

Crop insurance

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Background to the need for insurance

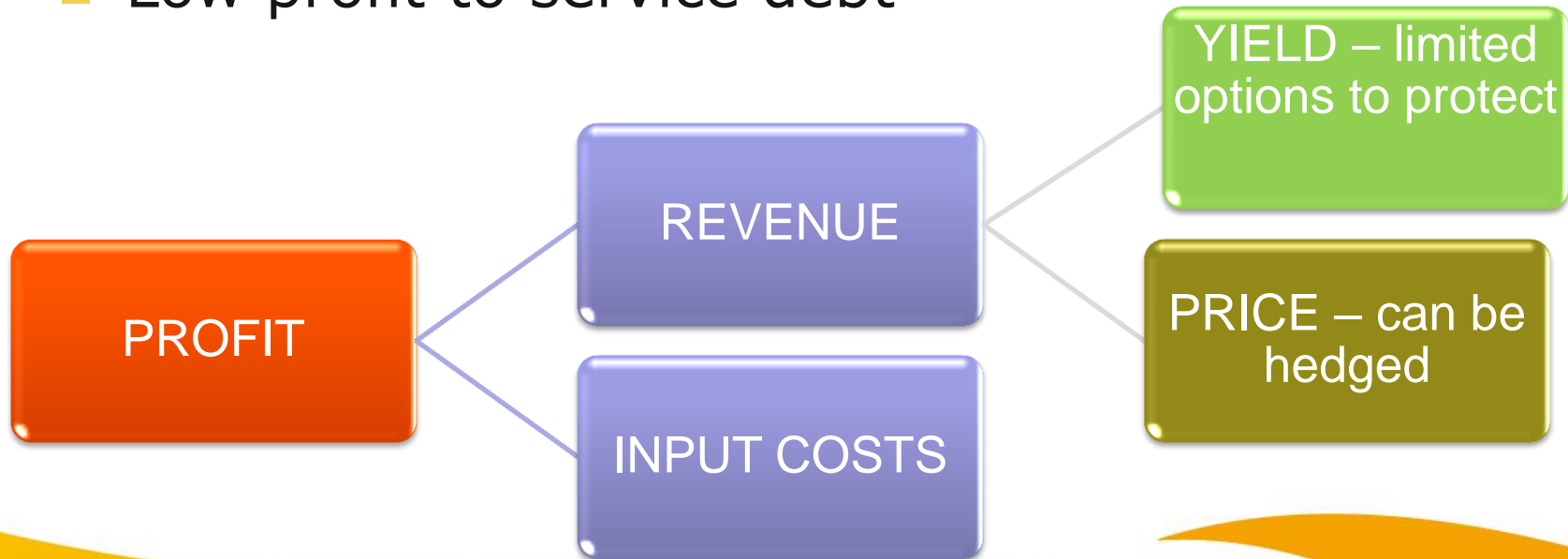
- Rising farm debt in some sectors based on increased land value (\$70b in 2014 a 75% increase over 10 years)
- Retention of low debt to equity ratio (88% on average)



