not result in net benefits.

We then ranked the measures according to their benefits.

The measures we were asked to assess were identified in our Terms of Reference as options for improving the uptake of multi-peril crop insurance. These were:

1. **An upfront premium subsidy:** a proposed measure that involves providing a direct subsidy for annual premiums to reduce the upfront costs of multi-peril crop insurance for farmers.
2. **Stamp duty waiver:** a proposed measure that involves waiving the 2.5% stamp duty on annual premiums to reduce the upfront costs for farmers. It would apply for five years.
3. **Farm Business Skills Professional Development Program** (farm business skills program)**:** having commenced in November 2015, this measure provides a 50% rebate (up to $5,000 per person, and $9,000 per farm) on fees to increase skills related to different risk mitigation strategies, including multi-peril crop insurance, through:
   - professional development courses, and
   - tailored enterprise professional development, including compiling financial and production information that might support an application for multi-peril crop insurance.[1]
4. **Additional weather stations:** an existing measure that involves installing 28 additional weather stations (20 rain gauges, and eight automated tipping stations) to improve information for insurers and farmers. It commenced in January 2016.[2]
5. **Sharing information with insurers:** a proposed measure that involves making NSW Rural Assistance Authority data publicly available, to improve information for the insurance industry.

As well as assess the upfront subsidy through the drought framework, we were asked to design it in consultation with the Department of Primary Industries.

Our Terms of Reference is included in Appendix A.

1.2 Overview of findings

We found that three of the measures comply with the drought framework. In order of highest benefit per dollar spent, these were the additional weather stations, the business skills program, and the temporary upfront subsidy.

We found that the stamp duty waiver and the measure to share information held by the Rural Assistance Authority are not effective measures and do not comply with the drought framework.

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1 NSW Department of Primary Industries, Rural Assistance Authority, Farm Business Skills Professional Development Program Guidelines, November 2015, pp 9-10, at http://www.raa.nsw.gov.au/__data/assets/pdf_file/0005/583214/professional-development-program-guidelines.pdf.

2 Information provided by the Rural Assistance Authority on 7 June 2016, 22 September 2016.

We found that the only measure to materially increase the uptake of multi-peril crop insurance is the temporary upfront subsidy. While the weather stations and the business skills program are unlikely to increase the uptake of multi-peril crop insurance, they could assist farmers to be better prepared for drought. Therefore, we found that these measures comply with the drought framework.

1.3 An upfront subsidy for multi-peril crop insurance

We were asked to design the proposed upfront premium subsidy in consultation with the Department of Primary Industries, before we assessed it against the drought framework.

1.3.1 Design of the subsidy

We designed a temporary subsidy that would apply for a specified 5-year period, and provide a 50% subsidy in the first two years (capped at $30,000 per farm business per year), falling to 25% in the remaining three years (capped at $15,000 per farm business per year), inclusive of stamp duty.[3] Having considered the available options, we consider that this form of the subsidy best meets the Government's objectives.

In designing the subsidy we had regard to:

- The Department of Primary Industries request for us to consider the following in relation to measures for an upfront premium subsidy:
  - the feasibility of differential subsidies and/or employing a regional variation model to increase the uptake of multi-peril crop insurance so that regions where there is a higher likelihood of drought receive a greater subsidy for insurance
  - incentivising long term multi-year insurance products, taking into consideration their application interstate and internationally, and
  - the probability of productivity gains not eventuating, following the introduction of the subsidy.[4]
- The Government's commitment to supporting the development of the commercial multi-peril crop insurance market.

We consider that a temporary subsidy, rather than one which is ongoing, is likely to be the most effective measure to help meet the objective of developing a **commercial** market for multi-peril crop insurance. We do not recommend **ongoing** subsidies for multi-peril crop insurance. This is because we have not found evidence of conditions that would lead to be an under-provision of multi-peril crop insurance as a result of a market failure. Rather, the main reasons for the low uptake of multi-peril crop insurance are that the market is still in its

3 Dollars are in nominal terms.

4 Department of Primary Industries submission to Draft Report, 17 August 2016, p 1.

infancy, with products only recently emerging in the market in 2014, and that it is a relatively high-cost risk mitigation instrument, reflecting the high likelihood of widespread losses occurring in the same season.

We recommend that the temporary subsidy is set at the same percentage rate across different regions, regardless of the variation of risk. This is because providing higher levels of support to underpin cropping where there is a greater chance of failure is likely to lead to inefficient farming practices. In particular, it might provide an incentive to plant rather than retain moisture for future seasons, resulting in a loss of productivity if the crop fails. In addition, providing a subsidy for multi-peril crop insurance with the intention of driving a high level of uptake is likely to be significantly more costly than providing direct assistance in these regions.

We also recommend that it be set at the same percentage rate for both single-year and multi-year policies. Multi-year policies are not currently being offered in the NSW market, or commercially in other jurisdictions. Because the objective of the temporary subsidy is to develop a commercially viable market, our view is that it should not 'pick winners' by providing different levels of subsidies for different products. A subsidy that is product neutral would better encourage product innovation and choice by farmers to select the form of cropping insurance that best meets their circumstances.

1.3.2 Assessment of the subsidy against the drought framework

We found that the temporary subsidy for multi-peril crop insurance complies with the drought framework. We found that it is likely to be effective in helping some crop farmers become better prepared for climate variability.

However, as noted above it is possible for a measure to comply with the framework without having significant positive net benefits. We found that the subsidy might result in a small net benefit across society. However, it is likely to result in a higher level of government spending, because the expenditure on the subsidy would more than offset any subsequent savings in drought assistance.

Effectiveness of the subsidy

We estimate that the temporary subsidy could increase uptake of multi-peril crop insurance from less than 1% to around 16%[5]. Increasing the uptake of multi-peril crop insurance is likely to create a number of benefits. Some of these are private and some are public.

5 Under our 'base case' scenario, of a premium price $22/hectare.

For example, it might be an effective loss mitigation tool for crop farmers who experience loss as a result of mild drought and other weather events such as frost, flood, and high heat events. This is primarily a private benefit to crop farmers, as it represents a risk transfer mechanism from farmers to insurers.

It might reduce the variability in farm income, which would be expected to have flow-on benefits in rural communities. Stakeholders submitted that it might provide increased financial security which might reduce the stress of crop farmers and their families. Increased uptake of multi-peril crop insurance might therefore improve living conditions for farmers and rural communities, including improved mental health outcomes.

Multi-peril crop insurance might also play an indirect role in increasing crop farmers' self-reliance during droughts, by increasing productivity and profitability in **good seasons**. It might do this by:

- increasing crop farmers' confidence and improving their access to capital, resulting in greater upfront investment in inputs (such as fertiliser) because these costs are underwritten by the insurance if low yields occur as a result of adverse conditions, and
- encouraging crop farmers to adopt best management practices to reduce their premiums.

As a result of a potential increase in profitability during good seasons, crop farmers might be better placed to manage lower revenues during drought.

Subsidies for multi-peril crop insurance are unlikely to provide savings to the Government

A major drawback of providing a subsidy to encourage multi-peril crop insurance is it is likely that total Government expenditure would increase, as the expenditure on the subsidy would more than offset any savings in drought assistance.

There are a number of reasons for this. Firstly multi-peril crop insurance is unlikely to reduce materially the need for drought assistance. It is typically available only for cropping farm businesses and these businesses make up only a minority of drought assistance payments. The overwhelming majority of drought assistance payments go to livestock producers, who would not use multi-peril *crop* insurance. We estimate that since 2002, crop farmers in NSW have received an average of $24 million of the average $160 million (or 15%) in annual farm assistance that has been distributed to all farmers.

Secondly, crop farmers are still likely to seek government assistance if it is offered even if a subsidy for multi-peril crop insurance is provided. This is because:

- Multi-peril crop insurance is unlikely to be offered in droughts – other than for mild drought. This is because most moderate to severe droughts can be foreseen in advance of the season, and insurers are unlikely to offer affordable policies that cover drought when the likelihood of payout is high. Therefore, insurance will not always be available to mitigate risk when it is most sought by farmers.
- Evidence indicates that crop farmers who are most likely to seek government assistance are the least likely to take up insurance.

Our finding that multi-peril crop insurance is unlikely to provide savings to government by reducing expenditure on government assistance, takes into account all expenditure on government assistance not just that related to drought. While multi-peril crop insurance might be an effective loss mitigation tool for climate variability events other than drought, only a very small proportion of assistance to cropping farmers has been provided over recent years for non-drought events.

We estimate that the cost of a temporary subsidy would cost government around $7 million per year ($2015-16)[6] with 16% uptake rate. However, the cost of an ongoing subsidy with widespread uptake would be significantly higher. We found that it is likely to cost the Government more to subsidise crop insurance than the small level of assistance that has historically gone to crop farmers. To illustrate, in the USA, the Government subsidises around 65% of crop insurance premiums to reach participation rates of 80%. In NSW, this would cost around $60 million per year, which is around 2.5 times greater than the average annual assistance to NSW crop farmers that was distributed during the millennium drought between 2002 and 2011.

A temporary subsidy might assist the development of a commercially viable market for multi-peril crop insurance

We consider a **temporary** upfront premium subsidy would be the most effective measure to help the government meet its objective of developing a **commercial** market for multi-peril crop insurance.

The fundamentals required for a commercially viable market are already in place. In the 2015-16 season, we estimate that around 150-200 policies have been purchased on a commercial basis. This demonstrates that there is demand for multi-peril crop insurance. We also found that it is likely that multi-peril crop insurance offered in the commercial market will become more affordable, as improved information is addressing previous issues with adverse selection and moral hazard. Requirements for comprehensive risk audits on applicants have

6 Under our 'base case' scenario, of a premium price $22/hectare.

meant that insurers have been better able to accurately price risk for individual farmers. In addition, product innovation, for example offering different levels of coverage in stages through a season as conditions become more predictable has also allowed some insurers to reduce risk, has also resulted in lower premiums.

However, multi-peril crop insurance remains a large upfront investment for farmers and so many farmers are taking a "wait and see" approach. A temporary subsidy would allow more farmers to access insurance at a more affordable price, and determine first-hand the value it offers. As a result, a temporary subsidy might help develop a commercial market for insurance.

1.4 Stamp duty waiver

Stamp duty is currently applied to multi-peril crop insurance at a concessional rate of 2.5%. We found the reduction in costs from waiving the stamp duty would be too small to materially change uptake rates of multi-peril crop insurance. Therefore, a stamp duty waiver **on its own** does not comply with the drought framework.

We are not therefore recommending that the stamp duty be waived. However, if the Government were to introduce a temporary subsidy we have updated our recommendation on how it could be applied.

Stakeholders submitted that it "makes little sense for the NSW Government to be both seeking to alleviate an affordability issue relating to insurance while at the same time directly contributing to the problem."[7] While the temporary subsidy far outweighs the impact of the stamp duty, we recognise the conflict of levying a tax on multi-peril crop insurance, at the same time as applying a subsidy. Therefore, we are recommending that if the temporary subsidy is introduced, the percentage subsidy should be inclusive of the stamp duty payable.

1.5 Business skills program

We found that on balance, the business skills program complies with the drought framework, noting that there is a small ongoing overlap between this program and the Commonwealth Managing Farm Risk Program.

In our Draft Report, we considered that the business skills program did not comply with the drought framework, and should be redesigned, because both measures could potentially provide a rebate for compiling financial and

7 Allianz submission to Information Paper, 29 April 2016, pp 5, 8-9.

production information that might support an application for multi-peril crop insurance.[8]

However, we have conducted further consultation and analysis, and we agree with stakeholders that the overlap between the programs is limited. This is because the business skills program provides assistance for a much wider range of farm management and drought preparedness strategies, while the Commonwealth program is specific to managing risks through the use of insurance products.

We consider it would be administratively difficult to excise this partial overlap, and it would be counter to the objective of the business skills program which is to take a comprehensive view of farm management. We have assessed that the business skills program complies with the drought framework, noting the small ongoing overlap between these programs.

While the business skills program is unlikely to result in increased uptake of multi-peril crop insurance, it is likely to be effective in helping some farmers improve their planning and assess their options for managing drought. Based on the estimated benefit-cost ratio of the measure, we have ranked the program second of the five measures under consideration.

1.6 Additional weather stations

The **additional weather stations** measure complies with the drought framework, although it is not likely to lead to a higher uptake of multi-peril crop insurance. While improved weather information might improve insurers' actuarial models, it would not materially reduce the costs of insurance premiums because the existing weather information is sufficiently robust.

However, improved weather information is also able to be used for a range of other purposes, including improving farm practices. Therefore, this measure received a high level of support from stakeholders. Of the five measures we assessed, this measure is likely to lead to the largest net benefit per dollar spent.

1.7 Sharing Rural Assistance Authority data

We found that the final measure, to share the Rural Assistance Authority's information with insurers, does not comply with the drought framework, because it would not be effective at meeting the Government's objectives. The information is not being sought by insurers because it relates to a small subset of farms, and the financial information on these farms is not accompanied by

[8] NSW Department of Primary Industries, Rural Assistance Authority, Farm Business Skills Professional Development Program Guidelines, November 2015, pp 9-10, at http://www.raa.nsw.gov.au/__data/assets/pdf_file/0005/583214/professional-development-program-guidelines.pdf.

production data. As a result, it is unlikely to be useful to materially improve insurers' actuarial models.

1.8 Ranking of the measures

Our final assessment of each of the measures against the Drought Program Evaluation Framework is summarised in Table 1.1.

We have ranked the measures firstly on whether they comply with the framework. We then used the benefit-cost ratios to rank each measure, based on the work conducted by the Centre for International Economics (CIE) (Table 1.2). The benefit-cost ratio is a measure of the benefit delivered for every dollar spent. The benefit-cost ratios account for all costs and economic benefits, not just those related to drought.[9]

It is important to note that there is a high degree of uncertainty around the benefit-cost ratio for the temporary upfront subsidy for multi-peril crop insurance. The estimated benefits in Table 1.2 reflect the potential for productivity gains during good seasons. These might result from greater upfront investment in inputs (such as fertiliser) because these costs are underwritten by the insurance if low yields occur as a result of adverse conditions.

However, no studies have been conducted in Australia investigating whether there is evidence to support a link between multi-peril crop insurance and increased productivity or not. A large-scale study was conducted in the United States which found no empirical evidence to support this link, however there are substantial differences in the institutional settings between the United States and Australia.

Therefore, CIE looked at a range of possible scenarios under which productivity benefits might occur. The small positive benefit-cost ratio estimated under our 'base case' in Table 1.2 assumes that productivity improvements that would have otherwise occurred are brought forward by five years as a result of multi-peril crop insurance, and an average premium of $22 per hectare. However, this benefit cost ratio falls within a very large range. If these productivity gains do not eventuate, or if the average premium is higher at around $30 per hectare, the costs of the measure would exceed the benefits. We have not been able to determine the probability of each of these scenarios occurring.

We also considered whether by reducing risk to farmers, multi-peril crop insurance could provide greater certainty to invest in consolidation, thereby also driving productivity benefits through faster structural adjustment. We consider that this would be unlikely due to the high degree of structural adjustment that has already occurred over the past 15 years. Given the relatively low expected uptake of multi-peril insurance as a result of a temporary subsidy, we consider

9 The CIE report provides sensitivity analysis relating to the marginal excess burden of taxation and the discount rate.

that its contribution to further structural adjustment would be immaterial - economic factors, are a much larger driver of structural adjustment. Therefore, the potential for further structural adjustment is not factored into our estimates.

Table 1.1 Summary of assessment of measures against the drought framework

	Additional weather stations	Business skills	Upfront premium subsidy	Stamp duty waiver	Sharing information
Complies with drought framework?	Yes	On balance, yes	Yes	No	No
Rank	1	2	3	4	5
Stage 1	Yes	Yes	Yes	No	No
Meets an IGA objective	Yes	Yes	Yes	Yes	Yes
Market failure OR addresses government policy objective	Market failure	Government policy objective	Government policy objective	Government policy objective	Government policy objective
Effective	Yes	Could achieve its objective, however likely to be low uptake	Yes	No	No
Equitable	N/A	Yes	Yes	Yes	N/A
Effectively administered	Yes	Yes	Yes	Yes	No
Stage 2	Yes	On balance, yes	On balance, yes	On balance, yes	On balance, yes
Complement-ary	Yes	There is a partial ongoing overlap with Managing Farm Risks Program.	The upfront subsidy, the stamp duty waiver, and information sharing have an overlapping purpose to reduce the cost of multi-peril crop insurance. However, the stamp duty waiver and information sharing are unlikely to be effective at meeting this objective, therefore there is no practical overlap. There is a possible conflict in subsidising a product that incurs stamp duty, however a subsidy can be set to offset the stamp duty payable. We recommend that a subsidy is set on the total amount payable inclusive of the stamp duty. Other drought relief measures might reduce the effectiveness of incentives to increase the uptake of insurance.		
Stage 3	Yes	Yes	Yes	Yes	No
Benefits can be estimated	Proxy can be used	Proxy can be used	Yes	Yes	No
Benefit-cost ratio[a]	2.3:1	1.9:1	1.4:1	1:1	N/A

[a] Based on 'base case scenario of productivity gains being brought forward by five years, and a premium of $22/ha (before a subsidy).

Source: CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, pp 8-10.

Table 1.2 Summary of CIE's cost-benefit analysis results[a]

	Additional weather stations	Business skills	Upfront premium subsidy[d]	Stamp duty waiver[d]	Sharing information
Final decision					
Benefit-cost ratio	2.3:1	1.9:1	1.4:1	1:1	N/A
Benefits ($m)	6.3	17	53.6	0.4	N/A
Costs ($m)[b]	2.7	9.2	37.4	0.4	N/A
Draft decision					
Benefit-cost ratio	1.9:1	1.5:1	1.1:1	1:1	N/A
Benefits ($m)	6.3	17	53.6	0.4	N/A
Costs ($m)[c]	3.4	11.5	46.7	0.4	N/A

a Net present value of benefits and costs in 2014-15 terms over 20 years, 2016-2017 to 2035-36 using a real discount rate of 7%.

b Total expenditure by government multiplied by a marginal excess burden of 0.08.

c Total expenditure by government multiplied by a marginal excess burden of 0.35.

d Based on 'base case scenario of productivity gains being brought forward by five years, and a premium of $22/ha (before a subsidy).

Source: IPART, CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – Draft Report*, July 2016, pp 8-10; CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, pp 8-10.

The benefit cost ratios in our Final Report are slightly higher than those presented in the draft, because we have adopted a different assumption about the costs of each of the program. In particular, we have revised our assumption about the cost of raising funds to fund government programs.

Raising funds through taxes is not costless as it distorts spending and investment decisions in the economy. The more a tax affects these decisions, the less efficient the tax. This is known as the 'marginal excess burden of taxation'. Our Draft Report used a marginal excess burden of taxation of 0.35, which is equal to the marginal excess burden of taxation of stamp duty. This means it costs the economy 35 cents for every dollar raised by Government.

However, our final decision is to use a lower marginal excess burden of taxation of 0.08, in line with previous decisions made by IPART. This is equal to the marginal excess burden of taxation for GST and land tax, which are more efficient than stamp duty. As a result, the costs of the measures are lower than reported in the draft, and so the benefit-cost ratios for each of the measures are higher.

1.9 Stakeholder engagement for this review

As part of our process for this review, we conducted public consultation together with targeted consultation, sought expert advice, and conducted our own analysis. We:

- Released a short Information Paper in April that outlined our tasks, and all interested parties provided input to the review. We received eight submissions to the Information Paper.
- Engaged CIE to conduct a cost-benefit analysis on each of the measures.
- Released a Draft Report in July along with CIE's Draft Report, which explained our draft findings for the review. We received 16 submissions to the Draft Report.
- Held a public hearing in Sydney on 2 August 2016, which was streamed live over the internet, and is available to view on our website.
- Consulted directly with insurers, government bodies, and NSW Farmers' Association (NSW Farmers). CIE has also consulted ABARES, insurers and insurance peak bodies, and farm consultants during the course of their cost-benefit analysis.

Table 1.3 shows the timetable for this review. Appendix C provides additional information about the stakeholders who were involved in this review.

Table 1.3 Timetable for the review

Received Terms of Reference	22 March 2016
Released Information Paper	11 April 2016
Submissions on Information Paper due	29 April 2016
Released Draft Report and consultant report	19 July 2016
Public Hearing	2 August 2016
Submissions on Draft Report due	15 August 2016
Delivered Final Report to the NSW Government	17 October 2016

1.10 Structure of this report

The rest of this report explains our review and draft findings and decisions in more detail:

- Chapter 2 provides some context for this review, including background information on multi-peril crop insurance, and explains our analytical approach for the review. It provides an overview of the drought framework, and explains the factors that we considered when applying it.
- Chapter 3 discusses our analysis and final findings on the potential role multi-peril crop insurance can play in New South Wales, and the possible reasons for providing government support.
- Chapter 4 explains how we designed the upfront subsidy. This includes how long it should be in place, the level of the subsidy, and features of the subsidy which would ensure efficiency and cost effectiveness.
- Chapter 5 explains our assessment of the measures which directly reduce the upfront costs of premiums for multi-peril crop insurance.
- Chapters 6 to 8 explain our assessment of the other measures in our Terms of Reference – including the stamp duty waiver, the business skills program, the additional weather stations and the information sharing.

1.11 Final findings and recommendations

IPART finds that:

1 Multi-peril crop insurance could play an indirect role in increasing crop farmers' self-reliance during droughts. 33

2 There is unlikely to be an under-provision of multi-peril crop insurance as a result of a market failure. 38

3 Total Government expenditure would be likely to increase as a result of subsidising multi-peril crop insurance because the expenditure of the subsidy would more than offset any savings in drought assistance. 45

4 An upfront premium subsidy complies with the drought framework. 62

5 A 5-year stamp duty waiver on insurance premiums does not comply with the drought framework, because it would not be effective in achieving its objectives. 62

6 On balance, the NSW Farm Business Skills Professional Development Program complies with the drought framework, noting a small ongoing overlap between it and the Commonwealth Managing Farm Risk Program. 78

7 The provision of additional weather stations complies with the drought framework. 86

8 Sharing information with insurers does not comply with the drought framework because it would not be effective in achieving its objectives. 90

IPART recommends that if a temporary subsidy is introduced:

1 It be temporary only, with the objective of assisting the development of a commercial multi-peril crop insurance market. 29

2 The subsidy rate be applied to the premium payable, **inclusive of stamp duty.** 50

3 It be set at the same percentage rate across different regions, regardless of the different risks facing different regions. 53

4 It be set at the same percentage rate for both single-year and multi-year policies. 54

IPART also recommends that:

5 The Rural Assistance Authority prospectively improves its data collection, and allow stakeholders to access the aggregated data. 94

2 Context and approach

During the millennium drought between 2002 and 2011, the NSW Government distributed around $2.2 billion in drought assistance to around 47,000 NSW farms.[10] Following this period, the Commonwealth, state and territory governments agreed that future assistance should be targeted to helping farmers become better prepared for drought, because increased climate variability is an ongoing risk rather than an exceptional circumstance. This should help all farmers become less reliant on government assistance over the medium to longer term. This agreement is known as the Intergovernmental Agreement on National Drought Program Reform (the IGA), and it came into effect in July 2014.[11]

In response to the IGA, the NSW Government announced a 5-year drought strategy in February 2015. The strategy includes over $300 million of funding over five years for finance, skills and training, animal welfare assistance, access to information and research and development, and wellbeing programs. It also includes a commitment to work with the Commonwealth Government and farming communities to put in place an environment that encourages the development of a commercial multi-peril crop insurance market (Appendix B provides more information on the drought strategy).[12]

Multi-peril crop insurance can assist crop farmers reduce their exposure to weather-related risks and better manage variable income flows, by insuring against loss of revenue or yield as a result of a wide range of weather and non-weather related events. These might include low soil moisture, high heat events, flood, frost, as well as pests.

10 Real $2015-16, based on data from email to IPART, Rural Assistance Authority, 23 August, 2016.

11 Department of Agriculture and Water Resources, *Intergovernmental Agreement on National Drought Program Reform*, at http://www.agriculture.gov.au/ag-farm-food/drought/drought-policy/drought-program-reform/iga-national-drought-program-reform, 25 February 2015, accessed 26 September 2016.

12 Primary Industries Agriculture, *2015 NSW Drought Strategy*, at http://www.dpi.nsw.gov.au/content/agriculture/emergency/drought/support/nsw-drought-strategy, accessed 11 July 2016.

As part of this strategy, IPART was asked to develop a Drought Program Evaluation Framework (the drought framework)[13] and to assess existing and proposed drought assistance programs against this framework. The purpose of the drought framework is to enable the NSW Government to identify the set of measures that delivers the greatest net benefit for the available funding, accords with the IGA and complements the objectives of other drought programs. IPART is now assessing several of the other measures as part of this review.

The rest of this chapter provides some background information on multi-peril crop insurance, including how it works, the barriers to its provision and uptake, and summarises the current initiatives to develop a commercial multi-peril crop insurance market in Australia. It also explains our approach to this review, including how we have applied the drought framework.

2.1 Background on multi-peril crop insurance

Farm businesses experience a higher level of revenue volatility than businesses in most other sectors of the Australian economy.[14] Therefore, the development of an insurance market in Australia to manage these risks has been investigated over many years.

There are well-established markets for multi-peril crop insurance in most developed countries. It generally attracts high long-term government subsidies in the countries where it is offered due to its high costs.[15] However, commercial multi-peril crop insurance products recently entered the Australian market in 2014,[16] following many years of feasibility studies and trials.[17] Appendix E provides a summary of the findings from previous reviews on multi-peril crop insurance.

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13 NSW Drought Program Evaluation Framework - Terms of Reference, at http://www.ipart.nsw.gov.au/Home/Industries/Other/Reviews/Drought_Framework/Drought_Program_Evaluation_Framework/16_Oct_2015_-_Terms_of_Reference/Terms_of_Reference_-_NSW_Drought_Program_Evaluation_Framework_-_October_2015, 2 October 2015, accessed 12 October 2016.

14 Annual revenue volatility in the farm sector is the highest of any sector and more than double the 'average' for the entire economy. Australian Farm Institute, *Farm Institute Insights*, February Quarter 2015, p 4. Between 1966 and 2011, grains and oilseeds exhibited the highest degree of volatility in the value of farm production across the Australian agricultural sector, at 1.8 times the average volatility (ABARES, *Options for insuring Australian agriculture,* September 2012, pp 3-4, at http://www.agriculture.gov.au/SiteCollectionDocuments/ag-food/drought/ec/nrac/work-prog/abares-report/abares-report-insurance-options.pdf.

15 A 2008 World Bank survey found that 63% of the 65 countries surveyed subsidised their crop insurance. *Ibid*, p 11.

16 Australian Broadcasting Corporation, *Multi-peril crop insurance: Can insurance against drought help farmers prepare for climate change?*, at http://www.abc.net.au/news/2015-08-14/multi-peril-crop-insurance-farmers-drought-climate-change/6698820, 14 August 2015, accessed 9 October 2016.

