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THE ROLE OF AGRICULTURE AND FARM HOUSEHOLD DIVERSIFICATION IN THE RURAL ECONOMY: EVIDENCE AND INITIAL POLICY IMPLICATIONS

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NOTE BY THE SECRETARIAT

This report has two parts. Part I reviews the role of agriculture in the rural economy as indicated by its share in GDP, in employment, in land use and in population. Part II analyses the integration of farm households in the rural economy through their diversification activities, on and off the farm. In the light of available evidence, some initial policy implications are drawn. Several sources of information were used including: OECD and EU regional databases; thirteen country reviews released together with the report; and responses to a questionnaire on diversification. The study was undertaken under Output area 3.2.1: Agricultural policy reform (Item 3.2) of the Programme of Work and Budget of the Committee for Agriculture for 2007-08.

The report was prepared by a consultant, Darryl Jones, with contributions from Catherine Moreddu and Toru Kumagai. It was declassified by the Working Party on Agricultural Policies and Markets at its meeting of 23-24 February 2009.

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THE ROLE OF AGRICULTURE AND FARM HOUSEHOLD DIVERSIFICATION IN THE RURAL ECONOMY: EVIDENCE AND INITIAL POLICY IMPLICATIONS

Executive summary

This study examines the role of agriculture and related activities in the economy of rural areas against a background in which farm households increasingly rely on diverse sources of income other than farming. Part I considers the distribution of agriculture in predominantly rural, intermediate and predominantly urban regions, as defined by the OECD, and provides evidence on the share of agriculture in land use, population, employment, and GDP. Whenever information is available on the share of agro-food industries in total employment or the share of forestry in land use, it is also reported. Part II reviews developments in various types of diversification activities on and off the farm by farm households, as these represent one type of interaction between farm households and the rural economy. Whenever possible, information on the share of these activities in farm household income is reported. It has not been possible to analyse the significance of these diversified activities for the rural economy or the nature of the inter-dependencies between them. But, the report summarises the various factors enhancing or limiting farm household diversification into non-agricultural activities, and discusses the potential impact of government intervention and regulations.

Applying the OECD regional typology at the regional level at which information on agriculture is available shows that:

- Rural regions are very diverse in terms of the importance of agriculture in their economies.
- In most regions, agriculture dominates land use, but forestry is also a major land user, even the main one in some countries.
- The share of agriculture in regional GDP and employment is small and decreasing in most regions, but there are still regions where a significant proportion of the rural population is dependent on agriculture.
- From 1995 to 2005, there has been a decrease in the number of farms and agricultural employment, but an increase in agricultural GDP, with wide variations by country.
- Farms/agriculture usually accounts for a larger share of the economy (employment and GDP) in predominantly rural areas than in other regions, but
- a significant share of agriculture takes place in intermediate and urban regions, even most in many countries.

Regarding agriculture-related industries and multiplier effects on the rural economy, information is more limited and difficult to obtain, but the evidence found shows that:

- Agro-food processing industries have generally a higher share in employment in predominantly rural areas than the national average, but this share remains lower than that of agriculture.

- The multiplier effects of agro-food processing industries on the regional economy are often higher than those of primary industries.

- Finally, the size of agricultural and agro-food multipliers vary by product sub-sector: it is higher in those using labour intensively.

As a large land user, agriculture plays an important role in many of the environmental issues that arise in rural areas. These often have a strong local component. However, as the share of primary agriculture in employment and GDP is low and decreasing in most regions, the extent to which agricultural policies can foster general economic development in rural areas is often limited, but varies by region and needs to be considered for each specific case. In addition, given the distribution pattern of agriculture, the extent to which generalised, national support to agriculture will accrue to rural areas will differ widely by country. Regional, multi-sectoral approaches responding to the specific problems and building on the specific attributes and assets of individual rural areas are therefore needed.

The role of farm households in rural areas goes beyond agriculture and associated provision of public goods. As consumers of local goods and public services, they have an impact on these activities, commensurate with their importance in the rural population. More importantly, they often are integrated into the rural labour market through diversification into non-agricultural activities on and off the farm. Among the revenues from activities other than primary agricultural production, evidence gathered in this study outlines the importance of off-farm rather than on-farm activities. However, it is difficult to evaluate the importance of off-farm activities on a comparable basis as farm household definitions are very different between countries.

On-farm activities consist either in moving down the food chain into processing and selling agricultural goods, or using farm household resources to move into activities such as contracting, forest production, cultural and recreational activities, and sometimes social services. Farm tourism deserves a special mention as it is increasingly the focus of public and government attention as it can provide a range of functions such as promoting local products, preserving the agricultural and natural environment and raising regional reputation. However, farm tourism is often concentrated in specific regions attractive to tourists and in those it is often a small proportion of rural tourism. The implications for the rural economy of land use in agriculture are examined more generally in another study, which will also contribute to the synthesis report on Impacts of Agricultural Policies on Rural Community Well-Being to be undertaken under the Programme of work and budget for 2009-10.

Although not necessarily located in rural regions, off-farm activities can contribute to farm viability by raising farm household income levels and stability (OECD, 2003). To the extent data are available, off-farm income accounts for a larger share of total income than on-farm non agricultural income. Motivations for engaging in non agricultural activities are not always purely financial, but also reflect societal changes, in particular the increasing proportion of women in the work force, or the wish to be more integrated into the local community. Off-farm activities may also occur when a member or members of the next generation stay in the locality and develop other activities and sources of income as part of a strategy of gradual transition to facilitate inter-generational farm transfers.

Opportunities to engage in other activities depend on a number of factors either specific to the farm (*e.g.* availability of extra labour, degree of business skills of farm household members, farm size, specialisation and location) or relating to the economic, regulatory and natural environment (*e.g.* access to markets, national and local labour markets, regulations and contractual practices regarding tenancy,

environmental situation). A range of policies have been introduced in some countries to assist farm household diversification into non agricultural activities, such as grants, training and facilitation. At the same time, however, regulations governing tax, social security, land zoning and labour markets may complicate diversification in countries where agriculture is not treated the same as other sectors. Farm households, who engage in non agricultural activities, may have to maintain two separate registration and declaration systems for tax and social security purposes, and may lose the benefits of being "farmers" (*e.g.* if there is preferential treatment in the social, tax system, or access to some farm subsidies, such as investments) if the income they derive from non agricultural activities becomes higher than the income from agricultural activities.

Many factors influence the diversification of farm households into non-agricultural activities, including government intervention. If governments want to foster diversification, they would need to make sure that policies in place, whether sectoral or broad, do not put unintended obstacles in the way of such diversification. Providing the services needed to foster business in rural areas, such as telephone and internet coverage, training and information, will also help to create an environment conducive to diversification. Some governments concerned that diversification could also have negative implications, for example if it leads to a reduction in the public goods produced by agriculture, may decide to encourage only some specific types of diversification.

Finally, it should be kept in mind that interactions between farm households and the rural economy are two-ways: farm households contribute to the rural economies through their production and consumption activities, on and off farm. But a healthy and diversified rural economy, which provides off-farm work opportunities as well as services, is essential to the survival and welfare of a large proportion of farm households for whom farming alone would not be sufficient to entice or enable them to stay in the sector.

Introduction

1. The purpose of this report is to examine the role of agriculture and farm households in the economy of rural areas in OECD countries. Within this broad remit there are four main objectives:

- provide a general overview of the economic importance of agriculture and related industries in rural areas and trends therein;
- describe the income situation of farm households, with emphasis on income diversification;
- assess the policy stance with respect to farm household diversification in other rural activities, *e.g.* commenting on whether current policies are placing obstacles in the way of pluriactivity by farm households; and
- comment on the improvements in information and analysis needed to better understand the relationships between agriculture and rural areas, and evaluate government intervention.

2. There are three inter-related motives for undertaking this work. First, rural development has gained a prominent place in the agricultural policy aims of some OECD countries. Knowledge of the distribution of agriculture by type of region and on the share of agriculture on a regional basis within a country is crucial for developing effective policy measures. Second, some countries are concerned about the possible negative aspects of further reductions in domestic support and border protection on the economy of rural areas because agriculture is still a key sector in managing land and many ancillary industries may be dependent on agriculture. A thorough understanding of how rural areas are developing, and the role of agriculture within this, are vital to drawing appropriate conclusions in this discussion. Third, farm households increasingly depend on diverse sources of income including farm-related activities such as agro-tourism, as well as non-farm wages and salaries, investments, social security and retirement income. But how important are these activities, what factors explain their development and what, if any, should be the role of government?

3. The report constitutes part of a broader work programme examining the linkages between agriculture and rural development. Other components examine methods used in member countries to monitor and evaluate the impacts of agricultural policies on rural development (OECD, 2009) and the implications for the rural economy of land use in agriculture. A synthesis report on the "Impacts of Agricultural Policies on Rural Community Well-Being", undertaken under the Programme of Work and Budget for 2009-10, draws on this work.

4. This programme follows on from the Workshop on the Coherence between Agricultural and Rural Development Policies held in 2005 which identified the need for more rigorous work in the area of monitoring and evaluation of the impact of agricultural policies and policy reform on rural development (OECD, 2006a). In view of the small and decreasing share of agriculture in the total workforce of rural areas, and the increasing reliance of farm households on non-farm sources of income, that workshop concluded that:

> "Agriculture is no longer the backbone of rural economies. While agriculture has an important role in shaping rural landscapes in many OECD countries, its weight in rural economies is often low and declining. Currently, less than 10% of the rural workforce is employed in agriculture. Even accounting for the considerable increase in productivity, agriculture's share of gross value added remains low."

5. The report nevertheless recognizes that agriculture continues to have an important influence on the economy of most rural regions, through the following channels: 1) linkages with rural upstream and downstream industries; 2) provision of public and semi-public goods such as culture and landscape, which are in turn used in local activities such as tourism and recreation; 3) land stewardship, which plays a role in environmental protection and in some cases natural disaster prevention; and finally 4) consumption of goods and services by farm households.

6. This is not a new issue. In the late 1990s, the OECD studied the impact of agricultural policy reform on the rural economy (OECD, 1998). Using regional data for a selection of OECD countries, coupled with case study material, it estimated the distribution, and where possible the share, of farms, land, agricultural employment and GDP in rural areas covering the period from the early 1980s to the early 1990s. Since then, much work has been done by the OECD Public Governance and Territorial Development (GOV) Directorate to increase the range of countries for which regional information is available. Similarly, many more OECD governments have produced regional data relating to agriculture.

7. An extensive variety of information sources has been used in the compilation of this report, including information available from OECD and EUROSTAT. The report also incorporates statistics and commentary from thirteen country reviews specifically commissioned for this project, covering Australia, Austria, Canada, France, Germany, Japan, Korea, Mexico, New Zealand, Poland, Spain, the United Kingdom and the United States (OECD, 2008b-o). These country reviews, based on available literature and resources, covered all or most of the following: national definitions and underlying concepts of "rural"; data pertaining to the share of agriculture and the agro-food sector in regional economies; data on farm household incomes and detail relating to non-farming income-generating activities including whether these are farm or rural based; and the strength of multiplier effects. The full list of questions that the country reviews attempt to answer is provided in Annex I.1.

8. The report also incorporates the results of a questionnaire which was sent to countries at the beginning of January 2008(Annex II.2). Questions relate to the types of diversification activities by farm households in rural areas, and the policy stance with regard to diversification. Finally, information from these three sources has been supplemented with additional information from a literature review and data analysis, as well as information provided by some countries.

9. Part I of the report examines the interaction at the sectoral level. It begins by reviewing the various definitions of "rural", and explaining the typology and territorial units used in this investigation. Having established the scope of the study, the next four sections discuss regional population, land, employment and GDP across the OECD countries. Each section has a similar construct: a description of regional differences for those variables at the national level and how these have changed over the ten years 1995-2005; the distribution of agriculture (*e.g.* number of farms, area in agricultural use, employment, GDP) across the regions; the share of agriculture within each of the types of regions; and the change in agriculture by type of region over the ten years. The share of agriculture-related industries and associated multipliers are discussed in boxes. Part I finishes with a general overview of the importance of agriculture in rural economies among OECD countries, along with comment on the strength and reliability of the data, and initial policy implications.

10. It should be noted that the treatment of agricultural land in this study is done at the general level, *i.e.* it just focuses on total area used for agricultural production. Changes in the form of land use (arable land, permanent pasture, etc.) will be explored in the synthesis report on impacts of agricultural policies on rural community well-being undertaken under the Programme of Work and Budget for 2009-10.

11. Part II examines the diversification of activities by farm households. It begins by discussing the concepts of income diversification including a framework for classifying various income generating

activities based on inputs, outputs and location. This framework is then used to examine the patterns of income diversification that have taken place in OECD countries, with special focus on farm tourism. This section is more qualitative in nature and is followed by a more quantitative section which examines the overall composition of farm household income. The various factors enhancing or limiting farm household diversification into non-agricultural activities are then discussed. One of the most important factors is government policy, and the penultimate section specifically focuses on this by analysing the potential impact of a range of policies on farm household income diversification. The final section will provide conclusions on the extent to which farm households have diversified, comment on data deficiencies and areas for improvement, and initial policy implications.

PART I. AGRICULTURE IN THE RURAL ECONOMY

1. International and national rural classifications

Determining the issues

12. The task of classifying an area as "rural" can be separated out into two main issues. The first concerns the ***typology*****,** or definition, of what constitutes a rural area, *i.e.* what are the distinguishing characteristics that make an area rural rather than non-rural. The second concerns the ***territory***, or geographical unit, at which the typology is applied.

13. The difficulty in defining what is meant by "rural" is shown in the fact that rural is commonly defined not on its own terms but in opposition to urban. Many national statistical systems first define what is urban and then simply define rural as non-urban. In other cases, rural is defined using demographic and socio-economic features. A small population or low density of population are the primary and most widely used criteria. Other secondary criteria often depend on the issue at stake. These include employment opportunities, access to telephone, internet, health and education services.

14. Changes in demographic and working patterns, resulting from a variety of socio-economic, technological and infrastructural developments, are leading to the introduction of more sophisticated methods for defining what is meant by rural. There is a move away from a simple urban/rural population divide to a broader consideration of "rurality". Rather than using a proportional basis (*e.g.* population density) to define rural, these newer typologies use a spatial basis, such as the average distance to population centres of various sizes, to categorise areas.

