SUMMARY RECORD OF THE SEVENTH MEETING
OF THE OECD NETWORK ON FARM LEVEL ANALYSIS

Paris, 7-8 April 2011

Participants

1. In addition to OECD Secretariat staff, there were 24 participants from 16 OECD countries (Australia, Belgium, Canada, Denmark, Estonia, France, Germany, Israel, Italy, Japan, Netherlands, Norway, Spain, Sweden, United States, United Kingdom), and the European Commission (see list of participants on the web site). Most participants were contact persons nominated by their delegation, as requested by OECD. They included database managers and analysts from statistics departments, agricultural Ministries, and agricultural economic research institutes.

Content and structure of the meeting

2. The objectives of the seventh meeting were to:

- provide an update of various projects, in particular regarding efforts to communicate OECD work that includes contributions from the network (Sessions 1 and 2);
- present future work on risk management (Session 2);
- discuss various applications using micro-level data: the CAPRI modeling system (Session 3); and sustainability indicators (Session 4);
- discuss current work on farm-level productivity in member states and plans for OECD work in this area, including possible contributions by the network (Session 5);
- present the FACEPA project on costs of production by commodity (Session 6); and
- plan future work and discuss issues regarding the sharing of information (Session 7).

3. The meeting agenda is posted on the web site.

Session 1: Progress report

4. Catherine Moreddu informed participants of the status of OECD reports which use information on the distribution of support and income provided by network members. This provided an opportunity to discuss the dissemination of work in this area. The report on the distribution of support and income in selected OECD countries [TAD/CA/APM/WP(2010)38/FINAL] was declassified in November 2010. It will be released at the end of April as an *OECD Food, Agriculture and Fisheries Working Paper*, available for free on the OECD website.[1] It will also be posted on a specific web page, together with excel files containing various tables and graph by country once these are checked by network members. A summary brief of about eight pages is also being prepared and will be transmitted to the network for comments. Some participants asked about updating the data and analysis up to 2008 and possibly 2009. Catherine will make a proposal to that effect at the next meeting of the network.

1. www.oecd-ilibrary.org/agriculture-and-food/oecd-food-agriculture-and-fisheries-working-papers_18156797

5. The information on the distribution of support in the European Union was also used to evaluate recent reforms of the Common Agricultural Policies [TAD/CA/APM/WP(2010)26/FINAL]. The report was declassified in March 2011 and will be released as an OECD publication for sale in September 2011.

Session 2: Risk management

6. Jesús Antón presented an update on the risk management project. The work on farm level data accomplished through the network has been extremely useful for the work undertaken under the Programme of Work and Budget (PWB) for 2009-10. It has contributed significant value added to seven working papers (www.oecd.org/agriculture/policies/risk) and to discussions in the Risk Management Workshop (Paris, 22-23 November 2010). A synthesis report on the results of the workshop will be published in the next few weeks. There is more work on risk management planned for the PWB 2011-12 (see scoping paper [TAD/CA/APM/WP(2011)5]). This work will cover three areas: A focus on emerging economies and developing countries and food security; climate change adaptation and insurance; and management of animal diseases risk. There is a scope to use farm level data for all three projects. For the project on developing countries and emerging economy, analytical methods used in the 2009-10 project would be applied to farm-level data from these countries. For climate change, the study would assume the impact of climate change on yield distributions based on climate change scenarios. Simulations would be likely based on the panel data of crop farms used in the previous risk management study, while the choice of country will depend on the availability of climate change scenarios. For the project on animal health, participants are invited to share with the Secretariat any farm level data on the incidence of animal disease, medication, or other veterinary aspects. The Secretariat will bring to future Network meetings any substantive work that could be of interest.