17 Products have been trialled commercially in Western Australia where cropping is the largest agricultural industry, and production data is streamlined. NRAC, *Feasibility of agricultural insurance products in Australia for weather related production risk*, September 2012, p 2.

To date, the uptake of these products has been slow. We estimate that for the 2016 winter cropping season, around 150-200 policies were written across Australia.[18] Box 2.1 explains how these multi-peril crop insurance products work.

Box 2.1 How does multi-peril crop insurance work?

Multi-peril crop insurance values losses based on revenue or yield. It can use historical performance to value losses, or instead use forward prices and expected production.

Revenue insurance

Most of the active multi-peril crop insurance policies in Australia insure against a loss of revenue. Consider an example where the 5-year historical average revenue of a farm is $1 million. For 2016, the farmer is offered 70% revenue coverage, at $25 per hectare, for a premium of $57,500. In 2016, the farm's revenue falls to $500,000, which is 50% of its historical average. This triggers a payout of $200,000, which is the difference between the sum insured of 70% of the historical average ($700,000), and what the farmer earned for the year.

For 2017, the historical 5-year average for the farm would fall to $900,000. If it again takes out 70% coverage, the threshold for a payout would fall to $630,000. If again the farmer makes $500,000 for the year, the payout would fall to $130,000 for this year.

Revenue insurance implicitly insures against commodity price downturns that affect farmer income. However, price downturns are often the result of higher yields, which would offset some of the price downturn.

Yield insurance

Rather than provide insurance against revenue losses, other products insure against yield losses. The payout is based on the agreed projected value for each crop covered by the policy ($ per tonne). Yield insurance products can result in payouts even if the farmer has not lost income. For example, if yields are low due to a widespread climatic event, prices tend to be higher, offsetting some of the loss of revenue.

2.2 Current initiatives to develop a commercial multi-peril crop insurance market in Australia

As noted above, the NSW Drought Strategy included a commitment to work with the Commonwealth Government and farming communities to put in place an environment that encourages the development of a commercial multi-peril insurance sector for cropping.[19]

18 Discussions with Latevo, Allianz and IAG.

19 Department of Primary Industries, *2015 NSW Drought Strategy*, at http://www.dpi.nsw.gov.au/content/agriculture/emergency/drought/support/nsw-drought-strategy, accessed 11 July 2016.

The NSW and Commonwealth Governments co-hosted a joint summit on this issue in November 2015. The summit was attended by farmers and representatives from banks, insurance and reinsurance companies, the NSW and Australian Governments and farming organisations. It identified various impediments to multi-peril crop insurance, as well as options to overcome them.

Our Terms of Reference for this review identify three of these barriers to the provision and uptake of multi-peril insurance:

- gathering and obtaining data to understand the risks and how farmers behave
- the cost of insurance, and
- education and understanding of the benefits of multi-peril crop insurance.

Of these, the cost of insurance has historically been the largest barrier to uptake. NSW Farmers submitted that feedback from its members is that the current cost of premiums is prohibitive, particularly in comparison to alternative risk management approaches.[20]

The options to overcome these barriers include the measures we have been asked to assess against the drought framework, including:

- **An upfront premium subsidy and/or stamp duty waiver** to reduce the upfront costs of multi-peril crop insurance for farmers.
- **Business skills program:** the Farm Business Skills Professional Development Program, provides a 50% rebate (up to $5,000 per person, and $9,000 per farm) on fees to increase skills related to different risk mitigation strategies, including multi-peril crop insurance, through:
  - professional development courses, and
  - tailored enterprise professional development, including compiling financial and production information that might support an application for multi-peril crop insurance.[21]
- **Additional weather stations** to improve the accuracy of weather information, so that insurance products more might accurately reflect the price of risk.
- **Sharing information about farms** held by the Rural Assistance Authority with insurers to enhance their actuarial models.

20 NSW Farmers submission to Information Paper, 6 May 2016, p 3.

21 NSW Department of Primary Industries, Rural Assistance Authority, *Farm Business Skills Professional Development Program Guidelines*, November 2015, pp 9-10, at http://www.raa.nsw.gov.au/__data/assets/pdf_file/0005/583214/professional-development-program-guidelines.pdf.

The Commonwealth and Queensland Governments have introduced similar programs to the NSW business skills program, which subsidise the administration costs of multi-peril crop insurance:

- The Commonwealth Managing Farm Risk Program provides $29.9 million of funding for a 50% rebate (up to $2,500) for financial advice, preparation of information for an application for an insurance policy, or an audit of the information provided to insurers.[22]
- The Queensland Government announced grants of $2,500 per farm to offset the costs of financial advice, succession planning services, or multi-peril crop insurance in its 2016 budget.[23]

2.3 Approach to this review

As explained above, the purpose of this review is to assess the measures that have been identified to overcome barriers to the take-up of multi-peril crop insurance. We are evaluating these measures using the drought framework we developed earlier this year. One of the measures we have been asked to assess is an upfront subsidy for multi-peril crop insurance premiums that we have been asked to design in consultation with DPI as part of this review.

Our analytical approach to these tasks included three main steps.

The first was to consider whether government support for multi-peril crop insurance is likely to:

- help crop farmers manage climate risks
- address an under-provision of multi-peril crop insurance as a result of market failure, and/or
- displace drought assistance, and if so, whether it would be more cost effective than providing direct assistance.

Our next step was to design the subsidy. We used the analysis in the first step to determine what the objectives of the subsidy should be, and designed it accordingly.

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22 Australian Government Department of Agriculture and Resources, *Managing Farm Risk Programme Guidelines*, March 2016, p 1, at http://www.agriculture.gov.au/SiteCollectionDocuments/ag-food/drought/assistance-measures/insurance-risk-advice/mfrp/managing-farm-risk-programme-guidelines.pdf.

23 Queensland Government, The Queensland Cabinet and Ministerial Directory, *Treasurer to travel throughout regional Queensland post-Budget,* at http://statements.qld.gov.au/Statement/2016/6/20/treasurer-to-travel-throughout-regional-queensland-postbudget, 20 June 2016, accessed 12 October 2016.

Finally, we assessed each of the five specific measures identified in the Terms of Reference (including the upfront subsidy) against the drought framework. A program will comply with the drought framework if it is well-designed, complementary with other government programs, and the net benefits of the program can be estimated.

In applying the framework to each of the measures, we considered:

- whether the measure was likely to increase the uptake of multi-peril crop insurance, and whether the increased uptake of insurance would meet the IGA objectives, and
- whether the measure had other objectives that were consistent with the objectives of the IGA.

The drought framework also required us to estimate the benefits of measures, and rank the measures. In doing this, we took into account all benefits, not just those that related to drought preparation and mitigation.

If we found a measure not to be complementary with other measures (and therefore not compliant with Stage 2 of the drought framework) we considered whether it could be redesigned.

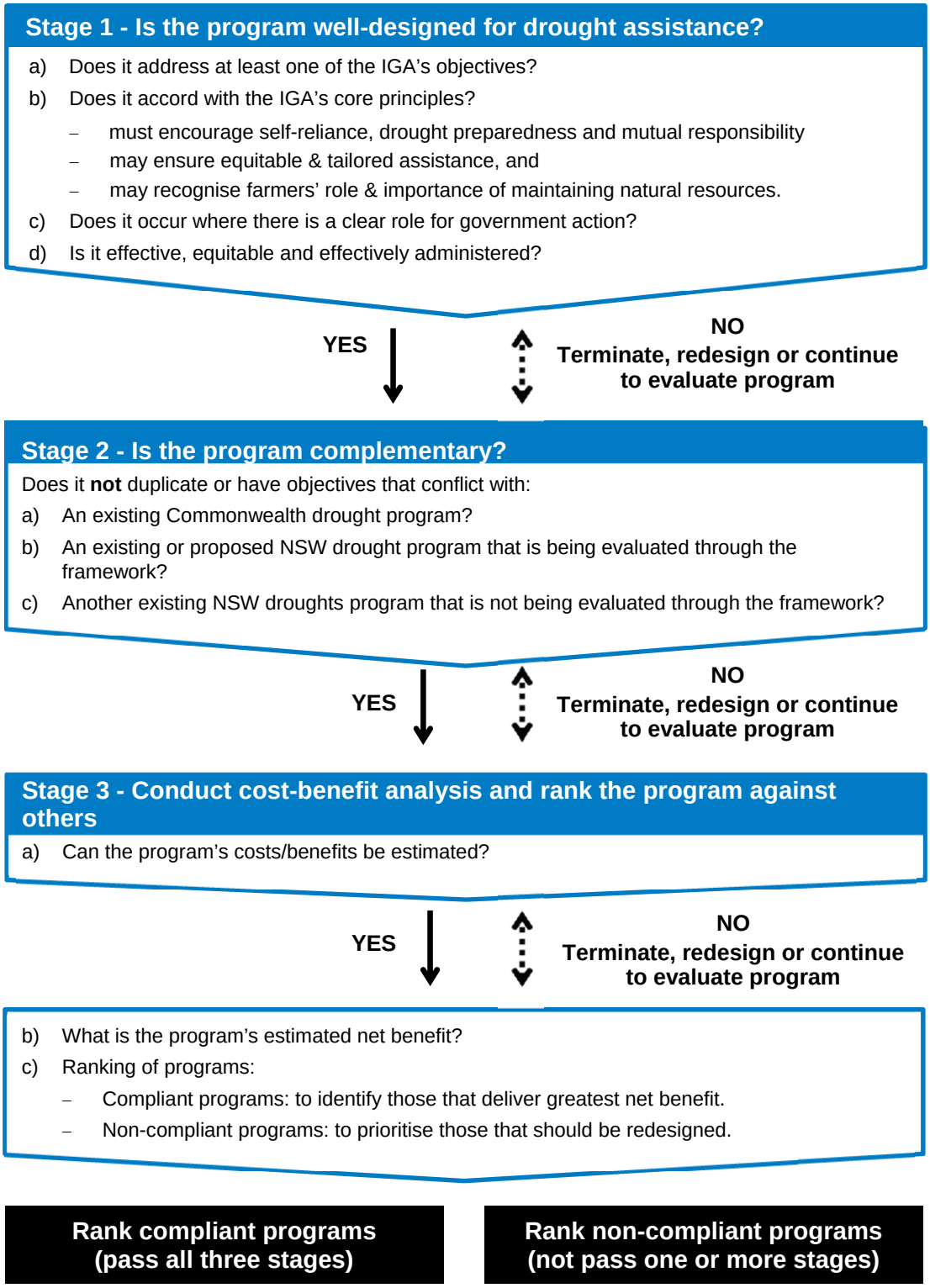
Figure 2.1 provides an overview of the drought framework. The rest of this chapter explains how we applied the drought framework.

We note that we have focused only on the measures listed in our Terms of Reference. We have not considered other initiatives noted by the NSW Farmers, and other stakeholders such as:

- measures to reduce the costs of providing multi-peril crop insurance, including
  - initiatives considered by Deloitte's scoping study, including reinsurance assistance
  - subsidising insurers' administration costs
  - government investment in actuarial models
  - the use of a commercial Public Private Partnership,[24] or
- government support for weather derivative products.[25]
- Framework for evaluating NSW drought programs

[24] NSW Farmers submission to Information Paper, 6 May 2016, p 4.
[25] Consultation with CelsiusPro, 2 June 2016.

Figure 2.1 Drought Program Evaluation Framework



Source: IPART, *NSW Drought Program Evaluation Framework – Final Report*, January 2016, p 3.

Does the measure address the objectives and accord with the core principles of the IGA?

Stage 1 of the drought framework involves determining whether a measure addresses one of the IGA's objectives and accords with the following core principles:

1. Encourages self-reliance, drought preparedness and mutual responsibility.
2. Provides equitable and tailored assistance (whether it is based on the actual needs of recipients in that region, rather than using blanket eligibility criteria).
3. Recognises the role of farmers and the importance of maintaining natural resources.

To comply with this stage, the measure **must** meet the first principle, but may still comply if it does not meet the second and third principles.

IPART's Final Report on the NSW Drought Program Evaluation Framework explains that:

- By 'self-reliance' we mean farming businesses, families and communities should have primary responsibility for managing the risks and impacts of drought on them, since drought is a natural characteristic of Australia's variable climate.
- By 'drought preparedness', we mean farming businesses, families and communities should develop strategies to enable them to prepare for, manage and recover from drought.
- By 'mutual responsibility', we mean assistance measures should be dependent upon recipients taking actions to improve their circumstances.[26]

While Stage 1 of the drought framework distils the IGA objectives into principles that specifically relate to **drought** assistance programs, we consider a measure that encourages preparedness for other climatic events as a result of increased climate variability would comply with this stage. This is consistent with the first IGA objective:

- To assist farm families and primary producers to adapt to and prepare for the impacts of increased **climate variability** [emphasis added].[27]

[26] IPART, *NSW Drought Program Evaluation Framework – Final Report*, January 2016, p 21.
[27] *Intergovernmental Agreement on National Drought Program Reform*, May 2013, p 2.

Relevant factors to consider when determining whether a measure encourages self-reliance, drought preparedness and mutual responsibility include whether it:

- encourages good farm business decision making by:
  - basing support for farm businesses on a willingness by those farms to prepare for drought and climate change,[28] or
  - facilitating efficient adjustments in the agricultural sector[29] (eg, exits, amalgamations)
- supports farming communities to prepare for drought and enhance their long-term sustainability and resilience[30]
- avoids positioning government as the business 'lender of last resort'[31]
- overcomes impediments to farmers adopting risk management strategies
- offers once-off or time-limited assistance to farm businesses, families or communities, to discourage dependency on government assistance,[32] and
- includes eligibility tests for relief that take account of the efforts of farm businesses, families or communities towards self-reliance.

2.3.2 Does the measure occur where there is a clear case for government action?

Stage 1 of the drought framework also involves assessing whether the measure occurs where there is a clear case for government action. Farmers operate for-profit businesses in competitive markets,[33] and economic efficiency principles suggest governments should not intervene if doing so distorts prices and outputs in normal functioning markets. In addition, the costs of assistance programs are ultimately borne by other members of society.

To comply with this part of the drought framework, the measure should address a market failure or a specific policy objective, such as a social or environmental goal, that would not be achieved by the market.[34]

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28 *Intergovernmental Agreement on National Drought Program Reform*, May 2013, Attachment A, Principle 6, p 7.

29 *Intergovernmental Agreement on National Drought Program Reform*, May 2013, Attachment B, Principle d, p 8.

30 *Intergovernmental Agreement on National Drought Program Reform,* May 2013, Attachment A, Principle 9, p 7.

31 *Intergovernmental Agreement on National Drought Program Reform*, May 2013, Attachment B, Principle e, p 8.

32 The Productivity Commission noted that: "…the longer a farmer is receiving government assistance, the less capacity and/or motivation might be to take action which would lead the farm or household to become self-reliant" (Productivity Commission, *Government Drought Support – Inquiry Report*, February 2009, p 132).

33 These businesses compete with other sectors of the economy for scarce labour and capital inputs.

34 NSW Government, *Guide to Better Regulation*, November 2009, p 11.

A market failure would occur where the market does not operate efficiently as a result of:

- the inability of innovators to fully capture the benefits of research and development that generates community wide spill-over effects[35]
- incomplete or asymmetric information (eg, sufficient information is not available to improve the adoption of risk management strategies or new technologies)
- activities that impose costs on others who are not party to a contract or transaction, or
- policy and regulatory failure (eg, government policies that have impeded farmers from becoming self-reliant for droughts).

However, government action is not warranted in every instance of market failure. In some cases, the private sector can find alternative solutions.[36] Governments should only undertake drought programs where they are expected to improve outcomes compared to what would occur in the absence of such programs.

2.3.3 Is the measure effective, efficient, equitable, well targeted and effectively administered?

Finally, Stage 1 of the drought framework involves assessing whether the measure is effective, efficient, equitable, well targeted and effectively administered. To assess the effectiveness and efficiency of the measure, we evaluated:

- how well it is likely to achieve its intended objectives (effectiveness), and
- whether it will achieve those objectives in a least-cost manner (efficiency).

To facilitate this assessment, the program should have clear and meaningful indicators of effectiveness (ie, expected outcomes). In addition, the program's costs to government, expected outcomes and probability of achieving them, should be quantifiable or able to be estimated. If they are not, it suggests the program is not sufficiently well-designed to be successfully implemented or evaluated.[37]

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35 This leads to market failure because individuals or businesses do not garner all the benefits of their research and development (ie, these benefits 'spillover' to others), resulting in less than socially desirable levels of research effort (Productivity Commission, *Drought Report*, February 2009, p 183).

36 NSW Government, *Guide to Better Regulation*, November 2009, p 29.

37 If this information is not available, it might not be possible to evaluate it against alternative programs in the cost-benefit analysis stage (Stage 3).

To assess whether the measure is equitable and well-targeted, we considered whether it allocates resources based on identified need.[38]

To determine whether the measure will be effectively administered, we considered whether the administrative arrangements for the program are transparent, consistently applied and minimise transaction costs for the recipient and administrative agency. These transaction costs include non-monetary costs like travel to administrative agencies and the time taken to complete an application form.

2.3.4 Is the measure complementary?

Stage 2 of the drought framework involves assessing whether the measure complements other Commonwealth and NSW drought assistance programs (including the other measures being evaluated as part of this review). Measures are complementary if their drought-related objectives do not duplicate, conflict with, or reduce the effectiveness of any of the other measures. We have attached a summary of our complementarity assessment in Appendix D.

We did not consider whether the measure's non-drought objectives overlap or conflict.

2.3.5 What is the measure's estimated net benefit?

We engaged CIE to conduct a cost-benefit analysis of each of the measures to estimate its net benefit. The approach CIE used differed for each measure, and therefore is discussed in the chapter that discusses each measure.

However, we note that CIE has applied the following assumptions in its estimates for each measure:[39]

- Cost-benefit valuation period of 20 years.
- 7% discount rate.
- Marginal excess burden of taxation of 0.08. This means that $1 of government expenditure costs society $1.08 in foregone consumption. This is lower than the marginal excess burden of taxation that was used in our Draft Report of 0.35.

CIE used a higher marginal excess burden of taxation in its Draft Report because it reflects the cost of payroll tax, which is the most efficient of the major NSW taxes.

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38 *Intergovernmental Agreement on National Drought Program Reform 2013*, Attachment B, Principle c, p 8.

39 CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, pp 18-19.

Allianz argued that using a 0.35 marginal excess burden of taxation to measure the costs of a measure is excessive given that some of the funding for the program might come from savings in drought assistance, rather than raised from taxes. It also argued that the high burden of taxation biases the results of the analysis against the benefits of the modelled program.[40]

For the Final Report, we asked CIE to use the lower excess burden of taxation to be consistent with the rate used in our 2016 review of public transport fares. We also note that GST and land tax are likely to have a similar marginal excess burden of taxation.[41]

In our transport review, we used a marginal excess burden estimate for the GST, of 0.08, because it is the most efficient tax.[42] This was consistent with our approach to fare setting of calculating the efficient cost of providing transport services.[43]

Using a lower marginal excess burden of taxation means that there is a lower cost associated with raising funds to pay for the measure. This reduces the overall cost, and so the benefit-cost ratio for each measure is higher. However, relativities of the benefit-cost ratios between measures remain the same under both assumptions, and so this would not impact on the ranking of the measures.

40 Allianz submission to Draft Report, 16 August 2016, p 8.

41 CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 19.

42 IPART, *More efficient, more integrated Opal fares - Draft Report*, December 2015, p 82.

43 IPART, *Review of external benefit of public transport - Draft Report*, December 2014, pp 65-70.

3 Why provide Government support for multi-peril crop insurance?

We were asked to assess five specific measures identified in the Terms of Reference as options to increase the uptake of multi-peril crop insurance against the Drought Program Evaluation Framework.

One of these measures is an upfront premium subsidy for multi-peril crop insurance. We were also asked to design the subsidy, in consultation with the Department of Primary Industries. In order to design a suitable subsidy, we firstly needed to determine what the objective of a subsidy should be.

To do this, we considered the potential role multi-peril crop insurance can play in New South Wales, and the possible reasons for providing government support. In particular, we considered:

- whether and how multi-peril crop insurance could help crop farmers manage climate risks
- whether there is an under-provision of multi-peril crop insurance as a result of a market or government failure, and
- whether providing government support for multi-peril crop insurance could displace drought assistance, and if so, whether it would be more cost effective than providing direct assistance.

This chapter provides our analysis on each of these questions.

3.1 Overview of findings on multi-peril crop insurance

Although we found that multi-peril crop insurance could encourage self-reliance by farmers, we do not consider there is a strong case for providing government support for this insurance. This view is based on our findings that there is no evidence of conditions suggesting the current low uptake of multi-peril crop insurance reflects a market failure, and it is unlikely to achieve other NSW Government policy objectives such as providing savings to Government.

Based on these findings, we concluded that any government support to increase the uptake of multi-peril crop insurance should be temporary and be designed to develop the commercial market only.

IPART recommends that if the Government subsidises multi-peril crop insurance:

1 It be temporary only, with the objective of assisting the development of a commercial multi-peril crop insurance market.

3.2 Can multi-peril crop insurance help farmers manage climate risk?

We found it would be unlikely for multi-peril crop insurance to provide payouts to farmers in prolonged drought conditions in the absence of significant government support. This was supported by NSW Farmers.[44] It is also consistent with the finding of the Grain Producers taskforce.[45]

We agree with stakeholders that for mild droughts that have not been predicted in advance of the season, multi-peril crop insurance is an effective product to mitigate losses.[46] This might include the first year of a drought event, or if drought relapses after an initial recovery stage. It is also effective for other climate events that cannot be accurately predicted in advance – for example, frost, and high heat events.

However, most moderate to severe droughts can typically be foreseen months in advance. As existing multi-peril crop insurance products are offered on a year-by-year basis, farmers and insurers can opt in or out of the market each year, depending on the forecast conditions. In poor seasons, insurance might not be offered to farmers for an affordable premium because the likelihood of paying out on the policies is too high.

We found this to be the case for several insurers we consulted with. They submitted they would not offer products during drought, or that they would structure their products to provide only a very low level of coverage (for example, a payout where revenue falls to less than 40% of the historical average).[47]

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44 NSW Farmers submission to Draft Report, 15 August 2016, p 5.

45 Agricultural Competiveness White Paper: Submission in response to the Green Paper – Multi-Peril Crop Insurance, 2014, p 2, at http://agwhitepaper.agriculture.gov.au/GP%20Submissions%20for%20publication/GP319%20Grain%20Producers%20Australia%20-%20Multi-Peril%20Taskforce.pdf

46 A. Hawthorne submission to Draft Report, 15 August 2016, p 1. A mild drought is defined in the drought framework as having experienced less than 20% of the following for each of the last six months: relative pasture growth, relative rainfall, and relative soil moisture. IPART, *NSW Drought Program Evaluation Framework – Final Report*, January 2016, p 12.

47 We note that multi-peril crop products might not include an explicit trigger of "drought" – one product refers to relatively low rainfall as "moisture stress."

We note on the other hand Allianz and IAG submitted that they would offer products during sustained drought at affordable prices, because they price multi-peril crop insurance according to long-term risk, rather than in line with seasonal variation.[48] However, as multi-peril crop insurance products have only emerged in Australia since 2014[49] and there has not been moderate to severe drought conditions during this time, there is limited evidence of this pricing strategy.

We found that where multi-peril crop insurance has been offered in prolonged drought conditions overseas, that there are high levels of Government support. For example, as submitted by Allianz, multi-peril crop insurance is currently being offered in California in the third year of a drought.[50] In California, insurers have a legal obligation to offer products at regulated prices. Under risk sharing arrangements between the insurers and the US Government, losses from high risk policies can be allocated to Government at the beginning of a poor season.[51]

3.2.1 Could multi-year insurance products better manage drought risk than single-year products?

We considered whether multi-year products could be better suited to providing insurance for farmers during moderate and sustained drought, because an insurer would be locked into providing coverage before conditions are known. This approach was advocated by Innovative Risk Transfer and SureSeason.[52] Stakeholders also submitted that products that locked in a premium well in advance of a season (for example, September for the following winter season) before conditions can be reasonably known would also be more effective at providing coverage for drought.[53]

We agree that products that lock in the premium price, coverage levels, and all other conditions **for the duration of a contract** at the commencement of the policy could lead to affordable coverage across various seasons. However, we have not found evidence of such policies being offered in the NSW market, in other Australian jurisdictions, or on a commercial basis in overseas markets.

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48 IAG submission to Draft Report 17 August, p 2; Allianz submission to Draft Report, 16 August 2016, p 3.

49 Australian Broadcasting Corporation, *Multi-peril crop insurance: Can insurance against drought help farmers prepare for climate change?*, at http://www.abc.net.au/news/2015-08-14/multi-peril-crop-insurance-farmers-drought-climate-change/6698820, 14 August 2015, accessed 9 October 2016.

50 *Ibid,* Allianz.

51 Shields, D, Congressional Research Service, Federal Crop Insurance: Background, August 2015, pp 18-19, at https://www.fas.org/sgp/crs/misc/R40532.pdf.

52 Innovative Risk Transfer submission to Draft Report, 15 August 2016, p 4; SureSeason submission to Draft Report, 11 August 2016, p 4.

53 For example, see Henry Davis York submission to Draft Report, 15 August 2016, pp 3-4; SureSeason submission to Draft Report, 11 August 2016, p 4.

Following consultation with insurers and potential insurance providers, we found that if multi-year policies were offered:

- they might contain clauses which would allow insurers to adjust coverage level (for example, by only paying out on a policy if revenue falls below 40% of average, instead of 70% of average), or adjusting the loss triggers (for example exclude low soil moisture from coverage) under a specified set of conditions on a **season-by-season basis**, during the contract period, and
- new policies are unlikely to be offered during drought conditions.

If coverage levels can change on a season by season basis throughout a contract period, multi-year polices are unlikely to offer an advantage to farmers in terms of drought coverage.

However, these products might provide other advantages. For example, multi-year policies might increase the continuous participation of farmers in insurance programs, and they might allow for lower cost policies if they are structured to average payout triggers across seasons.

3.2.2 Multi-peril crop insurance might increase the capacity of farmers to self-insure

Many stakeholders submitted that multi-peril crop insurance can boost farmers' confidence to increase the upfront investment in inputs (such as fertiliser), because these costs would be underwritten by the insurance if low yields occur as a result of adverse conditions.[54] This increased upfront investment can drive productivity gains.