15. Criteria used to define rural can be applied to territorial (geographical) units of various sizes. In most cases, these units follow administrative boundaries. The smallest administrative unit is generally the municipality, although in some cases the criteria can be applied to census units consisting of about 150 persons. Some countries, such as Australia and the United Kingdom, are using Geographical Information System (GIS) technology to map census information into one square kilometre grids.

16. However, while this can provide population based statistics at a very detailed level, most economic statistics are only available at broader administrative levels such as counties, *départements*, regions, provinces or states. It can thus be necessary to apply the rural typology to these administrative regions. Rural regions could then be those where the density of population is below the threshold or those where a majority of municipalities are rural, *i.e.* have a density of population below the threshold. As shown later, results can vary according to the territorial unit at which the criteria are applied.

OECD

17. The only internationally recognised definition of rural is the OECD regional typology (OECD 1994, 1996 and 2007a). It is based on three criteria, combining features of population density, distribution and size.

18. The first criterion identifies rural communities according to population density. A local community (small, basic administrative units appropriate to the country concerned) is defined as rural if its population density is below 150 inhabitants per square kilometre (500 inhabitants for Japan to account for the fact that its national population density exceeds 300 inhabitants per square kilometre).

19. The second criterion classifies regions according to the percentage of population living in rural communities. Thus, a region is classified as:

- **Predominantly rural** (PR), if more than 50% of its population lives in rural communities.
- **Intermediate** (IN), if between 15% and 50% of its population lives in rural communities.
- **Predominantly urban** (PU), if less than 15% of its population lives in rural communities.

20. The third criterion is based on the size of the urban centres. Accordingly:

- A region that would be classified as PR on the basis of the general rule is classified as IN if it has an urban centre of more than 200 000 inhabitants (500 000 for Japan) representing no less than 25% of the regional population.
- A region that would be classified as IN on the basis of the general rule is classified as PU if it has an urban centre of more than 500 000 inhabitants (1 000 000 for Japan) representing no less than 25% of the regional population.

21. As the geographic and population size of a "region" can vary significantly both within and between countries, the OECD has also established a systematic classification of territorial units within each member country (Table 1.1). The classifications, and therefore the regional typology, are based on two Territorial Levels (TL). The higher level (TL2) consists of 335 macro-regions while the lower level (TL3) is composed of 1 679 micro-regions.[1] The result is a classification which facilitates greater comparability of regions at the same territorial level. Indeed, these two levels, which are officially established and relatively stable in all member countries, are used by many as a framework for implementing regional policies. For a given territorial level, however, interpretation remains difficult when comparing units with potentially large differences in size depending on the country.[2]

1. TL0 indicates the territory of the whole country and TL1 denotes groups of macro-regions.

2. Some states in the United-States (TL2) are larger than individual European countries (TL0).

Table 1.1. Territorial grid of OECD member countries

Country	Territorial Level 2 (TL2)	Nber	Territorial Level 3 (TL3)	Nber
Australia	States/Territories	8	Statistical divisions	58
Austria	Bundesländer	9	Gruppen von Politischen Bezirken	35
Belgium	Régions	3	Provinces	11
Canada[1]	Provinces/Territories	13	Census divisions	288
Czech Republic	Oblasti	8	Kraje	14
Denmark[2]	Regions	3	Amter	15
Finland	Suuralueet/Storområden	5	Maakunnat/Landskap	20
France	Régions	26	Départements	100
Germany	Länder	16	Spatial planning regions (groups of Kreise)	97
Greece	Groups of Development regions	4	Development regions (Periferies)	13
Hungary	Tervezési-statisztikai régiók	7	Megyék+Budapest	20
Iceland	Regions	2	Landsvaei	8
Ireland	Regions	2	Regional Authority Regions	8
Italy	Regioni	21	Provincie	103
Japan	Districts	10	Prefectures	47
Korea	Provinces+metropolitan cities	16 (9+7)	Cities and Counties	200
Luxembourg	State	1	State	1
Mexico	Entidades Federativas (States+ 1 federal district)	32	Municipios	2 438
Netherlands	Landsdelen	4	Provincies	12
New Zealand	Northern and Southern islands	2	Regional Councils	14
Norway	Landsdeler	7	Fylker	19
Poland	Województwa	16	Podregiony	45
Portugal	Comissões de coordenação regional+ Regiões autónomas	7	Grupos de Concelhos	30
Slovak Republic	Oblasti	4	Kraje	8
Spain	Comunidades y ciudades autónomas	19	Provincias + Ceuta y Melilla	52
Sweden	Riksområden	8	Län	21
Switzerland	Grossregionen/Grandes regions/Grandi regioni	7	Kantone/Cantons/Cantoni	26
Turkey	Alt Bölgeler	26	Iller	81
United Kingdom	Government office regions; Country	12	Districts	133
United States	States	51	(BEA) Economic Areas	179

It should be noted that there can be large differences in size of regional entities by country for a given territorial level.
1. Canada defined 76 Economic Regions, which are a grouping of census divisions. Thus they are between TL3 (census division) and TL2 (provinces/territories).This is a most disaggregated territorial level at which most variables used in this study (all but GDP) are available.
2. Since the 2007 reform of the municipal structure, the 15 counties (Amter) were replaced by 5 regions.
Source: OECD (2007a).

22. The Wye Group Handbook (UNECE, 2007) discusses the challenges of harmonising rural statistics at the international level (Chapters 2 and 3). In the context of discussing the OECD territorial indicators, the Handbook mentions the difficulty of choosing a common, absolute threshold for population density when average density is so variable across countries. It also explains that rural cannot be distinguished from urban when using administrative units that are large enough to contain both metropolitan cities and remote villages. Administrative units have different sizes depending on the country's size and administrative tradition. It might be appropriate at the national level but it makes international comparison difficult. The Wye Group discussion takes place in a context where recommendations are made to countries on how to collect statistics for policy analysis. In the OECD context, however, comparability and feasibility were important concerns. Moreover, the territorial, administrative level at which statistics are collected in each country is a major constraint.

23. Another limitation of OECD (and many other) regional classifications based on population is that they do not take account of accessibility to employment or services, which becomes a major issue for regional development policies, in particular in sparsely populated countries.

European Union

24. Although rural areas have been analysed in many European Union (EU) member states for decades and there have been rural development policies at the EU level since the 1980s, so far the EU does not have a harmonized definition of what is rural nor an official regional typology. The main reasons are as follows:

- "the various perceptions of what is (and what is not) rural and of the elements characterizing 'rurality' (natural, economic, cultural, etc.),
- the inherent need to have a tailor-made definition according to the "object" analysed or policy concerned, and
- the difficulty in collecting relevant data at the level of basic geographical units (administrative unit, grid cell, plot, etc)." (EC, 2007)

25. As a result, the EU Commission has consistently used the OECD regional typology in its reports and documents, although it recognizes the results of this methodology sometimes reflect the rural character of areas imperfectly, particularly in densely populated countries. In order to harmonise regional statistics, the EU has developed a Nomenclature of Territorial Units for Statistics (NUTS) (Table 1.2). This classification is largely consistent with the OECD territorial classification, *i.e*. TL2 is equivalent to NUTS2 and TL3 with NUTS3.[3] The OECD regional typology is applied at the NUTS2 and NUTS3 levels. The determining factor is the availability of statistics for the selected regional units as most socio-economic data are usually only available at these levels.

26. UNECE (2007) mentions another official EU spatial concept that exists for the Labour Force Survey (LFS) and will also be used for the Survey on Income and Living Conditions in the EU (EU-SILC). This concept is called "Degree of urbanization." It distinguishes between densely, intermediate and thinly populated areas. The different areas are defined as follows:

3. The differences concern: Belgium, the Netherlands and Greece where TL2 corresponds to NUTS1 and TL3 to NUTS2; Germany where the TL2 corresponds to NUTS1 and TL3 to an aggregation of NUTS3; the United Kingdom where TL2 corresponds to NUTS1; and Denmark where NUTS2 was the whole country and was thus different from TL2.

- Densely populated area: a contiguous set of local areas (communes) with a population density of at least 500 inhabitants per square kilometre and a total population of 50 000 or more.
- Intermediate area: a contiguous set of local areas (communes) with a population density of at least 100 inhabitants per square kilometre and a total population of 50 000 or more or adjacent to a densely populated area.
- Thinly populated area: a contiguous set of local areas (communes), not belonging to 1) or 2).

Table 1.2. EU Nomenclature of Territorial Units for Statistics (NUTS) for EU19 countries

	NUTS1		NUTS2		NUTS3	
Austria	Groups of states	3	States	9	Groups of Bezirks	35
Belgium	Regions	3	Provinces	11	Arrondissements	43
Czech Rep.	Country	1	Groups of Regions	8	Regions	14
Denmark[1]	Country	1	Country	1	Counties	15
Finland	Mainland Finland,	1	Large areas	4	Regions	19
	Åland	1	Åland	1	Åland	1
France	ZEAT	8	Régions	22	Départements	96
	Overseas departments	1	Overseas departments	4	Département d'outre-mer	4
Germany	States (*Länder*)	16	Regierungsbezirke	41	Districts	439
Greece	Groups of development regions	4	Peripheries	13	Prefectures	51
Hungary	Groups of Regions	3	Regions	7	Counties + Budapest	20
Ireland	Country	1	Regions	2	Regional Authority Regions	8
Italy	Groups of regions	5	Regions	21	Provinces	103
Luxembourg	Country	1	Country	1	Country	1
Netherlands	Landsdelen	4	Provinces	12	COROP regio's	40
Poland	Groups of Voivodeships	6	Voivodeships of Poland	16	Podregiony (Groups of Powiats)	66
Portugal	Continental Portugal	1	Comissões de coord. regional	5	Groups of Municipalities	28
	Azores and Madeira	2	Azores and Madeira	2	Azores and Madeira	2
Slovak Rep.	Country	1	Groups of Regions	4	Regions	8
Spain	Groups of autonomous communities	7	Autonomous communities	17	Provinces	50
			Ceuta and Melilla	2	Ceuta and Melilla	2
Sweden	Country	1	National areas	8	Counties	21
United Kingdom	Regions of England	9	Groups of Counties; Inner and Outer London	30	Unitary authorities or groups of districts	93
	Wales	1	Groups of unitary authorities	2	Groups of unitary authorities	12
	Scotland	1	Groups of unitary authorities or LECs	4	Groups of unitary authorities or LECs	23
	Northern Ireland	1	County	1	Groups of districts	5

It should be noted that there can be large differences in size of regional entities by country for a given level. Minimum and maximum population thresholds are used for establishing the NUTS level in which administrative regions are considered as follows: between 1.3 million inhabitants and 7 million for NUTS1; between 0.8 and 3 million for NUTS2 and between 150 000 and 800 000 for NUTS3.

1. In 2007 the number of municipalities was reduced from 277 to 98 and counties were replaced by 5 regions. As a result, NUTS2 now is the new five regions and NUTS3 is a division of the country into 11 parts/provinces.

Source*:* EUROSTAT.

27. There have been several attempts to develop a European typology of rural areas. UNECE (2007) mentions a proposal by Vidal *et al.* (2001) also based on population density. Recently, efforts have been made to use the OECD population density method and a land cover method to come up with a first proposal combining the two approaches (Vard *et al*., 2005).

28. The Study Programme on European Spatial Planning (SPESP) identifies a typology of European territories based on population statistics and takes its point of departure from urban and rural linkages, although it utilizes administrative regions. Using NUTS2 and 3 data, territories are distinguished on the basis of urbanization rate, rural population density, the degree of contrast in the distribution of settlement size, average distance to urban settlement, the primacy of the largest city and the size of the largest centre. The study stresses that more refined typologies are needed (NUTS4 and 5) to be relevant for the analysis of sparsely populated areas where relationships are formed between small and medium-sized towns and rural areas (Bryden, 2001).

29. In addition, a number of ad-hoc definitions of rural areas have been established at the EU level for policy implementation, for example in demarcating areas for Objective 2 Structural Fund assistance. For this specific purpose, rural areas are defined by either (low) population density or a percentage share of the workforce employed in agriculture (Bryden, 2001).

OECD member countries

30. The definitions of rural areas used in national statistics are listed in Table 1.3 which combines information from an earlier OECD report (OECD, 1998) with the result of a UNECE survey on methods used for measuring rural development statistics (Annex 3 of UNECE, 2007) and national sources obtained through this study.

31. Definitions vary significantly in terms of the typology (*i.e.* the criteria and level of threshold required for a rural classification) and the size of territorial units to which the typology is applied. Nevertheless, the following features can be distinguished:

- Two countries (the Netherlands and Norway) do not have an official definition of rural areas in national statistics; and for three countries (Belgium, Iceland and Luxembourg) no definition was found.

- Two countries (Korea and Poland) use an administrative basis to determine rural.

- Some countries define what is "urban" first, then define "rural" as the residual of "urban" (*e.g.* Australia, Austria, Denmark, France (2000 definition), Japan, New Zealand, Portugal, Sweden, Switzerland, and the United States).

- Population size is used as a threshold in most national definitions, combined or not with population density. Few countries use population density alone (*e.g.* Italy).

- Population thresholds vary between 200 inhabitants for Danish and Swedish urban centres to 20 000 for Korean settlements. The limit is often comprised between 1 000 and 2 500 inhabitants. Some countries only count permanent residents.

- Population density as a threshold to define rural ranges from 100 inhabitants/km^2 for Portugal to 500 inhabitants/km^2 for Japan.

- Some countries use other criteria such as distance to a metropolitan area (*e.g.* Canada), contiguity to cities (*e.g.* Portugal), travelling time (*e.g.* Sweden) or commuting pattern (*e.g.* Switzerland).

- Many countries have also developed subdivisions of rural areas relating to the degree of rurality. This is the case in Canada, the Czech Republic, Finland, France, Germany, Hungary, Portugal, Sweden, Slovak Republic, Turkey and the United Kingdom.

- Definitions are becoming more complex in terms of recognising the linkages between urban and rural *e.g.* US ERS rural-urban continuum, Australia distinguishes the degree of remoteness.

- Most countries set "communities" or "municipalities" as their territorial units to define rural.

32. In addition to developing a rural/urban typology for national statistical collection, many countries have developed alternative rural definitions for the purposes of establishing support programme eligibility requirements. These definitions not only vary between countries but also between programmes within a country.

33. For example, the United States Department of Agriculture (USDA) Rural Development Business and Industry Guaranteed Loans program is available to persons living outside cities and towns of more than 50 000 persons while the Rural Development Communities Facilities program is available in rural areas and towns up to 20 000 persons. In Poland, the Post-Accession Rural Support Project for 2006-09 is restricted to villages and small towns with a population of up to 4 000 while the Regional Operational Program is applicable outside towns and cities with a population of 10 000. Box 1.2 provides an example of the classification recently introduced by Denmark.

