

Project number: 5659
Funding source: Teagasc

Date: April 2014
Project dates: Jan 2007 - Oct 2012

Development of regional economic models for Ireland to facilitate economic impact analyses



Key external stakeholders:

Policy Makers, Farm organisations and the Food Processing Industry

Practical implications for stakeholders:

This project improved our understanding of the wider economy impact of the agriculture sector in Ireland and Northern Ireland

- The project provided estimates of the wider economy employment impact of Food Harvest 2020
- The project provided an assessment of the value of different policy options to reduce Greenhouse Gas emissions in Northern Ireland

Main results:

The analysis in this project related to both Ireland and Northern Ireland. Input Output and CGE models were used to map the relationship between the agri food sectors and the rest of the economy. This was done to track the relationship between agricultural activity and activity in the rest of the economy. Additionally it was possible to relate agricultural activity with GHG emissions from agriculture and GHG emissions from the rest of the economy. The intensity of GHG emissions per unit of output was measured for each sector of the economy and the cost associated with reducing emissions was compared across sectors of the economy. The project also looked at the overall economic impact of climate change policy constraints on the size of the agriculture sector in Ireland

Opportunity / Benefit:

Policy makers can assess the analysis presented and use it in the evaluation of policies in a range of areas relevant to agriculture such as agriculture and environmental policy. The models developed can also be used to inform the development of future policy

Collaborating Institutions:

Agri Food Biosciences Institute Northern Ireland
University of Dublin, Trinity College

Teagasc project team: Trevor Donnellan
Corina Miller
Erin Minhian
External collaborators: Zi Ping Wu
Alan Matthews

1. Project background:

This project aimed to develop Input output models for Ireland and Northern Ireland for application in relation to research questions associated with the agri-food sector

2. Questions addressed by the project:

The project addressed the implication of CAP and WTO reform for the Irish economy with a specific focus on agriculture. The project also examined the implications of Food Harvest 2020 in terms of output and employment in the wider economy in Ireland. The project also examined the implications of GHG emissions reductions strategies, with a focus on the agriculture sector in Northern Ireland

3. The experimental studies:

The method of analysis used was Input-Output (IO) and Computable General Equilibrium (CGE) modeling. IO and CGE models were developed based on pre-existing national table IO tables but with a specific focus on the agriculture and food processing sectors for which greater sectoral detail was derived

4. Main results:

For Ireland the project detailed the impact of CAP reform on the Irish economy, with a specific focus on the impact of decoupling, dairy quota abolition and trade liberalization in a wider economy content.

5. Opportunity/Benefit:

The research conducted in this project is of benefit to policy makers in Northern Ireland in understanding the opportunities that exist for GHG emissions reductions across the economy under various policy options and the associated costs.

The research conducted is of benefit to policy makers in Ireland in that it provides a quantification of the job opportunities associated with FH 2020 both within and outside of agriculture.

6. Dissemination:

Main publications:

Minihan, Erin S. & Wu, Ziping, 2012. "Economic structure and strategies for greenhouse gas mitigation," Energy Economics, Elsevier, vol. 34(1), pages 350-357

Ana Corina Miller & Alan Matthews & Trevor Donnellan & Cathal O'Donoghue, 2011. "A 2005 Agriculture-Food SAM (AgriFood-SAM) for Ireland," The Institute for International Integration Studies Discussion Paper Series iisd372, IIS.

Miller, Ana Corina, Matthews Alan, Boysen Ole, Donnellan Trevor & O'Donoghue Cathal, 2011. "Measuring the impact of trade policy reform in Ireland: A disaggregated analysis of household impacts," 122nd Seminar, February 17-18, 2011, Ancona, Italy 99598, European Association of Agricultural Economists.

Miller, Ana Corina, Matthews Alan, Donnellan Trevor & O'Donoghue Cathal 2013 Agri-food expansion and climate policy constraints: quantifying the tradeoff in Ireland. Paper presented at the AESI Annual Conference, Dublin. Available at [<http://www.aesi.ie/aesi2013/papers/milleretal.pdf>]

Popular publications:

7. Compiled by: Trevor Donnellan