Some stakeholders submitted that multi-peril crop insurance can also allow farmers to increase their upfront investments by enabling them better access to credit.[55] Farmers might be able to negotiate lower interest payments because multi-peril crop insurance might reduce the risk of loan defaults (because they would receive a payout if the crop fails as a result of a peril). NSW Farmers noted that this strategy of increasing upfront investments is particularly important during periods of drought recovery.[56]

We agree that increased productivity and profitability during good seasons as a result of improved confidence and better credit terms are likely to be the main potential benefit of multi-peril crop insurance. Several stakeholders submitted

54 Allianz submission to Draft Report, 16 August 2016, p 7; A. Hawthorne submission to Draft Report, 15 August 2016, pp 2-3; S. Maguire submission to Draft Report, 12 August 2016, p 5; M. Greenshields submission to Draft Report, 27 July 2016, pp 3-5; NSW Farmers submission to Information Paper, 6 May 2016, p 2.

55 For example see NSW Farmers submission to Draft Report, 15 August 2015, pp 5, 7; IAG submission to Draft Report 17 August, p 2.

56 NSW Farmers submission to Draft Report, 15 August 2015, pp 5-6.

that that as well as increasing productivity, this increased confidence to invest in their crops can also reduce mental health issues amongst farmers.[57]

We heard from one stakeholder that:

> Regional Australia needs some stability. I think INCOME PROTECTION (that is how I prefer to think of MPCI) can provide some stability. I believe that it can inject the confidence in farmers to sow their crops without the fear of failure and continuous financial loss. I believe this can only benefit our farmers' physical and financial status of their farms and can more importantly improve their mental health and their capacity to make sound judgements.[58]

Increased productivity and profitability might also result from multi-peril crop insurance because crop farmers might be able to access lower insurance premiums if they **adopt best management practices**.[59] These higher profits from good seasons might help farmers self-insure during periods of droughts.

Our finding that increased productivity during good seasons is likely to be the main benefit of multi-peril crop insurance is consistent with the finding of the 2014 Multi-Peril Risk Management Taskforce convened by Grain Producers Australia for the Agricultural Competitiveness White Paper (the Grain Producers taskforce).[60]

However, it is important to note that no studies have been conducted in Australia that provide evidence to support a link between multi-peril crop insurance and increased productivity. A comprehensive study from the United States found that there was no statistical link between crop yield and the take-up of multi-peril crop insurance.[61] However, we note that there are significant differences in the institutional settings between Australia and the United States.

3.2.3 Multi-peril crop insurance can send important price signals to farmers to help them avoid losses

Multi-peril crop insurance could also help farmers avoid losses from droughts by price signalling. For example, when insurers decide not to offer multi-peril crop insurance policies, they would send an important signal to farmers that the risk of crop failure is high. Under these circumstances, it would be better for the farmer not to plant to avoid losses, and retain soil moisture for future seasons.

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57 For example, see S. Maguire submission to Draft Report, 12 August 2016, p 3; IAG submission to Draft Report, 17 August 2016, p 2.

58 S. Maguire submission to Draft Report, 12 August 2016, p 5.

59 IAG submission to Draft Report, 17 August 2016, p 1.

60 Agricultural Competiveness White Paper: Submission in response to the Green Paper – Multi-Peril Crop Insurance, 2014, p 2, at http://agwhitepaper.agriculture.gov.au/GP%20Submissions%20for%20publication/GP319%20Grain%20Producers%20Australia%20-%20Multi-Peril%20Taskforce.pdf

61 For more information see Roberts M, O'Donoghue E and Key N 2007, *Does crop insurance affect crop yields?* Economic research Services, USDA. Prepared for presentation at the Annual Meeting of the AAEA, July 29 -August 1 2007.

In addition, even if insurers do offer multi-peril crop insurance for seasons where there is a high likelihood of crop failure, the terms of the insurance policy can also provide an incentive for farmers not to plant when the risk of failure is high. For example, the product might be structured so that:

- if a farmer plants and the crop fails, the coverage is reduced in future years, and
- if a farmer does not plant, their coverage for future years can be maintained (Box 3.1).[62]

Box 3.1 Structuring insurance products to provide an incentive not to plant

Some insurance products base their coverage on historical revenue or yields. This means that a bad year could lower the average yield or revenue eligible to be insured in the future. However, if the farmer does not plant, this year can be excluded from their average historical revenue, allowing them to maintain a higher eligible yield to be insured in the future.

Consider an example where the 5-year historical average revenue of a farm is $1 million:

- For 2016, the farmer is only offered 40% revenue coverage because the chance of failure is high. This means that a payout would be triggered if the revenue fell to $400,000.
- In 2016, the soil moisture is low, but the farmer chooses to plant. The farm's revenue falls to $300,000, which is 30% of its historical average. This triggers a payout of $100,000, which is the difference between the sum insured of $400,000 and the farm's revenue.
- For 2017, the farmer takes out 70% coverage. The farmer's 5-year historical average has fallen to $860,000, so that a payout will occur only if the revenue falls below $602,000.

Had the farmer not planted in 2016, the farmer would still have a 5-year average revenue of $1 million, so that a payout would occur if the revenue falls below $700,000.

IPART finding

1 Multi-peril crop insurance could play an indirect role in increasing crop farmers' self-reliance during droughts.

62 Consultation with Latevo, 7 June 2016.

3.3 Does the current low uptake of multi-peril crop insurance reflect a market failure?

There is currently a commercial market for multi-peril crop insurance but the uptake in NSW is less than 1%.[63] Therefore, we considered whether this low uptake reflects a market failure. We found that it is unlikely that this is the case. It is more likely that the low uptake is due to the high costs of multi-peril crop insurance, which might mean that there are more cost effective alternative risk mitigation measures. For example, farmers have traditionally relied on self-insurance and diversification activities over insurance products, even when they have been offered in the market (see Box 3.2). The overall uptake of multi-peril crop insurance will depend on the complementarity and substitutability between it and existing options for risk management. The low uptake is also likely to reflect that the insurance products have only been offered since 2014.[64]

We note that although information shortfalls might have impeded the market for this insurance in the past, this is no longer an issue. While we do not think that there are market failures inhibiting the uptake of multi-peril crop insurance, we consider that government intervention in the market in the form of other drought assistance measures might reduce the uptake. In particular, farmers might rely on government support measures such as concessional loans and grants as a form of fall-back insurance instead of taking out multi-peril crop insurance.[65]

3.3.1 Low uptake probably due to high costs of multi-peril crop insurance

In our view, the high costs of multi-peril crop insurance – and because it is a relatively new product - are most likely reasons for the current low uptake of the multi-peril crop insurance.

To provide an indication of the likely annual cost of multi-peril crop insurance Allianz submitted that the average premium under PrimeGuard product is approximately $25,000.[66] Latevo submitted that its average NSW premium is $22 per hectare.[67] For an average specialist cropping area of 1,219 hectares[68], this would equate to around $27,000. This is significantly cheaper than rates quoted by other industry participants who suggested premiums were at least $30 and

63 IPART calculations based on data contained in email to IPART, CIE, 6 September 2016.

64 Australian Broadcasting Corporation, *Multi-peril crop insurance: Can insurance against drought help farmers prepare for climate change?*, at http://www.abc.net.au/news/2015-08-14/multi-peril-crop-insurance-farmers-drought-climate-change/6698820, August 2015, accessed 7 October 2016.

65 See discussion in Productivity Commission Inquiry Report, *Government Drought Support,* February 2009, p 208, at http://www.pc.gov.au/inquiries/completed/drought/report/drought-support.pdf.

66 Allianz submission to Information Paper, 29 April 2016, pp 8-9.

67 Latevo submission to Information Paper, 29 April, p 3.

68 Email to IPART, CIE, 6 September 2016.

more likely to be above $40 per hectare.[69] At these rates, the premium for this area would be $35,000 to $50,000.

Cost profile of multi-peril crop insurance

Insurance products generally comprise four main cost components:

- cost of risk (this amount represents the expected claims the farmer will make over the life of the contract, or the amount that a farmer would need to put aside each year to self-insure (actuarially fair premium))
- administration costs (information costs, loss adjustment and delivery costs)
- cost of capital (cost of ready access to capital (reinsurance)), and
- insurance company profits.

The cost of capital is generally much higher for multi-peril crop insurance than other insurance products, because many farmers will be exposed to the same weather event at the same time (systemic risk). This drives up the cost of capital, because there are limited possibilities to offset the drought risk in one area through pooling risks with producers in another area.[70] Insurance companies can transfer some of their risk to reinsurers that operate on a global scale, but they in turn charge their own premiums.[71]

Administration costs are also high, because an insurer needs a large amount of information to determine the riskiness of a farmer to set an appropriate premium, and after a claim to determine whether loss has resulted from a peril, or sub-optimal management practices.

Where good information is not gathered at an individual farm level, and premiums are calculated on a regional basis, premiums will be high to reflect the high risk farmers. This is because high-risk farmers are more likely than low risk farmer to voluntarily take up insurance (adverse selection). The cost of risk can also be high because once a farmer has purchased insurance, they might manage their farms less effectively, leading to losses, and increasing the chances of a payout (moral hazard[72]).

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69 CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 41.

70 Ha, A., et al, *Squeaky Wheel Gets the Oil: Incentives, Information and Drought Policy*, Volume 40, The Australian Economic Review, 2007, p 132.

71 ABARES, *Options for insuring Australian agriculture*, September 2012, p 16, at http://www.agriculture.gov.au/ag-farm-food/drought/nrac/work-program/agricultural-insurance-feasibility/options.

72 NRAC, *Feasibility of agricultural insurance products in Australia for weather-related production risks*, September 2012, p 4, at http://www.agriculture.gov.au/ag-farm-food/drought/nrac/work-program/agricultural-insurance-feasibility/options.

These high cost features of multi-peril crop insurance contrast with the single-peril crop insurance policies which are offered on a commercial basis in Australia, and have very high levels of uptake (around 70% of all grain farmers in NSW, and 90% of specialist crop farmers in the three major production areas).[73] Firstly, the systemic risk is much lower, because the effects of the perils covered – eg, fire, hail or frost – are typically localised. Also, as the farmer has limited control over the impact of these events, moral hazard is not a significant problem.[74] Therefore, the cost of risk is also lower.

We note that the costs of multi-peril crop insurance are falling due to product innovation, better information, and the cost of reinsurance falling to historical lows. As a result, while market penetration remains low, there has been significant growth in the uptake of policies since multi-peril crop insurance products re-entered the market in 2014.[75] For example, Latevo experienced 40% growth in the number of policies in 2016.[76] This indicates that multi-peril crop insurance is becoming competitive with other risk management strategies. We also note the potential use of emerging satellite and drone imagery to reduce the administration costs associated with assessing claims and loss adjustment.[77] Therefore, there is potential for multi-peril crop insurance to become a commercially viable product over the medium to longer term.

73 CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 51.

74 ABARES, *Options for insuring Australian agriculture*, September 2012, p 6, at http://www.agriculture.gov.au/SiteCollectionDocuments/ag-food/drought/ec/nrac/work-prog/abares-report/abares-report-insurance-options.pdf.

75 Australian Broadcasting Corporation, *Multi-peril crop insurance: Can insurance against drought help farmers prepare for climate change?*, at http://www.abc.net.au/news/2015-08-14/multi-peril-crop-insurance-farmers-drought-climate-change/6698820, 14 August 2015, accessed 9 October 2016.

76 Consultation with Latevo, 14 July 2016.

77 NSW Farmers submission to Draft Report, 15 August 2016, p 8.

Box 3.2 Alternative risk mitigation strategies to multi-peril crop insurance

It is important to recognise that there are a number of options available to crop farmers to manage the risk associated with yield volatility. These include:

- Additional debt - Traditionally farmers have tended to increase their levels of gearing by borrowing against the value of their farms in times of drought. Farmers can borrow to meet short-term obligations. They can also restructure existing loans to reduce or defer annual payments. For example, the term of the loan might be extended or loans might be able to be converted to interest-only repayments.
- Equity - Building and maintaining equity reserves is another option available to farmers to manage revenue volatility. Farmers can build up cash reserves in years of high income or maintain sufficient levels of equity to meet their business costs for shortfalls in revenue.
- Commonwealth Farm Management Deposits scheme – This scheme provides an incentive for farmers to set aside pre-tax income in years of high income. Income deposited into a farm management deposit account is tax deductible in the financial year the deposit is made. Deposits in years of high income can be withdrawn in future years when needed. It is then taxable income in the financial year in which it is withdrawn.
- Market risk management options - Farmers can also manage the risk of changing terms of trade through market options, including swaps, futures, forwards and pools. These can be used to offset gains or losses made due to changes in commodity prices, currencies and interest rates.
- 'On farm' strategies such as:
  - crop diversification, and mixed livestock and cropping enterprises
  - capital investment in infrastructure such as dams to improve the reliability of water supplies
  - improved irrigation systems and practices to improve water use efficiency
  - use of climate forecasts to guide production decisions.
- Diversification through geographical spread and non-farm assets.
- Single or named peril insurance policies.

Weather or Normalised Difference Vegetation Index derivative products.

3.3.2 Information shortages no longer likely to be impeding the market for multi-peril crop insurance

Allianz submitted that the low uptake of multi-peril crop insurance reflects a market failure resulting from incomplete information, and therefore causing moral hazard and adverse selection.[78] We found that while previously information deficiencies and information asymmetry were significant problems, it is unlikely to still be the case.

[78] Allianz submission to Draft Report, 16 August 2016, p 6.

Previously, insurers had limited access to farm production and financial information and to good weather information. This made it difficult for them to assess risk exposure, and develop insurance products. It also made it difficult for insurers to obtain reinsurance.

However, currently, most insurers require farmers to submit comprehensive production and financial data as part of their application for insurance. This allows insurers to offer premiums that are relevant to the farmer's risk profile, overcoming issues with adverse selection. It also allows insurers to determine whether poor performance is related to farm management or has occurred as a result of a peril, reducing moral hazard.

There is also likely to be sufficient weather information, data techniques, and data platforms to set premiums that accurately capture climate risks through insurance premiums. Where weather information deficiencies persist, Latevo requires farmers to install rain gauges on their properties (at a cost of around $600 each) and upload this data.[79]

Allianz also submitted that there is a lack of information available on the benefits of multi-peril crop insurance, which leads to time-inconsistent preferences among farmers.[80] In the absence of any information asymmetries, we do not consider that this is a market failure.

IPART finding

2 There is unlikely to be an under-provision of multi-peril crop insurance as a result of a market failure.

3.4 Can multi-peril crop insurance provide savings to Government by reducing drought assistance expenditure?

Several stakeholders submitted that multi-peril crop insurance could provide a substitute for drought assistance offered by the government.[81] As explained in Section 3.2, we think it is unlikely that insurance would be offered to farmers during periods of severe and prolonged drought without substantial government assistance. This would mean that in these periods, it is likely that drought assistance would continue to be sought.

79 CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 66; Email to IPART, Latevo, 25 May 2016.

80 Allianz submission to Draft Report, 16 August 2016, pp 6-7.

81 For example, see Allianz submission to Draft Report, 16 August 2016, p 3; SureSeason submission to Draft Report, 11 August 2016, p 4.

In addition, we found that:

- Multi-peril crop insurance is not available to the farming sectors that have historically claimed the vast majority of assistance. It is only available to crop farmers, who have only received around 15% of Government assistance.
- High subsidies are likely to be required to encourage significant levels of uptake of multi-peril crop insurance. Therefore, providing ongoing **subsidies for multi-peril crop insurance premiums is likely to be more costly than providing direct drought assistance to crop farmers**.
- While multi-peril crop insurance might be an effective loss mitigation tool for climate variability events other than drought, only a very small amount of assistance to cropping farmers has been provided in relation to **non-drought** events.

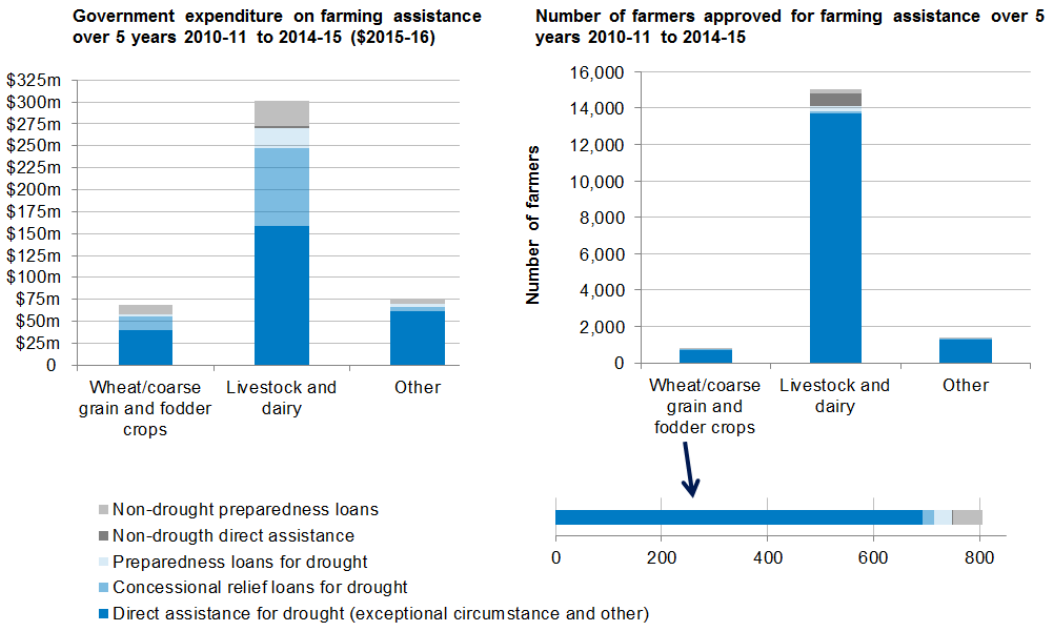
3.4.1 Multi-peril crop insurance is not available to the farming sectors that have historically claimed the vast majority of assistance

Over the millennium drought years (2002 to 2011), the NSW Government distributed almost $2.2 billion in drought assistance to around 47,000 farms in NSW.[82] However, crop farmers did not receive the bulk of this Government assistance. We estimate that since 2002, crop farmers in NSW only received around $24 million) in assistance each year of a total annual amount of assistance of around $160 million each year on average (in $2015-16). This is equal to around only 15% of total farming assistance. Because crop farming receives relatively little drought assistance, multi-peril crop insurance would not substantially reduce the total drought assistance paid across the whole farming sector, because it only targets crop farmers.

Figure 3.1 shows that over the past five years, we estimate that crop farmers have received Government assistance of around $70 million, or $14 million per year. This comprised around 800 approved applications for assistance or 8% of cropping farms for the 5-year period. This compares to around $300 million that has been distributed to livestock farmers (around 15,000 approved applications) during the same period and around $75 million to other farming activity, such as rice, grapes, fruit, vegetables and cotton.

82 Real $2015-16, based on data from email to IPART, Rural Assistance Authority, 23 August, 2016.

Figure 3.1 NSW Government assistance for farming: 2010-11 to 2014-15



Note: Wheat farming expenditure includes expenditure on mixed grains.

Source: IPART calculations using data from email to IPART, Rural Assistance Authority, 22 August 2016.

Some stakeholders submitted that multi-peril insurance could be extended to livestock farmers.[83] While we agree with IAG that international experience has shown that multi-peril insurance could be extended to other farming areas,[84] (such as horticulture), we consider that that multi-peril insurance is not particularly well suited to the livestock sector, because the primary risks are associated with drought are increased costs (for transport, feed or agistment), rather than losses.

We found that in the US, several 'livestock risk protection insurance' products have entered the market in the last 10 years, however the uptake is very low. In 2011, the uptake was around 0.1% for cattle inventory and 0.4% for swine slaughter, and 2.4% for dairy. Uptake for lamb was higher at 17%, but still much lower than the uptake of multi-peril crop insurance for cropping farmers, which exceeds 80%.[85] These livestock products resemble financial hedging tools, rather than insurance.

We agree with CelsiusPro that financial instruments other than insurance, such as weather derivatives or vegetation coverage derivatives might also be suited to

83 Allianz submission to Draft Report, 15 August 2016, p 5; IAG submission to Draft Report, 17 August 2016, p 2.

84 *Ibid,* IAG.

85 Collins, K, The State of U.S Livestock Insurance, in *Today Crop Insurance,* November 2011, at http://www.cropinsuranceinamerica.org/wp-content/uploads/Livestock-Insurance-FINAL.pdf; Congressional Research Service, *Federal Crop Insurance: Background*, August, 2015, p 13, https://www.fas.org/sgp/crs/misc/R40532.pdf.

managing these kinds of cost fluctuations for livestock.[86] These products provide payouts not for losses, but when certain weather events occur or when vegetation coverage reaches a particular level. Because weather events and vegetation coverage are highly correlated with fluctuating costs, then they can be good financial tools for managing such risks (See Box 3.3).

Box 3.3 What are weather derivatives?

Weather derivatives provide a pre-defined payout to farmers if a particular weather event occurs – for example, if rainfall falls below or exceeds a pre-specified amount over a pre-specified time period. This product has been offered in Australia by CelsiusPro since 2010.

An index can be developed for any weather station where sufficient data exists. If the weather station is sufficiently close to a farmer, these products can effectively protect farmers against losses because yields are highly correlated with weather. For this reason, these products are sometimes referred to as index "insurance", although they are not legally an insurance product.

In 2012, both ABARES and NRAC found that weather derivative products have low administration costs, and low levels of systemic risk. As a result, ABARES found weather derivative products are much more likely to be commercially successful than multi-peril crop insurance products. Therefore, they considered that there could be a role for government in providing support to enhance the weather information underpinning these products to reduce the basis risk associated with these products. However, CelsiusPro has indicated to IPART that improvements in data interpolation techniques mean that the current dataset is sufficient to underpin its products.

Weather derivative products have much lower administration costs than multi-peril crop insurance because the claims do not need to be assessed. Once the event occurs there is an automatic payout. Because the payout is linked to the event rather than losses, there is no relationship between potential farm mismanagement and a payout. This removes the problems of moral hazard or adverse selection associated with multi-peril crop insurance.

However, because the payout is not directly related to losses suffered, in some instances farmers can suffer losses due to low rainfall (for example), but not receive a payout because the pre-specified index threshold has not been triggered. Similarly, some farmers will receive a payout without experiencing a loss.

A key advantage of weather derivative products is that the systemic risks are low because the product is purchased by a range of different customers, from sectors other than agriculture, providing a hedge counterparty. For example, while farmers typically purchase certificates which provide a payout under dry conditions, managers of outside trade, sporting, or entertainment events might purchase certificates that pay out under wet conditions.

[86] CelsiusPro submission to Draft Report, 12 August 2016, p 3.

Source: NRAC, *Feasibility of agricultural insurance products in Australia for weather-related production risks,* September 2012, pp 31, 33-36; ABARES, *Options for insuring Australian agriculture,* September 2012, pp 7, 10-11, 25-29, Meeting with CelsiusPro, 4 May 2016, ABARES, *Options for insuring Australian agriculture*, September 2012, p 10.

3.4.2 Subsidies for multi-peril crop insurance are likely to be more costly than direct assistance to crop farmers

Because such a small proportion of government assistance to farmers has gone to crop farmers, and a substantial subsidy is likely to be required to materially increase the uptake of multi-peril crop insurance, providing ongoing support for multi-peril crop insurance is likely to be more costly than providing direct assistance.

Significant subsidies are likely to be required to drive widespread uptake of insurance

Some stakeholders noted that significant subsidies are likely to be required to substantially increase the uptake of multi-peril crop insurance.[87]

In its submission to our Information Paper, Allianz noted that international experience suggests multi-peril crop insurance is not generally viable in the absence of government intervention through subsidies or other support that addresses the premium affordability issue. It submitted there are no cases internationally where market penetration exceeds 20% of relevant farm business where premium subsidies are not provided by government, and noted that subsidies on premiums range from 40% in Spain to 60% in Canada.[88]

Allianz also submitted that Turkey has started a subsidised insurance program in 2006 offering from 50% to 67% of premium subsidy. However, according to the submission, even with the extensive government support offered (premium subsidy, catastrophe loss co-financing, reinsurance capacity provision and support for loss adjustment costs) the overall penetration rate is only 14% and increasing only gradually.[89]

In the United States, the Government subsidises 62% of a multi-peril crop insurance premium on average. Box 3.4 uses the United States as a case study of the government support that might be required.

We also considered the uptake of insurance following the introduction of the Commonwealth Managing Farm Risks Program to determine the level of government support that might be required. The Commonwealth Managing Farm Risk Program provides a $2,500 subsidy associated with the administration costs of providing multi-peril crop insurance. For an average farm, we estimate that this subsidy would offset around 8% of the total costs associated with multi-

87 Cotton Australia submission to Draft Report, 11 August 2016, p 1; Allianz submission to Information Paper, 29 April 2016, pp 3-4.

88 *Ibid,* Allianz, p 4.

89 *Ibid,* Allianz, p 9.

peril crop insurance. However, we found that following the introduction of this subsidy, there are still only likely to be around 60 crop farms in NSW (or less than 1% of farms) that have taken up multi-peril crop insurance.[90] This suggests that a much larger subsidy is required to drive widespread uptake of insurance.

Box 3.4 Multi-peril crop insurance in the United States has relied on high levels of government support

Crop insurance has been available in the US since the 1930s. However low premium subsidies and access to other forms of Government assistance kept uptake low until the 1990s. Crop insurance subsidies increased greatly from the mid-1990s, and in 2008, farmers were prevented from accessing disaster assistance payments unless they had taken out multi-peril crop insurance (this requirement was subsequently removed in 2014). By 2015, uptake levels had risen to 83%.

Multi-peril crop insurance policies can be used to insure against revenue losses, whether due to low yields or changes in market price. The government pays the full premium for catastrophic cover (where a payout occurs when revenue falls below 50% of historical averages) and farmers "top up" for additional cover (a payout would occur where revenue falls below 85% of the historical average). On average, the Government subsidises 62% of a multi-peril crop insurance premium (and provides significant additional subsidies to insurance companies through reinsurance), equal to an average of $18,900 per farm in 2013. It also subsidises the full administrative costs (selling and servicing policies) that would usually be paid by farmers as part of their premium.

In 2014, the total government subsidy was equal to $8.7bn, exceeding outlays for the farm commodity support programs.

The United States Department of Agricultural Risk Management Agency regulates the prices of insurance premiums, and product specification, including which crops can be insured in different parts of the country. It also authorises 18 private companies to write multi-peril crop insurance policies and enters into risk sharing arrangements with these companies. The private companies are required to sell insurance to every eligible farmer who requests it and retain a large portion of the risk on over 80% of the policies written.

Source: Australian Farm Institute, Review of NSW Response to Drought Policy Reforms, November 2014, pp 15-16; Crop Insurance America; *About Crop Insurance,* at http://www.cropinsuranceinamerica.org/about-crop-insurance/how-it-works/#.V3oCy_l95pg; accessed 10 October 2016; Shields, D, Congressional Research Service*, Federal Crop Insurance: Background*, August, 2015, at https://www.fas.org/sgp/crs/misc/R40532.pdf.