Table 1.3. National statistical definitions of rural in OECD countries

Australia	*Standard Geographical classification*: Rural areas are defined as those areas other than urban. Urban areas are census Collection Districts (CDs) that contain people living in close proximity to others (at least 200 persons per square kilometer) in clusters of 1 000 or more persons. *Remoteness Area classification*: Developed in the late 1990s, this system classifies CDs into five broad classes of remoteness according to the Accessibility/Remoteness Index of Australia based on the physical road distance to five urban centres of various population sizes.
Austria	Rural areas are those areas which are non-urban or lack an urban centre. Urban is determined by population size and employment pattern.
Belgium	No definition was found
Canada	*Census definition:* Rural areas are those with a population of less than 1 000 and a density of less than 400 persons per square kilometre. *Rural and Small Town methodology*: Areas under 10 000 people outside the commuting zone of a census metropolitan area and census agglomeration area.
Czech Republic	Areas occupied by municipalities with less than 2 000 residents.
Denmark	Rural areas: Areas that are not urban, *i.e.* occupied by urban centres with less than 200 inhabitants. Rural area municipalities: municipalities, where the largest urban area as of 1 January 1999 had less than 3 000 inhabitants (valid up to 2007 when the municipal structure was reformed).
Finland	Three types of rural areas are distinguished based on their prospects for development: urban-adjacent rural areas, rural heartland areas and peripheral areas.
France	The French National Institute for Statistics and Economics defines predominantly rural areas as the total area occupied by small urban municipalities (communes) and by rural municipalities, those with less than 2 000 inhabitants. A typology of rural areas is presented in Box 1.1.
Germany	Regions with a population density of below 100 inhabitants per square kilometer with an urban centre of 100 000 and more; and regions with a population density of below 150 inhabitants per square kilometer without an urban centre of 100 000 or more.
Greece	Rural areas are defined as the territories of communities with less than 2 000 inhabitants.
Hungary	*Narrow definition*: Less than 120 inhabitants per square kilometer or under 10 000 residential population at settlement level. *Broader definition*: Predominantly rural at NUTS4 level if 50% of the residential population lives in a settlement with a population density of under 120 inhabitants per square kilometer and significantly rural if 15 to 50% live in a settlement with a population density of under 120 inhabitants per square kilometer.
Iceland	No definition was found
Ireland	*Census definition*: Rural areas are defined as towns under 1 500 persons or open country.
Italy	Rural areas are those with a population density lower than 100 inhabitants per square kilometer.
Japan	*Classification of Agricultural Area (MAFF statistics)*: Rural areas are those which are not classified as urban. Urban areas are defined as the territories of municipalities with a population density of 500 inhabitants or more per square kilometer.
Korea	There are three categories of administrative regions in Korea: Dong (city center areas), Eup (suburbs) and Myeon (remote villages). Myeon are settlements with less than 20 000 inhabitants, but apart from that threshold, denominations are not based on strict criteria. Territories of Dongs are recognized as urban areas, and territories of Eup and Myeon are categorized as rural areas.
Luxembourg	No definition was found
Mexico	The National Institute of Statistics, Geography and Informatics (INEGI) defines rural areas as the territories of the communities with less than 2 500 inhabitants.
Netherlands	There is no official definition of rural areas in Dutch statistics. The LEI define as rural, areas (on the basis of postcodes) with fewer than 100 addresses per km2 and with less than 10% built-up areas.

Table 1.3. National statistical definitions of rural in OECD countries (cont.)

New Zealand	*Standard classification*: Rural is defined on a population basis as those areas outside centres which have 1 000 or more people, further separated into "rural centres" (with a population of 300 to 999 people) and "other rural". *Alternative classification*: Separates out the standard rural area into four different categories – rural areas with high urban influence, rural areas with moderate urban influence; rural areas with low urban influence; and highly rural/remote areas – based on workplace address.
Norway	There is no official definition of rural areas in Norwegian statistics. However, Norway has a standard classification of municipalities based on industry, population density and centrality.
Poland	Urban/rural areas are determined on an administrative basis by the Council of Ministers. Urban status us given to an area when it has sufficient infrastructure, urban character, spatial arrangement plan and at least 2 000 inhabitants.
Portugal	The OECD classification is applied at the NUTS3 level with the following adjustments: - NUTS3 parishes classified as PU are reclassified as PR if that they are less favoured. - NUTS3 parishes classified as IN are reclassified as PR if they are less favoured, or integrated into municipalities in which at least 10% of the economically active population is employed in agriculture and forestry. - NUTS3 parishes including population centres with at least 15 000 inhabitants are not classified as PR.
Spain	National Statistics Institute of Spain (INE): rural areas are defined as municipalities with less than 2 000 inhabitants. Intermediate rural areas are municipalities having between 2 000 and 10 000 inhabitants. Urban areas are municipalities with more than 10 000 inhabitants.
Slovak Republic	Areas of municipalities with less than 100 inhabitants per square kilometer and less than 5 000 permanent residents.
Sweden	The traditional definition is based on the dichotomy rural-urban, where urban is any agglomeration of more than 200 persons. Recently a more elaborated system of categories was proposed by the national Rural Area Development Agency which distinguishes different degrees of rurality based on travelling time. These are urban centres with more than 3 000, countryside close to urban centres, countryside and rural areas.
Switzerland	All the areas outside isolated towns and agglomerations are considered as rural. Agglomerations of 20 000 or more inhabitants and isolated towns of 10 000 or more are considered urban. To delimit agglomerations, the number of jobs (at least 2 000) and the commuting pattern (of the economically active population 85% or more work in the agglomeration). Commuting pattern, population growth rates, built-up area, population/job density and employment in the primary sector are used to decide if municipalities are part of an agglomeration or not.
Turkey	Areas occupied by municipalities with less than 2 000 residents.
United Kingdom	England and Scotland: All areas outside settlements with a population of 10 000 or more. Wales: All areas are rural except those of a small list of communities in towns and cities that were deemed to be entirely non-rural, i.e. with over 150 people per square kilometer.
United States	*Census Bureau Definition:* Urban areas are defined as "core census block groups or blocks that have a population density of at least 1 000 people per square mile and surrounding census blocks that have an overall density of at least 500 people per square mile". Any territory not defined urban is considered rural. These definitions are made at a sub-county level. *Office of Management and Budget metro and non-metro classification:* Metropolitan areas contain: (a) core counties with one or more central city of at least 50 000 residents or with a Census Bureau - defined urbanized area (and a total metro area population of 100 000 or more), and (b) adjacent counties linked through commuting ties. Non-metropolitan counties are outside the boundaries of metropolitan areas and have no cities with as many as 50 000 residents. *ERS Rural-Urban Continuum Code*: a nine category system that classifies counties from most urban to most remote rural. Metropolitan counties are classified into three categories based on population size: non-metro counties are classified into six categories based on their degree of urbanization and adjacency to metro areas. *Official Federal definition:* Rural areas comprise places (incorporated or unincorporated) with fewer than 2 500 residents and open territory.

Source: Box 1.1 in OECD (1998), Annex 3 of UNECE (2007), MAFF Japan (2006), MAFF Korea (2006) and country reviews.

Box 1.1. A French definition and typology of rural areas

The French National Institute for statistics and economics (*Institut national de la statistique et des études économiques*, INSEE) defined in 2000 predominantly rural areas (*espace à dominante rurale, EDR*) as the total area occupied by small urban municipalities (*communes)* and by rural municipalities (those with less than 2 000 inhabitants), which do not belong to predominantly urban areas (*espace à dominante urbaine, EDU*). There are three categories of predominantly urban areas:

- *Urban centres* are defined as urban units with a minimum of 5 000 jobs in the centre itself or in adjacent units (61% of the population, 72% of employment and 8% of land in 1999).

- *Periurban rings* where urbanization is continuous (without enclaves) and a minimum of 40% of the population works in the main urban center or another municipality of the ring.

- *Multipolar municipalies* are contiguous rural municipalities and urban units outside urban areas, where less than 40% of active residents work in several urban areas, without reaching this percentage for any of them.

Periurban rings and multipolar municipalities are considered as periurban municipalities. They included 21% of total population, 12% of employment and 33% of land in 1999.

Predominantly rural areas, being defined by opposition to predominantly urban areas, are quite heterogeneous. They group rural towns with weak urban influence (at least 20% of their active residents work in urban areas), rural units which form rural centres offering between 2 000 and 5 000 jobs, municipalities under their influence and rural units with less than 2 000 jobs. Using the same principles as for predominantly urban areas, they are classified as:

- *Rural employment centres* comprised of urban units (or rural municipalities) grouping between 1 500 and 5 000 jobs.

- *Rural employment rings* where a minimum of 40% of the population commutes to a rural centre.

- *Other predominantly rural areas* (53% of land and 12% of population).

Rural employment centres and rings are forming rural employment areas representing close to 6% of the population, 6% of employment and 6% of land.

The National Strategic Plan distinguishes two types of rural areas: predominantly rural areas (58.8% of the national territory) and periurban areas (33.1% of the national territory). Periurban areas are considered in this plan because agriculture and forestry occupy 53.2% of the area and offers associated landscapes. In addition, over 35% or farms are located in periurban areas. French rural areas account for 39% of the population (22.8 million inhabitants).

Besides, INSEE has developed in 2004 a zoning system for the French territory comprising 1 745 "*bassins de vie*", defined as the smallest territorial unit in which the population has access to both health, education, public services and shopping equipments, and employment. Employment has been grouped in three broad categories: residential-related sectors, agri-food-related sectors; other industry-related sectors. Territorial units are then classified according to the main employment sector. This classification can be combined with the rural-urban classification above. For example, categories such as residential, periurban rings can then be identified.

Source: INSEE (2002), "Organisation territorial de l'emploi et des services", *INSEE Première*, No. 870, November. Perrier-Cornet (2002), *Repenser les Campagnes*, éditions de l'aube; Aubert and Schmitt (2006), "Mécanismes économiques à l'œuvre dans les espaces ruraux, conceptions du rural et logiques de l'intervention publique", ENESAD/INRA. INSEE (2004), "Les bassins de vie des bourgs et petites villes: une économie résidentielle et souvent industrielle", Eric Ambiaud, Michel Blanc and Bertrand Schmitt, *INSEE Première* No. 954, April; Structuration de l'espace rural: une approche par les bassins de vie (accès en ligne sur www.insee.fr) http://www.insee.fr/fr/themes/detail.asp?ref_id=bassins_vie&reg_id=99&page=donnees-detaillees/bassins_vie/bassins_vie.htm

Box 1.2. Classification of rural areas in the Danish Rural Development Programme 2007-2013

For use in the Rural Development Programme (RDP), the Ministry of Food, Agriculture and Fisheries in co-operation with the Faculty of Agricultural Sciences, University of Aarhus has developed a classification system showing the "degree of rurality" for each municipality. The intention is to establish an indicator of the need for strengthening development in the rural areas. The classification system is based on the following 14 variables indicating socio-economic, demographic and rural conditions for each municipality:

- Population per square kilometer;
- Population in rural areas and in towns with less than 1 000 inhabitants;
- Part of area in rural zones;
- Number of employees in agriculture;
- Part of the population 17-64 years;
- Part of the population 25-44 years;
- Development in population 1994-2004;
- Development in employment 1994-2004;
- Average distance to motorway;
- Number of jobs in relation to number of employed (dependence on commuting);
- Part of work force with basic school education;
- Part of the workforce with medium or higher education;
- Average distance to areas with large surplus of jobs;
- Taxation base per inhabitant.

In the classification system an index of the "degree of rurality" is calculated for each municipality, and based on the index the municipalities are classified into one of four groups: 1) remote municipalities, 2) rural municipalities, 3) intermediate municipalities and 4) urban municipalities. The calculations are made for the municipalities that have been created by the 2007 structural reform.

Part of the Danish RDP applies country wide and for part of the programme the application is dependent upon the classification of the municipality. In the programme "rural municipalities" covers the municipalities in the groups: 1) remote municipalities, 2) rural municipalities and 3) intermediate municipalities, a total of 63 of the 98 municipalities.

34. The basic territorial units used in national definitions of rural vary considerable in size, both with regard to population and area. To some extent, this is reflected in the thresholds expressed in terms of population size. The use of population density as the classification criterion offsets some of the distorting effects of differences in the size of these units.

Comparison of typology and territorial outcomes

35. The national definitions of rural areas are very different from the OECD definition of predominantly rural areas. Table 1.4 highlights the impact of differences in definition and unit size on results, using the example of the share of the population in rural areas. There is no noticeable pattern when comparing the results of national and OECD definitions, with national estimates of the rural population greater than the OECD estimates (TL3) for half the counties and *vice versa*.

36. Similarly, a comparison of rural population estimates at the TL3 and TL2 levels reveals no discernable bias, although most countries have a smaller proportion of their population classified as rural at the higher territorial level (TL2). This reveals that the same typology applied at a different territorial level can have a significant impact on the results. For example, when moving from TL2 to TL3 levels, the share

of the Irish population living in regions defined as PR more than doubles while the share of the French population in PR regions reduces by more than 50%.

37. Results from national classifications are generally more precise because the definition is applied to smaller territorial units. National definitions often better reflect the specific characteristics of the country's geography like for example a high population density in the whole country or, in contrast, large areas with low population density, but they do not permit any general comparison across countries.

Table 1.4. Share of rural population as determined by OECD and national definitions

Country	% of total population		
	National definition of rural[8]	OECD definition of Predominantly Rural (PR)[9]	
		TL3	TL2
Australia	13	22	5
Austria	n.a.	46	52
Belgium	n.a.	3	---
Canada	22 to 38[1]	29	11
Czech Republic	27	5	---
Denmark	15	39	66
Finland	43[2]	53	51
France	24	17	43
Germany	13	10	2
Greece	n.a.	40	64
Hungary	47[3]	41	38
Iceland	n.a.	38	38
Ireland	n.a.	72	27
Italy	n.a.	10	6
Japan	23	13	8
Korea	19	20	3
Luxembourg	n.a.	---	---
Mexico	24[4]	36	36
Netherlands	13	---	---
New Zealand	14	---	---
Norway	22[5]	49	64
Poland	n.a.	38	30
Portugal	n.a.	21	32
Slovak Republic	30	25	---
Spain	24[6]	13	7
Sweden	35 to 40	49	65
Switzerland	32	9	---
Turkey	35	28	34
United Kingdom	England[7]: 20 Scotland: 31 Wales: 32	2	---
United States	21	37	31

---: no region is classified within this type; n.a.: not available.
1. Depending on the definition.
2. 27% excluding urban adjacent rural areas.
3. Narrow definition. With a broad definition, the share of population in predominantly rural areas is 31.3% and it is 43.2% in significantly rural areas.
4. 2005.
5. Population not living in urban settlements.
6. Total of population living in both rural and intermediate rural regions. 6% if just rural regions.
7. Settlement based definition.
8. Mostly relating to 2003
9. 2005
Source: OECD territorial indicators 2007; OECD (2007a); and Annex 3 of UNECE (2007).