Session 3: Farm-level data in the CAPRI modeling system

7. Ignacio Pérez-Domínguez presented the CAPRI consortium and the structure of the CAPRI modeling system. He explained how FADN data are used to establish "typical farms" and gave an overview of the data used. He briefly explained how Aglink projections are used in CAPRI to calibrate the medium-term baseline (currently 2020). He then presented some results of a scenario analysis undertaken for the OECD report on the evaluation of CAP reforms mentioned above. There was some discussion on whether the diversity in farm performance within a region could be represented in the model. Some limitations where highlighted, especially on the data side. Canada has a dynamic model with different elasticities for different farm types; experiments are underway to link it with Aglink. This work could be useful for further research within a CAPRI consortium in order to obtain a better parameterization of the farm type cost structures. Help from countries would be required.

Session 4: Sustainability indicators

8. Hand Vroijk from LEI presented work by Koen Boone and Mark Dolman on using the FADN to monitor the sustainability of Dutch agriculture. This work has led to the development of 60 indicators that belong to 25 sustainability themes covering geographical, environmental and socio-economic issues with strong policy linkages. He presented some detailed examples and the use of indicators to compare the most sustainable farms with the average farm. This exercise required additional questions to FADN, as well as specialised expertise. Belgium and Denmark collect similar information, and other countries such as France might do it for specific studies. In standard FADN, it is possible to identify organic farms and farms with other gainful activities. Agri-environmental indicators are generally collected at an aggregate level, as is done in the OECD (see below) and Spain.[2]

2. www.agriculturasostenible.org/v_portal/informacion/informacionver.asp?cod=1634&te=&idage=&vap=0&codrel=4212

9. Markus Ehrmann, of the Johann Heinrich von Thünen-Institut in Germany, presented a model-based assessment of economic and ecological indicators based on German FADN-data. He presented the subset of indicators drawn from the FADN and explained the calibration of the Farm Modelling and Information System (FARMIS) used to carry out *ex ante* and *ex post* scenario analysis. He then presented the results of four scenarios compared to the baseline: a reduction in direct payments, a reduction in nitrogen surplus, higher output and input prices and lower output and input prices. There were questions about the extent to which sources of information other than FADN were needed, and suggestions for alternative price scenarios. For example, two baselines could be constructed with different hypothesis about prices, or MonteCarlo simulations could be used to represent price variability.

10. Kevin Parris provided a progress report on OECD work related to agri-environmental indicators (AEIs). The Secretariat is currently preparing the 2nd edition of ***Environmental Performance of Agriculture At a Glance***, as discussed at the last meeting of the Joint Working Party on Agriculture and the Environment (JWP) (Room Document 1, which can be provided on request). The first draft of the report will be discussed at the next JWP meeting 10-12 October 2011, with the final publication and update of the dataset on AEIs on the OECD website in the first half of 2012.[3] The work on AEIs has been supported by an OECD Workshop on ***Agri-environmental Indicators: Lessons Learned and Future Directions*** (23-26 March 2010, Leysin, Switzerland.[4] OECD recently organised a Workshop on ***Improving the Information base to better guide water resource decision making (***4-7 May 2010, Zaragoza, Spain).[5]

11. As part of OECD work toward a Green Growth Strategy, the Secretariat has prepared a document – ***Monitoring Progress Towards Green Growth: OECD Indicators*** that will be an input into the OECD Council meeting at Ministerial Level 23-27 May, 2011.[6]

12. A number of policy scenarios will be examined in preparation of the ***OECD Environmental Outlook to 2050*** and the baseline projections, including some relevant to agriculture (e.g. lowering agricultural production related support, improving nutrient use efficiency to lower diffuse agricultural water pollution). This report will be published in 2012; for a recent discussion of the policy issues in the report see [ENV/EPOC/RD(2011)1]. For further information on any of the above activities please contact Kevin Parris (see list of participants on the network web site).