Comparing the cost of insurance subsidies and direct drought assistance

We found that subsidising multi-peril crop insurance each year is likely to be more expensive than providing government assistance when a peril occurs.

Compared to the average $24 million per year (in $2015-16) in Government assistance to crop farmers during the last 14 years (including the millennium

[90] IPART calculations based on data contained in email to IPART, CIE, 6 September 2016.

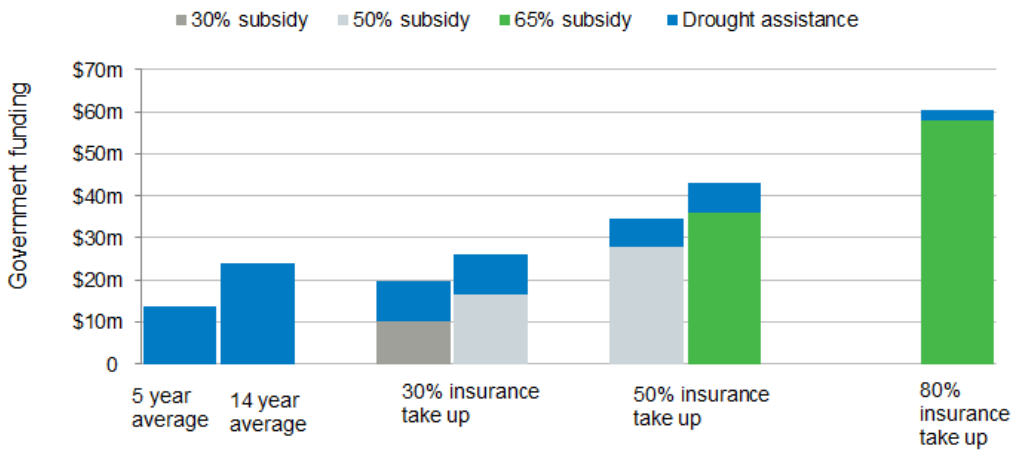
drought years), Figure 3.2 shows if an insurance subsidy is introduced, the Government could spend:

- around $26 million per year if a 50% premium subsidy resulted in a 30% uptake of crop farmers, or
- around $34 million per year if a 50% premium subsidy resulted in 50% uptake.

This includes the cost of the subsidy, plus drought assistance. The scenarios in Figure 3.2 assume that drought assistance reduces proportionally with insurance uptake (for example, 50% insurance uptake reduces drought assistance paid by 50%). But this could understate the level of drought assistance that continues to be sought. This is because farmers that are the least likely to have insurance are furthest from best management practice,[91] and therefore we consider they are more likely to seek drought assistance.

However, funding subsidies for insurance for a smaller number of farmers and paying drought assistance is still likely to be more cost effective than providing more widespread insurance subsidies, and paying less drought assistance. As noted in Box 3.3 above, in the US, the Government subsidises around 65% of crop insurance premiums to reach participation rates of 80%. In NSW, a 65% subsidy for 80% of crop farmers would cost around $60 million per year, which is around 2.5 times more than the average annual assistance to NSW crop farmers through the millennium drought.

Figure 3.2 Cost of insurance subsidies compared to drought assistance – take up rate/subsidy level scenarios ($2015-16)



Note: For each uptake scenario, drought assistance reduces proportionally to insurance uptake, based on the 5-year average drought assistance.

Source: IPART calculations using data from email to IPART, Rural Assistance Authority, 22 August 2016.

91 CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, pp 50, 85.

3.4.3 Drought assistance is likely to be sought even if the Government provides support for multi-peril crop insurance

Even if the government provides support for multi-peril crop insurance, it is still likely to be called upon for other drought assistance. As explained in Section 3.2, multi-peril crop insurance is unlikely to be offered in seasons affected by drought – other than mild drought. Therefore, insurance might not always be available to mitigate risk when it is most sought by farmers.[92]

Indeed, Latevo submitted that the NSW Government should provide loans to farmers during drought periods. It suggested that these loans should be made on the condition that the farmers would not plant, to provide an incentive for farmers to leave their land fallow where there is a high risk of failure.[93] This would allow them to avoid losses, and accelerate their drought recovery by retaining soil moisture. It proposed that the loan could be repayable over five years once cropping commences, and a condition of the loan would be a contract for multi-peril crop insurance for subsequent future seasons, which would then underwrite the loan.

Even if multi-peril crop insurance is available for seasons where there is a high likelihood of crop failure, there would be many farmers who do not buy insurance due to the premiums required or low payouts provided in drought conditions. As explained above, CIE found that these are the farmers who are likely to be furthest from best management practice[94], and therefore we consider they are more likely to seek drought assistance.

We note that Allianz submitted poor performing farmers are actually the farmers most likely to take up insurance, rather than least likely, as demonstrated by the well documented adverse selection problems.[95] We agree that historically this was true, as the premiums for many products were set based on geographic risk profile, rather than a farmers' individual risk profile. However, this is unlikely to be the case for the current product offerings in NSW that use comprehensive audits to set premiums reflective on an individual farmer's risk profile (See Section 3.3.2 for more detail).

IPART finding

3 Total Government expenditure would be likely to increase as a result of subsidising multi-peril crop insurance because the expenditure of the subsidy would more than offset any savings in drought assistance.

92 NSW Farmers submission to Draft Report 15 August, 2016, p 7.
93 Latevo submission to Information Paper, 29 April 2016, p 3.
94 CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, pp 50, 85.
95 Allianz submission to Draft Report, 16 August 2016, pp 5-6.

4 Design of an upfront subsidy for insurance premiums

We were also asked to design a subsidy for multi-peril crop insurance, in consultation with the Department of Primary Industries, and to assess it against the drought framework. This chapter discusses the **design** of the subsidy.

As explained in Chapter 3, we found that while a subsidy for multi-peril crop insurance could increase drought preparedness, there is unlikely to be a market failure resulting in an under-provision of insurance. We also found that total Government expenditure would be likely to increase as a result of subsidising multi-peril crop insurance because the expenditure on the subsidy would more than offset any savings in drought assistance. Therefore, we have designed a temporary subsidy to increase the uptake of multi-peril crop insurance with the objective of developing a commercially viable market.

This chapter explains how we designed a subsidy to meet this objective. In particular, we balanced the need for the subsidy to be effective, with its cost effectiveness and efficiency.

This chapter also considers the following aspects of subsidy design raised by the Department of Primary Industries in response to our Draft Report:

- the feasibility of differential subsidies and/or employing a regional variation model to increase the uptake of multi-peril crop insurance so that regions at higher risk of drought receive a greater subsidy for insurance, and
- incentivising long term multi-year insurance products, taking into consideration their application interstate and internationally.[96]

4.1 Overview of the subsidy we designed

We designed a temporary subsidy program that continues for a specified 5-year period from the commencement of the program. The level of the subsidy is 50% in the first two years, and 25% in the final three years, **inclusive of stamp duty.** The subsidy would be capped at $30,000 per farm per year in the first two years, and $15,000 per year for the following three years (in nominal terms).

[96] Department of Primary Industries submission to Draft Report, 17 August 2016, p 1.

In our view, the subsidy should be offered as a rebate to an eligible farmer who has purchased an eligible multi-peril insurance product, and be administered by the Rural Assistance Authority. This would allow farmers to assess the value of different products in the market to find the one that best suits them, as they pay the full cost of the product in the first instance. This should help develop competition in the market.

To be eligible for the rebate, the multi-peril crop insurance product would need to:

- be offered by a licenced insurer
- insure against losses to crop yield or crop revenue as a result of various perils including low rainfall, with the low rainfall trigger being defined by the policy, and
- have a product disclosure statement that is available online.

We are recommending that if a subsidy is introduced:

- it be introduced at the same percentage rate across different regions, regardless of the different risk profiles between **regions,** and
- multi-year and single year insurance products be subsidised at the same rate.

This subsidy is consistent with the subsidy we designed in our Draft Report. However, we are proposing one difference – that the subsidy level is **inclusive** of the 2.5% stamp duty payable.

4.2 How long should the subsidy be in place?

We designed a temporary subsidy program that continues for a specified 5-year period from the commencement of the program. This is consistent with the subsidy period proposed by Latevo.[97]

A 5-year fixed period means that if the subsidy period commences in 2016-17, it would run until 2020-21. If the first year that a farmer purchased multi-peril crop insurance was 2016-17, they could continue to purchase multi-peril crop insurance for the next four years and receive a subsidy. However, if the first year they purchase insurance is 2017-18, they could only receive a subsidy for the next three years.

97 Latevo submission to Information Paper, 29 April 2016, p 2.

IAG and Rural Insurance Agency submitted that five years is a sufficient period to develop the multi-peril crop insurance market.[98] We agree that five years would give sufficient time for farmers to gain experience with the product, and for word of mouth to spread through the farming sector. This timeframe should also allow government to quantify productivity improvements for the cropping sector of multi-peril crop insurance, should they emerge.

We note other views from stakeholders that a subsidy period should be longer or ongoing:

- to continue to support farmers' confidence[99], and/or
- because a subsidy is necessary for growers to take out a reasonable level of cover because the cost of insurance is high[100] - Allianz submitted that the level of participation in an unsubsidised environment is never likely to get much above 10%.[101]

However, we do not consider that these are compelling reasons for the subsidy period to be longer than five years. In particular, as explained in Chapter 3, we found that:

- there is unlikely to be an under-provision of multi-peril crop insurance as a result of a market failure, and
- total Government expenditure would be likely to increase as a result of subsidising multi-peril crop insurance because the expenditure on the subsidy would more than offset any savings in drought assistance.

We note IAG's view that:

> Whilst it is noted that an ongoing subsidy might be required to assist affordability, IAG takes the view that any such decision be postponed and the private insurance market be encouraged to create innovative ways to assist affordability and longevity rather than being reliant on long-term subsidies.[102]

4.3 What level should the subsidy be?

As Chapter 2 discussed, the current uptake of multi-peril crop insurance in NSW is less than 1%.[103] The largest barrier is likely to be the high cost of the insurance.

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98 IAG submission to Draft Report, 17 August, p 1; Rural Insurance Agency, *Transcript for Public Hearing on Review of Multi-peril crop insurance incentive measures*, 2 August 2016, p 48, at line 34-42.

99 M. Greenshields submission to Draft Report, 27 July 2016, p 5.

100 SureSeason submission to Draft Report, 11 August 2016, p 4.

101 Allianz, *Transcript for Public Hearing on Review of Multi-peril crop insurance incentive measures*, 2 August 2016, p 44, at lines 3-5.

102 IAG submission to Draft Report, 17 August 2016, p 1.

103 IPART calculations based on data contained in email to IPART, CIE, 6 September 2016.

The low uptake also reflects that it is still a relatively new tool – it has only been available since 2014.[104]

In its submission, Latevo proposed a subsidy level of $10/ha for the initial two years of the subsidy, followed by $5/ha for the subsequent three years.[105] Assuming an average premium of $22/ha,[106] this represents a 45.5% and a 22.7% subsidy respectively.

We agree that a substantial subsidy is required to materially increase the uptake of insurance. As explained in Chapter 3 this is based on experience in other jurisdictions, and the very low level of market penetration of multi-peril crop insurance (less than 1%[107]), despite the introduction of a $2,500 Commonwealth subsidy as part of the Managing Farm Skills Program[108] (offsetting around 8% of the total costs associated with multi-peril crop insurance for an average specialist cropping farm).[109] Therefore, we have designed a subsidy set at 50% subsidy in the first two years, and 25% in the final three years, which is broadly consistent with Latevo's proposal. IAG agreed that the level of the subsidy will be sufficient to increase demand for multi-peril crop insurance.[110]

The only difference to the level of the subsidy compared to our Draft Report is that we are now proposing that the subsidy should be inclusive of the stamp duty payable. As explained in Chapter 5, we found that a stamp duty waiver does not comply with the drought framework because it is unlikely to be effective in materially increasing the uptake of multi-peril crop insurance. However, we recognise the concerns of Allianz and other stakeholders that it "makes little sense for the NSW Government to be both seeking to alleviate an affordability issue related to insurance while at the same time directly contributing to the problem."[111] While we note that the proposed subsidy will far outweigh the impact of the stamp duty, we consider that applying the subsidy rate **inclusive** of stamp duty will address these concerns.

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104 Australian Broadcasting Corporation, *Multi-peril crop insurance: Can insurance against drought help farmers prepare for climate change?*, at http://www.abc.net.au/news/2015-08-14/multi-peril-crop-insurance-farmers-drought-climate-change/6698820, 14 August 2015, accessed 9 October 2016.

105 Latevo submission to Information Paper, 29 April 2016, p 2.

106 Consistent with the average quoted by Latevo. Latevo submission to Information Paper, 29 April 2016, p 3.

107 IPART calculations based on data contained in email to IPART, CIE, 6 September 2016.

108 Australian Government Department of Agriculture and Resources, Managing Farm Risk Programme Guidelines, March 2016, p 1, at http://www.agriculture.gov.au/SiteCollectionDocuments/ag-food/drought/assistance-measures/insurance-risk-advice/mfrp/managing-farm-risk-programme-guidelines.pdf.

109 Assuming an average premium of $22 /ha, an average farm size of 750 ha, and 70% coverage. Latevo submission to Information Paper, 29 April 2016, p 3; based on data contained in email to IPART, CIE, 6 September 2016.

110 IAG submission to Draft Report, 17 August 2016, p 1.

111 Allianz submission to Information Paper, 29 April 2016, p 5. See also NSW Farmers submission to Draft Report, 15 August 2016, p 10.

IPART recommends that if a temporary subsidy is introduced:

2 The subsidy rate be applied to the premium payable, **inclusive of stamp duty.**

4.3.1 The subsidy level decreases over the duration of the subsidy program

We have designed a subsidy that is higher in the first two years because we consider that it is likely to drive faster uptake of insurance. This is consistent with the subsidy proposed by Latevo.[112] Assetinsure agreed that the subsidy should be greater in the first two years to achieve momentum in take-up.[113]

On the other hand, Allianz submitted that their main suggestion in relation to the subsidy design would be to introduce a stable subsidy for the term of the scheme, rather than a stepped subsidy.[114]

CIE found that most businesses would take a wait-and-see approach in terms of how multi-peril crop products evolve and whether these products benefit the first movers.[115] Therefore we consider that increasing the uptake quickly is important to spread word of mouth advertising of the insurance products to drive a higher uptake overall. The step-down mechanism would also clearly signals to farmers and insurers the temporary nature of the subsidy, as it starts higher and then transitions down to zero.

4.3.2 There is no regional variation applied to the subsidy level

The Department of Primary Industries asked IPART to consider the feasibility of differential subsidies and/or employing a regional variation model to increase the uptake of multi-peril crop insurance so that regions where there is a higher probability of drought receive a greater subsidy for insurance.[116]

We are not recommending that a greater subsidy be applied to farmers who take out multi-peril crop insurance in regions where there is a higher probability of drought. This is because:

- It is likely to lead to inefficient farming practices. Providing high levels of support to underpin cropping where there is a high chance of failure is likely to lead to a reduction in productivity if it provides an incentive to plant rather than retain moisture for future seasons.
- It would not be cost effective for Government. Total Government expenditure would be likely to increase as a result of subsidising multi-peril crop insurance because the expenditure on the subsidy would more than offset any savings in drought assistance.

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112 Latevo submission to Information Paper, 29 April 2016, p 2.
113 Assetinsure submission to Draft Report, 15 August 2016, pp 1- 2.
114 Allianz submission to Draft Report, 16 August 2016, p 1.
115 CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 44.
116 Department of Primary Industries submission to Draft Report, 17 August 2016, p 1.

We also note that there would also be practical issues around determining the boundaries for high risk areas. Furthermore, where regions face a high probability of drought, insurance might not be offered at all. Therefore offering a subsidy for multi-peril crop insurance instead of drought assistance in these areas is not likely to be effective in these cases.

We also note that rather than providing a higher subsidy for regions where there is a higher risk of drought, the benefits of a regional variation in subsidy payments would be greater if a higher subsidy is directed to areas where there is a *lower* probability of drought. This is because upfront investment might be increased in these areas with a high chance of success, improving their productivity.

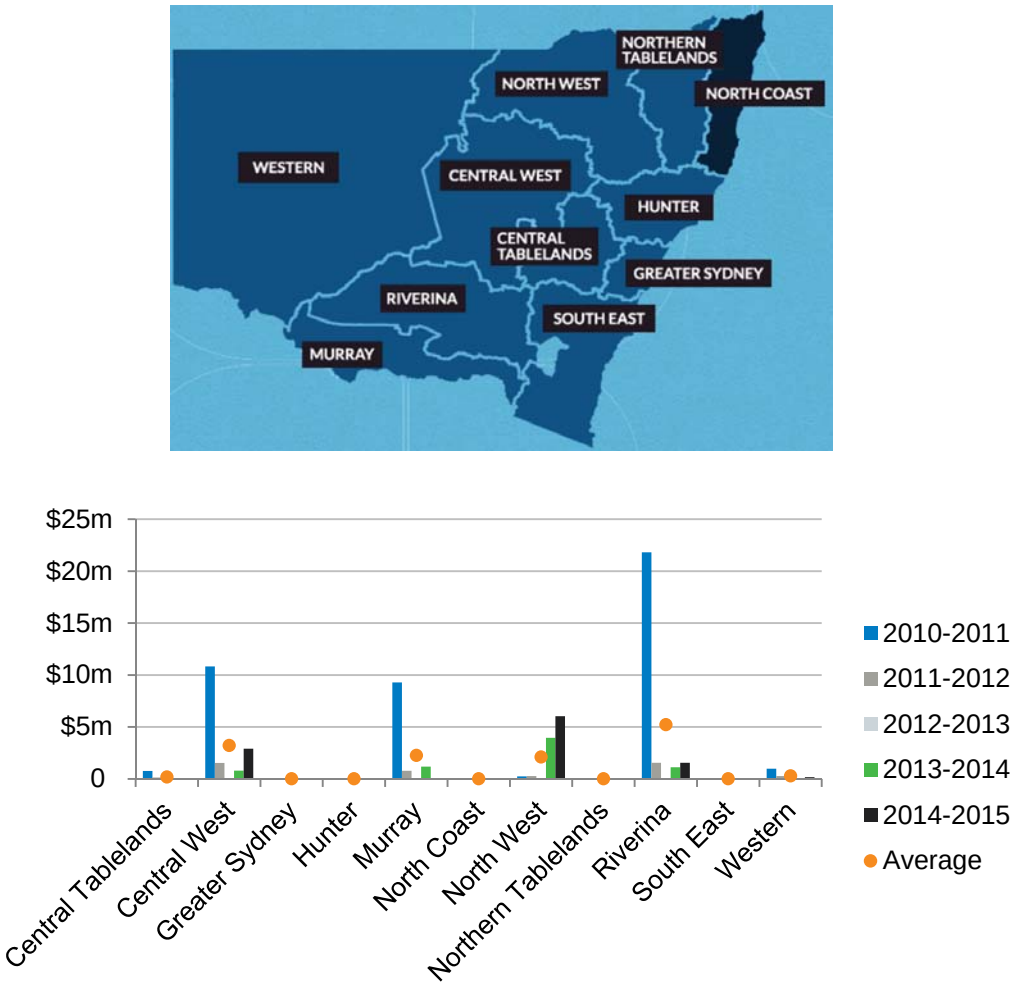
While we are not recommending that Government pays a greater *proportion* of insurance premiums in regions at increased risk of drought, we note that these regions might receive a higher dollar amount (up to the cap) under the subsidy that we have designed. This is because the subsidy provides up to 50% of the insurance premium costs to $30,000 (in nominal terms) in the first two years, and where insurance is offered in high risk areas, the premiums are likely to be significantly higher than other areas with a lower risk of drought. Therefore when the 50% subsidy is applied to a higher premium, a higher dollar amount would be paid.

Cost of subsidising high risk drought regions versus government assistance

We considered the 2010-2011 drought in the Riverina to demonstrate the cost of subsidising multi-peril crop insurance for high risk regions is likely to be higher than the cost of providing drought assistance to crop farmers directly.

Figure 4.1 shows that around $22 million in exceptional circumstance payments was provided to cropping farmers in the Riverina in the 2010-11 drought (in $2015-16). We estimated that the assistance was distributed to around 360 crop farmers, or about 13% of crop farm in the region. This was the highest amount distributed in any region over the past five years.

Figure 4.1 Annual crop farm assistance by region 2010-11 to 2014-15 ($2015-16)



Source: IPART calculations using data from email to IPART, Rural Assistance Authority, 22 August 2016.

Compared to the $22 million of government funding for drought assistance to crop farms in the Riverina, Figure 4.2 shows that providing subsidies for multi-peril crop insurance in the region could be significantly higher.

For 50% uptake, the government could spend:

- around $32 million with a 50% subsidy ($21 million for the subsidy, plus $10 million in drought assistance), or
- around $38 million with a 65% subsidy ($27 million for the subsidy, plus $10 million in drought assistance).

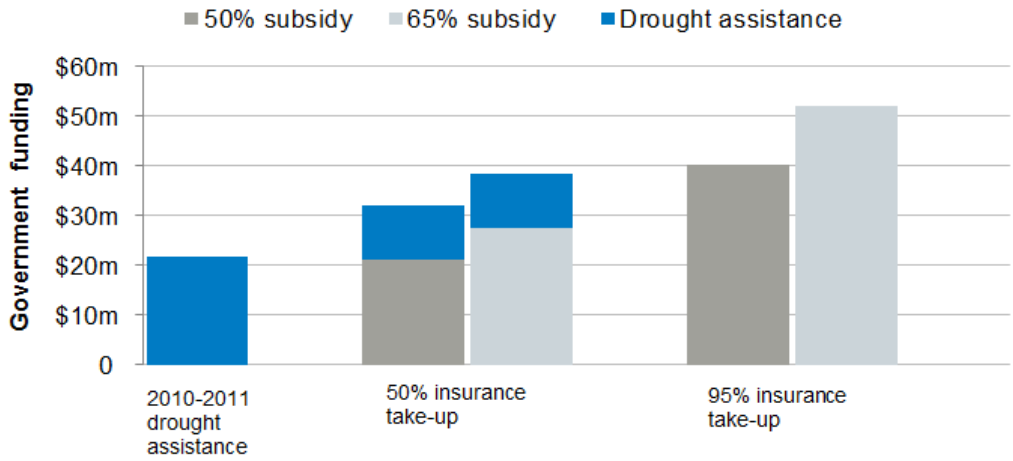
These scenarios assume that drought assistance reduces proportionally with insurance uptake (for example, 50% insurance uptake reduces drought assistance paid by 50%). But this is likely to understate the level of drought assistance that continues to be sought. As explained in Chapter 3, this is because farmers that are the least likely to have insurance are furthest from best management practice[117], and therefore we consider they are more likely to seek drought assistance. It is possible that in fact a similar level of drought assistance would be paid out as in 2010-11, as only 13% of farmers received drought assistance in that year.

For 95% uptake (and no other drought assistance), insurance subsidies are likely to cost:

- $40 million with a 50% subsidy, or
- $50 million with a 65% subsidy.

This case study demonstrates that rather than Government providing **higher** levels of subsidies to farmers in high risk areas, a more cost effective strategy would be for no subsidies to be paid out to these areas at all.

Figure 4.2 Cost of drought assistance versus premium subsidies for the Riverina ($2015-16)



Note: Assumes insurance provided at $35/ha, and drought assistance reduces proportionally with insurance uptake. A higher premium per hectare than the average $22/ha is assumed due to the high risk prior to the season.

Source: IPART calculations using data from email to IPART, Rural Assistance Authority, 22 August 2016.

IPART recommends that if a temporary subsidy is introduced:

3 It be set at the same percentage rate across different regions, regardless of the different risks facing different regions.

117 CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, pp 50, 85.

4.3.3 The subsidy does not vary depending on the length of the insurance policy

The Department of Primary Industries also asked IPART to consider whether the subsidy should incentivise long term multi-year insurance products.

As explained in Chapter 3, we think that multi-year insurance products would be more effective than single-year policies at providing a direct risk mitigation tool for farmers for drought only if the premium price, coverage levels, and all other conditions **for the duration of a multi-year contract** are agreed at the commencement of the policy. However, we have not found any evidence of these policies being offered in the NSW market, or other Australian jurisdictions. Similarly, we have not found evidence of multi-year policies with locked-in annual premiums and coverage being offered overseas without subsidies.

It is likely that multi-year products are not currently being offered because the likelihood of paying out on the policies is too high. However, the subsidy we have designed would apply to multi-year products should they emerge. Because the objective of the subsidy is to develop a commercially viable market, our view is that a subsidy should not 'pick winners' by providing different levels of subsidies for different products. It should be neutral to encourage product innovation and choice by farmers to select the form of cropping insurance that best meets their circumstances.

IPART recommends that if a subsidy is introduced:

4 It be set at the same percentage rate for both single-year and multi-year policies.

4.3.4 There might be practical difficulties with providing proportionally higher subsidies for lower levels of coverage

Allianz noted in its submission that in the United States, the government pays a proportionately higher subsidy for multi-peril crop insurance policies that provide a lower level of coverage.[118] There, the government pays the full premium for policies that provide a payout when revenue or yield falls by 40% (this is known as catastrophic cover). If farmers also wish to be covered should revenue or yield falls by a smaller amount - between 15% and 40% - then they can pay for additional "top up" cover.[119]

[118] Allianz submission to Information Paper, 29 April 2016, p 6.

[119] Shields, D, Congressional Research Service, *Federal Crop Insurance: Background,* August 13 2015, p 2, at https://www.fas.org/sgp/crs/misc/R40532.pdf.

Structuring subsidies in this way is possible in the United States because premiums and products are regulated. In contrast, providing proportionately higher subsidies for a lower level of coverage is not likely to be practical for the diverse and complex existing multi-peril crop insurance products in NSW. This is likely to be particularly problematic for products which stage their coverage – that is, provide a low level of coverage for a given price at the beginning of a season, which might be subsequently upgraded to a higher level of coverage for the same price.[120]

4.4 A subsidy should be cost-effective and efficient

We are proposing the following features to ensure that a subsidy would be as cost effective and efficient as possible:

- a cap on the subsidy per farm business each year, as well as farmer eligibility criteria
- allowing a subsidy for products that meet a minimum set of criteria, rather than for a standard product, to help drive efficiencies through competition and product differentiation
- setting the subsidy on a percentage basis, rather than a flat dollar per hectare rate, and
- applying the subsidy as a rebate to farmers, rather than a subsidy to insurers.

Our analysis of each of the alternative subsidy designs is outlined below.

4.4.1 Subsidy cap and farmer eligibility criteria

We consider that the subsidy should be capped at $30,000 per farm per year in the first two years, where the subsidy is set at 50%, and $15,000 per year in the next three years, when the subsidy falls to 25%.[121] We have set this cap to contain the overall costs of the subsidy program.

One stakeholder submitted that this subsidy cap would not allow them to access the full percentage subsidy.[122]

[120] For more information, see CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 41.