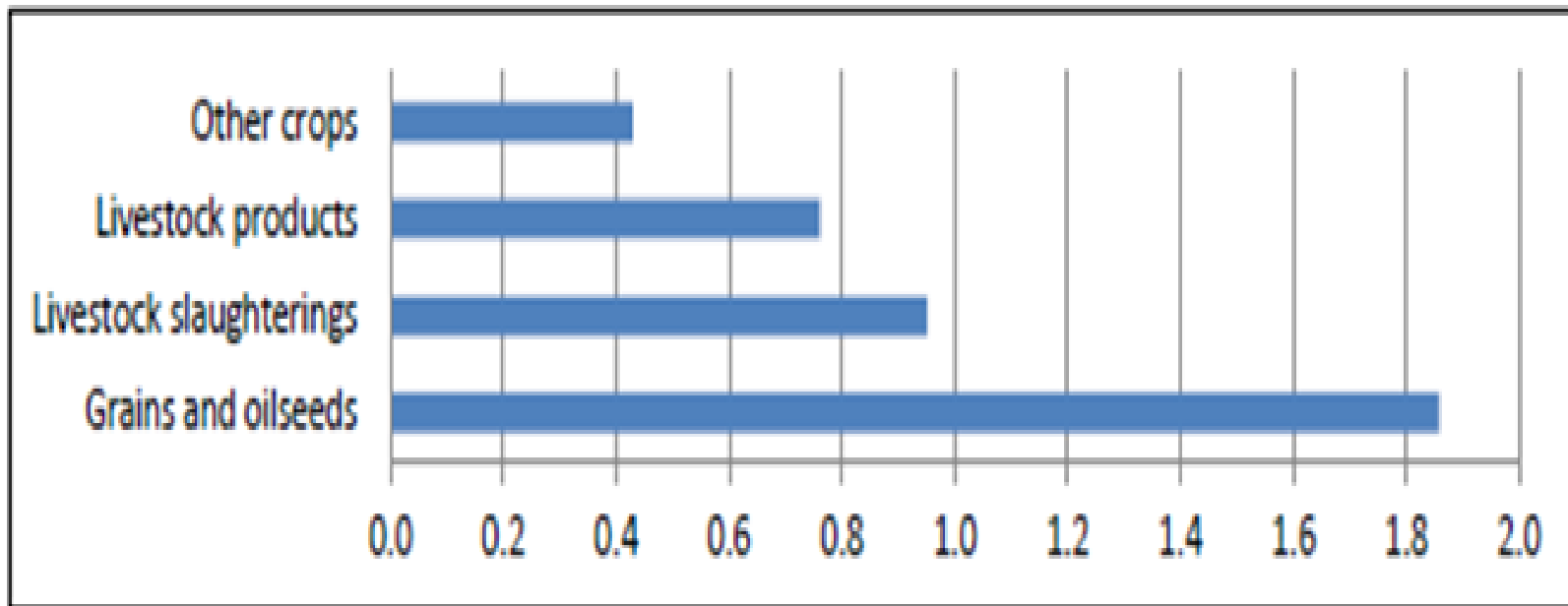
- Change of risk profile: The use of debt to finance operational stock which is non-salvageable (e.g. seed, fertiliser, chemicals)
- Inputs can amount to \$350/hectare

Farm risk

- Climate risk
- Associated pest and disease risk
- Market volatility
- Rising costs
- Low profit to service debt