Typology and territorial units used in this study

38. For the purposes of this study, the OECD regional typology has been adopted in order to make comparisons between countries, *i.e.* the same method is used to classify a territorial area as predominantly rural, intermediate or predominantly urban. The thirteen country reviews provide a wealth of information on the role of agricultural at the national level, but these are largely based on national definitions and so cannot be compared easily. They provide, however, valuable background information.

39. In terms of the territorial unit, an attempt was made to gather information at the smallest territorial level possible. The starting point for the exercise was the OECD Territorial Database, which has data relating to population, land area, employment and GDP at the TL3 level for each country, with the exception of regional GDP data for Iceland and Switzerland. The most recent version of the database covers the period 1995 to 2005. It includes only one indicator directly related to the agricultural sector: the share of the agricultural workforce in total employment (Section 4).[4] The task of the study was to find additional information relating to farm population (measured by number of farms), agricultural land area and share in GDP at the TL3 level for each country.

40. One important source of information is the Eurostat database. Not only does this database cover 19 of the 30 OECD countries, the adoption of the OECD typology at the EU level and the close similarity between the OECD TL and EU NUTS geographic units greatly assisted analysis. For non-EU countries, data was sought on government websites, both ministries of agriculture and national statistical collection agencies.

41. For most countries, data enabling a calculation of the distribution and share of agriculture for these four variables at the TL3 level was found for at least one year, often two, with a priority given to providing an up-to-date picture of the distribution and share of agriculture within each of the three OECD regional types for 1995 and 2005.[5] The most recent classification of regions has been applied for both periods.

42. However, for five countries (Australia, Austria, Canada, Germany and Mexico) this was not possible across all four variables. For consistency and in order to draw meaningful conclusions about the role of agriculture in the rural economy, the same territorial unit should be used for each of the four variables across any single country, *i.e.* it is impossible to compare the share of agriculture in rural land use at the TL3 level within a country to its share in regional GDP at the TL2 level within the same country. Consequently, for Australia, Austria and Mexico, the TL2 territorial units have been used for each of the four variables.[6] For Canada, information on all variables except GDP is available at the level of Economic Regions (ER), which is an intermediate category between TL2 and TL3 in which there are 76 regions.[7] For

4. For a complete list of OECD territorial indicators, see OECD (2007a). An earlier version of the OECD database of territorial indicators included more agriculture-related indicators, which were used in OECD (1998). That earlier version covered the period 1980-90. It is not used in this report.

5. Sometimes time-series data is more readily available at the TL2 level (*e.g.* in the United States where state level data is readily available) but a priority was given to using the smallest territory unit possible.

6. In Australia and Mexico, this corresponds to States. In Australia in particular, these are very large territorial units.

7. Labour Force Survey (LFS) economic regions (ERs) have been established at each decennial sample redesign in consultation with the provinces. The regions generally correspond to regions used by the province for administrative and statistical purposes. They coincide with the official Sub provincial Regions defined by Standards Division in consultation with the provinces, for use in dissemination of sub provincial data by Statistics Canada (page 11 of Statistics Canada, 2008, *Guide to the Labour Force Survey: 2008*. (Ottawa: Statistics Canada, Catalogue no. 71-543-GIE). http://www.statcan.gc.ca/pub/71-543-g/71-543-g2009001-eng.pdf

Germany, information relating to agriculture across all four variables is available at the NUTS2 level, which fits between the OECD TL2 and TL3 territorial units.

43. The OECD (and EU15 and EU19) totals produced by this study therefore contain a "mix" of territory units, although the vast majority of countries are represented at TL3 level. This means that the OECD totals relating to the distribution of national population, land, employment and GDP derived here are not comparable with the OECD totals derived at the TL2 and TL3 levels from the Territorial Database. However, the mix is consistent across all four variables, allowing comparisons to be made at the total level.

2. Population

Rural population

44. According to the OECD regional typology, just under one-quarter of the total OECD population live in PR regions (Table 2.1). In terms of national population distributions:

- PR regions are particularly significant for Ireland, and contain around 50% of the population in Austria, Finland, Norway and Sweden;
- IN regions account for a very high proportion of the population in Australia, the Czech Republic and Luxembourg, and between 50-60% of the population in France, Iceland, New Zealand, the Slovak Republic and Switzerland;
- PU regions contain a considerable share of the population in Belgium, the Netherlands and the United Kingdom, and for around half the population in Germany, Italy, Japan, Korea, Portugal, and Turkey.
- A relatively "even" spread of the population across the three types of regions occurs in Canada, Denmark, Greece, Mexico and the United States.
- In Hungary, 80% of the population lives outside PU regions, while in Spain 90% live outside PR regions.

45. Between 1995 and 2005, the number of people living in rural areas decreased in nine of the 27 countries containing PR regions (Figure 2.1). These include the four central European countries of the Czech Republic, Hungary, Poland and the Slovak Republic; Japan and Korea; and the "northern" countries of Finland and Sweden. Rural populations increased in the other eighteen, with significant increases occurring in Ireland, Mexico, Turkey and the United States. Changes in these four countries contributed to the increase in the OECD rural population.

46. However, while increasing in absolute numbers, the percentage increase was generally lower than in other regions – particular IN regions. Consequently, the proportion of the population in living in PR regions decreased between 1995 and 2005 in the majority of countries, although it increased in Belgium, Ireland, Mexico, Poland (due to a larger decrease in other regions) and the United States (Table 2.2).

47. The country reviews indicate that while often falling as a share of total population, the absolute number of people living in rural areas, as determined by national definitions, has remained fairly static or even increased in some cases. A number of the country reviews, for example Australia, Austria, New Zealand and Poland, point to an increase in the population in rural areas located around major urban centres, with a decrease in the more remote areas.

Table 2.1. Distribution of national population by type of region, 1995 and 2005

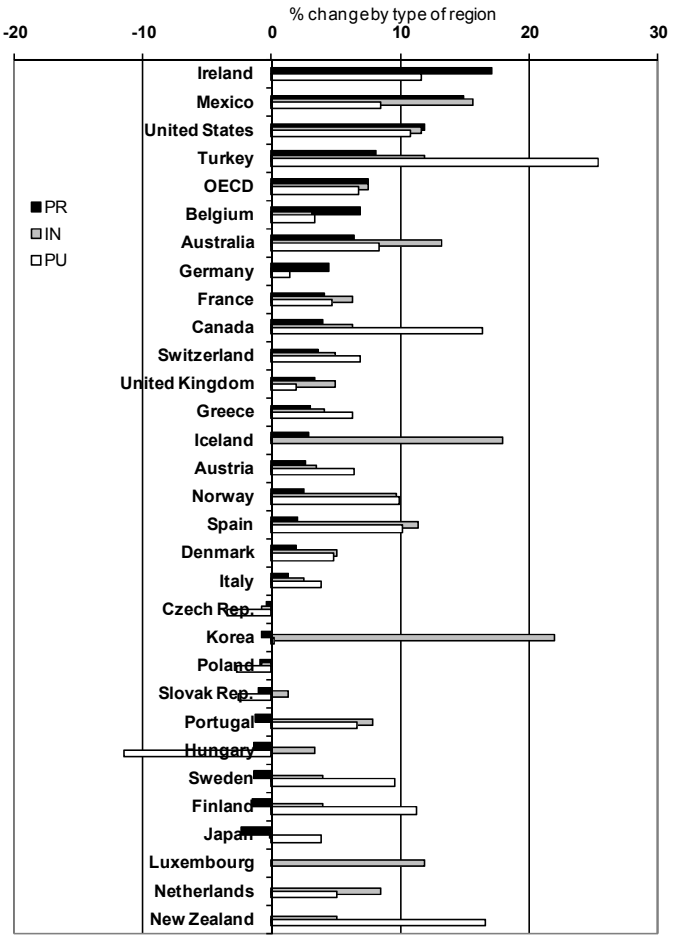
	Regional Units	% of total population					
		Predominantly Rural		Intermediate		Predominantly Urban	
		1995	2005	1995	2005	1995	2005
Australia	TL2	3.6	3.4	94.7	95.0	1.7	1.6
Austria	TL2	52.8	52.3	27.8	27.8	19.4	19.9
Belgium	TL3	2.4	2.5	14.3	14.3	83.3	83.3
Canada[1]	ER	25.3	24.0	36.2	35.1	38.5	40.9
Czech Rep.	TL3	5.0	5.0	83.3	83.5	11.7	11.5
Denmark	TL3	39.4	38.7	31.6	32.0	29.1	29.3
Finland	TL3	55.4	53.1	20.8	21.1	23.8	25.8
France	TL3	17.2	17.0	54.1	54.5	28.7	28.5
Germany	NUTS2	2.7	2.8	41.7	41.3	55.7	55.9
Greece	TL3	40.7	40.2	24.0	23.9	35.3	35.9
Hungary	TL3	41.4	41.4	39.8	41.8	18.8	16.8
Iceland	TL3	40.8	37.5	59.2	62.5	---	---
Ireland	TL3	71.0	71.9	---	---	29.0	28.1
Italy	TL3	9.7	9.5	36.8	36.6	53.6	53.9
Japan	TL3	13.2	12.7	32.7	32.1	54.0	55.2
Korea	TL3	21.0	19.5	31.2	35.6	47.8	44.9
Luxembourg	TL3	---	---	100.0	100.0	---	---
Mexico	TL2	35.8	36.3	35.4	36.2	28.8	27.6
Netherlands	TL3	---	---	14.6	15.0	85.4	85.0
New Zealand[2]	TL3	---	---	58.7	56.1	41.3	43.9
Norway	TL3	50.4	48.7	38.5	39.8	11.1	11.6
Poland	TL3	37.6	37.8	39.3	39.5	23.1	22.8
Portugal	TL3	22.5	21.2	26.0	26.7	51.4	52.1
Slovak Rep.	TL3	25.7	25.4	62.8	63.4	11.5	11.2
Spain	TL3	13.9	13.0	41.6	42.3	44.5	44.7
Sweden	TL3	51.2	49.4	29.3	29.8	19.5	20.8
Switzerland	TL3	9.2	9.0	50.1	49.7	40.8	41.3
Turkey	TL3	29.7	27.5	26.4	25.3	43.9	47.2
United Kingdom	TL3	2.0	2.0	27.8	28.4	70.2	69.6
United States	TL3	37.0	37.2	20.1	20.2	42.9	42.7
EU15	Mix[a]	12.7	12.6	36.5	36.7	50.8	50.7
EU19	Mix[a]	15.6	15.3	38.3	38.4	46.2	46.2
OECD	Mix[a]	23.4	23.5	33.0	33.1	44.6	43.5

---: no region is classified within this type; ER: Economic regions.
The most recent classification of regions has been applied for both periods.
EU15: Member states of the European Union from 1995 to 2003.
EU19: Member states of the European Union who are also members of the OECD, *i.e.* EU15 plus the Czech Republic, Hungary, Poland and the Slovak Republic who became members of the EU in 2004.
a. Aggregations are based on individual country data. While predominantly at the TL3 level they also contain TL2, ER and NUTS2 units.
1. 1996 instead of 1995; and 2006 instead of 2005.
2. 1996 instead of 1995.
Source: OECD Territorial Database, 2008.

Table 2.2. Change in national population, 1995 and 2005

Figure 2.1. Change in national population by type of region, 1995 and 2005

	Total (000 persons)		
	1995	2005	% change
Australia	18 069	20 407	12.9
Austria	7 948	8 236	3.6
Belgium	10 137	10 479	3.4
Canada[1]	28 847	31 613	9.6
Czech Rep.	10 327	10 220	-1.0
Denmark	5 216	5 411	3.7
Finland	5 108	5 246	2.7
France	57 844	60 996	5.4
Germany	81 678	82 470	1.0
Greece	10 634	11 104	4.4
Hungary	10 229	10 087	-1.4
Iceland	268	299	11.8
Ireland	3 601	4 159	15.5
Italy	56 844	58 607	3.1
Japan	125 571	127 769	1.8
Korea	45 093	48 138	6.8
Luxembourg	409	457	11.9
Mexico	91 725	103 947	13.3
Netherlands	15 459	16 320	5.6
New Zealand[2]	3 731	4 098	9.8
Norway	4 359	4 623	6.1
Poland	38 665	38 165	-1.3
Portugal	10 030	10 549	5.2
Slovak Rep.	5 374	5 387	0.2
Spain	39 295	43 045	9.5
Sweden	8 827	9 030	2.3
Switzerland	7 062	7 459	5.6
Turkey	61 763	72 065	16.7
United Kingdom	58 607	60 227	2.8
United States	266 278	296 507	11.4
EU15	371 638	386 337	4.0
EU19	436 233	450 197	3.2
OECD	1 089 018	1 163 422	6.8



EU15: Member states of the European Union from 1995 to 2003.
EU19: Member states of the European Union who are also members of the OECD, *i.e.* EU15 plus the Czech Republic, Hungary, Poland and the Slovak Republic who became members of the EU in 2004.
a. Aggregations are based on individual country data. While predominantly at the TL3 level they also contain TL2, ER and NUTS2 units.
1. 1996 instead of 1995; and 2006 instead of 2005.
2. 1996 instead of 1995.
Source: OECD Territorial Database, 2008.

Distribution of farms by type of region

48. Data regarding the farm household population is not available within the OECD territorial database nor was any source found in a search of other databases.[8] The country reviews indicate that only in a relatively few countries (Canada, Japan and Korea) are farm population numbers available.

49. Alternatively, data regarding the number and distribution of farms across the territorial units are readily available for most OECD countries. This provides a fairly accurate indication of the distribution of farm population across regions, although two caveats need to be mentioned.