[121] All dollar amounts are in nominal terms.

[122] Mr Cooper, *Transcript for Public Hearing on Review of Multi-peril crop insurance incentive measures*, 2 August 2016, p 50, at lines 12-22.

With 70% coverage, and assuming a premium of $22/ha, under the cap:

- Farmers with up to 2,661 ha of cropping area could receive a full 50%/25% subsidy. This is more than double the median cropping area for specialist cropping farms in NSW (1,291 ha), and more than triple the cropping areas for all crop farms (including mixed livestock farms (750 ha)).[123] Even with a premium that is twice as high, a specialist cropping farm with the median cropping area would still be able to access the full percentage rate subsidy.
- Farmers with an annual turnover of around $1.05 million could receive the full 50%/25% subsidy.[124] This compares to the median crop farm revenue in NSW of around $460,000.[125] We note that different insurance options and/or lower premium rates could mean that farms with a turnover of up to around $2 million could receive the full 50%/25% subsidy.

Under this subsidy design most farmers with larger farms than these would still receive a subsidy, up to the cap. The only exclusion would be for farmers that do not meet the eligibility criteria.

The subsidy that we have designed includes farmer eligibility requirements that are consistent with the eligibility requirements of the Commonwealth Managing Farm Risk Program. These eligibility criteria are appropriate because the objective of both programs is the same: to lower the upfront costs of multi-peril crop insurance.[126]

The criteria for an eligible farmer are that the applicant must:

- operate as a sole trader, trust, partnership or private company
- have, under normal circumstances, at least one member of the farm business who derives at least 50% of his or her income from the farm business
- be involved within the agricultural industry
- be wholly located in Australia
- be registered for tax purposes in Australia with an Australian Business Number (ABN) and is registered for GST
- not be a public company under the meaning of the *Corporations Act 2001* (Cth), and
- have had, for the previous financial year, total cash receipts of less than $2 million.[127]

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123 Data contained in email to IPART, CIE, 6 September 2016.

124 Assuming an 8% premium on the amount insured.

125 Data contained in email to IPART, CIE, 6 September 2016.

126 The Commonwealth Managing Farm Risk Program subsidises the upfront administration costs of multi-peril crop insurance, associated with the upfront risk assessment (Latevo currently charges $5,000 (excluding GST) for this risk assessment).

127 Australian Government Department of Agriculture and Resources, *Managing Farm Risk Programme* Guidelines, March 2016, p 3, at http://www.agriculture.gov.au/SiteCollectionDocuments/ag-food/drought/assistance-measures/insurance-risk-advice/mfrp/managing-farm-risk-programme-guidelines.pdf .

We consider the subsidy cap and the farmer eligibility criteria strike an appropriate balance between encouraging uptake of insurance, and providing government assistance to farmers who are able to manage their risks without government assistance. Assetinsure agreed with this approach.[128]

We also considered whether the subsidy should be more targeted to the segments of the market that are most likely to continue to purchase multi-peril crop insurance on a commercial basis. For example, this might exclude smaller and poor performing farms. However, we consider that the more farmers who trial multi-peril crop insurance in the subsidy period, the more information that will be available to other farmers about whether it is likely to be suitable for them.

4.4.2 The subsidy encourages innovation

Allianz submitted that IPART should consider a measure where a premium subsidy is only provided for a standardised multi-peril insurance product. It suggested such a subsidy would help increase farmers' awareness and understanding of multi-peril crop insurance products, reduce the difficulty farmers' face in determining the value of the product, and reduce potential for disputes.[129] NSW Farmers also submitted that IPART should consider the development of a standardised insurance product framework.[130]

On the other hand, Innovative Risk Transfer was concerned that a subsidy would stifle innovation and remove the commercial imperative to limit insurer costs.[131]

We are recommending that if a subsidy is introduced, it should be provided for all insurance products that meet the product eligibility criteria in Section 4.1, rather than for a standard product. We consider that this would lead to more efficient outcomes, by reducing regulatory costs, allowing for product innovation, and allowing farmers to select the form of insurance that best meets their circumstances. Assetinsure and Henry Davis York support this approach.[132]

IAG also submitted that the private insurance market should be encouraged to create innovative ways to assist affordability and longevity rather than being reliant on long-term subsidies.[133]

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128 *Transcript for Public Hearing on Review of Multi-peril crop insurance incentive measures*, 2 August 2016, p 37, at line 5.
129 Allianz submission to Information Paper, 29 April 2016, p 5.
130 NSW Farmers submission to Information Paper, 6 May 2016, p 4.
131 Innovative Risk Transfer submission to Draft Report, 15 August 2016, p 2.
132 Assetinsure submission to Draft Report, 15 August 2016, pp 1-2; Henry Davis York submission to Draft Report, 15 August 2016, p 4.
133 IAG submission to Draft Report, 17 August 2016, p 1.

We consider that government regulation of product design is likely to come at a very high regulatory cost. For example, standardisation of insurance products has been adopted in the United States, where the prices and product specifications of subsidised multi-peril crop insurance policies are regulated by the Department of Agriculture's (USDA) Risk Management Agency (RMA). There, the USDA decides whether insurance for a particular crop in a particular region will be available. It makes this administrative decision on a crop-by-crop and county-by-county basis, taking account of farmer demand for coverage and the level of risk associated with the crop in the region. The RMA then conducts a pilot program for three years before the insurance become widely available to ensure that it is an actuarially sound product.[134] The Crop Insurance Handbook, which determines the underwriting standards and basic provisions for cropping polices alone is over 800 pages for 2016.[135]

In our view, it is more efficient for competition to drive innovation in product design, as this is likely to deliver more suitable products and lower premiums to farmers. For example, Latevo indicated that one of the main reasons it has been able to increase its share of the multi-peril crop insurance market is that product innovation has allowed it to set premiums at a price acceptable to farmers.[136] It stages the dates at which the coverage is offered, so that relatively low coverage is offered up until soil moisture conditions going into the season are known. At this point, high-risk farmers with low subsoil moisture are encouraged to withdraw their insurance to retain their future coverage rating and to minimise Latevo's insurer loss ratios. Structuring the product in this way is a different value proposition to a product that locks in the level of coverage earlier in the season.

4.4.3 A flat-rate subsidy per hectare might distort planting decisions

Latevo proposed a flat rate subsidy, rather than a percentage amount.[137] However, structuring the subsidy this way would disproportionately subsidise the premium for low value crops, which might distort farming decisions (see Box 4.1). Therefore, we consider that a percentage-based subsidy would be more efficient than a flat rate subsidy.

134 Shields, D, Congressional Research Service, Federal Crop Insurance: Background, August 13, 2015, pp 4-6, at https://www.fas.org/sgp/crs/misc/R40532.pdf.

135 See 2016 Crop Insurance Handbook, at http://www.rma.usda.gov/handbooks/18000/2016/16_18010.pdf

136 Consultation with Latevo, 7 June 2016.

137 Latevo submission to Information Paper, 29 April 2016, p 3.

Box 4.1 A dollar-based subsidy disproportionately subsidises the premium for low value crops

In the farm profile example in Table 4.1, insurance for **barley would attract a 48%** subsidy, compared to **30% for canola**.

Table 4.1 Level of subsidy by crop with $10/ha cap

Crop	Hectares (hypothetical farm)	Average price/ha	Revenue of farm	Sum Insured (at 70% cover)	Premium per farm at 8.5% of insured value	Premium per hectare	Subsidy/ha With $10/ha subsidy
		$	$	$	$	$	%
Wheat	469	414	194,166	135,916	11,553	24.63	41%
Barley	225	350	78,750	55,125	4,686	20.83	48%
Canola	241	552	133,032	93,122	7,915	32.84	30%
Total	935	434	405,948	284,164	24,154	25.83	39%

Source: IPART calculations.

4.5 Scope of the subsidy

CelsiusPro submitted that a subsidy should encompass all types of insurances and not just multi-peril crop insurance.[138]

We do not agree that a subsidy should be provided for single-peril crop insurance products. This is because there is already a well-developed commercial market for single-peril crop insurance, with around 70% market penetration amongst crop farmers in NSW.[139]

Celsius Pro also submitted that the subsidy should be available to derivative products.[140] We consider that these fall outside of the scope of the review, because they are not legally an insurance product. To attract the rebate, the multi-peril crop insurance product would need to be offered by a licenced insurer.

While we agree that derivative products could be a more cost-effective product than multi-peril crop insurance, we do not think that these products should be subsidised, because they are not related directly to losses incurred by farmers – but rather they provide a payout when a particular weather outcome occurs. As a result, a subsidy could encourage farmers to simply gamble on the weather, rather than used these products as a risk mitigation tool.

[138] CelsiusPro submission to Draft Report, 12 August 2016, p 3.
[139] CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 51.
[140] CelsiusPro submission to Draft Report, 12 August 2016, p 3.

4.6 Would a subsidy for multi-peril crop insurance affect access to other forms of drought relief?

Some stakeholders submitted that take-up of multi-peril crop insurance might be affected by the availability of substitutes such as drought assistance and the Farm Management Deposits.[141] IAG submitted that governments might need to reconsider providing these substitutes.[142]

IAG and Henry Davis York noted that many overseas jurisdictions tie the availability of government assistance programs to the purchase of multi-peril crop insurance.[143] Latevo submitted that concessional loans in particular should be made conditional upon having an insurance policy. It put the view that this insurance would help farmers meet their loan repayments should future crops fail.[144]

Other stakeholders cautioned against this approach. NSW Farmers submitted there are a range of risk management strategies available to farmers, and making access conditional on insurance would distort the market in favour of multi-peril crop insurance. It submitted that this would stifle the development of innovation in the on-farm management of climatic risk.[145]

We agree with NSW Farmers that farmer eligibility for drought assistance should not be linked to the purchase of multi-peril crop insurance because:

- It might be more cost effective for farmers to manage their risks in other ways.
- Providing direct drought assistance to affected farmers is likely to be more cost effective than widely subsidising multi-peril crop insurance.
- There are likely to be practical issues associated with requiring farmers to buy insurance in order to obtain concessional loans. In particular, there are likely to be some seasons where multi-peril crop insurance policies are not offered or not offered at affordable premiums.

Cotton Australia also submitted that multi-peril crop insurance does not provide the necessary functions to supersede the current drought funding arrangements.[146]

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141 IAG submission to Information Paper, 2 May 2016, p 3; Allianz submission to Draft Report, 16 August 2016, pp 3-4.
142 *Ibid*, IAG.
143 *Ibid*, IAG, Henry Davis York submission to Draft Report, 15 August 2016, p 3.
144 Consultation with Latevo, 15 June 2016.
145 NSW Farmers submission to Draft Report, 15 August 2016, p 5.
146 Cotton Australia submission to Draft Report, 11 August 2016, p 2.

5 Assessing measures to directly reduce the cost of insurance premiums

We were asked to assess two measures that directly reduce the upfront cost of insurance premiums against the drought framework:

- An upfront premium subsidy for multi-peril crop insurance. This is a proposed measure, to be designed by IPART, in consultation with the Department of Primary Industries. The design of this subsidy was discussed in the previous chapter.
- A proposal to waive the concessional stamp duty on insurance premiums for five years.

The sections below discuss our assessment of these measures.

5.1 Overview of findings

Table 5.1 below summarises our findings in relation to the measures that directly reduce the cost of insurance premiums. We found that:

- an upfront premium subsidy **complies** with the drought framework, and
- the stamp duty waiver **does not** comply with the drought framework, because it would not be effective in achieving its objective of materially increasing the uptake of multi-peril crop insurance.

As explained in Chapter 4, we designed a subsidy that is set at 50% for two years, and 25% for a further three years. Our analysis suggests this measure is likely to increase the uptake of multi-peril crop insurance to between 9% and 16% of grain farmers in NSW, but is likely to cost the NSW government around $5 million to $7 million per year.[147] This is likely to be **additional** to any drought assistance paid.

As explained in Chapter 3, subsidising crop insurance on an ongoing basis is likely to be more costly than directly providing assistance to crop farmers. Therefore, rather than providing savings for the Government, the main potential benefits of increasing the uptake of multi-peril crop insurance through subsidies are productivity gains and increased profitability in **good seasons.** These benefits might occur if multi-peril crop insurance provides better access to credit

[147] In $2015-16, based on multi-peril crop insurance premium of $22-$30/ha. CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, pp 52, 60.

and/or also boosts farmer confidence. This might result in higher upfront investment in inputs (such as fertiliser) because these costs are underwritten by the insurance if low yields result from adverse conditions. Greater profitability during good seasons might also improve the capacity of farmers to self-insure during periods of drought.

The productivity benefits that might result from subsidising multi-peril crop insurance can be estimated, but our analysis suggests there is a high degree of uncertainty about whether there would be net benefits and the size of these benefits. Under our 'base case scenario' (shown in Table 5.1), there would be a small net benefit. This scenario assumes that productivity improvements that would have otherwise occurred are brought forward by five years as a result of multi-peril crop insurance, and an average premium of $22 per hectare.

However, if these productivity gains do not eventuate, or if the average premium is higher at around $30 per hectare, the costs of the measure would exceed the benefits. On the other hand, if higher productivity gains occur and the premium is lower, the net benefits would be higher.

We maintain the position that the stamp duty waiver **would not comply** with the drought framework because it would not be effective at materially increasing the uptake of multi-peril crop insurance. However, as explained in Chapter 4, we are now recommending that **if the subsidy is introduced** the 50%/25% should be **inclusive of the stamp duty payable.**

IPART findings

4 An upfront premium subsidy complies with the drought framework.

5 A 5-year stamp duty waiver on insurance premiums does not comply with the drought framework, because it would not be effective in achieving its objectives.

Table 5.1 Summary of the measures against the drought framework[a]

	Upfront subsidy	Stamp duty waiver
Complies with framework?	Yes	No
Stage 1	Yes	No
Meets an IGA objective	Yes	Yes
Market failure OR addresses government policy objective	Government policy objective	Could address government policy objective
Effective	Yes	No, unlikely to materially improve uptake of multi-peril crop insurance
Equitable	Yes	Yes
Effectively administered	Yes	Yes
Stage 2	On balance, yes	On balance, yes
Complementary	The upfront subsidy, the stamp duty waiver, and information sharing have an overlapping purpose to reduce the cost of multi-peril crop insurance. However, the stamp duty waiver and information sharing are unlikely to be effective at meeting this objective, therefore there is no practical overlap. There is a possible conflict in subsidising a product that incurs stamp duty, however a subsidy can be set to offset the stamp duty payable. We recommend that a subsidy is set on the total amount payable inclusive of the stamp duty. Other drought relief measures might reduce the effectiveness of incentives to increase the uptake of insurance.	
Stage 3	Yes	Yes
Benefits can be estimated	Yes	Yes
Cost-benefit analysis		
Benefit-cost ratio	1.4:1	1:1
Benefits ($m)[c]	53.6	0.4
Costs ($m) [c]	37.4[b]	0.4
Rank	**3**	4

a Net present value of benefits and costs in 2014-15 terms over 20 years, 2016-2017 to 2035-36 using a real discount rate of 7%.
b Total expenditure by government multiplied by a marginal excess burden of 0.08.
c Based on base case scenario of productivity gains being brought forward by five years, and a premium of $22/ha (before a subsidy).

Source: CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, pp 70-71.

5.2 Are the measures well-designed?

Stage 1 of the framework involves determining whether the measure is well designed by considering whether it meets three criteria:

- Addresses at least one of the Intergovernmental Agreement on National Drought Program Reform's (IGA)'s objectives and accords with the IGA's core

principles. To comply with this stage, the measure **must** encourage self-reliance, drought preparedness and mutual responsibility.

- Occurs where there is a clear role for government action.
- Is effective, efficient, equitable and efficiently administered.

We firstly considered whether government support for multi-peril crop insurance address the IGA principles, and occur where there is a clear role for government action. We then considered whether each of the measures could materially increase the uptake of multi-peril crop insurance.

The sections below present our analysis on these findings.

5.2.1 Multi-peril crop insurance could address several of the IGA objectives

Multi-peril crop insurance could address the following IGA objectives and principles:

- **Assists farm families and primary producers adapt to and prepare for the impacts of *increased climate variability*** (but not for the impacts of all drought events).[148] As Chapter 2 discussed, the IGA objectives and principles do not focus only on drought, but also on increased climate variability. We consider multi-peril crop insurance is likely to be an effective loss mitigation tool for climate variability events that are not within the control of farmers, are highly uncertain and are difficult to manage or prepare for – for example, frost, and high heat events. However, this insurance is not likely to provide payouts to farmers for drought in particular, other than for mild droughts. Moderate to severe drought events can typically be foreseen in advance of the coming season, and insurers are unlikely to offer affordable policies that cover drought when the likelihood of payout is high.
- **Encourages farm families and primary producers to adopt self-reliant approaches to manage their business risks[149].** Multi-peril crop insurance might assist crop farmers to manage business risks related to climate variability events other than drought. It provides a credible alternative to government being positioned as the lender of last resort, consistent with principle 'e' of the IGA's principles and processes for in-drought support.[150]
- **Enhances the long-term sustainability and resilience of farmers** (if it results in increased productivity and profitability).[151] As explained in Chapter 3, multi-peril crop insurance might help to enhance the long-term sustainability and resilience of farmers in two ways.
  - First, it might increase farmers' capacity to self-insure during drought events by encouraging increased productivity and profitability in good

148 *Intergovernmental Agreement on National Drought Program Reform 2013*, p 2, objective (6a).
149 *Ibid,* objective (6b).
150 *Ibid*, p 8.
151 *Ibid*, p 7.

seasons. For example, having this insurance might boost farmers' confidence and provide greater access to capital, enabling them increase their upfront investment in inputs (such as fertiliser) because these costs would be underwritten by the insurance if low yields result from adverse conditions. It might also encourage them to adopt best management practices, as this would lead to lower insurance premiums. However, it is important to note that no studies in Australia have provided evidence to support a link between multi-peril crop insurance and increased productivity.

- Second, multi-peril crop insurance could help famers avoid losses through price signalling. For example, when insurers decide not to offer multi-peril crop insurance policies, they would send an important signal to farmers that the risk of crop failure is high. Under these circumstances, it would be better for the farmer not to plant to avoid losses, and retain soil moisture for future seasons.

5.2.2 Do the measures address a market failure or other Government policy objective?

As explained in Chapter 3, we do not think that there are market failures inhibiting the uptake of multi-peril crop insurance. We found that the key reasons for the low uptake is due to the high costs of multi-peril crop insurance, and because these products are relatively new. While information shortfalls might have impeded the market for this insurance in the past, this is no longer an issue.

However, temporary measures to reduce the upfront cost of multi-peril crop insurance would be consistent with the stated Government policy objective to work with the Commonwealth Government and farming communities to put in place an environment that encourages the development of a commercial multi-peril crop insurance market.[152] In the longer term, this would provide another option for farmers to manage their risks.

5.2.3 Are the measures likely to be effective at increasing uptake?

We found that the subsidy we designed is likely to be sufficient to increase the uptake of the insurance. As Table 5.2 shows, CIE estimated that a subsidy set at an average of 35% over the five years would result in between 9% and 16% of farmers purchasing multi-peril crop insurance by the final year. This is based on average premiums being priced between $22/ha and $30/ha (before a subsidy is

[152] Primary Industries Agriculture, *2015 Drought Strategy,* at http://www.dpi.nsw.gov.au/content/agriculture/emergency/drought/support/nsw-drought-strategy, accessed 11 July 2016.

applied). The uptake would likely fall back to between 7% and 11% once the subsidy is removed.[153]

CIE's estimates are based on:

- The number of farmers who are likely to have purchased multi-peril crop insurance in the absence of government support measures.
- The farmers who are currently purchasing single-peril or traditional insurance who would be likely to upgrade to multi-peril crop insurance if a subsidy were provided.

CIE assumed that farmers who do not currently hold single-peril insurance would not purchase multi-peril crop insurance, and estimated the upgrade rates by interviewing farming consultants and other stakeholders about the willingness to pay for insurance.[154]

CIE also found that the response to the subsidy would be significantly stronger for specialist cropping farms than for mixed grain/livestock properties.[155]

Table 5.2 Uptake rates of multi-peril crop insurance by scenario across (NSW)

	Premium before subsidy Medium priced premium— $22 per hectare			Premium before subsidy High priced premium — $30 per hectare		
	Uptake in the last year %	Drop-out rate at program end %	Uptake after subsidy period %	Uptake in the last year %	Drop-out rate at program end %	Uptake after subsidy period %
Wheat and other crop	24	7	18	14	3	11
Mixed grains/ livestock	11	4	7	6	2	4
Total grain farms	16	5	11	9	2	7

Note: CIE also considered a scenario where the premium offered is $14 per hectare (at IPART's direction). However, further consultation has revealed that a premium this low is not likely to be offered in NSW. Therefore, we have not included this price scenario in the table.

Source: CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 53.

[153] Based on multi-peril crop insurance premium of $22-$30/ha. CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, pp 40, 52.

[154] CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, pp 43-44, 51, 53, 84.

[155] *Ibid,* pp 51-53.

Stamp duty waiver

Most stakeholders supported removing stamp duty because it would reduce the upfront costs of insurance.[156] IAG submitted that removing the stamp duty it would have an "immediate and positive impact on premium affordability."[157]

However, unlike the subsidy, we found that a stamp duty waiver is not likely to have a material impact on the uptake of insurance.

Stamp duty is only applied at a concessional rate of 2.5%.[158] Therefore, a stamp duty waiver would lead to a 2.44% reduction in the cost of insurance. Allianz noted that for the current average premium of their PrimeGuard product (approximately $25,000) the saving would only be $625.[159]

This is only around a third of the cost reduction provided the Commonwealth Managing Farm Risks program. As explained in Chapter 4, this program provides a $2,500 rebate associated with the administration costs of providing multi-peril crop insurance (around 8% cost reduction for an average farm). However, following the introduction of this subsidy, the uptake rates of insurance remain at less than 1% in NSW.[160] Therefore, the impact on uptake rate from the even smaller cost reductions that would result from a stamp duty waiver is likely to be immaterial.

Analysis conducted by CIE indicates that waiving stamp duty for five years would lead to the purchase of an additional five to six policies over the duration of the stamp duty waiver.[161] This would come at a cost of around $400,000 in forgone revenue from stamp duty over the period (in $2015-16).[162] As explained in Section 5.4.3, the first additional farms to take up multi-peril crop insurance are likely to be closest to best practice. This means the additional productivity benefits and therefore increased capacity of these farms to self-insure is not material. As a result, the stamp duty waiver does not make a further contribution to addressing the objectives of the IGA.

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156 For example see Latevo submission to Information Paper, 29 April 2016, p 3; Allianz submission to Draft Report, 16 August 2016, p 8; Innovative Risk Transfer submission to Draft Report, 15 August, pp 2-3.

157 IAG submission to Draft Report, 17 August 2016, p 2.

158 NSW Office of State Revenue, *Insurance Duty*, at http://www.osr.nsw.gov.au/taxes/insurance, May 2016, accessed 13 May 2016.

159 Allianz submission to Information Paper, 29 April 2016, p 8.

160 IPART calculations based on CIE data in email to IPART, CIE, 6 September 2016.

161 Based on an average cost of $22/ha to $30/ha. CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 46.

162 *Ibid*, pp 46-47.

We note that Allianz and Latevo considered that a stamp duty waiver in other states where it is applied at a higher rate (10%) would be sufficient to effectively increase the uptake of multi-peril crop insurance.[163] The view was put that a stamp duty waiver in NSW as an important signal to other states to waive stamp duty, and therefore drive uptake of insurance policies in these states. [164] CelsiusPro also noted that the combined impact of stamp duty and GST can add up to 20% to the costs of insurance in other states, and the waiver of both GST and stamp duty should be considered as a combined measure.[165] We note that GST can be claimed back by farm businesses (that have a farm business number).

5.2.4 Would the subsidy be efficient and equitable?

The drought framework requires us to consider whether a measure would achieve its objectives at least cost. We consider that a direct subsidy would be the most cost effective way to materially increase the uptake of multi-peril crop insurance in the short term. However, there might be other measures that would be more effective at increasing profitability and productivity to enhance the long-term sustainability and resilience of farmers.

As explained in Chapter 4, we designed a subsidy with the following features to ensure cost effectiveness and efficiency:

- limiting the subsidy to a 5-year period, with a cap per farm to help contain overall costs
- allowing a subsidy for products that meet a minimum set of criteria, rather than for a standard product, to help drive efficiencies through competition and product differentiation
- a flat rate subsidy regardless of region, to avoid sending inefficient price signalling about production decisions, and to ensure that the Government does not spend more on multi-peril crop insurance subsidies than it would have on direct assistance, and
- a percentage rate subsidy, rather than dollar per hectare subsidy, so that production decisions are not distorted in favour of lower value crops.

We also consider that the subsidy would be equitable, because it contains eligibility criteria that excludes very high earning farmers and corporations that can effectively manage their own risks.

[163] Allianz submission to Information Paper, 29 April 2016, p 8; Consultation with Latevo, 21 April 2016.
[164] Consultation with Latevo, 21 April 2016.
[165] CelsiusPro submission to Information Paper, 2 May 2016, p 5.

5.3 Are the measures complementary?

Stage 2 of the drought framework involves assessing whether the measure being evaluated complements other Commonwealth and NSW government drought assistance programs (including the other measures being evaluated as part of this review).

We firstly considered whether the proposed upfront premium subsidy in particular would complement other programs also designed to increase the uptake of multi-peril crop insurance, including the other four measures we assessed as part of this review. We found that there is direct overlap between the objectives of the following measures, which also aim to directly reduce the upfront costs of insurance:

- the stamp duty waiver, and
- the Commonwealth Managing Farm Risk program, which provides rebates for costs associated with applications for multi-peril crop insurance.

We consider that these overlaps should be avoided. We consider that an upfront subsidy is likely to be **the most effective** measure at increasing the uptake of multi-peril crop insurance. We also consider it is more efficient to provide a premium subsidy than to fund a range of measures to subsidise component costs of multi-peril crop insurance (for example, separate subsidies for the preparation of an application, a risk assessment, and stamp duty). Therefore, if a subsidy is introduced, it should replace other measures that share this objective.

However, we recognise the conflict of levying a tax on multi-peril crop insurance, at the same time as applying a subsidy raised by a number of stakeholders.[166] Therefore, as explained in the previous chapter, we consider that if a subsidy is introduced, the rate should be applied inclusive of stamp duty.

In relation to the other drought assistance programs, these can generally be categorised as either preparedness programs, which provide assistance before a drought has occurred (and are the focus of the NSW Drought Strategy), or relief programs, which provide drought assistance during and/or after a drought.

Most existing government drought preparedness programs are designed to increase farmers' resilience to drought and other weather events. This reduces the likelihood of farmers experiencing significant losses during drought. For example, the business skills program helps farmers to plan a long term strategy for managing their farms risks. Similarly, the farm innovation fund provides low interest loans to farmers for capital improvements such as dams and silos, which allow them to mitigate losses.