Volatility of the value of Australian farm production, 1966–2011

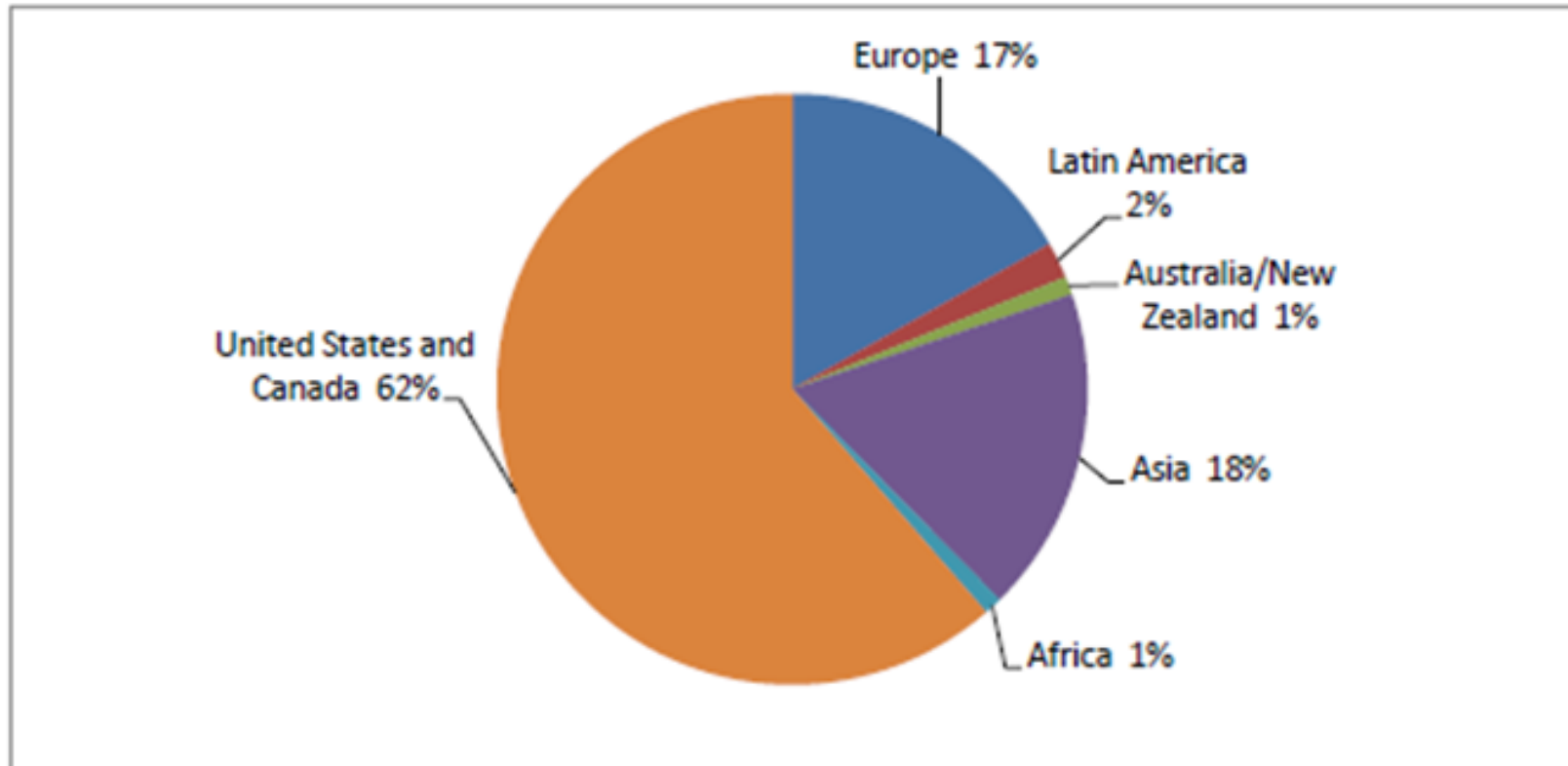


Note: Industry volatility is calculated by taking the standard deviation of the percentage difference between actual and trend production. Trend data are estimated using a Hodrick-Prescott smoothing filter. When comparing indexes in this figure with those in Figure 1, note that the volatility index for the agricultural industry has been rebased to 1.0. Data source: ABARES 2011

Previous reports on crop insurance

- Government of Western Australia, Department of Agriculture & Food, 2009, *Discussion Paper – Multi Peril Crop Insurance in Western Australia*.
- National Rural Advisory Council, 2012, *Feasibility of agricultural insurance products in Australia for weather-related production risks*.
- Australian Government – ABARES report, 2012, *Options for insuring Australian agriculture*. Report for Department of Agriculture

Percentage of global agricultural insurance premium value by region (2008)



Source: R Iturrioz, 2009.

Problems associated with pricing insurance premiums for farmers

Moral hazard

- farmers can influence their own yield levels
- insurers need to determine if a yield loss was caused by a trigger event, or sub-optimal management practices.

Adverse selection

- farmers generally have a better idea about their risks and expected yields.
- insurance companies are not able to distinguish between high risk and low risk farmers.

Insurance options in cropping

■ **Named Peril**

These products provide farmers with protection against specific perils, such as frost, hail or fire. These perils are typically localised and as the farmer has no control over the impact of these events, 'moral hazard' is not a significant problem. These products are commercially available in Australia.

Insurance options in cropping

■ Multi Peril

also known as yield insurance because payouts are simply based on loss of yield—the cause of the loss need not be assessed. there is an agreed value on each crop covered by the policy. No such schemes operate in Australia.

Insurance options in cropping

■ Revenue insurance

Crop revenue insurance is similar to MPCCI, but instead of providing protection against yield loss it provides protection against revenue loss. This product insures a farmer against both yield and price risk. No such schemes operate in Australia at this time.

Insurance options in cropping

■ Index based Peril

An index is simply a set of numbers representing a single variable, such as rainfall or temperature over a given cropping season; or a more complex calculation involving many variables, these include weather derivatives, yield index insurance and area yield index insurance.

Index options available in cropping

- **YieldShield** - designed specifically to cater to flooding and water deficit for wheat and sorghum.
- **CelsiusPro** - The company offers Over-The-Counter weather derivatives to several industries including agriculture.

New developments

- In 2013, Latevo has provided what it calls a 'Multi-Peril Crop Insurance' or its more recent name Certainty Insurance™ to farmers (Newsdesk 2013). The product looks to top shortfalls in crop expenses rather than replace yield loss. This type of insurance can be contracted at a lower cost than the traditional crop insurance that attempts to replace the yield loss.

Insurance - “crop” option?

- Previous industry reports suggest insuring crop yield is too expensive and too complex
- Australia needs to find a different solution
- What is to be insured?
- Not all loss is total

Cost-Benefit of premiums to payout of product in 2014



- COST
- 1000 hectares grain @ \$38/hectare* (approx.)
= \$38,000 cost/farm

- BENEFIT
- \$350 input costs/hectare loss avoided (e.g. frost, flood etc.)
= \$350,000 max loss

* Premiums offered to a farmer in Queensland. Premiums may vary based on risk as determined by the company

The flow on effects

- Reduced risk in managing current debt
- More likely to access operating capital or products such as fertiliser on credit
- Increased yield opportunities by not skimping on inputs
- Another added cost burden to production
- As seasonal forecast models improve, insurance premiums will be reflect seasonal climate risk