50. First, there are differences in the definition of what constitutes a farm among OECD countries. Some base it on a minimum land area; others use a minimum labour unit; others use a minimum value of

8. The FAO contains agricultural population estimates for 1990 and 2000.

agricultural production. When possible, the broadest available definition of a farm was used. While this makes it difficult to compare numbers between countries, and caution needs to be used when using the OECD total, it does not hinder analysis over time for any particular country. Second, on large farms there may be several households. Consequently the number of farms will underestimate the number of farm households that exist in a country.

Table 2.3. Distribution of farms by type of region, 1995 and 2005

		% of farms					
	Regional Units	Predominantly Rural		Intermediate		Predominantly Urban	
		1995	2005	1995	2005	1995	2005
Australia	TL2	3.3	3.3	96.6	96.7	0.1	0.1
Austria	TL2	n.a.	71.9	n.a.	27.8	n.a.	0.3
Belgium	TL3	6.4	6.2	14.8	14.5	78.8	79.4
Canada[1]	ER	61.0	60.7	30.3	30.4	8.7	8.9
Czech Rep.	TL3	n.a.	10.0	n.a.	89.2	n.a.	0.8
Denmark	TL3	n.a.	67.0	n.a.	29.1	n.a.	3.8
Finland	TL3	n.a.	74.6	n.a.	21.2	n.a.	4.2
France	TL3	n.a.	37.8	n.a.	57.9	n.a.	4.3
Germany	NUTS2	n.a.	10.0	n.a.	52.5	n.a.	37.6
Greece	TL3	n.a.	73.1	n.a.	23.7	n.a.	3.2
Hungary	TL3	n.a.	60.5	n.a.	39.4	n.a.	0.1
Iceland	TL3	n.a.	n.a.	n.a.	n.a.	---	---
Ireland	TL3	n.a.	99.4	---	---	n.a.	0.6
Italy	TL3	n.a.	19.4	n.a.	49.7	n.a.	31.0
Japan	TL3	28.9	29.6	47.1	46.5	24.0	23.9
Korea	TL3	59.1	58.1	36.7	36.7	4.2	5.2
Luxembourg	TL3	---	---	100.0	100.0	---	---
Mexico	TL2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands	TL3	---	---	n.a.	24.3	n.a.	75.7
New Zealand	TL3	---	---	89.4	88.9	10.6	11.1
Norway	TL3	68.1	67.2	31.8	32.8	0.1	0.1
Poland	TL3	n.a.	47.2	n.a.	48.5	n.a.	4.3
Portugal	TL3	n.a.	53.2	n.a.	33.0	n.a.	13.8
Slovak Rep.	TL3	n.a.	41.6	n.a.	55.2	n.a.	3.2
Spain	TL3	n.a.	37.4	n.a.	43.8	n.a.	18.8
Sweden	TL3	n.a.	64.5	n.a.	32.9	n.a.	2.7
Switzerland	TL3	19.0	17.4	63.1	63.8	17.9	18.8
Turkey[2]	TL3	n.a.	46.6	n.a.	34.3	n.a.	19.1
United Kingdom	TL3	n.a.	14.0	n.a.	61.5	n.a.	24.5
United States	TL3	60.5	60.2	17.9	17.7	21.6	22.1
EU15	Mix[a]	n.a.	37.7	n.a.	42.3	n.a.	19.9
EU19	Mix[a]	n.a.	42.0	n.a.	44.1	n.a.	13.9
OECD[3,4]	Mix[a]	n.a.	44.5	n.a.	39.5	n.a.	16.0

---: no region is classified within this type; n.a.: not available; ER: Economic regions. The broad definition of farms in national sources is used.

EU15: Member states of the European Union from 1995 to 2003.

EU19: Member states of the European Union who are also members of the OECD, *i.e.* EU15 plus the Czech Republic, Hungary, Poland and the Slovak Republic who became members of the EU in 2004.

a. Aggregations are based on individual country data. While predominantly at the TL3 level they also contain TL2, ER and NUTS2 units.

1. 1996 instead of 1995; and 2006 instead of 2005. 2. 2001 instead of 2005.

3. As definitions as to what constitute a farm differ among OECD countries care needs to be taken in using this number.

4. While Iceland and Mexico are included in the OECD total, they are not included in the distribution calculation.

Source: OECD Secretariat calculations based on EUROSTAT Farm Structure Survey and national sources (Annex I.2).

51. At the OECD level, only 44% of farms are located in areas defined as PR, with a further 40% in IN regions and the remaining 16% in PU regions (Table 2.3). There is considerable variation between countries. Almost 100% of farms are in PR regions in Ireland, with around two-thirds of farms located in PR regions in Austria, Canada, Denmark, Finland, Greece, Hungary, Norway, Sweden and the United States. Around three-quarters of farms are located in PU regions in Belgium and the Netherlands. PU regions account for one-third of farms in Germany and Italy, and for around 20% of farms in Japan, Spain, Switzerland, Turkey, the United Kingdom and the United States. IN regions account for the largest proportion of farms in 13 (close to one-half) of the countries for which distributional information is available.

52. It should also be noted that the OECD regional typology results in a more even spread of farms across the three types of regions than the standard urban/rural census definition used in a number of countries. This definition would tend to define almost all of the farm population as rural. For example, in Canada, using the census definition, 96% of the farm population were located in rural areas.

Share of agriculture in population by type of region

53. An estimate for the share of the farm population in regional population can be obtained by multiplying the number of farms by an average number of persons per farm household. For the purposes of the study, a constant figure of 3 persons per farm household has been assumed.[9] This provides an estimate of the farm population which can be compared to the regional population data in the OECD Territorial Database. Actual farm population numbers have been used for Japan and Korea.

54. At the national level, just over 5% of the OECD population lives on farms, with farms being a particularly important household unit in Greece, Hungary, Poland and Turkey (Table 2.4). At the regional level, it is estimated that farm households contain over 20% of the population in PR regions in these four countries along with Korea, Portugal and Spain, and for over 10% in Ireland, Italy and Japan. At the OECD level, it is estimated that around 10% of the PR population lives on farms. As expected, the share of the farm population in the total population falls with a move across region type. For the northern European countries (Denmark, Finland, Norway and Sweden) with a high share of farms in PR regions, farm households represent only about 5% of the PR population.

55. Within each country, the share of the farm population in the total population varies around the regional averages (Figure 2.2). For example, in Greece it is estimated that there are TL3 territorial units classified as PR where over 50% of the population is located on farms, with some contributing only 25%. Even in the United States, where farms only account for 3.5% of the population in PR regions, there are some TL3 territorial units where more than 20% of the population is located on farms. Over 10% of the population in some PU territorial units in Italy, Japan, Poland, Portugal, Spain and Turkey lives on farms.

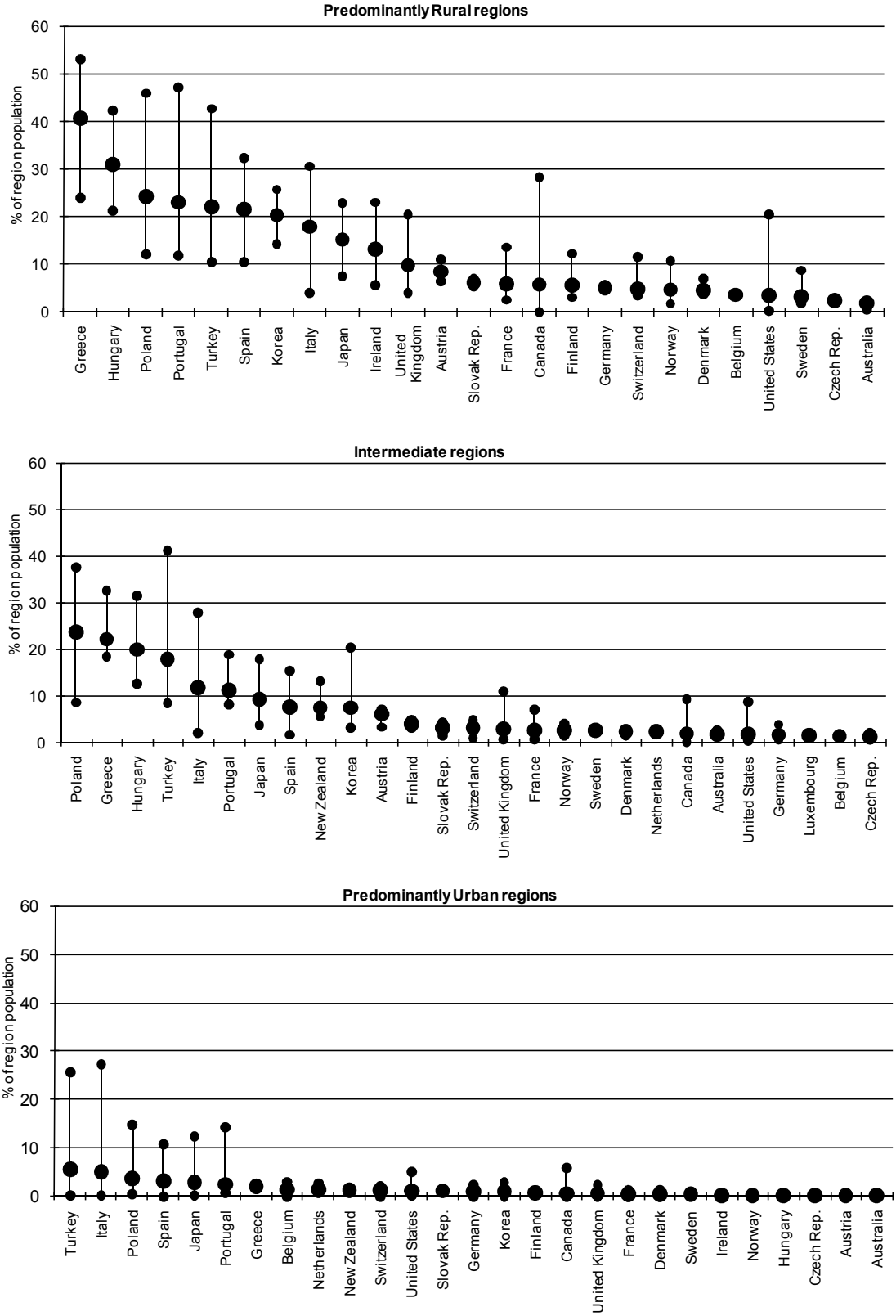
9. This number is arbitrary. It may underestimate the farm population in some cases, for example when part-time farming is significant, and overestimate it in other cases. For example, it does not apply to non-family farms and does not consider non-family employees, which can be significant in large commercial farms or in farms engaged in diversification activities such as green or farm tourism. To better understand the relationships between agriculture and population, national statistics should estimate the whole population of households related to farms.

Table 2.4. Share of agriculture in population by type of region, 1995 and 2005

	Regional Units	Farm households as % of regional population							
		Predominantly Rural		Intermediate		Predominantly Urban		National	
		1995	2005	1995	2005	1995	2005	1995	2005
Australia	TL2	2.3	1.8	2.5	1.9	0.1	0.1	2.4	1.9
Austria	TL2	n.a.	8.5	n.a.	6.2	n.a.	0.1	8.3	6.2
Belgium	TL3	4.8	3.7	1.9	1.5	1.7	1.4	1.8	1.5
Canada[2]	ER	7.1	5.9	2.5	2.1	0.7	0.5	2.9	2.3
Czech Rep.	TL3	n.a.	2.5	n.a.	1.3	n.a.	0.1	2.4	1.2
Denmark	TL3	n.a.	4.6	n.a.	2.4	n.a.	0.3	3.9	2.7
Finland	TL3	n.a.	5.7	n.a.	4.1	n.a.	0.7	5.9	4.0
France	TL3	n.a.	6.0	n.a.	2.8	n.a.	0.4	3.8	2.7
Germany	NUTS2	n.a.	5.1	n.a.	1.8	n.a.	1.0	2.1	1.4
Greece	TL3	n.a.	40.9	n.a.	22.4	n.a.	2.0	22.6	22.5
Hungary	TL3	n.a.	31.1	n.a.	20.1	n.a.	0.1	28.4	21.3
Iceland	TL3	n.a.	n.a.	n.a.	n.a.	---	---	n.a.	4.0
Ireland	TL3	n.a.	13.2	---	---	n.a.	0.2	12.8	9.6
Italy	TL3	n.a.	18.1	n.a.	12.0	n.a.	5.1	13.1	8.8
Japan[1]	TL3	20.9	15.3	13.6	9.4	4.4	2.9	6.3	6.6
Korea[1]	TL3	29.4	20.4	13.1	7.7	1.1	0.9	10.8	7.1
Luxembourg	TL3	---	---	2.3	1.6	---	---	2.3	1.6
Mexico	TL2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	13.3	7.8
Netherlands	TL3	---	---	n.a.	2.4	n.a.	1.3	2.2	1.5
New Zealand	TL3	---	---	8.1	7.7	1.4	1.2	5.3	4.8
Norway	TL3	6.5	4.7	3.9	2.8	0.0	0.0	4.8	3.4
Poland	TL3	n.a.	24.3	n.a.	23.9	n.a.	3.7	21.8	19.5
Portugal	TL3	n.a.	23.2	n.a.	11.4	n.a.	2.4	13.5	9.2
Slovak Rep.	TL3	n.a.	6.2	n.a.	3.3	n.a.	1.1	4.4	3.8
Spain	TL3	n.a.	21.7	n.a.	7.8	n.a.	3.2	9.7	7.5
Sweden	TL3	n.a.	3.3	n.a.	2.8	n.a.	0.3	3.0	2.5
Switzerland	TL3	7.0	4.9	4.2	3.3	1.5	1.2	3.4	2.6
Turkey[3]	TL3	n.a.	22.2	n.a.	18.0	n.a.	5.6	19.8	13.5
United Kingdom	TL3	n.a.	9.9	n.a.	3.1	n.a.	0.5	1.2	1.4
United States	TL3	4.1	3.5	2.2	1.9	1.3	1.1	2.5	2.2
EU15	Mix[a]	n.a.	13.6	n.a.	5.2	n.a.	1.8	5.9	4.5
EU19	Mix[a]	n.a.	16.6	n.a.	7.0	n.a.	1.8	7.8	6.1
OECD[4]	Mix[a]	n.a.	10.5	n.a.	6.5	n.a.	2.0	7.3	5.6

---: no region is classified within this type; n.a.: not available. ER: Economic regions.
For countries other than Japan and Korea, the farm household population has been estimated by multiplying the number of farms by a hypothetical, average number of members per household of three.
EU15: Member states of the European Union from 1995 to 2003.
EU19: Member states of the European Union who are also members of the OECD, *i.e.* EU15 plus the Czech Republic, Hungary, Poland and the Slovak Republic who became members of the EU in 2004.
a. Aggregations are based on individual country data. While predominantly at the TL3 level they also contain TL2, ER and NUTS2 units.
1. Actual farm population numbers used.
2. 1996 instead of 1995 and 2006 instead of 2005. 3. 2001 instead of 2005.
4. While Iceland and Mexico are included in the OECD total (5.5%), they are not included in the regional calculation.
Source: OECD Territorial Database, 2008, and OECD Secretariat calculations based on EUROSTAT Farm Structure Survey and national sources (Annex I.2).