[166] Allianz submission to Information Paper, 29 April 2016, p 5; NSW Farmers submission to Draft Report, 15 August 2016, p 10; Assetinsure submission to Draft Report, 15 August 2016, p 2.

These drought preparedness programs can increase farmers' capacity to self-insure, and therefore some farmers would self-insure rather than purchase insurance. However, being better prepared for drought also reduces the riskiness of a farmer to insurers. Because the current insurance products use individual risk assessments to set premiums, farmers who have taken up drought preparedness programs are likely to be offered lower premiums than if they had not. By further reducing the cost of insurance, these drought preparedness programs can also increase the effectiveness of government support for measures for multi-peril crop insurance. Therefore, on balance we consider that there is no conflict between drought preparedness measures and multi-peril crop insurance.

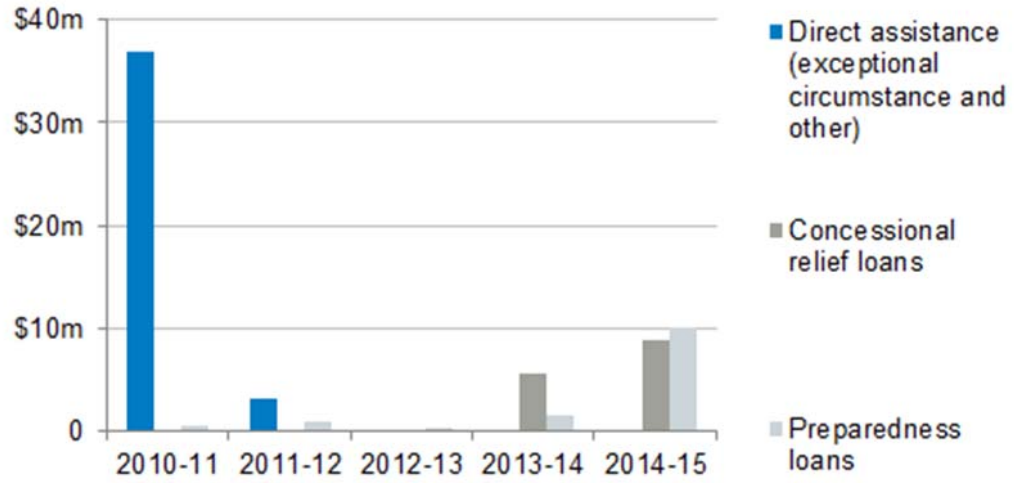
In addition, to the extent that the NSW Farm Business Skills Program raises awareness of multi-peril crop insurance, it would be directly complementary to a subsidy.

On the other hand, some existing drought *relief* programs, such as low interest drought recovery loans, might conflict with government support for multi-peril crop insurance. Farmers might choose to rely on the availability of these loans to support them when they incur losses due to climate variability events, rather than take out multi-peril crop insurance to protect themselves. In this way, drought relief programs have the potential to "crowd out" multi-peril crop insurance, thereby reducing the effectiveness of any government support for this insurance. However, we note that over the last five years, direct assistance is no longer government policy.[167] In 2014-15, drought preparedness loans took over relief loans as the largest expenditure on government assistance (Figure 5.1).

While the Commonwealth farm household allowance also falls into the category of drought relief, it is unlikely to act as disincentive to manage risks in other ways because it only provides a basic welfare payment for financial hardship.

[167] Email to IPART, Department of Agriculture and Water Resources, 21 June 2016.

Figure 5.1 Types of drought assistance to cropping farmers (2010-11 to 2014-15) (nominal $)



Source: IPART calculations using data from email to IPART, Rural Assistance Authority, 22 August 2016.

5.4 Can the benefits of the measures be estimated?

As explained in Chapter 3, multi-peril crop insurance is likely to provide a range of benefits.

Firstly, it provides a risk mitigation tool for farmers, which can provide a timely payout when losses are incurred. These benefits are reflected in the premium farmers pay for this insurance, and therefore they are private benefits. As a result they are not measured as part of our cost-benefit analysis.[168]

On the other hand, productivity gains to the economy are wider economic benefits, which need to be accounted for in a cost-benefit analysis. As explained in the sections above, multi-peril crop insurance has the potential to increase productivity through increasing farmers' confidence and increased access to credit which might result in greater upfront investment in inputs. It might also encourage crop farmers to adopt best management practices to reduce their premiums.

We also considered multi-peril crop insurance could produce additional productivity benefits by providing greater certainty to invest in consolidation, and thereby result in additional structural adjustment in the agricultural sector. We found that this would be unlikely due to the high degree of structural adjustment that has already occurred over the past 15 years. Given the relatively

[168] CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 70.

low expected uptake of multi-peril insurance, we consider economic factors to be a much larger driver of structural adjustment.[169]

Several stakeholders considered that our cost-benefit analysis understated the benefits of increased financial security provided by multi-peril crop insurance. They submitted that this can reduce the stress of farmers and their families, improving wellbeing for farmers and rural communities. Some stakeholders pointed to the mental health benefits to farmers,[170] and others noted that increased financial security provided by multi-peril crop insurance might encourage more young people into the agricultural industry and rural areas, creating sustainable employment.[171]

We found that any reduction in the variation of farm incomes as a result of multi-peril crop insurance would flow-on to have social benefits in rural communities. However, these are difficult to quantity because it is difficult to separate the impact of multi-peril crop insurance from other economic factors.[172]

As a result, consistent with our Draft Report, the key benefits measured as part of the cost-benefit analysis are those relating to the productivity gains. However, our analysis suggests there is a high degree of uncertainty about whether there would be net benefits and the size of these benefits.

5.4.1 Benefits associated with productivity gains

The costs and benefits of the proposed premium subsidy would depend on whether productivity improvements result from increased uptake of multi-peril crop insurance, as well as the price at which insurance is offered (before the subsidy is applied). There is significant uncertainty around both these factors.

Given this, CIE modelled the costs and benefits of the premium subsidy under a range of productivity and price scenarios. The productivity scenarios included:

- Case 1: there are no resulting productivity gains – that is, all the benefits relate to a transfer in risk to the market and are anticipated by farmers.
- Case 2: productivity gains that would have occurred anyway are brought forward in time by five years.
- Case 3: productivity gains would not have been achieved by other means.[173]

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169 CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, pp 27-30.

170 For example, see S. Maguire submission to Draft Report, 12 August 2016, p 3; IAG submission to Draft Report, 17 August 2016, p 2.

171 IAG submission to Draft Report, 17 August 2016, p 3; MPCI Australia submission to Draft Report, p 1.

172 CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, pp 35-36.

173 CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 55.

The price scenarios included low (average premium of $14/ha); medium (average premium of $22/ha); and high (average premium of $30/ha).[174]

5.4.2 Costs and benefits of the different scenarios

As Table 5.3 shows, CIE estimated that the subsidy we designed for multi-peril crop insurance would have a marginal net benefit under our 'base case' scenario (Case 2 with medium costs), with a benefit-cost ratio of 1.4 :1. However, under different productivity and price scenarios, the benefit-cost ratio ranges from 0.6 to 1 (where the subsidy would have a net cost) to 6.9:1 (where the subsidy would have a higher net benefit). While we also asked CIE to consider the low price scenario, further consultation with the industry has revealed that a $14 premium would be unlikely to be offered in NSW. Therefore, we consider that the top of the benefit-cost range is more likely to be around 2.6:1.

Table 5.4 compares the final estimates of costs and benefits with our draft estimates.

Table 5.3 Summary of benefits and costs for the premium subsidy ($m)[a]

Case and price scenario	MPCI related benefits[b]	Other benefits	Total benefits	Costs[c]	Benefit-cost ratio
Case 1: No productivity gains					
Low ($14/ha)	19.1	0.0	19.1	32.0	0.6:1
Medium ($22/ha)	21.0	0.0	21.0	37.4	0.6:1
High ($30/ha)	15.3	0.0	15.3	26.3	0.6:1
Case 2: Productivity gains brought forward by five years					
Low ($14/ha)	105.0	0.0	105.0	32.0	3.3:1
Medium ($22/ha)	53.6	0.0	53.6	37.4	1.4:1
High ($30/ha)	16.8	0.0	16.8	26.3	0.6:1
Case 3: Productivity gains would not have occurred without multi-peril crop insurance					
Low ($14/ha)	220.1	0.0	220.1	32.0	6.9:1
Medium ($22/ha)	97.5	0.0	97.5	37.4	2.6:1
High ($30/ha)	18.9	0.0	18.9	26.3	0.7:1

a Net present value of benefits and cost in 2014-15 terms over 20 years, 2016-17 to 2035-36 using a real discount rate of 7%.

b Includes benefits from increases in consumer surplus as a result of the subsidy to both existing and new policy holders.

c Total expenditure by government multiplied by a marginal excess burden of 0.08.

Source: CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 9.

[174] *Ibid,* p 40.

Table 5.4 Summary of benefits and costs for the premium subsidy – Case 2, Comparison between draft and final ($m)[a]

Case and price scenario	MPCI related benefits[b]	Other benefits	Total benefits	Costs[c]	Benefit-cost ratio
Final - Case 2: Productivity gains brought forward by five years					
Low ($14/ha)	105.0	0.0	105.0	32.0	3.3:1
Medium ($22/ha)	53.6	0.0	53.6	37.4	1.4:1
High ($30/ha)	16.8	0.0	16.8	26.3	0.6:1
Draft - Case 2: Productivity gains brought forward by five years					
Low ($14/ha)	105.0	0.0	105.0	40.0	2.6:1
Medium ($22/ha)	53.6	0.0	53.6	46.7	1.1:1
High ($30/ha)	16.8	0.0	16.8	32.9	0.5:1

a Net present value of benefits and cost in 2014-15 terms over 20 years, 2016-17 to 2035-36 using a real discount rate of 7%.

b Includes benefits from increases in consumer surplus as a result of the subsidy to both existing and new policy holders.

c Total expenditure by government multiplied by a marginal excess burden of 0.08.

Source: CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – draft report,* July 2016, p 9.CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 9.

5.4.3 How CIE estimated productivity improvement under each scenario

In CIE's model, the level of productivity benefit resulting from the subsidy is a function of the uptake levels. The greater the uptake of multi-peril crop insurance, the higher the probability of including businesses that are further away from best practice. This is demonstrated in Figure 5.2.

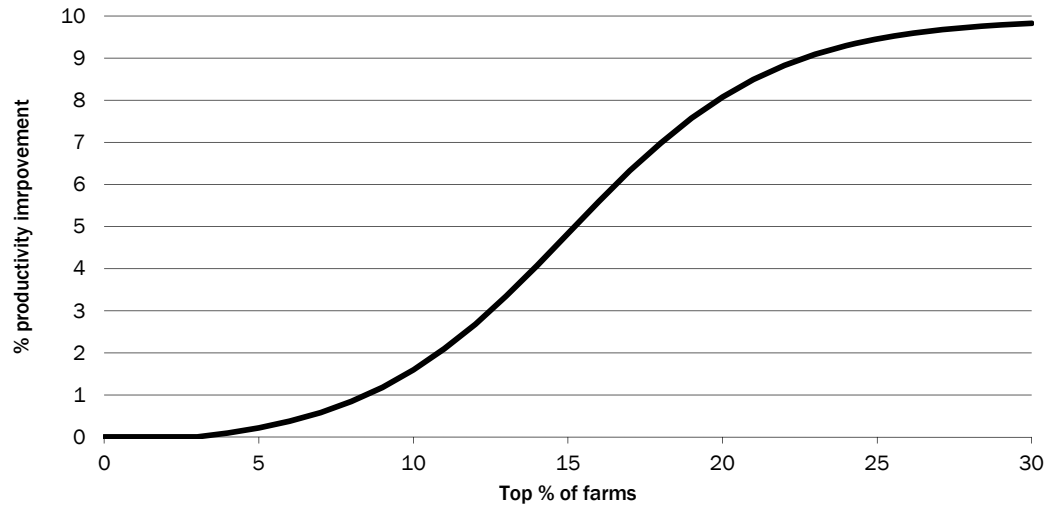
For example, for the highest cost scenarios, only top-tier farmers are likely to adopt multi-peril crop insurance. The productivity benefits are likely to be low, not only because of the low level of uptake, but also because the farmers who do purchase insurance are likely to be closest to best practice. Therefore, the scope for productivity improvements is likely to be very low. This can be seen in Figure 5.2, where in this model, the first 5% of farmers who take up multi-peril crop insurance do not produce any or minimal productivity benefits.

However, there is the potential for multi-peril crop insurance to drive significant productivity improvements for middle-tier farmers, based on industry consultations. If the price of the premium is at the range represented by the low and medium cost scenarios, then middle-tier farmers are likely to adopt multi-peril crop insurance, leading to productivity improvements. However, there is no empirical support for this occurring in NSW or other jurisdictions.

The productivity improvement included in CIE's cost-benefit analysis is the weighted average of net improvement across the profile of adopting businesses. Assuming that the **maximum** improvement in productivity for the top 30% of farms is 10%, it estimates that the average productivity gain across those taking up multi-peril crop insurance is:

- 1.7% when the average premium is $22/ha, and
- 0.2% when the average premium is $30/ha.[175]

Figure 5.2 CIE's estimated relationship between the scope for productivity improvements and the top performing farms



Source: CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 56.

Stamp duty waiver

CIE found that there are unlikely to be net benefits from the stamp duty waiver, and estimated a benefit-cost ratio close to 1:1 for this measure.[176]

Stamp duty is generally one of the least efficient forms of revenue collection by governments, because less consumption occurs than otherwise would have, but for the stamp duty. Insurance products in particular have been found to be highly price responsive.[177] However, as noted above, because stamp duty is currently applied to crop insurance policies at a concessional rate of 2.5%, CIE estimates that only around five to six additional policies will be taken up over the five years in which the waiver would apply.[178] As a result, the distortion created by the imposition of the 2.5% stamp duty is likely to be minimal.

[175] CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, pp 56-57.
[176] CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 70.
[177] *Ibid*, p 94.
[178] *Ibid*, p 46.

Therefore, CIE found that the primary benefit of the measure is the cost reduction to existing holders of multi-peril crop insurance. This benefit represents a transfer from taxpayers to policy holders – that is, the savings to policy holders are offset by the costs to taxpayers of the forgone stamp duty. Therefore, the benefit-cost ratio is around 1:1.[179]

[179] *Ibid,* p 70.

6 Farm Business Skills Professional Development Program

We were asked to assess the NSW Farm Business Skills Professional Development Program (the business skills program) against the drought framework and determine whether it complies with this framework. The business skills program provides a subsidy for professional development relating to risk management, financial and business management, and farm business planning and drought preparedness.[180] It commenced in November 2015.

The sections below summarise our findings, then give an overview of the business skills program and our findings on the program's compliance with each stage of the drought framework.

6.1 Overview of findings

We found that the business skills program **complies** on balance with the drought framework, as summarised in Table 6.1 below.

There are two aspects to the business skills program: professional development **courses,** and **tailored enterprise** professional development.

In our Draft Report, we found that the enterprise professional development activities overlapped with the activities under the Commonwealth Managing Farm Risk Program. Both programs provide a 50% rebate to offset the costs of preparing financial and production data that can be used for obtaining insurance.

As a result, we found that the business skills program does not meet the complementarity test. We recommended that the tailored enterprise development component of the business skills program be excised to remove the overlap between the programs. We considered that this would allow it to comply with the framework.

[180] Department of Primary Industries Rural Assistance Authority, *Farm Business Skills Professional Development Program Guidelines*, November 2015, at http://www.raa.nsw.gov.au/__data/assets/pdf_file/0005/583214/professional-development-program-guidelines.pdf; Department of Primary Industries Rural Assistance Authority, *Farm Business Skills Professional Development Program,* at http://www.raa.nsw.gov.au/assistance/professional-development-program, accessed 11 July 2015.

In response to our draft findings, stakeholders submitted that the activities under the business skills program are **broader** than those allowed under the Commonwealth program, which are specific to managing risks through the use of insurance products.

We have conducted further consultation, and we agree with stakeholders that the overlap is only partial because the business skills program includes consideration of a wider range of farm management and drought preparedness strategies. We consider it would be administratively difficult to excise this partial overlap, and it would be counter to the objective of the business skills program which is to take a comprehensive view of farm management.

Therefore on balance, we have found that the business skills program complies with the drought framework, noting the small ongoing overlap between these programs.

Based on the estimated benefit-cost ratio of the measure, we have ranked the program second of the five measures that we have been asked to assess.

IPART finding

6 On balance, the NSW Farm Business Skills Professional Development Program complies with the drought framework, noting a small ongoing overlap between it and the Commonwealth Managing Farm Risk Program.

Table 6.1 Summary of business skills program against the drought framework[a]

Complies with drought framework?	**On balance, yes**
Stage 1	**Yes**
Meets an IGA objective	Yes
Market failure OR addresses government policy objective	Government policy objective
Effective	Could achieve its objective, however likely to be low uptake
Equitable	Yes
Effectively administered	Yes
Stage 2	**On balance, yes**
Complementary	Yes, noting small persisting overlap between this program and the managing farm skills program.
Stage 3	**Yes**
Benefits can be estimated	Proxy can be used
Cost-benefit analysis	
Benefit-cost ratio	1.9:1
Benefits ($m)	17.0
Costs ($m)[b]	9.2
Rank	2

a Net present value of benefits and costs in 2014-15 terms over 20 years, 2016-2017 to 2035-36 using a real discount rate of 7%.

b Total expenditure by government multiplied by a marginal excess burden of 0.08.

Source: CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 10.

6.2 Overview of the program

The farm business skills program provides a rebate for up to 50% of the costs of an approved course or activity relating to following priority areas:

- management of risk
- financial and business management
- farm business planning and/or drought preparedness.

There is a $5,000 limit per farmer and a $9,000 limit per farm business.[181]

A rebate is available for a wide range of education activities that further these priority areas, including training programs and enterprise specific professional development. We note that rather than provide a rebate for professional services, the intention of the program is to provide an interactive arrangement where the farmer is contributing and learning through the process.[182]

[181] Farm Business Skills Professional Development Program Guidelines, November 2015, p 2, at http://www.raa.nsw.gov.au/__data/assets/pdf_file/0005/583214/professional-development-program-guidelines.pdf.

[182] Email to IPART, Rural Assistance Authority, 22 September 2016.

6.2.1 Is the program well-designed?

Our finding is that the business skills program is likely to be effective in helping some farmers improve their planning and assess their options for managing drought, and is therefore likely to be well-designed.

However, we note that it is unlikely to materially increase the uptake of multi-peril crop insurance. This is because the only direct costs of insurance that can be offset are the costs of preparing an application. As noted by Henry Davis York, the cost of preparing for an insurance application is low compared to the cost of the policy.[183] Therefore, it is unlikely that the reduction in the costs of preparing an insurance application would lead to a material increase the uptake of policies.

In addition, the Rural Assistance Authority has advised us that the rebate cannot be used to offset the costs of an insurer auditing the information in an application for insurance.[184] This type of audit is currently required by at least some insurance providers.[185]

While the business skills program will not materially reduce the costs of multi-peril crop insurance, it might raise awareness and improve farmers' understanding of insurance products.

6.2.2 Is there a market failure?

We do not consider that there is likely to be a market failure in relation to opportunities for farmers to improve their business skills, either through a training program or through professional advice on matters relating to the three priority areas of the program. There are a range of business skills activities that are provided by research and development corporations, and farm business groups that do not necessarily incur a fee for service. These business skills resources, such as the Grains Research & Development Corporation Farming, the Business Manual, Farm Business Gross Margin Guide, Farm Decision Making, as well as Agricultural Training Awards all target similar outcomes to the business skills program.[186]

6.2.3 Can the measure achieve other specific drought related objectives?

Consultation with stakeholders has suggested that there might be some reluctance from farmers attending training programs, and as a result, there is a section of the farming community that still suffers from poor business management skills. In November 2014, the NSW Farm Institute estimated that

183 Henry Davis York submission to Draft Report, 15 August 2016, p 4.
184 Email to IPART, Rural Assistance Authority, 30 May 2016.
185 Consultation with Latevo, 21 April 2016.
186 CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 63.

there might be 30% of farms (around 10,000 to 12,000 businesses in NSW) that are vulnerable or at risk of financial stress.[187]

Therefore, there is still a need to improve the business management skills of farmers to help them plan for and manage during future droughts, through both training courses and tailored enterprise professional development. This is a specific policy objective consistent with objectives of the IGA to assist farmers in overcoming impediments to adopting risk management strategies, and improve good business decision making.

The Country Women's Association submitted that it is important to understand the degree to which this program has been utilised by farmers when assessing this measure.[188]

We found that six months into the program, there had been fewer than 60 applications for the rebate. More recently, the number of applications has increased, with 307 applications for a rebate made since the commencement of the program.[189]

While $45 million of funding has been allocated to the farm business skills program over five years, CIE notes that it is unlikely that all the funds allocated will be spent by the NSW Government.[190] CIE notes that from November 2015 to June 2016, approximately $53,000 has been disbursed to 54 applicants following completion of training activities, at an average cost approximately of $1,960 per training activity.[191]

6.3 Is the program complementary?

On balance, we found that the business skills program **complies** with the complementarity stage of the drought framework.

In our Draft Report, we found that the enterprise professional development component of the business skills program overlapped with the activities under the Commonwealth Managing Farm Risk Program.

Both programs provide a 50% rebate to offset the costs of preparing financial and production data that can be used for obtaining insurance. The only difference is that the Commonwealth rebate is capped at $2,500, instead of $5,000. However, for programs that cost up to $5,000 the rebate back to farmers would be the same under both programs.

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187 Australian Farm Institute, *Review of NSW Response to Drought Policy Reforms,* November 2014, p 46, at http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0008/542438/review-nsw-response-to-drought-policy-reforms.pdf.

188 Country Women's Association submission to Information Paper, 28 April 2016, p 2.

189 Email to IPART, Rural Assistance Authority, 22 September 2016.

190 CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report,* October 2016, p 64.

191 *Ibid*, p 62.

As a result, we found that the enterprise professional development component of the business skills program did not meet the complementarity test, and we recommended that it be removed.

In response to our draft findings, NSW Farmers submitted that the activities under the business skills program are **broader** than allowed under the Commonwealth program, which are specific to managing risks through the use of insurance products.[192] The Rural Assistance Authority confirms that the rebate has been used for activities including drought risk management and succession planning.[193] It states that there is no evidence that training activities were undertaken to satisfy insurance requirements.[194] NSW Farmers submitted that there were no complementarity issues for these types of activities under the enterprise professional development component of the program.[195]

We agree that the overlap is only partial because the business skills program includes a wider range of farm management and drought preparedness strategies (see Table 6.2).

Table 6.2 Comparison of the NSW farm business skills program and the Commonwealth Managing Farm Risk Program

Business skills program	Managing Farm Risk program	Overlap?
Identification of the internal and external risks that impact on the business		No
	Undertaking an assessment required by an insurance provider	No
Compilation of historical farm financial performance and production data	Compiling historical farm financial performance and production data	Yes
Strategies, measures and outcomes for achieving business growth through marketing, financial, human resources and succession planning.	Analysing insurance options based on a long-term, whole-of-farm risk assessment.	Partial

Source: Rural Assistance Authority, Farm Business Skills Professional Development Program, at http://www.raa.nsw.gov.au/assistance/professional-development-program, accessed 10 October 2016; Australian Government Department of Agriculture and Resources, *Managing Farm Risk Programme*, at http://www.agriculture.gov.au/ag-farm-food/drought/assistance/mfrp, May 2016, accessed 10 October 2016.

We considered the option to remove the rebate for tailored enterprise professional development that relates to *insurance*. While this option would remove the overlap, it would be difficult to administer. It would also be counter to the objective of the business skills program which is to take a comprehensive view of farm management. Therefore on balance, we consider the business skills program complies with the drought framework, noting the small overlap between these programs.

192 NSW Farmers submission to Draft report, 15 August 2016, p 11.
193 Pers comm, John Newcombe, Rural Assistance Authority, 21 September 2016.
194 Email to IPART, Rural Assistance Authority, 22 September 2016.
195 NSW Farmers submission to Draft Report, 15 August 2016, pp 10-11.

6.4 Can the benefits be estimated?

We found that a proxy can be used to estimate the benefit of the business skills program, and the measure is likely to result in a net benefit.

As noted previously, we estimate that the costs of the program are likely to be low. While $45 million of funding has been allocated over five years, CIE estimated that only around $5 million of the budget will be spent.[196] This is based on:

- 4,000 applicants for the duration of the program (from a total of 8,000[197] farms), comprising 54 applicants in 2015-16, and around 1000 applicants in the remaining four years.
- The average price of a program of $2,500.
- A 50% rebate being distributed to participants.[198]

Cotton Australia points out that it is too early to assess the take up of this rebate because the program commenced as recently as November 2015.[199] However, we consider that CIE's uptake assumption of 1,000 applicants per year to be reasonable.[200]

CIE was not able to measure the benefits of the business skills program directly, because the program has not been operating for a sufficient duration to determine:

- the number of participants that implement practice change, and
- the additional value of that practice change to that business.

It recommended that as the program progresses, participants should be interviewed to estimate the benefits of the program.[201]

However, CIE considers that the program is likely to deliver a benefit-cost ratio of 1.9:1[202], based on benefit-cost ratios for other education programs. These include:

- The Evergraze program, which was designed to improve grazing practices, strategies and performance generally and in response to periods of climate variability. This was estimated to have a headline benefit-cost ratio of 5.4:1.

196 CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 64.
197 *Ibid*, p 63.
198 *Ibid*, pp 63-64.
199 Cotton Australia submission to Draft Report, p 2.
200 We found that six months into the program, there have been fewer than 60 applications for the rebate. More recently, the number of applications has increased, with 307 applications made for a rebate since the commencement of the program.
201 CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 64.
202 *Ibid*, p 10.

- The Grain and Graze program, which was designed to assist mixed farming businesses across Australia by helping farmers to understand complex systems, adapt to market risks and seasonal changes, and to make informed decisions to optimise grain yield and livestock productivity while protecting the environment. This program had an estimated benefit-cost ratio of 1.48:1. However, a tightly restricted extension program focusing on producers with the highest benefit could increase the payoff to 6:1 (assuming a 5% discount rate).[203]

CIE considers that the lower end of the range of benefit-cost ratios for comparable programs is likely to be suitable, due to scale of the farm business skills program, and the similarity of programs already in place. Therefore, it estimated a benefit-cost ratio of 1.9:1 after accounting for the cost of raising taxes (using a marginal excess burden of taxation of 0.08 and a 7% discount rate).[204]

[203] *Ibid*, p 64.

[204] CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 10.