Session 5: Farm level productivity

13. The session started with a presentation of the OECD project for 2011-12 in which farm level productivity is expected to be analysed. Catherine presented an overview of the overall project, including details on the OECD Conference on Agricultural Knowledge Systems to be held in Paris on 15-17 June 2011.[7] Shingo Kimura presented additional information on the innovation system concept, discussed measurement issues, and developed a proposal for future work by the network on farm level productivity, which will be discussed at the coming meeting of the Working Party on Agricultural Policy and Markets

3. For an overview of the OECD AEIs plus the database, country reviews, etc, see: www.oecd.org/tad/env/indicators

4. The Summary Report of the Workshop and the Workshop papers and presentations are available on the OECD website at: http://www.oecd.org/document/9/0,3343,en_2649_33793_43662921_1_1_1_37401,00.html

5. For the full documentation concerning the Workshop, including the Summary Report, see the OECD website www.oecd.org/water/workshop2010

6. For an overview of the OECD Green Growth Strategy work see www.oecd.org/greengrowth and for work more specific to Green Growth and agriculture go to: www.oecd.org/agriculture/greengrowth.

7. Information on the workshop will be accessible at: www.oecd.org/agriculture/policies/innovation

on 20 May- 1 June 2011 as a part of the scoping of OECD work on innovation system for 2011-12. Two approaches were proposed: 1) a distributional analysis of farm performance indicators that would compare the performance of different farm groups; and 2) a decomposition analysis of productivity growth that would require panel data. Illustrative results were presented.

14. The distribution of farm performance analysis should help identify the characteristics of high performing farms and the extent to which existing technology and knowledge is diffused among farms. Linking farm performance with the amount and type of support received would shed light on the policy and market environment to enable innovation. This work could benefit from previous work on the distribution of support to the extent that the definition of the farm population (90% of gross agricultural output covered), farm types and farm income will be the same. A key performance indicator would be the ratio of gross agricultural output and farm cash expenses. Quartiles would be computed based on this performance indicator and maybe others. The Secretariat will elaborate terms of reference with a small group of countries who have shown interest in initiating this project. The terms of reference will be posted on the network web site for comments. Shingo will follow up with bilateral discussions with those interested in participating. A programme could be developed in STATA or SAS language to make the computation process easier. Initial results are expected to be presented at the next meeting of the network.

15. The decomposition analysis of productivity growth requires panel data, to decompose productivity growth into efficiency changes reflecting the diffusion of innovations and existing technologies, and technological changes, i.e. a shift in productivity frontier. The panel data collected for the risk management project contains valuable information for productivity analysis. However, additional data may be required on labour and capital inputs, or for additional years (2008 and 2009). The participants who provided panel data will be contacted individually.

16. Participants were supportive of these proposals, but indicated they need time to reflect on data availability. There was some discussion on technical specifications. It was noted that the link between productivity and innovation and the adoption of innovation is dependent on the context, and that there are two types of explanatory variables for productivity: the one that farmers can control and the others (climate, soil quality, etc.). Similar studies were mentioned, e.g. on dairy farms.

17. Three presentations were made on work carried out on farm level productivity and competitiveness in Canada, the United Kingdom, and the United States.

18. James MacDonald presented three recent studies by the Agricultural Structure and Productivity branch of the Economic Research Service of USDA: 1) a comparison of US-EU dairy farm structure investigating structural change in the US and EU dairy industries and assessing the impacts of technology and size on scale economies and technical efficiency using a transformation function and stochastic production frontier estimation; 2) an evaluation of the impact on productivity, costs and output of alternative practices regarding antibiotic use on US hog and poultry operations; and 3) a study on the changing structure in US field crops and which aims to identify the roles of technology and policy and whether there is an upper limit to farm size. Three papers presenting results on dairy, hog and poultry farms are posted on the network website under background information for the seventh meeting.

19. Andrew Woodend presented recent findings on farm level performance in England, including the 2009/10 Farm Business Survey (FBS).[8] Among other things, the analysis identifies the characteristics of high performers among various farm type and locations. It also looks at consistency of performance over time. A specific Business Management Practices Module shows that farms that use skills in management

8. Various reports can be found at Rural Business Research On-line http://www.farmbusinesssurvey.co.uk/index.html

practice are more likely to be those in the high performing group. The characteristics of different categories of farmers resulting from the FBS farmer segmentation were presented, as well as the implications in terms of management practices and policies. There were questions on how farm categories are constructed and who decides how a farm is classified.