Figure 2.2. Share of agriculture in population by type of region, average and spread, 2005



Source: OECD Territorial Database, 2008, and OECD Secretariat calculations based on EUROSTAT Farm Structure Survey and national sources (Annex I.2).

Change in farms by type of region

56. Between 1995 and 2005 the number of farms has fallen in all OECD countries with the exception of Greece and the United Kingdom, where the number of farms increased by 4% and 22% respectively (Table 2.5).[10] The number of farms decreased at an annual average rate of 2% across the OECD. The number of farms halved in the Czech Republic, and decreased by around one-third in Denmark, Finland, Germany, Italy, Mexico and Norway. The number of farms fell by less than 5% in New Zealand and the United States.

57. Data regarding the regional distribution of farms in 1995 was only obtained for some countries.[11] This allows us to see how the change in farm numbers has occurred at the regional level (Figure 2.3). No obvious trend emerges. The reduction in the number of farmers is fairly even across the three region types in Japan and the United States, although larger decreases in farms in PR regions occurred in other countries, in particular Switzerland.

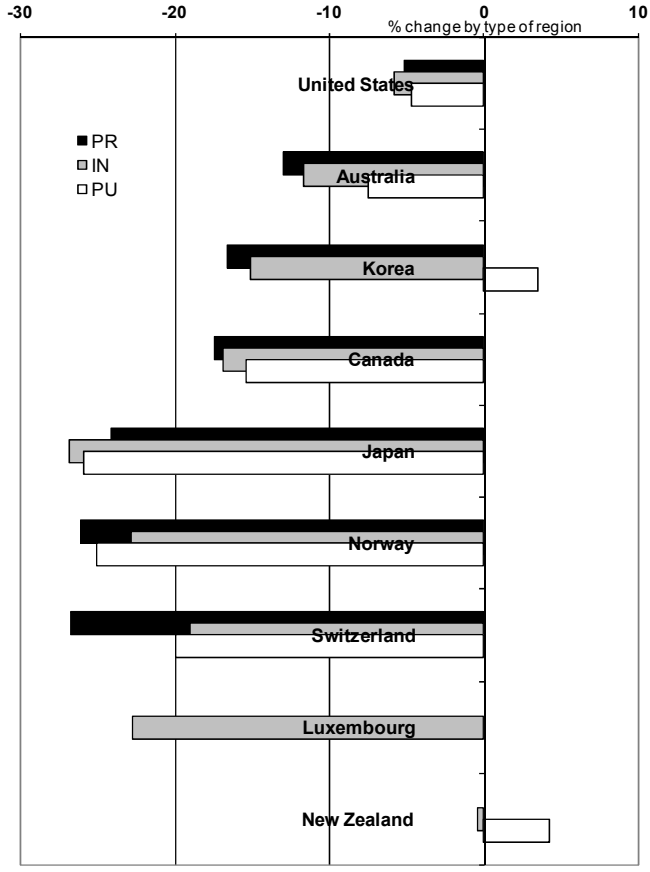
10. The increase in the number of farms in the United Kingdom reflects a definitional change leading to the inclusion in EU Farm Structure Surveys from 2003 of numerous small farms, which were not taken into account in previous surveys.

11. It is available at the NUTS2 level for EU member States in the EUROSTAT regional database, but these regional data would not be comparable with other variables presented in this report.

Table 2.5. Change in the number of farms, 1995 and 2005

Figure 2.3. Change in the number of farms by type of region, 1995 and 2005

	Number (000)		Total % change
	1995	2005	
Australia	147	130	-11.7
Austria	219	171	-22.2
Belgium	62	52	-16.5
Canada[1]	277	229	-17.1
Czech Rep.	82	42	-48.5
Denmark	69	48	-29.7
Finland	101	71	-30.0
France	735	545	-25.8
Germany	567	390	-31.2
Greece	801	834	4.0
Hungary	967	715	-26.1
Iceland	n.a.	4	n.a.
Ireland	154	133	-13.8
Italy	2 478	1 729	-30.2
Japan	2 651	1 963	-25.9
Korea	1 501	1 273	-15.2
Luxembourg	3	2	-22.7
Mexico	4 074	2 700	-33.7
Netherlands	113	82	-27.6
New Zealand	66	66	0.0
Norway	71	53	-25.1
Poland	2 808	2 477	-11.8
Portugal	451	324	-28.1
Slovak Rep.	78	68	-12.2
Spain	1 270	1 079	-15.0
Sweden	89	76	-14.6
Switzerland	79	64	-19.9
Turkey[2]	4 068	3 077	-24.4
United Kingdom[3]	235	287	22.3
United States	2 238	2 133	-4.7
EU15	7 346	5 821	-20.8
EU19	11 281	9 123	-19.1
OECD[4]	26 454	20 815	-21.3



n.a.: not available.
EU15: Member states of the European Union from 1995 to 2003.
EU19: Member states of the European Union who are also members of the OECD, *i.e.* EU15 plus the Czech Republic, Hungary, Poland and the Slovak Republic who became members of the EU in 2004.
a. Aggregations are based on individual country data. While predominantly at the TL3 level they also contain TL2, ER and NUTS2 units.
1. 1996 instead of 1995 and 2006 instead of 2005.
2. 2001 instead of 2005.
3. Before 2003, EU Farm Structure Surveys for the United Kingdom excluded smaller farms.
4. As definitions as to what constitute a farm differ among OECD countries care needs to be taken in using these OECD numbers.
Source: OECD Secretariat calculations based on EUROSTAT Farm Structure Survey and national sources (Annex I.2).

3. Territory

Rural land use

58. While PU regions may dominate in terms of population, in most countries the majority of land area is located within PR regions (Table 3.1). In terms of national land distributions:

- PR regions account for 90% or more of land area in Canada, Iceland, Ireland and Sweden, and for more than 80% in Finland and Norway.
- IN regions account for 90% of land area in the Czech Republic, and around half in France, Germany, Italy and Japan.

- PU regions account for more than 50% of land area in Belgium and the Netherlands, but also for around 30% in Germany, and over 20% in Italy, Turkey and the United Kingdom. In these four countries, with a relatively large PU population, a much larger proportion of land is accounted for in either IN or PR regions.

Table 3.1. Distribution of national land area by type of region

	Regional Units	Area	% of total land area		
		000 ha	PR	IN	PU
Australia	TL2	770 335	18.4	81.5	0.0
Austria	TL2	8 321	73.7	25.8	0.5
Belgium	TL3	3 033	14.6	24.7	60.6
Canada	ER	901 770	93.8	5.4	0.8
Czech Rep.	TL3	7 959	8.5	90.9	0.6
Denmark[1]	TL3	4 310	67.7	27.7	4.6
Finland	TL3	30 658	88.1	9.8	2.1
France[1]	TL3	54 397	40.9	54.6	4.5
Germany[1]	NUTS2	35 709	5.6	64.3	30.1
Greece	TL3	13 082	72.0	25.1	2.9
Hungary[1]	TL3	9 303	58.0	41.5	0.6
Iceland[1]	TL3	10 270	99.0	1.0	---
Ireland	TL3	6 840	98.7	---	1.3
Italy	TL3	29 531	27.5	47.2	25.2
Japan	TL3	36 810	31.6	53.0	15.4
Korea[1]	TL3	9 946	63.9	31.8	4.3
Luxembourg	TL3	259	---	100.0	---
Mexico[1]	TL2	195 925	68.9	26.4	4.7
Netherlands	TL3	3 378	---	34.1	65.9
New Zealand	TL3	26 336	---	95.3	4.7
Norway	TL3	30 428	84.2	15.7	0.1
Poland[1]	TL3	31 269	58.1	39.0	2.9
Portugal[1]	TL3	9 212	69.7	21.7	8.6
Slovak Rep.[1]	TL3	4 903	32.2	63.6	4.2
Spain[1]	TL3	50 599	44.7	41.6	13.7
Sweden	TL3	41 031	89.9	8.5	1.6
Switzerland	TL3	4 000	38.9	49.0	12.1
Turkey	TL3	76 960	51.1	27.9	21.0
United Kingdom[1]	TL3	24 331	24.2	54.2	21.6
United States	TL3	916 192	77.8	9.5	12.8
EU15	Mix[a]	314 689	49.8	37.5	12.6
EU19	Mix[a]	368 122	49.6	39.3	11.1
OECD	Mix[a]	3 347 094	63.1	31.0	5.9

--: no region is classified within this type. ER: Economic regions.
EU15: Member states of the European Union from 1995 to 2003.
EU19: Member states of the European Union who are also members of the OECD, *i.e.* EU15 plus the Czech Republic, Hungary, Poland and the Slovak Republic who became members of the EU in 2004.
a. Aggregations are based on individual country data. While predominantly at the TL3 level they also contain TL2, ER and NUTS2 units.
1. Land area for these countries represents total territory, *i.e.* including inland fresh waterways and lakes.
Source: OECD Territorial Database, 2008.

Distribution of agricultural land by type of region

59. As expected, the majority of agricultural land is located outside PU regions (Table 3.2). However, in about a third of countries, the majority of agricultural land occurs in IN regions rather than in PR regions. Ireland, Portugal and Canada have the greatest proportion of agricultural land located in PR regions (over three-quarters), followed by the United States, Denmark, Finland and Austria. At the other end, one quarter or less of agricultural land is located in PR regions in Belgium, the Czech Republic, Germany, Japan, Switzerland and the United Kingdom.

Table 3.2. Distribution of agricultural land by type of region, 1995 and 2005

		% of agricultural area in use					
	Regional Units	Predominantly Rural		Intermediate		Predominantly Urban	
		1995	2005	1995	2005	1995	2005
Australia	TL2	15.2	14.4	84.8	85.6	0.0	0.0
Austria	TL2	n.a.	71.0	n.a.	28.7	n.a.	0.3
Belgium	TL3	10.2	10.6	23.4	23.4	66.3	66.0
Canada[1]	ER	74.6	75.1	21.3	20.8	4.1	4.2
Czech Rep.	TL3	n.a.	10.7	n.a.	88.3	n.a.	1.0
Denmark	TL3	n.a.	70.1	n.a.	27.5	n.a.	2.4
Finland	TL3	n.a.	71.3	n.a.	23.4	n.a.	5.3
France	TL3	n.a.	41.5	n.a.	55.1	n.a.	3.5
Germany	NUTS2	n.a.	5.5	n.a.	67.8	n.a.	26.8
Greece	TL3	n.a.	69.9	n.a.	28.7	n.a.	1.4
Hungary	TL3	n.a.	60.1	n.a.	38.9	n.a.	1.0
Iceland	TL3	n.a.	n.a.	n.a.	n.a.	---	---
Ireland	TL3	n.a.	99.2	---	---	n.a.	0.8
Italy	TL3	n.a.	27.8	n.a.	48.3	n.a.	23.9
Japan	TL3	25.2	25.0	58.2	58.7	16.6	16.3
Korea[1]	TL3	59.3	60.4	36.9	36.1	3.8	3.5
Luxembourg	TL3	---	---	100.0	100.0	---	---
Mexico	TL2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands	TL3	---	---	38.8	39.7	61.2	60.3
New Zealand	TL3	---	---	94.9	95.5	5.1	4.5
Norway	TL3	66.7	67.0	33.2	32.9	0.1	0.1
Poland	TL3	n.a.	58.4	n.a.	39.6	n.a.	2.0
Portugal	TL3	n.a.	80.3	n.a.	14.1	n.a.	5.6
Slovak Rep.	TL3	n.a.	37.8	n.a.	58.0	n.a.	4.1
Spain	TL3	n.a.	49.6	n.a.	37.7	n.a.	12.7
Sweden	TL3	n.a.	63.8	n.a.	33.1	n.a.	3.2
Switzerland	TL3	14.8	15.2	64.9	64.7	20.3	20.1
Turkey[2]	TL3	n.a.	52.1	n.a.	27.7	n.a.	20.2
United Kingdom	TL3	n.a.	22.9	n.a.	59.5	n.a.	17.6
United States[3]	TL3	73.6	73.4	11.5	11.8	14.9	14.8
EU15	Mix[a]	n.a.	39.9	n.a.	46.3	n.a.	13.8
EU19	Mix[a]	n.a.	41.6	n.a.	46.6	n.a.	11.8
OECD[4]	Mix[a]	n.a.	43.1	n.a.	49.4	n.a.	7.5

---: no region is classified within this type; n.a.: not available; ER: Economic regions.
EU15: Member states of the European Union from 1995 to 2003.
EU19: Member states of the European Union who are also members of the OECD, *i.e.* EU15 plus the Czech Republic, Hungary, Poland and the Slovak Republic who became members of the EU in 2004.
a. Aggregations are based on individual country data. While predominantly at the TL3 level they also contain TL2, ER and NUTS2 units.
1. 1996 instead of 1995 and 2006 instead of 2005.
2. 2001 instead of 2005.
3. 1992 instead of 1995 and 2002 instead of 2005.
4. While Iceland and Mexico are included in the OECD total, they are not included in the distribution calculation.
Source: OECD Secretariat calculations based on EUROSTAT Farm Structure Survey and national sources (Annex I.2).

60. In general, the distribution of agricultural land follows that of the total land area. A few exceptions are worth noting. The proportion of agricultural land in PU regions in countries such as Sweden, Switzerland, Turkey and the United States is greater than the proportion of the land area as a whole.

Share of agriculture and forestry in land use by type of region

61. Agriculture remains the dominant form of land use, occupying around 35% of the total OECD land area (Table 3.3). In a number of countries with a relatively high urban population, agriculture represents a significant share of total land area: countries such as Germany, the Netherlands and the United Kingdom. Conversely, in a number of countries with a relatively high rural population, agriculture represents a very small share of the land area, *e.g.* Finland, Norway and Sweden. Forestry is the other main land user in many countries (Box 3.1). It is a dominant land use in countries where agriculture occupies a small share of the total land, such as Canada, Finland, Japan, Korea, Norway and Sweden. However, in countries like Finland and Norway, a large part of the forest is owned by farmers and most farms have forest land.