7 Additional weather stations

We were asked to assess the provision of additional weather stations against the drought framework and determine whether this measure complies with the framework. An allocation of $2.5 million was made through the Drought Strategy to work with the Bureau of Meteorology to improve the NSW weather station network. To date, the NSW Government has committed $1.6 million to installing and maintaining 28 additional weather stations (20 tipping buckets and eight automatic weather stations). All stations are anticipated to be operating by June 2017. The locations of these additional weather stations were chosen based on their ability to address geographical gaps in the weather station network. The remaining $900,000 is still to be allocated.[205]

The Bureau of Meteorology has advised that across Australia, most weather information has a 5-kilometre resolution and the proposed project would improve that resolution to a scale which is getting much closer to the size of individual farms.[206]

The sections below summarise our findings, then discuss our findings on this measure's compliance with each stage of the drought framework.

7.1 Overview of findings

We found that installing additional weather stations **complies** with the drought framework, as summarised in Table 7.1 below. While this measure **would not** materially increase the uptake of multi-peril crop insurance,[207] the improved weather information might be used for a range of purposes, including improving farming practices. We consider that the additional weather stations are complementary with all other measures. We found that this measure would not reduce the effectiveness of any other measure, and no overlaps were identified.

[205] Email to IPART, Rural Assistance Authority, 7 June 2016. See Appendix B for further details.

[206] Bureau of Meteorology, *Transcript for Public Hearing on Review of Multi-peril crop insurance incentive measures, 2 August 2016,* p 26, at lines 14 -28.

[207] CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 65.

Relative to the other measures we assessed, we found this measure is likely to produce the largest benefits for each dollar spent. Therefore we have ranked the program first of the five measures that we have been asked to assess. These findings are the same as the findings in our Draft Report.

The measure is expected to cost $2.5 million. We consider that this represents a relatively low cost (and therefore low risk) investment for the NSW Government.

IPART finding

7 The provision of additional weather stations complies with the drought framework.

Table 7.1 Summary of the provision of additional weather stations against the drought framework[a]

Complies with drought framework?	**Yes**
Stage 1	**Yes**
Meets an IGA objective	Yes
Market failure OR addresses government policy objective	Market failure
Effective	Yes
Equitable	N/A
Effectively administered	Yes
Stage 2	**Yes**
Complementary	Yes
Stage 3	**Yes**
Benefits can be estimated	Proxy can be used
Cost-benefit analysis	
Benefit-cost ratio	2.3:1
Benefits ($m)	6.3
Costs ($m)[b]	2.7
Rank	1

a Net present of benefits and cost in 2014-15 terms over 20 years, 2016-17 to 2035-36 using a real discount rate of 7%.

b Total expenditure by government multiplied by a marginal excess burden of 0.08.

Source: CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 72.

7.2 Is the program well-designed?

We found that improved weather information is likely to encourage self-reliance, drought preparedness and mutual responsibility. This is because it can be used for a range of purposes, including improving farming practices.

Stakeholders generally supported further investment in weather infrastructure and acknowledged that this measure is expected to deliver wider benefits.[208]

[208] For example, Cotton Australia submission to Draft Report, p 2; CelsiusPro submission to Draft Report, p 5.

However, this measure is unlikely to increase the uptake of multi-peril crop insurance. Although CIE estimated that this measure would deliver $2.30 in benefits for every $1 spent, benefits relating to multi-peril crop insurance were negligible.[209]

Innovative Risk Transfer considers that the measure will be beneficial because impartial sources of information are important for accurate underwriting.[210] However, CelsiusPro submitted that while additional weather stations would enhance the data, issues with insufficient weather data have largely been resolved with the advent of gridded/interpolated data.[211]

We agree that while improved weather information might marginally improve insurers' actuarial models, it would not materially reduce the costs of insurance premiums because the existing weather information is sufficiently robust.[212]

7.2.1 Does the current low uptake of multi-peril crop insurance reflect a market failure?

Where the costs of research outweigh the benefits that an individual or business might receive, research might not be undertaken, even though the total benefits to themselves and others would exceed these costs. Thus, the socially optimal level of research does not occur. This would constitute a market failure.

Latevo currently requires its policy holders to install automatic rain gauges on their properties (at around $600 per rain gauge) where they are more than around 5 km from a Bureau of Meteorology weather station.[213] This suggests that the costs of collecting the information do not outweigh the private benefits. Therefore, there is unlikely to be a market failure in relation to the collection of sufficient weather information for the insurance industry.

However, we consider that government funding of weather stations is likely to be justified because of the spill-overs or external benefits generated from improved weather information being publicly available. For example, improving localised weather forecasts for farmers can assist on a year-to-year basis the prediction of rainfall, crop yields and therefore the need for insurance at the farm level. It can also help farmers to optimise their fertiliser application. For wheat enterprises in Western Australia, this benefit was estimated at between $418 million and $780 million per year.[214]

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209 CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, pp 66-67.

210 Innovative Risk Transfer submission to Draft Report, 15 August 2016, p 3.

211 CelsiusPro submission to Information Paper, 2 May 2016, pp 3-4.

212 Allianz noted that better data would only reduce prices where the current data is very poor, Consultation with Allianz, 2 May 2016.

213 Consultation with Latevo, 27 May 2016.

214 CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 66.

7.2.2 Is the measure cost effective and efficient?

The Country Women's Association noted that consideration should be given to how the extra data is used to model weather forecasts, if there are further resources required in the modelling area to ensure the data is meaningful to end users.[215]

Latevo and NSW Farmers suggested that technological improvements could enhance weather information more efficiently than additional weather stations. In particular, they considered that support could be provided for an open data platform that would combine Bureau of Meteorology data and farmers' weather data, in a way that took into account the degree of reliability of the data points.[216]

We note that the NSW Government has considered ways to improve weather data interpolation technology. At our public hearing, options were discussed to improve the resolution of weather data. The Bureau of Meteorology is investigating technologies including improving interpolation techniques and adding to the network of weather stations which have the potential of increasing the resolution down to 2.5 kilometres, a similar size of a small farm.[217] However, we note that funding for this purpose would provide benefits to all states, and therefore would overlap with the Commonwealth funding and responsibilities.[218]

7.3 Can the benefits be estimated?

CIE estimated that installing additional weather stations would deliver a net benefit with a benefit-cost ratio of 2.3:1.[219] As CIE was not able to directly measure the benefits of the additional weather stations, it considered the impact of the Managing Climate Variability Program, funded by the Grains Research & Development Corporation, and the Sugar Research Development Corporation. This measure increased accessibility to forecasting through enhancing predictive modelling. A 2013 economic evaluation estimated a benefit cost ratio of 6.15:1 for this program.[220]

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215 Country Women's Association submission to Information Paper, 28 April 2016, p 2.

216 Latevo submission to Information Paper, 29 April 2016, p 4; Consultation with NSW Farmers, 6 May 2016.

217 Bureau of Meteorology, *Transcript for Public Hearing on Review of Multi-peril crop insurance incentive measures, 2 August 2016*, p 26, at lines 24-35.

218 Email to IPART, Rural Assistance Authority on 7 June 2016.

219 CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 10.

220 *Ibid*, p 67.

CIE noted that the NSW weather stations increase data granularity, and not predictive power of forecasting models. However, this economic appraisal for the Managing Climate Variability Program provides a clear indication that improved weather forecasts, supported by increased data and information on rainfall patterns across Australia, do hold value for the NSW cropping sector.[221]

CIE estimated that additional weather stations are likely to produce a lower payoff than for previous investments in improving weather information, and therefore this measure would have benefit cost ratio of 2.3:1.[222]

[221] CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, pp 67-68.

[222] Assuming a marginal excess burden of taxation of 0.08. *Ibid*, p 68.

8 Sharing Rural Assistance Authority information with insurers

We have been asked to assess a measure that would allow insurers access to the Rural Assistance Authority's information. The Rural Assistance Authority administers Commonwealth and state funded rural assistance measures. It holds data from applications for these support measures. Specifically, it holds:

- exceptional circumstances data, and
- farm level financial information for the farms that have sought government assistance in the past.[223]

The sections below summarise our findings for this measure.

8.1 Overview of findings

We found that the sharing of the Rural Assistance Authority's information with insurers would **not comply** with the drought framework, as summarised in Table 8.1 below.

Of all the measures we have assessed, we ranked this measure last. This is because the information held by the Rural Assistance Authority is not sought by insurers, and is unlikely to achieve the objective of increasing the uptake of multi-peril crop insurance. It would not materially increase the uptake of multi-peril crop insurance because it is unlikely to be useful to improve insurers' actuarial models to reduce the cost of premiums for farmers.

Because we do not consider that this measure would be effective in achieving this objective, it is unlikely to overlap with other measures.

These findings are the same as the findings in our Draft Report.

IPART finding

8 Sharing information with insurers does not comply with the drought framework because it would not be effective in achieving its objectives.

[223] Pers comm, John Newcombe, Rural Assistance Authority, 1 April 2016.

Table 8.1 Summary of the measure to share the Rural Assistance Authority's information with insurers against the drought framework

Complies with drought framework?	**No** Not effective, benefits cannot be estimated
Stage 1	No
Meets an IGA objective	Yes
Market failure OR addresses government policy objective	Government policy objective
Effective	No
Equitable	N/A
Effectively administered	No
Stage 2	On balance, yes
Complementary	The upfront subsidy, the stamp duty waiver, and information sharing have an overlapping purpose to reduce the cost of multi-peril crop insurance. However, the stamp duty waiver and information sharing are unlikely to be effective at meeting this objective, therefore there is no practical overlap.
Stage 3	No
Benefits can be estimated	No
Cost-benefit analysis	
Benefit-cost ratio	N/A
Benefits	N/A
Costs	N/A
Rank	5

Source: CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 10.

8.2 Is the measure well-designed?

We found that this measure does not comply with Stage 1 of the drought framework as it is unlikely to encourage self-reliance, drought preparedness and mutual responsibility. This is because there was no evidence that this measure would materially improve insurers' actuarial models, and therefore encourage the uptake of multi-peril crop insurance.[224]

[224] IPART, *Review of multi-peril crop insurance incentive measures – Draft Report*, July 2016, p 77.

8.2.1 The measure will not be effective at increasing the uptake of multi-peril crop insurance

While some stakeholders support sharing the Rural Assistance Authority's information, we do not consider that this information would improve actuarial models in its current form, because:

- the information only relates to a small subset of unrepresentative farmers
- the financial data held would need to be combined with financial data in order to be meaningful.

Some stakeholders supported sharing the Rural Assistance Authority's information with insurers as it could be another source of data to improve actuarial models. For example, Allianz considered that the data could improve insurers' information about weather related risks.[225] It submitted that premium rate calculation methodologies usually require large amounts of different information including farm and local government area level yield production data, annual loss data structured by types of perils, area planted and harvested per crop type, weather data and crop marketing information. Allianz also noted that there is no one source that could provide the comprehensive data sets for actuarial analysis.[226] We note that the Grain Producers Taskforce presented the view that data held by government could improve the actuarial models by improving the accuracy of calculations of the gross performance distribution of farmers.[227]

CelsiusPro prefers that the Rural Assistance Authority's data not be shared as it could expose farm practices that lead to insurers adding further risk premiums.[228]

Other stakeholders indicated that they do not consider that the data held by the Rural Assistance Authority would make a material difference to the policies and premiums offered. This is because the information relates to a very small and unrepresentative sample.[229] We agree that by its nature, the Rural Assistance Authority information relates to farmers requiring assistance so any information for these farms does not represent general farm performance in NSW.

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225 Allianz submission to Information Paper, 29 April 2016, p 3.

226 *Ibid*, p 10.

227 Agricultural Competitiveness White Paper: Submission in response to the Green Paper – Multi-Peril Crop Insurance, 22 December 2014, p 8, at http://agwhitepaper.agriculture.gov.au/GP%20Submissions%20for%20publication/GP319%20Grain%20Producers%20Australia%20-%20Multi-Peril%20Taskforce.pdf.

228 CelsiusPro submission to Information Paper, 28 April 2016, p 4.

229 Consultation with Latevo, 21 April, 2016; Consultation with MPCI Australia, 4 May 2016; Country Women's Association submission to Information Paper, 28 April 2016, p 2.

In addition, some stakeholders submitted that for the financial data to be meaningful it would need to be combined with the production data, which the Rural Assistance Authority does not hold.[230]

8.2.2 The measure will not address a market failure

If the data held by the Rural Assistance Authority could overcome information asymmetry and reduce problems with adverse selection and moral hazard, it could address a market failure. However, most of the insurers overcome information asymmetry with a requirement that applicants submit their detailed financial and production records. This allows industry and insurers to maintain their own datasets based on their clients. Insurers also hold district level information which includes a historical time series of premiums paid and losses.[231]

8.3 Can the benefits be estimated?

CIE was unable to estimate the costs or benefits of this measure. However, it considers that there are likely to be net benefits of making the Rural Assistance Authority's data publicly available to complement the existing data sets of insurers and government departments.[232]

8.4 Are there other benefits to publishing the data held by the Rural Assistance Authority?

The Grain Producers Taskforce has stated that there is an ongoing role for government in improving access to data held by government agencies to improve actuarial models.[233]

We agree that it would be good practice for the Rural Assistance Authority to consolidate and publish aggregated data. This information could help government improve its targeting of drought assistance and better understand the profiles of business and regions that are at risk.

However, currently, the data is not held centrally and cannot be readily accessed and aggregated. To consolidate and aggregate data retrospectively would be expensive.[234]

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230 Consultation with Latevo, 21 April, 2016; consultation with MPCI Australia, 4 May 2016.

231 CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – final report*, October 2016, p 69.

232 *Ibid*.

233 Agricultural Competitiveness White Paper: Submission in response to the Green Paper – Multi-Peril Crop Insurance, 22 December 2014, p 8, at http://agwhitepaper.agriculture.gov.au/GP%20Submissions%20for%20publication/GP319%20Grain%20Producers%20Australia%20-%20Multi-Peril%20Taskforce.pdf.

234 Discussions with Rural Assistance Authority.

We recommend that the Rural Assistance Authority prospectively improves its data collection, and allow stakeholders to access the data.

The Country Women's Association and CelsiusPro noted that sharing the Rural Assistance Authority's data might raise privacy issues.[235] We consider that aggregating data (for example, by district or by farm characteristics), protects the privacy of individuals seeking drought assistance.

IPART recommends that

5 The Rural Assistance Authority prospectively improves its data collection, and allow stakeholders to access the aggregated data.

[235] Country Women's Association submission to Information Paper, 28 April 2016, p 2; CelsiusPro submission to Information Paper, 28 April 2016, p 4.

Appendices

A Terms of Reference

Premier of New South Wales
Minister for Western Sydney

NSW GOVERNMENT

RECEIVED
30 MAR 2016

Reference: 2016-A1552373

Dr Peter Boxall
Chairman
Independent Pricing and Regulatory Tribunal
PO Box K35
HAYMARKET POST SHOP NSW 1240

22 MAR 2016

Dear Dr Boxall

Pursuant to section 9 of the *Independent Pricing and Regulatory Tribunal Act 1992*, I am now referring the following matter to the Tribunal for investigation and report: Evaluation of Suggested Multi-peril Crop Insurance Incentive Measures. The terms of reference are enclosed.

The Tribunal is requested to submit a formal report to the Minister for Primary Industries and me no later than seven months from the date of this letter.

If your officers wish to discuss this matter, please contact Laura Eadie, Director, Resources and Land Use Branch, Economic Policy Group, Department of Premier and Cabinet on 9228 5546.

Yours sincerely

MIKE BAIRD MP
Premier

GPO Box 5341, Sydney NSW 2001 ■ P: (02) 8574 5000 ■ F: (02) 9339 5500 ■ www.premier.nsw.gov.au

Evaluation of Suggested Multi-Peril Crop Insurance Incentive Measures

Terms of Reference

I Michael Bruce Baird, Premier of New South Wales, pursuant to Section 9(1)(b) of the *Independent Pricing and Regulatory Tribunal Act 1992*, request the Independent Pricing and Regulatory Tribunal (IPART) to:

Review a series of existing and proposed drought assistance measures that have been identified as options to increase uptake of Multi-Peril Crop Insurance against IPART's drought evaluation framework and consider the implications for the current combination of measures in the Government's drought strategy.

1. Context

The NSW Government is interested in the potential for Multi-Peril Crop Insurance (MPCI) to reduce farmer reliance on government assistance while increasing drought preparedness and resilience. The NSW Government has made a commitment to support the development of the commercial multi-peril crop insurance market.

On 2 November 2015 the Minister for Primary Industries co-hosted a Multi-Peril Insurance Summit in Sydney, attended by farmers and representatives from banks, insurance and reinsurance companies, the Australian Government and farming organisations from Australia and internationally.

The Summit identified a number of impediments to the development of the multi-peril insurance market. The three key issues affecting multi-peril insurance provision and uptake are:

- gathering and obtaining data to understand the risks and how farmers behave
- the cost of insurance
- education and understanding of the benefits of multi-peril insurance.

A number of possible options for Government action to address these impediments have been identified.

2. The Task

IPART is to assess the current and proposed measures listed in Attachment A (NSW-led measures) against the Drought Evaluation Framework.

IPART is to report on whether each of the proposed measures meets the Evaluation Framework criteria.

For proposals that do not meet the criteria in the Evaluation Framework, IPART should advise if the proposals could be re-designed to meet the criteria.

Evaluation of Suggested Multi-Peril Crop Insurance Incentive Measures

For proposals that meet all criteria except the complementarity test, IPART should identify the programs that it duplicates or conflicts with.

3. Relevant reviews and documentation

The NSW Department of Primary Industries will assist IPART with the provision of information and data on the programs to be reviewed.

4. Process and timing

The review should involve targeted consultation with key stakeholders and potential data source entities.

A draft report should be provided by no later than 4 months after the Terms of Reference are signed and a final report provided to the Premier and the Minister for Primary Industries by no later than 7 months after the Terms of Reference have been signed.

2

Evaluation of Suggested Multi-Peril Crop Insurance Incentive Measures

Attachment A

NSW-led measures		Status
Farm Business Skills Professional Development Program	The Farm Business Skills Professional Development Program provides financial assistance for farm business planning and the upfront cost of the business assessments required to support an application for multi-peril insurance The program also has the capacity to generate farm business information that could be used by a farmer to assist in accessing MPI.	This is an existing program with funding of $45 million over 5 years
Improved information for insurers and farmers	This measure includes the development of two key information sources to improve the publicly available information for farmers and insurers: 1) The NSW Government is working with the Bureau of Meteorology to develop an enhanced network of weather stations across NSW. In the first instance 20 stand-alone tipping bucket rain gauges and 8 automatic weather stations will be installed. This information will be used to enhance the regular Seasonal Conditions Reports. 2) NSW Rural Assistance Authority data will be assessed as a potential source of agricultural production information for the insurance industry	Element 1 is an existing program with funding of $2.5 million Element 2 is underway and not expected to impose additional costs
Stamp duty waiver for MPCI premiums	This measure would involve the Government waiving stamp duty on MPCI premiums for five years (see Attachment C)	This is a new measure. It is estimated that the average waiver would be valued at $105 per premium
Reduced upfront cost of MPCI premiums	This measure would involve the Government subsidising the upfront cost of the yearly premium. Farmers may be required to repay some or all of this through instalments.	This is a new measure, to be designed by IPART in consultation with DPI. It may impose additional costs.

Evaluation of Suggested Multi-Peril Crop Insurance Incentive Measures

Attachment C

Background on the Stamp Duty Waiver

The cost of insurance is a major factor influencing farmer uptake, as was explained at the Summit by some participants.

Last year, according to the multi-peril insurance company Latevo, there were 66 multi-peril policies written across Australia, with 27 of those located in NSW.

Table 1 Latevo Multi-Peril Insurance Policy Details

State	Growers	HA	Value insured
NSW	27	60,539	$1,268,727
QLD	6	13,647	$355,706
SA	10	17,916	$331,187
VIC	17	34,827	$718,310
WA	5	21,329	$431,525
Total	66	148,258	$3,105,456

There are several other companies that have entered the Australian Multi-Peril market, however, multi-peril insurance is currently used by a very small number of the 25,350 grain farms in NSW (ABARES 2015).

Stamp Duty

The Office of State Revenue classifies crop and livestock insurance as class C which attracts a stamp duty of 2.5 per cent of the premium.

Using data supplied by Latevo, the average policy would be $4,229 and average area covered 2,242 HA. The average saving from a potential stamp duty waiver would be $105 per policy.

Table 2 indicates the estimated annual value of the Multi-Peril Insurance industry if the entire NSW broadacre crop was covered and the expected annual cost of the stamp duty tax forgone assuming that:

- only 65% of the estimated crop value is eligible for insurance; and
- insurance premiums are 9% of the insured value.

Table 2: Estimated stamp duty waiver costs if 100% of farmers take up MPI.

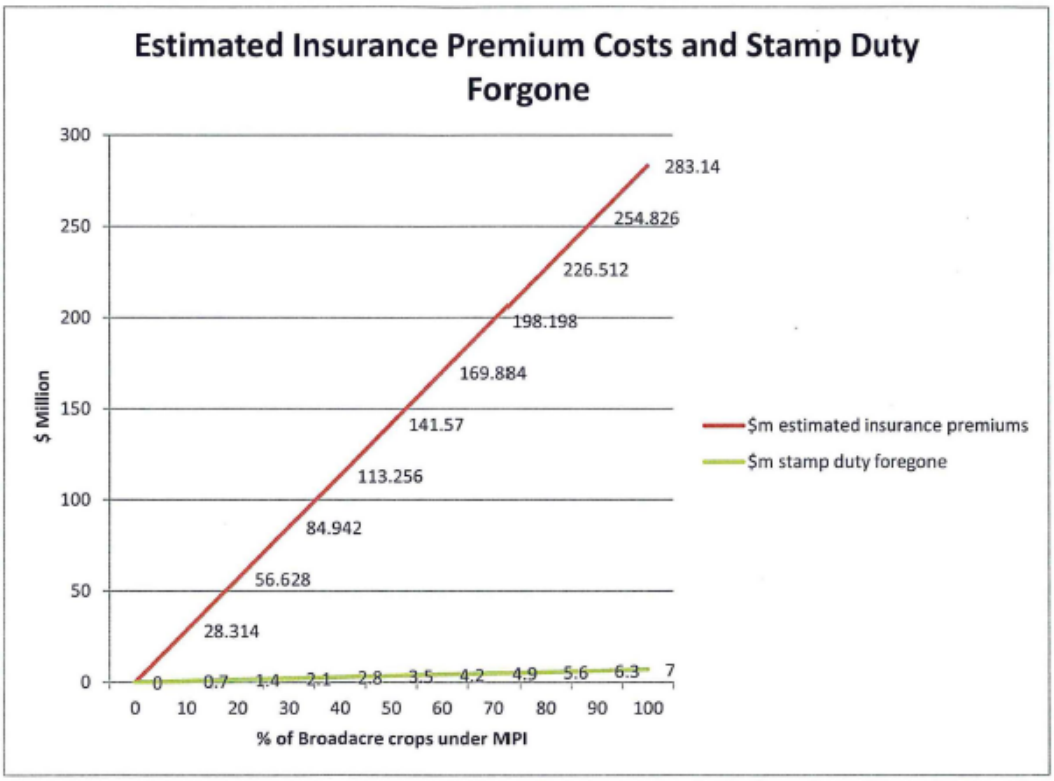
Parameter	Estimated value
NSW value of broadacre crops	$4.84 billion
Max Crop value insured	$3.15 billion
Estimated insurance premiums	$283.16 million
Stamp duty forgone	$7 million

4

Evaluation of Suggested Multi-Peril Crop Insurance Incentive Measures

Table 3: Estimated stamp duty waiver costs if 20% of farmers take up MPI

Parameter	Estimated value
20% of value of broadacre crops	$968 million
Max Crop value insured	$629 million
Estimated insurance premiums	$56.63 million
Stamp duty forgone	$1.41 million



5

B NSW Drought Strategy

The Intergovernmental Agreement on National Drought Program Reform (the IGA), and it came into effect in July 2014. The IGA sets out the programs to be implemented and the level of government responsible for their administration, as shown in Table B.1.

Table B.1 Programs to be implemented under the IGA

Program	Responsibility
Farm household support payment	Commonwealth
Continued access to Farm Management Deposits (FMD) and taxation measures	Commonwealth
National approach to farm business training	State
Coordinated, collaborative approach to the provision of social support services	Joint State and Commonwealth
Tools and technologies to inform farmer decision-making	Joint State and Commonwealth

Source: *Intergovernmental Agreement on National Drought Program Reform 2013*, p 3.

In response to the IGA, the NSW Government announced a 5-year drought strategy in February 2015. The NSW Drought Strategy delivers a range of new measures to help farmers prepare for drought, and primary producers and regional communities build resilience. Around 80% of the funding is for the Farm Innovation Fund, which delivers low interest loans for farm infrastructure improvements, such as silos, dams and irrigation systems.[236]

Most of the remaining funding has been allocated to farmer education rebates, with a small amount of funding for improved weather information, counselling services for farmers, and animal welfare.

As part of this strategy, IPART was asked to develop a Drought Program Evaluation Framework (the drought framework)[237] and to assess existing and proposed drought assistance programs against this framework. The purpose of the drought framework is to enable the NSW Government to identify the set of measures that delivers the greatest net benefit for the available funding, accords with the IGA and complements the objectives of other drought programs.

[236] ACIL Allen Consulting, *Farm Innovation Fund Review – Final Report*, April 2016, p 5.

[237] NSW Drought Program Evaluation Framework - Terms of Reference, 2 October 2015, at http://www.ipart.nsw.gov.au/Home/Industries/Other/Reviews/Drought_Framework/Drought_Program_Evaluation_Framework/16_Oct_2015_-_Terms_of_Reference/Terms_of_Reference_-_NSW_Drought_Program_Evaluation_Framework_-_October_2015.

Table B.2 shows the measures announced as part of the NSW Drought Strategy and the arrangements for their review against the drought framework, and Table B.3 provides an overview of current Commonwealth drought measures. The Rural Assistance Authority recently assessed the $250 million Farm Innovation Fund against the drought framework. IPART is now assessing several of the other measures as part of this review.

