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A micro level analysis of the Irish agri-food sector: lessons and recommendations from Denmark and the Netherlands



Key external stakeholders:

Policy Makers, Farm Organisations, Farm advisory services, Food Processing Industry.

Practical implications for stakeholders:

The project facilitated the examination of the impact of policy development in Ireland and a number of other European countries, according to a range of factors such as productivity, disinvestment, economies of scale and farm exit.

- Decoupling of direct payments introduced in 2005, had a positive and significant effect on aggregate productivity in the Irish dairy sector and a number of other key dairy producing regions in the EU.

Main results:

The key results were the:

- Decoupling of direct payments introduced in 2005, had a positive and significant effect on aggregate productivity in the Irish dairy sector;
- In terms of key indicators at an aggregate level of structural change post decoupling, based on the first few years of data, it appeared that a 'safety first' approach was being taken by farmers in Ireland, Denmark and the Netherlands, with structural change continuing along historical levels.
- Using micro data from the European Commission, it was found that decoupling had a significant positive effect on farm productivity and behavioral changes related to farm specialization in Ireland, Denmark and the Netherlands.
- Also using micro data from the European Commission, it was found that the probability of a farm disinvesting decreased due to the decoupling policy change for most farms.

Opportunity / Benefit:

The micro-focused approach undertaken in this project increased the understanding of the causes and implications of the changing structure of Irish agriculture at a more detailed level than had been examined previously.

Collaborating Institutions: TCD, University of Kiel.

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1. Project background:

This project analysed the impact of policy changes on various aspects relating to the agri-food sectors in Ireland and other EU countries focussing in particular on Denmark and the Netherlands. Using the Irish National Farm Survey a micro approach was taken that allowed specific research questions relating to: 1) productivity and competitiveness; 2) the changing structure of production systems in; and 3) the wider rural community to be addressed. The availability of a comparable survey for Denmark and the Netherlands presented a unique opportunity for the Irish experience to be compared to that of similar regions of Europe facing the same set of constraints but with significantly different sectors in terms of structure, organisation and the role of government supports. This study provided valuable lessons for policy by deepening our understanding of the important issues facing the agri-food sector in Ireland at the micro level and observing how the Irish experience compares to that of similar European regions. The project also explored alternative uses for land post-decoupling focussing in particular on opportunities in relation to organic farming and alternative energy sources drawing on the successes of the Danish experience.

2. Questions addressed by the project:

- To determine the effect of decoupling on agricultural production levels in Ireland: using the Irish dairy sector as a case study.
- To compare the productivity of the Irish agri-food sector in a European context following decoupling: a cross country comparison.
- To conduct a detailed, micro-focussed investigation of the implications of recent policy changes on the structure of production systems in a European context: specifically looking at the issues of disinvestment, farm size and gradual farm exit.
- To explore the impact of the changing structure of agriculture on rural communities in Ireland, Denmark and the Netherlands focusing on issues such as the determinants of off-farm employment, the demographic profile of farmers in terms of age, education and employment skills and implications of moves towards part-time employment.
- To investigate the extent to which alternative uses of land may be considered in the face of a changing agri-food sector. In particular, experience from Denmark in relation to organic farming and alternative energy uses will be drawn on.

3. The experimental studies:

Five separate research questions were addressed during the course of this project, which necessitated a mix of experimental approaches, from a review of secondary data sources to detailed micro focused econometric work using data such as the Teagasc, National Farm Survey and the European Commissions, Farm Accountancy Data Network.

4. Main results:

- Using Teagasc, National Farm Survey (NFS) data, it was found that after controlling for increased capital investment, due to generous capital investment schemes, the decoupling policy introduced in 2005, had a positive and significant effect on aggregate productivity in the Irish dairy sector. This finding suggests that generous capital investment grants led to overinvestment in the sector and had a negative effect on productivity. Moreover, uncertainty about the introduction of decoupling in 2005 and increased milk price volatility had a negative effect on productivity which can be explained by the effect of uncertainty on farmers' confidence and motivation.
- Using EU FADN data, it was found that the decoupling policy introduced in Ireland, Denmark and the Netherlands in 2005, had significant positive effects on farm productivity and behavioral changes related to farm specialization in each of the three countries.
- Using a variety of different data sources, a descriptive analysis of structural change within agriculture in

Ireland, Denmark and the Netherlands was conducted. Key indicators of structural change investigated included: farm numbers, system switching, specialisation, the role of economies of scale and on-farm investment. The ability of each member state to choose the degree to which agricultural payments could be decoupled from production allowed for comparisons of agricultural structural change under alternative decoupling strategies. The Netherlands and Denmark were considered ideal case studies for this purpose given their similarities to Ireland in terms of their size, climate, recent economic performance, and the relative importance of agriculture to their overall economy. The results indicated that a 'safety first' approach was being taken by farmers, with structural change continuing along historical levels.

- Again using EU FADN data, it was found that the probability of a farm disinvesting decreased due to the policy change for most farms. However, the policy change facilitated exit for farms engaged in livestock production and those that were already in the process of leaving the sector.

5. Opportunity/Benefit:

This project contributed to our understanding of the causes and implications of the changing structure of the Irish agri-food sector at the micro level. Comparisons of how Ireland has fared relative to other EU countries facilitate policy makers to better understand the key strengths and weaknesses of the Irish agri-food sector. Given that the agri-food sectors in Denmark and the Netherlands in particular have consistently outperformed all other EU countries on competitiveness measures there are many valuable lessons to be learned.

6. Dissemination:

Main publications:

Kazukauskas, A., Thorne, F. and Newman, C. (2010), Analysing the Effect of Decoupling on Agricultural Production: Evidence from Irish Dairy Farms using the Olley and Pakes Approach, *GJAE* 59 Number 3, Special Issue Professional Interest, New Issues and Recent Methodological Developments in Agricultural and Resource Economics

Kazukauskas, A., Newman, C. and Sauer, J. (2014), The impact of decoupled subsidies on productivity in agriculture: a cross-country analysis using microdata. *Agricultural Economics*, 45: 327–336. doi: 10.1111/agec.12068

Kazukauskas, A., Newman, C., Clancy, D. and Sauer, J. (2013) "Disinvestment, Farm Size, and Gradual Farm Exit: The Impact of Subsidy Decoupling in a European Context." *American Journal of Agricultural Economics*, 95(5), 1068-1087.

Popular publications:

Clancy, D., Kazukauskas, A., Newman, C. and Thorne, F. (2009). An investigation of the level of structural change in the agri-food sector of Ireland, Denmark and the Netherlands. *Rural Economy Research Ce* (09-WP-RE-15)

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