62. While the biggest share of total agricultural land is usually found in PR regions, agriculture often accounts for a more significant share of total land use in PU regions. It is estimated that over 40% of land in PU regions is in agricultural production compared to less than 30% in PR regions in the OECD area. A higher share of agriculture in land use in PU regions is found in some EU member states (and for the EU as a whole), in Canada, Japan, New Zealand and the United States. Even when it is not the highest, the share of agriculture in land use in PU regions is significant in most countries. The management of agricultural land would therefore appear to be at least as important an issue in PU regions as in PR regions.

63. Agriculture is the dominant land use in PR regions in the Czech Republic, Denmark, France, Ireland, Spain and the United Kingdom. In the northern countries of Canada, Finland, Norway and Sweden, agriculture accounts for less than 10% of PR land area, and for around 10% in Japan and Switzerland. Given the importance of forestry in land use it would be interesting to consider the share of forestry by type of region. This information is not presented here as it could not be obtained at the same territorial level as other variables in most countries. Eurostat data at the NUTS2 level indicate that the share of forestry in land use in PR regions is not necessarily higher than the national average, and that in some countries PU regions have a share of forestry higher than the national average.

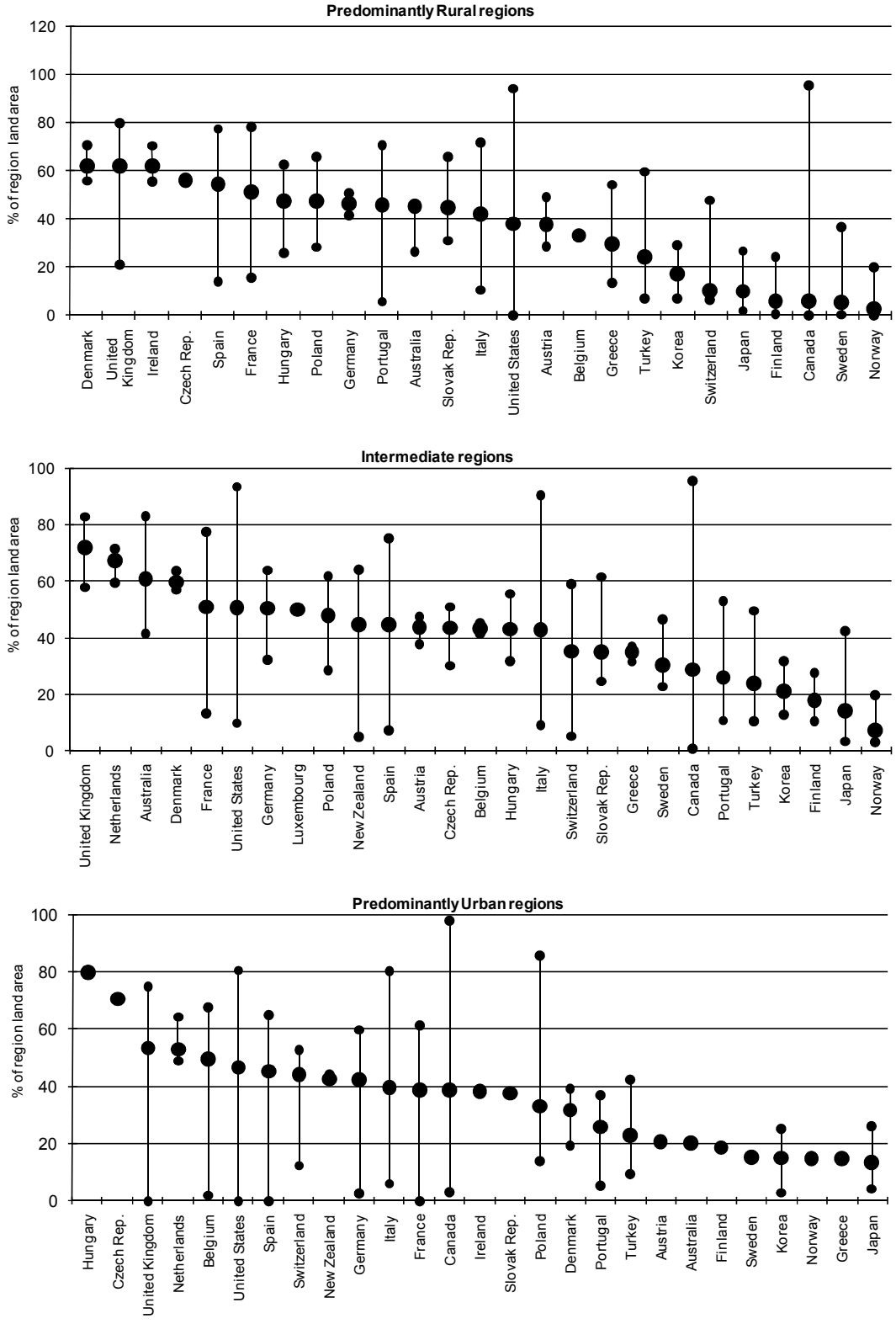
64. Within each country, the share of agriculture in land use varies around the regional averages (Figure 3.1). This variation is far greater for land use than for any of the other three variables under consideration. Even in PU regions, there are regions where more than 80% of land use is in agriculture. For countries such as Spain, France, Portugal and the United States, there are PR regions where agriculture contributes less to land use that the PU average. However, this distribution is not as wide in all countries, as for example, in Austria, Denmark and Ireland. In Japan and Korea, agriculture does not account for 50% of the land area in any TL3 region.

Table 3.3. Share of agriculture in land use by type of region, 1995 and 2005

	Regional Units	Agricultural area in use as % of regional land use							
		Predominantly Rural		Intermediate		Predominantly Urban		National	
		1995	2005	1995	2005	1995	2005	1995	2005
Australia	TL2	49.6	45.3	62.5	60.6	20.9	20.4	60.1	57.8
Austria	TL2	n.a.	37.8	n.a.	43.7	n.a.	20.8	41.2	39.3
Belgium	TL3	31.5	33.2	42.8	43.2	49.3	49.7	45.1	45.7
Canada[1]	ER	5.9	6.0	27.4	29.5	38.4	38.5	7.3	7.6
Czech Rep.	TL3	n.a.	56.1	n.a.	43.5	n.a.	70.7	53.8	44.7
Denmark	TL3	n.a.	62.2	n.a.	59.7	n.a.	31.9	63.3	60.1
Finland	TL3	n.a.	6.0	n.a.	17.6	n.a.	18.8	7.4	7.4
France	TL3	n.a.	51.3	n.a.	50.9	n.a.	39.0	52.0	50.5
Germany	NUTS2	n.a.	46.4	n.a.	50.3	n.a.	42.4	48.6	47.7
Greece	TL3	n.a.	29.6	n.a.	34.7	n.a.	15.1	27.4	30.5
Hungary	TL3	n.a.	47.6	n.a.	43.0	n.a.	80.0	49.0	45.9
Iceland	TL3	n.a.	n.a.	n.a.	n.a.	---	---	n.a.	22.2
Ireland	TL3	n.a.	62.0	---	---	n.a.	38.5	64.2	61.7
Italy	TL3	n.a.	42.3	n.a.	42.7	n.a.	39.7	49.7	41.9
Japan	TL3	10.9	10.0	15.0	14.0	14.8	13.5	13.7	12.7
Korea	TL3	20.5	18.2	25.6	22.0	19.7	15.8	22.1	19.3
Luxembourg	TL3	---	---	49.1	49.9	---	---	49.1	49.9
Mexico	TL2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	54.7	54.9
Netherlands	TL3	---	---	66.3	67.4	54.1	53.1	58.3	58.0
New Zealand	TL3	---	---	47.6	44.7	51.5	42.7	47.8	44.6
Norway	TL3	2.7	2.7	7.2	7.1	2.0	2.0	3.4	3.4
Poland	TL3	n.a.	47.5	n.a.	47.8	n.a.	33.2	55.2	47.2
Portugal	TL3	n.a.	46.0	n.a.	25.9	n.a.	26.0	42.6	39.9
Slovak Rep.	TL3	n.a.	45.0	n.a.	35.0	n.a.	37.7	49.9	38.3
Spain	TL3	n.a.	54.6	n.a.	44.5	n.a.	45.4	49.9	49.1
Sweden	TL3	n.a.	5.5	n.a.	30.2	n.a.	15.4	8.0	7.8
Switzerland	TL3	10.3	10.4	35.8	35.2	45.4	44.2	27.1	26.6
Turkey[2]	TL3	n.a.	24.4	n.a.	23.8	n.a.	23.0	22.9	24.0
United Kingdom	TL3	n.a.	62.0	n.a.	72.0	n.a.	53.6	67.6	65.6
United States[3]	TL3	38.3	38.1	49.1	50.5	47.2	46.7	42.0	41.4
EU15	Mix[a]	0.0	31.6	0.0	48.8	0.0	43.1	41.0	39.5
EU19	Mix[a]	0.0	33.9	0.0	48.0	0.0	43.0	42.8	40.4
OECD[4]	Mix[a]	n.a.	23.4	n.a.	53.7	n.a.	42.4	36.5	35.6

---: no region is classified within this type; n.a.: not available; ER: Economic regions.
EU15: Member states of the European Union from 1995 to 2003.
EU19: Member states of the European Union who are also members of the OECD, *i.e.* EU15 plus the Czech Republic, Hungary, Poland and the Slovak Republic who became members of the EU in 2004.
a. Aggregations are based on individual country data. While predominantly at the TL3 level they also contain TL2, ER and NUTS2 units.
1. 1996 instead of 1995 and 2006 instead of 2005.
2. 2001 instead of 2005.
3. 1992 instead of 1995 and 2002 instead of 2005. 4. While Iceland and Mexico are included in the OECD total, they are not included in the regional calculation.
Source: OECD Territorial Database, 2008, and OECD Secretariat calculations based on EUROSTAT Farm Structure Survey and national sources (Annex I.2).

Figure 3.1. Share of agriculture in land use by type of region, average and spread, 2005



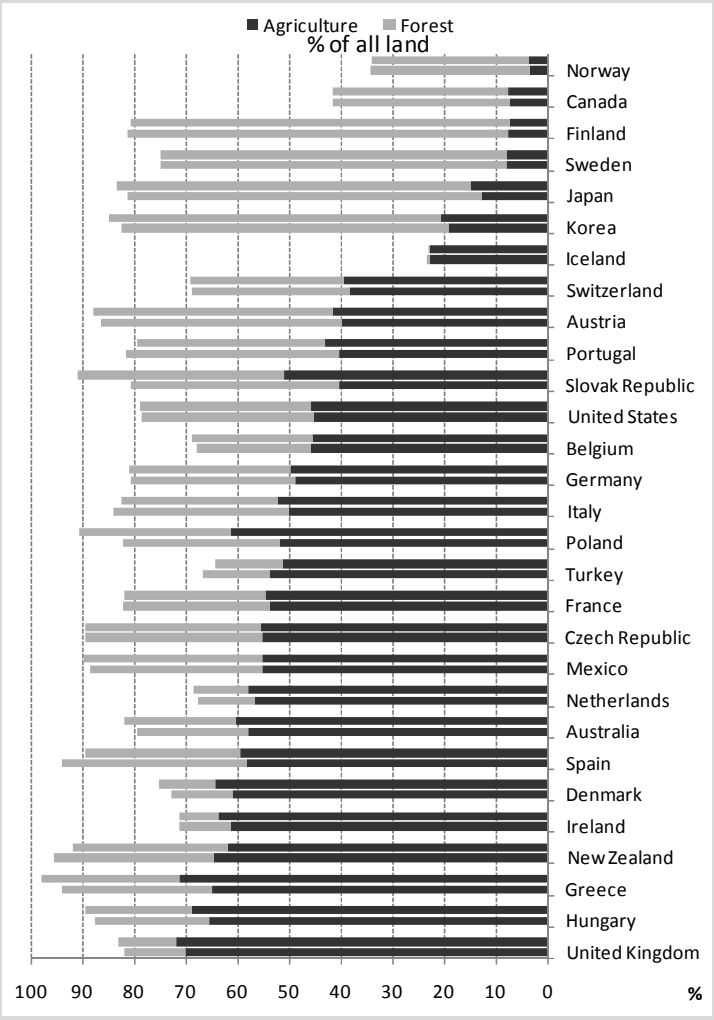
Source: OECD Territorial Database, 2008, and OECD Secretariat calculations based on EUROSTAT Farm Structure Survey and national sources (Annex I.2).

Box 3.1. Share of forestry in land use

After agriculture, forests are the dominant form of land use, occupying a further 30% of the total OECD land area. The forested area includes both protected forests (in national parks, reserves, etc) and production forests (used for timber, pulp and paper, etc). Forests are an important land use in Austria, Finland and Sweden, where around half the population lives in rural areas. They are also an important land use for Japan, Korea and Portugal, where around half the population lives in urban areas. For many OECD countries, the area in forest cover represents around 30% of national land area. Forests represent around 10% of land area in Denmark, Ireland, the Netherlands and the United Kingdom. Between 1995 and 2005 the total area in forests remained fairly static at the OECD total level. In absolute terms (hectares), significant increases occurred in Spain, the United States and Italy, while significant decreases occurred in Australia and Mexico.

Share of agriculture and forests in national land use, 1995 and 2005

	000 hectares		
	1995	2005	% change
Australia	166 275	163 678	-1.6
Austria	3 807	3 862	1.4
Belgium	698	667	-4.5
Canada	310 134	310 134	0.0
Czech Republic	2 634	2 648	0.6
Denmark	466	500	7.4
Finland	22 335	22 500	0.7
France	14 945	15 554	4.1
Germany	10 909	11 076	1.5
Greece	3 450	3 752	8.8
Hungary	1 854	1 976	6.6
Iceland	32	46	46.0
Ireland	525	669	27.4
Italy	8 915	9 979	11.9
Japan	24 913	24 868	-0.2
Korea	6 336	6 265	-1.1
Mexico	67 278	64 238	-4.5
Netherlands	353	365	3.5
New Zealand	7 973	8 309	4.2
Norway	9 216	9 387	1.9
Poland	8 970	9 192	2.5
Portugal	3 341	3 783	13.2
Slovak Republic	1 922	1 929	0.4
Spain	14 958	17 915	19.8
Sweden	27 421	27 528	0.4
Switzerland	1 177	1 221	3.7
Turkey	9 866	10 175	3.1
United Kingdom	2 702	2 845	5.3
United States	300 471	303 089	0.9
EU15	114 822	120 995	5.4
EU19	130 201	136 740	5.0
OECD	1 033 870	1 038 150	0.4



EU15: Member states of the European Union from 1995 to 2003.
EU19: Member states of the European Union who are also members of the OECD, i.e. EU15 plus the Czech Republic, Hungary, Poland and the Slovak Republic who became members of the EU in 2004.