Table B.2 Overview of NSW funded measures in the NSW Drought Strategy and review status

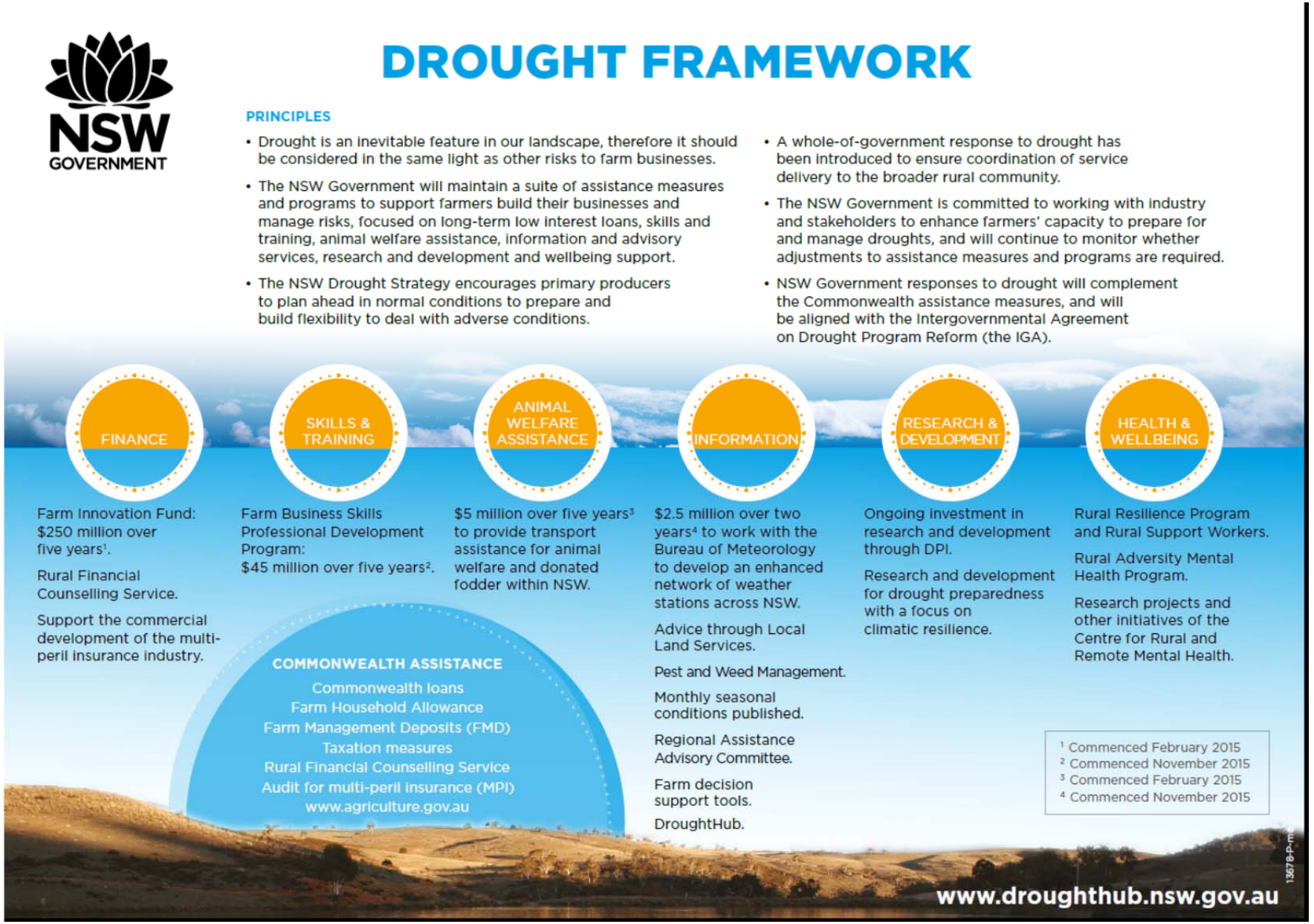
Measure	Funding over five years	Review
Low interest loans to improve permanent farm infrastructure *Farm Innovation Fund*	$250m total, up to $250,000 per farm	Rural Assistance Authority assessed against the drought framework in early 2016
Vocational training and farm business planning – *Farm Business Skills Professional Development Program* (commenced 2015)	$45m total, 50% rebate, up to $5,000 per farmer, and $9,000 per farm	IPART assessing as part of this review
28 new weather stations (commenced 2016)	$1.6m and $900,000 unallocated	IPART assessing as part of this review
Transport assistance for animal welfare and donated fodder within NSW	$5m	Not yet reviewed
Encouraging the development of a commercial multi-peril insurance sector for our cropping sector with the Commonwealth and farming community	Unspecified	IPART considering as part of this review
Ongoing investment in research and development programs – eg, investigating drought resistant crops and water efficiency	Unspecified	Not yet reviewed
Rural Resilience Program, and Rural Support Worker Program reinstated on an as-needed basis	$5m	Not yet reviewed

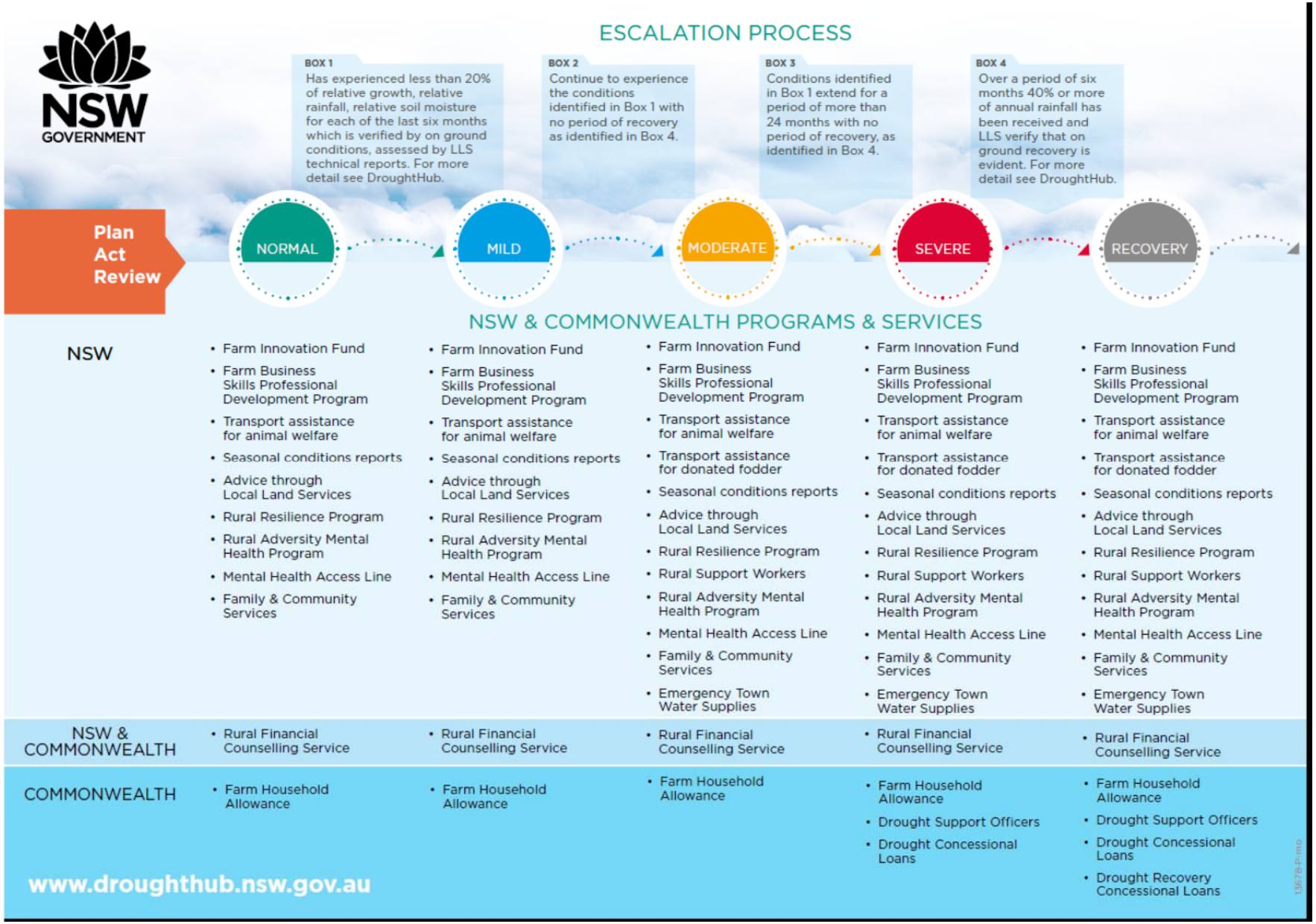
Source: Primary Industries Agriculture, *2015 NSW Drought Strategy*, at http://www.dpi.nsw.gov.au/content/agriculture/emergency/drought/support/nsw-drought-strategy, accessed 11 June 2016.

Table B.3 Overview of Commonwealth funded measures

Measure	Benefit
Farm household allowance, equivalent to the Newstart allowance.	Fortnightly payments up to $468 to $561 per person for up to 3 years.
Farm management deposits to incentivise farmers' savings.	Farmers can deposit between $1,000 and $800,000 and claim a tax deduction.
Tax concessions for primary producers - Immediate and accelerated depreciation.	Farmers can immediately deduct the cost of fencing and water facilities, and depreciate over three years the cost of fodder storage assets.
Drought concessional loans for – Restructuring existing debt – Capital costs to prepare for or recover from drought operating expenses.	Loans of up to 50% of eligible debt up to $1,000,000 for 5 years. Loan is offered at a concessional rate, currently 3.05%.
Drought recovery concessional loans – for the cost of planting and/or restocking activities and associated costs.	Loans of up to $1,000,000 for ten years. Loan is offered at a concessional rate, currently 2.71%.
Managing farm risk program – rebate for administration costs associated with a multi-peril crop insurance application, or financial advice.	$29.9 m total funding - 50% rebate, up to $2,500 per farmer.
Agricultural-related research and development grants.	
Legal framework for farm debt mediation.	Farmers and creditors have a transparent pathway to resolve farm debt disputes.
Existing Bureau of Meteorology weather services.	Insurers and farmers have weather records, reports and forecasts across NSW.
Rural financial counselling service.	Free rural financial counselling for farmers experiencing financial hardship.

Source: Australian Government Department of Agriculture and Resources, *Farm Household Allowance questions and answers,* at http://www.agriculture.gov.au/ag-farm-food/drought/assistance/income-support-for-farmers/farm-household-allowance/farm-household-allowance-questions-and-answers#when-did-the-farm-household-allowance-commence, accessed 11 July 2016; Australian Government Australian Taxation Office, *Accelerated depreciation for primary producers,* at https://www.ato.gov.au/General/New-legislation/In-detail/Direct-taxes/Income-tax-for-businesses/Accelerated-depreciation-for-primary-producers/, June 2015, accessed 11 July 2016; CIE, *Multi-peril crop insurance: cost-benefit analysis of selected support measures – draft report*, July 2016, pp 27-29; Australian Government Department of Agriculture and Resources, *Drought Concessional Loans Scheme,* accessed 11 July 2016, Australian Government Department of Agriculture and Resources, *Drought Concessional Loans Scheme,* at http://www.agriculture.gov.au/ag-farm-food/drought/assistance/concessional-loans, August 2016, accessed 18 July 2016; Rural Assistance Authority, *Choosing the right loan for your needs*, September 2016, at http://www.raa.nsw.gov.au/__data/assets/pdf_file/0020/561413/Loans-at-a-glance.pdf; Australian Government Department of Agriculture and Resources, *Managing Farm Risk Programme*, at http://www.agriculture.gov.au/ag-farm-food/drought/assistance/mfrp, May 2016, accessed 18 July 2016; Rural Assistance Authority, *Farm Debt Mediation*, at http://www.raa.nsw.gov.au/fdm, accessed 18 July 2016; Australian Government Department of Agriculture and Resources, R*ural Financial Counselling Service*, at http://www.agriculture.gov.au/ag-farm-food/drought/assistance/assistancerural-financial-counselling-service, May 2016, accessed 18 July 2016.


NSW GOVERNMENT
DROUGHT FRAMEWORK
PRINCIPLES
• Drought is an inevitable feature in our landscape, therefore it should be considered in the same light as other risks to farm businesses.
• The NSW Government will maintain a suite of assistance measures and programs to support farmers build their businesses and manage risks, focused on long-term low interest loans, skills and training, animal welfare assistance, information and advisory services, research and development and wellbeing support.
• The NSW Drought Strategy encourages primary producers to plan ahead in normal conditions to prepare and build flexibility to deal with adverse conditions.
• A whole-of-government response to drought has been introduced to ensure coordination of service delivery to the broader rural community.
• The NSW Government is committed to working with industry and stakeholders to enhance farmers' capacity to prepare for and manage droughts, and will continue to monitor whether adjustments to assistance measures and programs are required.
• NSW Government responses to drought will complement the Commonwealth assistance measures, and will be aligned with the Intergovernmental Agreement on Drought Program Reform (the IGA).
FINANCE
Farm Innovation Fund: $250 million over five years[1].
Rural Financial Counselling Service.
Support the commercial development of the multi-peril insurance industry.
SKILLS & TRAINING
Farm Business Skills Professional Development Program: $45 million over five years[2].
ANIMAL WELFARE ASSISTANCE
$5 million over five years[3] to provide transport assistance for animal welfare and donated fodder within NSW.
INFORMATION
$2.5 million over two years[4] to work with the Bureau of Meteorology to develop an enhanced network of weather stations across NSW.
Advice through Local Land Services.
Pest and Weed Management.
Monthly seasonal conditions published.
Regional Assistance Advisory Committee.
Farm decision support tools.
DroughtHub.
RESEARCH & DEVELOPMENT
Ongoing investment in research and development through DPI.
Research and development for drought preparedness with a focus on climatic resilience.
HEALTH & WELLBEING
Rural Resilience Program and Rural Support Workers.
Rural Adversity Mental Health Program.
Research projects and other initiatives of the Centre for Rural and Remote Mental Health.
COMMONWEALTH ASSISTANCE
Commonwealth loans
Farm Household Allowance
Farm Management Deposits (FMD)
Taxation measures
Rural Financial Counselling Service
Audit for multi-peril insurance (MPI)
www.agriculture.gov.au
[1] Commenced February 2015
[2] Commenced November 2015
[3] Commenced February 2015
[4] Commenced November 2015
www.droughthub.nsw.gov.au



NSW GOVERNMENT

ESCALATION PROCESS

Plan
Act
Review

NORMAL → MILD → MODERATE → SEVERE → RECOVERY

BOX 1
Has experienced less than 20% of relative growth, relative rainfall, relative soil moisture for each of the last six months which is verified by on ground conditions, assessed by LLS technical reports. For more detail see DroughtHub.

BOX 2
Continue to experience the conditions identified in Box 1 with no period of recovery as identified in Box 4.

BOX 3
Conditions identified in Box 1 extend for a period of more than 24 months with no period of recovery, as identified in Box 4.

BOX 4
Over a period of six months 40% or more of annual rainfall has been received and LLS verify that on ground recovery is evident. For more detail see DroughtHub.

NSW & COMMONWEALTH PROGRAMS & SERVICES

	NORMAL	MILD	MODERATE	SEVERE	RECOVERY
NSW	• Farm Innovation Fund • Farm Business Skills Professional Development Program • Transport assistance for animal welfare • Seasonal conditions reports • Advice through Local Land Services • Rural Resilience Program • Rural Adversity Mental Health Program • Mental Health Access Line • Family & Community Services	• Farm Innovation Fund • Farm Business Skills Professional Development Program • Transport assistance for animal welfare • Seasonal conditions reports • Advice through Local Land Services • Rural Resilience Program • Rural Adversity Mental Health Program • Mental Health Access Line • Family & Community Services	• Farm Innovation Fund • Farm Business Skills Professional Development Program • Transport assistance for animal welfare • Transport assistance for donated fodder • Seasonal conditions reports • Advice through Local Land Services • Rural Resilience Program • Rural Support Workers • Rural Adversity Mental Health Program • Mental Health Access Line • Family & Community Services • Emergency Town Water Supplies	• Farm Innovation Fund • Farm Business Skills Professional Development Program • Transport assistance for animal welfare • Transport assistance for donated fodder • Seasonal conditions reports • Advice through Local Land Services • Rural Resilience Program • Rural Support Workers • Rural Adversity Mental Health Program • Mental Health Access Line • Family & Community Services • Emergency Town Water Supplies	• Farm Innovation Fund • Farm Business Skills Professional Development Program • Transport assistance for animal welfare • Transport assistance for donated fodder • Seasonal conditions reports • Advice through Local Land Services • Rural Resilience Program • Rural Support Workers • Rural Adversity Mental Health Program • Mental Health Access Line • Family & Community Services • Emergency Town Water Supplies
NSW & COMMONWEALTH	• Rural Financial Counselling Service	• Rural Financial Counselling Service	• Rural Financial Counselling Service	• Rural Financial Counselling Service	• Rural Financial Counselling Service
COMMONWEALTH	• Farm Household Allowance	• Farm Household Allowance	• Farm Household Allowance	• Farm Household Allowance • Drought Support Officers • Drought Concessional Loans	• Farm Household Allowance • Drought Support Officers • Drought Concessional Loans • Drought Recovery Concessional Loans

www.droughthub.nsw.gov.au

C Consultation with stakeholders

To inform our review, we have sought comments from stakeholders in response to our Information Paper. We received eight submissions to the Information Paper. We received 16 submissions responding to our Draft Report.

We have also conducted a Public Hearing, and 41 stakeholders attended. Finally, we conducted targeted consultation with selected stakeholders during the process of our review.

Stakeholders we consulted with are listed in the table below.

Table C.1 Stakeholders consulted during our review

Form of consultation	Stakeholder
Submission – Information Paper	Allianz
	CelsiusPro
	Country Women's Association
	IAG
	Innovative Risk Transfer
	Latevo
	MPCI Australia
	NSW Farmers
Submission – Draft Report	Allianz
	Assetinsure
	CelsiusPro
	Cotton Australia
	Department of Primary Industries
	DiscoveryAG
	Henry Davis York
	IAG
	Individual – M. Greenshields
	Individual – A. Hawthorne
	Individual – S. Maguire
	Innovative Risk Transfer (two submissions)
	MPCI Australia
	NSW Farmers
	SureSeason

Form of consultation	Stakeholder
Consultation	Allianz
	CelsiusPro
	Latevo
	MPCI Australia
	NSW Rural Assistance Authority
	NSW Farmers
	SureSeason
	Innovative Risk Transfer

D Summary of complementarity assessment

Table D.1 summarises our assessment of whether the measures that we have been asked to assess are complementary with existing Commonwealth programs, each other, and existing NSW programs that are not being evaluated.

We have not included the measures to waive the stamp duty, or share information with insurers in Table D.1. This is because we found that these measures would not be effective in achieving their objective to materially increase the uptake of multi-peril crop insurance, and they have no additional objectives. As a result, we consider that there is no overlap between these measures and other programs.

Table D.1 Complementarity of the proposed measures

	Measure 1 Farm business skills professional development program	**Measure 2a** Additional weather stations	**Measure 4** Upfront subsidy on multi-peril crop insurance premiums
Step 1: Do the measures complement existing Commonwealth programs?			
Accelerated depreciation for primary producers	Yes	Yes	Yes
Agricultural-related research and development grants	Yes	Yes	Yes
Drought concessional loans	If Measure 1 is used to improve understanding of risk it might complement loans.	Yes	Possible conflict Concessional loans for drought recovery and preparedness investments might displace the need for MPCI. If MPCI providers withdraw from the market due to adverse seasonal conditions, then concessional loans could complement this measure.
Drought recovery concessional loans	As above	Yes	As above
Existing Bureau of Meteorology weather services	Yes	Yes The proposed measure enhances the existing weather services.	Yes
Farm household allowance	Yes	Yes	The allowance offers basic welfare only, therefore its incentive properties are not likely to deter farmers from obtaining MPCI to manage risk.
Farm management deposits	If Measure 1 is used to improve understanding of risk it might complement the farm management deposit scheme.	Yes	Likely to be complementary, because there would be some seasons where MPCI is not offered.

	Measure 1 Farm business skills professional development program	**Measure 2a** Additional weather stations	**Measure 4** Upfront subsidy on multi-peril crop insurance premiums
Farm debt mediation	Yes	Yes	Yes
Managing farm risk program	Complementary, noting a partial overlap. Both programs could potentially be used to obtain tailored enterprise professional development services including compiling financial and production information that might support an application for MPCI. However, there is no evidence that the business skills program has been used for this purpose. The Commonwealth program specifically assists farmers in managing their risk, including obtaining insurance products. The overlap is only partial because the business skills program includes a wider range of farm management and drought preparedness strategies than the Commonwealth program.	Yes	Some overlap, because both measures aim to increase the uptake of MPCI. However the subsidy would be more effective at achieving its objective.
Rural financial counselling service	Yes	Yes	Yes
Step 2: Do the measures complement existing or proposed NSW programs currently being evaluated?			
Farm business skills professional development program	-	Yes	Some overlap, but the subsidy would be more effective at achieving its objective to increase the uptake of MPCI than the farm business skills program. The business development/education objectives of Measure 1 could have a positive interaction with the upfront subsidy as MPCI uptake could be increased through awareness.

	Measure 1 Farm business skills professional development program	**Measure 2a** Additional weather stations	**Measure 4** Upfront subsidy on multi-peril crop insurance premiums
Additional weather stations	Yes	-	Yes
Sharing NSW Rural Assistance Authority data	While both measures share an objective to reduce the upfront costs of MPCI, in practice these measures are unlikely to meet this objective so there is unlikely to be an overlap.	No conflict	While both measures share an objective to reduce the upfront costs of MPCI, in practice information sharing is unlikely to meet this objective so there is unlikely to be an overlap.
Stamp duty waiver for multi-peril crop insurance premiums	As above	No conflict	These measures have an overlapping purpose to reduce the cost of multi-peril crop insurance. However, the stamp duty waiver is unlikely to be effective at meeting this objective therefore there is no overlap in practice. There is a possible conflict in subsidising a product that incurs stamp duty, however a subsidy can be set to offset the stamp duty payable. We recommend that a subsidy is set on the total amount payable inclusive of the stamp duty.
Upfront subsidy on multi-peril crop insurance premiums	Some overlap, but the subsidy would be more effective at achieving its objective to increase the uptake of MPCI than the farm business skills program. The business development /education objectives of Measure 1 could have a positive interaction with this measure as MPCI uptake could be increased through awareness.	Yes	-

	Measure 1 Farm business skills professional development program	**Measure 2a** Additional weather stations	**Measure 4** Upfront subsidy on multi-peril crop insurance premiums
Step 3: Do the measures complement existing NSW programs not being evaluated?			
Farm business management skill set	Yes	Yes	Possible conflict Completing the skill set provides eligible farmers with a 1.5% discount on interest paid on the Farm Innovation Fund loans in the first year. The concessional loan for drought preparedness activities might displace the need for MPCI. However, it might also increase the uptake of MPCI by putting downward pressure on premiums reflecting better drought preparedness. This would increase the effectiveness of this measure in increasing the uptake of MPCI.
Farm innovation fund	If Measure 1 is used to improve understanding of risk (rather than to assist in MPCI applications) it might complement loans.	Yes	Possible conflict Concessional loans for drought preparedness investments might displace the need for MPCI. However, it might also increase the uptake of MPCI by putting downward pressure on premiums reflecting better drought preparedness. This would increase the effectiveness of this measure in increasing the uptake of MPCI.
Drought feed calculator app	Yes	Yes	Yes
Drought management guides	Yes	Yes	Yes

	Measure 1 Farm business skills professional development program	**Measure 2a** Additional weather stations	**Measure 4** Upfront subsidy on multi-peril crop insurance premiums
Expert technical advice from DPI and Local Land Service	Yes	Yes	Yes
Mental health access line	Yes	Yes	Yes
Rural resilience program	Yes	Yes	Yes
Rural adversity mental health program	Yes	Yes	Yes
Seasonal conditions reports	Yes	Yes	Yes
Transport assistance	Yes	Yes	Yes

E Previous studies on multi-peril crop insurance

Table E.1 summarises the findings of seven recent studies that considered the development of a commercial multi-peril crop insurance market in Australia. All of these studies have advised against subsidising this type of insurance product because of the high structural costs of the products, and thus the large government subsidies required to make them commercially viable.

However, some of the studies have found that there might be other government interventions that are justified. For example, the 2009 Productivity Commission inquiry into government drought support found:

> …it is unlikely that governments can overcome the problems with information and incentives, faced by the private sector, in providing insurance products without creating adverse outcomes such as encouraging farmers to take on more risk. It is the Commission's view that government subsidised insurance schemes… will impede the development of more efficient private sector arrangements for sharing production risk in agriculture.[238]

The 2012 ABARES study found:

> While there is evidence to suggest that there is no economic case for government subsidisation of agricultural insurance premiums and, to a lesser extent, support reinsurance, government intervention might be justified on other grounds. There might be a case for government intervention that addresses market failures by, for example, providing additional data or assisting in the development of new index-based insurance tools.[239]

[238] Productivity Commission, *Government Drought Support – Inquiry Report,* February 2009, p 210.
[239] ABARES, *Options for insuring Australian agriculture*, September 2012, p 30.

Table E.1 Summary of findings of multi-peril crop insurance reviews

Year	Finding
1986	**Industries Assistance Commission**
	Crop and rainfall insurance would not be commercially viable without significant government assistance.
2000	**Ernst & Young**
	▾ While there was demand for a multi-peril crop insurance product among farmers, a market for multi-peril crop insurance would not be viable without significant government assistance. ▾ Government relief deters farmers from taking up MPCI.
2003	**MPCI Taskforce (Western Australian Government)**
	A commercially successful multi-peril crop insurance government assistance program needs to be attractive to farmers to gain sufficient take-up to meet start-up and administration costs. It would also require significant government involvement by way of providing premium subsidies, underwriting risk and making the scheme compulsory to ensure farmer take-up.
2009	**Productivity Commission - Review of Government Drought Support**
	▾ The higher cost of feasible self-insurance compared with hypothetical efficient market insurance does not provide a rationale for government to share producers' risks. ▾ It is unlikely that governments can overcome the problems with information and incentives, faced by the private sector, in providing insurance products without creating adverse outcomes such as encouraging farmers to take on more risk. ▾ Government subsidised insurance schemes, broad ranging drought assistance measures and ad hoc drought assistance will impede the development of more efficient private sector arrangements for sharing production risk in agriculture.
2012	**ABARES – Options for insuring Australian agriculture**
	▾ No strong economic case for government subsidising premiums or underwriting risk. ▾ However, government might have a role in providing relevant information or supporting research and development related to drought insurance.
2012	**National Rural Advisory Council (NRAC) – Feasibility of agricultural insurance products in Australia for weather–related production risks**
	▾ Without substantial government support, multiple peril crop insurance options are not likely to be viable in Australia. ▾ However, governments have a role in supporting data collection and management. ▾ An important challenge for industry and government is to increase awareness of insurance options.
2015	**Agricultural White Paper**
	The range of insurance products is increasing in complexity. The White Paper announces the Commonwealth managing farm risk program to provide a 50% rebate for costs associated with a multi-peril crop insurance application, or financial advice.

Source: NRAC, *Feasibility of agricultural insurance products in Australia for weather related production risk*, September 2012, pp 37-38; Productivity Commission, *Government Drought Support – Inquiry Report,* February 2009; ABARES, *Options for insuring Australian agriculture*, September 2012, p v; Australian Government, *Agricultural Competitiveness White Paper*, July 2015, p 84.