20. Nathan Niu presented preliminary results of a study on the resource use efficiency of grains and oilseeds farms in Saskatchewan. The purpose is to compare technical efficiency of grains and oilseeds farms over time, and to identify the characteristics of efficient farms. It identifies three groups of farms: non-profitable, profitable at market prices, and profitable with payments. There were questions on how the groups are determined, the definition of profitability indicators, and whether the time dimension of the panel is used in the estimation.

Session 6: FACEPA

21. The Co-ordinator of the FACEPA project, Yves Surry of the Swedish University of Agriculture Sciences (SLU), was invited to present an overview of the project and its results. FACEPA developed a system of linear input demand equations to estimate costs of production by commodity using FADN data. Cost level and composition were presented for major commodities. Alternative methods were mentioned and potential use of the data generated for future analysis was outlined, for example to analyse the performance and competitiveness of various categories of farms or to estimate the impact of farm practices or other activities on production costs. Final results of this three-year EU Research project will be presented at a pre-conference workshop on cost of production at the farm level[9] at the XIIIth Congress of the European Association of Agricultural Economists (EAAE) in Zurich, Switzerland on 30 August-2 September 2011.

22. The potential use of panel data in the estimation was discussed, but it must be applied with caution when technology and prices are changing over time. Concerning livestock products (pigmeat for instance), it was suggested using slaughter weights rather than livestock units. It was pointed that some work needs to be done on the data, before carrying out the estimation. Farms considered to be outliers are excluded. It would be useful for Aglink (see below) to know about the stability of cost structure, and to have information for the EU15 and new member states (EU12).

23. Pavel Vavra briefly presented the Aglink model used by OECD to generate the commodity market outlook projections that are published in the annual *OECD-FAO Agricultural Outlook*.[10] He explained that in the model, commodity production cost indices are used in area and production equations. These indices do not include feed costs, which are modelled explicitly. As part of the on-going review of the model, efforts are being made to review and update these indices and FACEPA results are expected to provide useful information. It is important for commodity market projections to have good information on how costs of production affect farmers' supply.

9. www.eaae2011.ch/EstimationofCostsofProductionattheFarmLevel.php
10. www.agri-outlook.org/pages/0,2987,en_36774715_36775671_1_1_1_1_1,00.html

Session 7: Conclusions and next steps

24. Hans Vrolijk invited the audience to the 19th Pacioli workshop, which will take place in the beautiful medieval city of Tallinn, Estonia, on 2-5 October 2011 (see www.pacioli.org for more information on PACIOLI workshops).

25. Catherine Moreddu and Shingo Kimura gave a summary of actions and decisions.

1) The OECD Secretariat will undertake the following.

- Send the summary record to participants for comments.
- Prepare a report of the network discussion and decisions for the Working Party on Agricultural Policies and Markets for 30-30 May-1 June 2011 meeting.
- Organise the next meeting of the network, for 1 and 1/2 days, probably in October or November 2011. A tentative date would be 3-4 November 2011.
- Inform countries if we plan to use the data they provided for further analysis on risk management or productivity.
- Elaborate terms of reference for the project on productivity and innovation with a small group of countries who showed interest in initiating this project. The terms of reference will be posted on the web site for comments and further bilateral discussion will follow.
- Contact participants who contributed to panel data for further bilateral discussion on additional needs for the decomposition of productivity analysis.
- Look into the feasibility of organising a joint seminar between the network and the Joint Working Party on Agriculture and the Environment.

2) Participants were asked to:

- Provide material on work done by their respective institution on production costs, productivity, competitiveness, and risk management in livestock sector.
- Inform Jesús and Shingo on the availability of data relevant for the animal disease study (e.g., specific data on veterinary cost, vaccination, medication or incidence of disease).
- Contact Secretariat staff for information or proposals on specific projects.

3) Concerning the web site:

- The final agenda, list of participants, presentations and summary record will be posted on the website.
- Participants who made a presentation were asked to indicate whether their presentation could be posted on the password protected website.