Financial impact of risk management tools

A collaboration between TEAGASC, CIT and UCC economists investigates the financial impact of dairy risk management tools.

Irish dairy farmers are facing increasing uncertainty and risk with respect to their farm incomes. This increase in income uncertainty can be largely attributed to the volatility of global dairy markets, and related to this a general convergence of world dairy prices with EU dairy market prices. Another key factor has been volatility in input expenditure due to price movements and weather variability.

A recent report by economists from Teagasc, Cork Institute of Technology (CIT) and University College Cork (UCC) addresses the issue of income volatility. The report contains a detailed quantitative assessment of a range of risk management tools, including milk price forward contracts, farm income taxation measures, direct payments and gross margin insurance.

The research highlights the pattern of rising farm income volatility, which is reflected in the average family farm income on specialist dairy farms in **Figure 1**. In recent years there are examples where income has almost halved (2009) and doubled (2010) in consecutive years.

Forward contract milk pricing agreements

Milk price forward contracts in Ireland typically involve an agreement between a dairy farmer and a milk processor to exchange a stated volume of milk at a fixed price over a specified period of time. As of 2018, the vast majority of Irish dairy farmers can enter into forward contracting agreements with their milk processor. The weighted average of specialist dairy farms in the Teagasc National Farm Survey (NFS) having forward sold in 2016 was found to be 37%. The availability of forward contracting agreements has increased somewhat since 2016.

In the report, econometric analysis indicates that in 2016 Irish dairy farmers who used forward contracting tools were younger and produced more milk per cow than farmers that did not adopt such tools. Dairy farmers from the south east were also more likely to have used milk forward pricing mechanisms than dairy farmers located elsewhere, likely reflecting the fact that Glanbia has been the market leader in offering milk price forward contracts in Ireland. In addition, the report describes a new simulation model, which can be used to estimate the impact of forward contract adoption on farm income variability over time.

Taxation measures

The report contains analysis of the income tax system. The analysis examines the smoothing effect on taxable incomes of the ‘income averaging’ system, as well as the proposed ‘5-5-5 risk management tool’. The proposed 5-5-5 income stability tool is a risk management tool involving savings accounts to encourage a long-term approach to risk management. There are three components: five years’ income averaging; 5% of annual milk receipts; and, five years’ draw down period.

The research highlighted a key limitation of the income averaging system, as the scheme eligibility rules relating to off-farm employment meant that approximately 55% of all specialist dairy farms were automatically excluded from participation in the system as defined in 2018. In Budget 2019, the eligibility rules were altered and farm households with off-farm employment became eligible for income averaging.

The report finds that, when managed in the right way, the proposed 5-5-5 income stability tool looks promising, but notes that if the tool does become available, farmers may seek advice from a professional (such as their accountant) in order to understand how best to effectively use the tool for their farm.

Direct payments

The research uses Teagasc NFS data to examine the important role of direct payments in providing farmers with a buffer from price volatility, but the research cautions that the effectiveness of the buffer is likely to be watered down as dairy farm output increases,

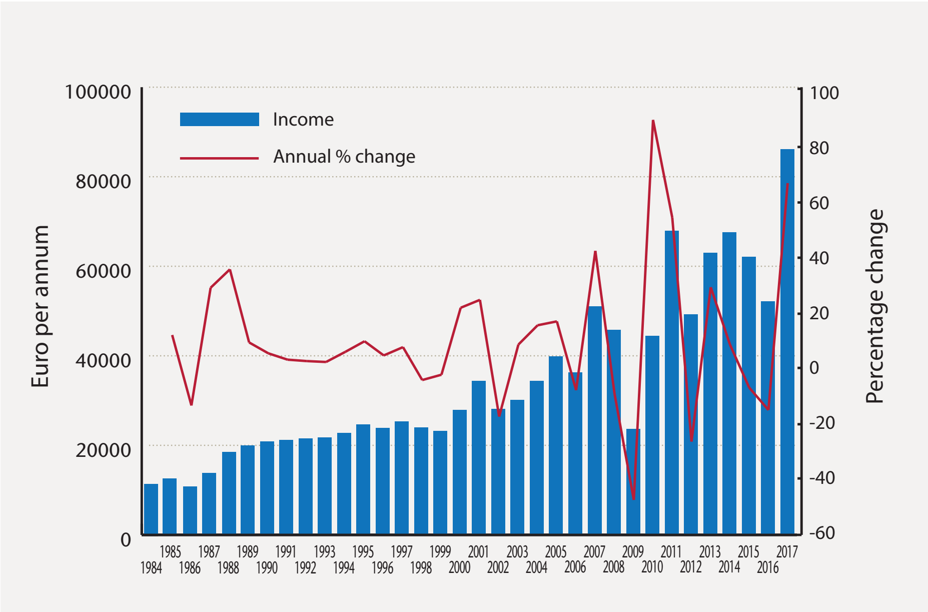

FIGURE 1: Average family farm income on specialist dairy farms 1984 to 2017. Source: Teagasc National Farm Survey.

and also notes that the nature of the direct payment supports could change in the context of Brexit and the impending CAP reform.

Insurance

The report contains analysis of the gross margin scheme in the United States, which has been relatively unsuccessful to date, due to low levels of farmer participation.

The research concludes that in a grass-based dairy system such as Ireland's, creating this type of insurance product would be challenging, as the estimation of a dairy farm's gross margin is less straightforward in Ireland than in the predominantly feed-based system in the United States.

In an Irish context, the report also notes that gross margin insurance could be costly, and that tiered levels of cover with different associated premia would be required. Public support, to at least cover part of the farmer's premium payment, would also be necessary, in order to persuade private insurers to offer such insurance products.

A toolbox of risk management tools

The report concludes that Irish dairy farmers require a risk management toolbox, as multiple risk management tools are required in the management of income variability. There is essentially no silver bullet in the effort to reduce the variability in farm incomes, and a farmer's choice of tools will change from year to year as circumstances change. This means that farmers require education regarding the adoption and application of tools, in terms of how and when to apply them.

The full report is available at:
https://www.teagasc.ie/publications/2018/an-evaluation-of-suitable-tools-to-manage-priceincome-volatility-at-dairy-farm-level-in-ireland.php.

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Authors

Jason Loughrey
Research Officer, Agricultural Economics and Farm Surveys Department, Rural Economy and Development Programme, Teagasc, Athenry, Co. Galway
Correspondence: jason.loughrey@teagasc.ie

Trevor Donnellan
Principal Research Officer, Agricultural Economics and Farm Surveys Department, Rural Economy and Development Programme, Teagasc, Athenry, Co. Galway

Declan O'Connor
Lecturer, Department of Mathematics, Cork Institute of Technology

Fiona Thorne
Senior Research Officer, Agricultural Economics and Farm Surveys Department, Rural Economy and Development Programme, Teagasc, Ashtown, Dublin 15