Source: FAO Statistics Division.

The top bar represents 1995, the bottom bar 2005.
1995 is replaced by 1997 for the Czech Republic and the Slovak Republic.

Change in agricultural land by type of region

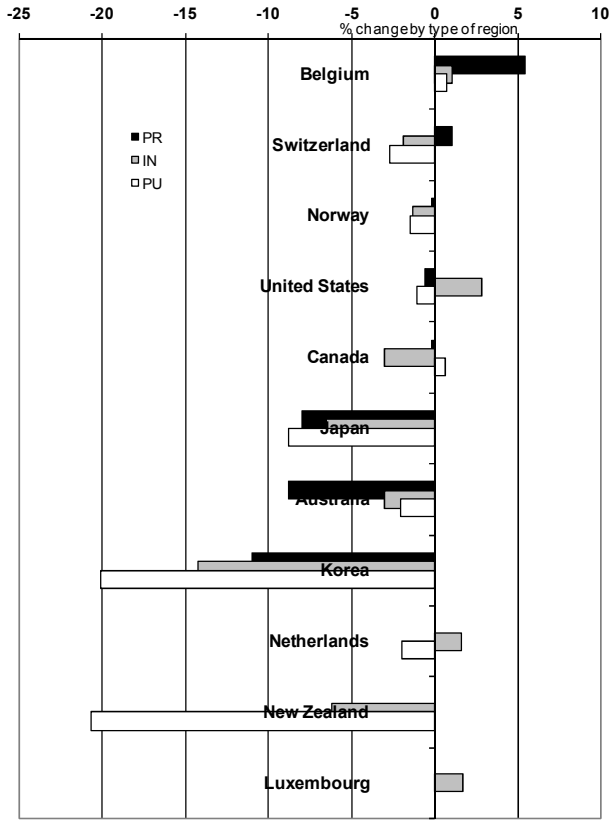
65. Over the period 1995-2005, the land area used for agricultural production has decreased in almost all OECD countries, with the total OECD land area in agricultural production falling by 2.5%, with slightly larger falls in the EU (Table 3.4). A decrease of more than 10% occurred in the central European countries of the Czech Republic (-17%), Poland (-15%) and the Slovak Republic (-23%), as well as in Italy (-16%) and New Zealand (-7%). The largest increases occurred in Greece and Turkey, with small rises recorded in Belgium and Luxembourg.

66. Data regarding the regional distribution of agricultural land in 1995 is available for a sub-set of countries. [12] This allows us to see how the change in agricultural land area has occurred at the regional level (Figure 3.2). As for population, no obvious trend emerges, with the change varying considerably between countries. In Belgium, the increase has occurred in the three types of region and is largest in PR regions. In Japan, Korea, Norway, the Netherlands and Switzerland, the reduction has been greatest in PU regions. Only in Australia has the reduction in agricultural land use been greatest in PR regions.

Table 3.4. Change in agricultural land use, 1995 and 2005

	000 hectares		Total % change
	1995	2005	
Australia	463 349	445 150	-3.9
Austria	3 425	3 266	-4.6
Belgium	1 368	1 386	1.3
Canada[1]	68 085	67 587	-0.7
Czech Rep.	4 281	3 558	-16.9
Denmark	2 726	2 590	-5.0
Finland	2 259	2 264	0.2
France	28 267	27 470	-2.8
Germany	17 344	17 035	-1.8
Greece	3 578	3 984	11.3
Hungary	4 555	4 267	-6.3
Iceland	n.a.	2 281	n.a.
Ireland	4 389	4 219	-3.9
Italy	14 685	12 359	-15.8
Japan	5 038	4 672	-7.3
Korea[2]	2 197	1 921	-12.5
Luxembourg	127	129	1.7
Mexico	107 200	107 500	0.3
Netherlands	1 969	1 958	-0.6
New Zealand	12 591	11 744	-6.7
Norway	1 038	1 033	-0.6
Poland	17 274	14 755	-14.6
Portugal	3 924	3 680	-6.2
Slovak Rep.	2 446	1 880	-23.2
Spain	25 230	24 855	-1.5
Sweden	3 270	3 192	-2.4
Switzerland	1 083	1 065	-1.6
Turkey[3]	17 661	18 435	4.4
United Kingdom	16 447	15 955	-3.0
United States	384 796	379 708	-1.3
EU15	129 009	124 342	-3.6
EU19	157 566	148 800	-5.6
OECD	1 220 603	1 189 895	-2.5

Figure 3.2. Change in agricultural land use by type of region, 1995 and 2005



EU15: Member states of the European Union from 1995 to 2003.
EU19: Member states of the European Union who are also members of the OECD, *i.e.* EU15 plus the Czech Republic, Hungary, Poland and the Slovak Republic who became members of the EU in 2004.
a. Aggregations are based on individual country data. While predominantly at the TL3 level they also contain TL2, ER and NUTS2 units.
1. 2006 instead of 2005.
2. 2004 instead of 2005.
3. 2001 instead of 2005.
Source: OECD Secretariat calculations based on EUROSTAT Farm Structure Survey and national sources (Annex I.2).

12. It is available at the NUTS2 level for EU member States in the EUROSTAT regional database, but these regional data are not comparable with other variables presented in this report.

4. Employment

Rural employment

67. According to the OECD regional typology, PR regions account for about 20% of employment[13] in OECD countries (Table 4.1). In terms of national employment distributions:

- PR regions account for almost 70% of employment in Ireland, and for around 50% in Finland and Sweden. It is also the dominant type of region for employment in Austria, Denmark, Greece and Norway.

- IN regions account for over 90% of employment in Australia (TL2 level), 80% of employment in the Czech Republic, around 60% in Iceland and the Slovak Republic, and for about 50% in France, New Zealand and Switzerland.

- PU regions account for around 85% of employment in Belgium and the Netherlands, 70% in the United Kingdom, 60% in Germany, Italy and Japan, and for around 50% in Korea, Portugal and Spain.

68. Between 1995 and 2005, total employment in the OECD area grew by almost 13% (Table 4.2). However, the number of persons employed decreased in Poland, and the Czech and Slovak Republics. Significant increases (over 40%) occurred in Ireland, Luxembourg and Spain, and in Mexico, Switzerland and Turkey (more than 20%).

69. In terms of the distribution of employment across region types, developments have been very limited. Employment in PR regions decreased in only five countries, mostly notably in Poland and the Slovak Republic. In a number of other countries, employment growth was slower in PR regions than in IN and PU regions, including Australia, Finland, France, Hungary, Norway, Spain and Sweden. On the other hand, in countries like Ireland, Greece, Mexico and the United States employment growth in PR regions has been at least as fast, or even faster than IN and PU regions. At the total OECD level, employment in PR regions grew at a slightly faster rate than the other two, leading to a slight increase in the share of PR regions in total employment.

13. Total labour force as reported in the OECD territorial database.

Table 4.1. Distribution of national employment (place of work) by type of region, 1995 and 2005

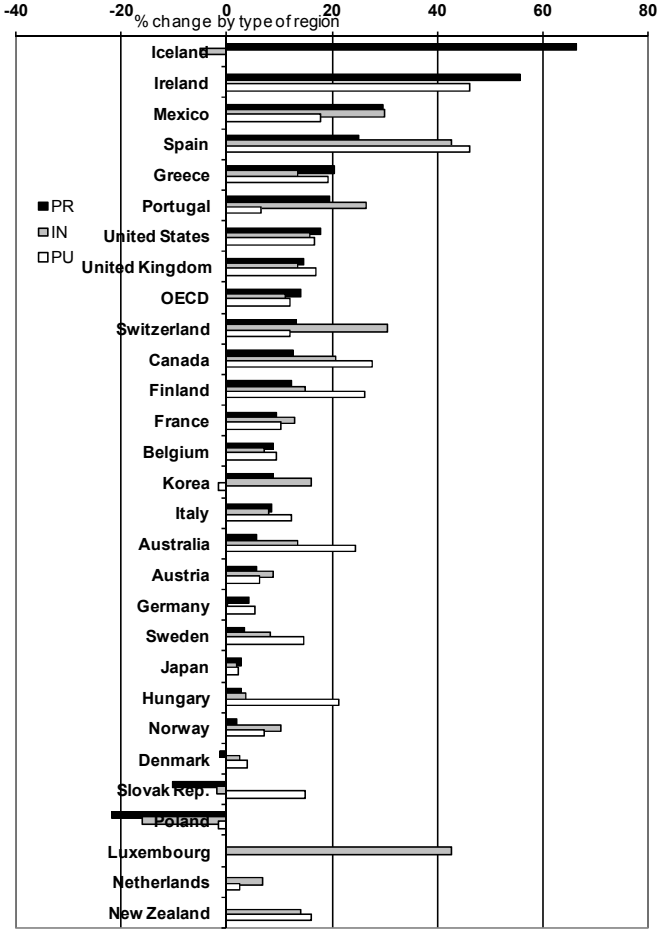
	Regional Units	% of total employment					
		Predominantly Rural		Intermediate		Predominantly Urban	
		1995	2005	1995	2005	1995	2005
Australia[1]	TL2	3.5	3.2	94.6	94.6	2.0	2.1
Austria	TL2	50.3	49.8	28.1	28.7	21.6	21.5
Belgium	TL3	2.1	2.1	12.3	12.1	85.6	85.8
Canada[1]	ER	24.0	22.2	35.5	35.2	40.6	42.6
Czech Rep.	TL3	4.6	4.7	80.0	78.5	15.4	16.8
Denmark[2]	TL3	37.8	36.8	30.3	30.6	31.9	32.6
Finland	TL3	50.7	48.7	20.8	20.5	28.5	30.8
France	TL3	16.4	16.1	51.4	52.0	32.2	31.9
Germany	NUTS2	2.8	2.8	39.9	38.7	57.3	58.5
Greece	TL3	38.6	39.3	24.3	23.3	37.1	37.4
Hungary	TL3	38.9	37.3	38.9	37.6	22.1	25.1
Iceland[3]	TL3	25.7	37.7	74.3	62.3	---	---
Ireland	TL3	65.8	67.2	---	---	34.2	32.8
Italy	TL3	8.7	8.5	34.8	34.0	56.5	57.5
Japan[4]	TL3	12.5	12.5	31.3	31.1	56.3	56.3
Korea[5]	TL3	18.0	18.5	30.8	33.8	51.3	47.8
Luxembourg	TL3	---	---	100.0	100.0	---	---
Mexico[6]	TL2	34.3	35.2	34.8	35.9	30.9	28.9
Netherlands[7]	TL3	---	---	12.6	13.1	87.4	86.9
New Zealand[8]	TL3	---	---	57.0	56.6	43.0	43.4
Norway[9]	TL3	45.2	43.5	36.8	38.3	18.0	18.1
Poland[10]	TL3	38.3	35.1	37.2	36.6	24.5	28.4
Portugal	TL3	19.7	20.7	24.1	26.7	56.2	52.6
Slovak Rep.	TL3	24.9	22.5	58.4	58.0	16.7	19.5
Spain	TL3	13.1	11.5	40.1	40.3	46.8	48.2
Sweden[11]	TL3	49.3	47.5	29.0	29.3	21.7	23.2
Switzerland[5]	TL3	8.7	8.2	48.6	52.4	42.6	39.4
Turkey[12]	TL3	n.a.	31.1	n.a.	26.3	n.a.	42.6
United Kingdom	TL3	1.8	1.8	27.0	26.4	71.2	71.8
United States	TL3	36.7	37.0	21.4	21.2	41.9	41.8
EU15	Mix[a]	11.6	11.6	34.7	34.4	53.7	54.0
EU19	Mix[a]	14.4	13.6	36.6	35.9	49.1	50.4
OECD[13]	Mix[a]	22.9	23.3	31.9	31.6	45.2	45.1

EU15: Member states of the European Union from 1995 to 2003.
EU19: Member states of the European Union who are also members of the OECD, *i.e.* EU15 plus the Czech Republic, Hungary, Poland and the Slovak Republic who became members of the EU in 2004.
a. Aggregations are based on individual country data. While predominantly at the TL3 level they also contain TL2, ER and NUTS2 units.
1. 1996 instead of 1995, and 2006 instead of 2005.
2. 1997 instead of 1995, and 2004 instead of 2005.
3. 1998 instead of 1995.
4. 2001 instead of 1995.
5. 1996 instead of 1995.
6. 2000 instead of 1995.
7. 1999 instead of 1995.
8. 2001 instead of 1995, and 2006 instead of 2005.
9. 1997 instead of 1995.
10. 1998 instead of 1995, and 2004 instead of 2005.
11. 1998 instead of 1995, and 2004 instead of 2005.
12. 2000 instead of 2005,
13. Calculation of OECD distribution excludes Turkey as a regional distribution of employment is only available for one year.
Source: OECD Territorial Database, 2008.

Table 4.2. Change in national employment (place of work), 1995 and 2005

Figure 4.1. Change in national employment (place of work) by type of region, 1995 and 2005

	Total (000 persons)		
	1995	2005	% change
Australia[1]	7 635	8 661	13.4
Austria	3 917	4 179	6.7
Belgium	3 860	4 210	9.1
Canada[1]	13 295	16 170	21.6
Czech Rep.	5 155	4 988	-3.2
Denmark[2]	2 660	2 700	1.5
Finland	2 051	2 396	16.8
France	22 048	24 582	11.5
Germany	37 601	38 823	3.2
Greece	3 836	4 536	18.2
Hungary	3 619	3 879	7.2
Iceland[3]	145	164	13.3
Ireland	1 285	1 958	52.4
Italy	21 985	24 302	10.5
Japan[4]	60 158	61 506	2.2
Korea[5]	14 326	15 147	5.7
Luxembourg	216	307	42.6
Mexico[6]	33 574	42 342	26.1
Netherlands[7]	6 264	6 458	3.1
New Zealand[8]	1 727	1 985	15.0
Norway[9]	2 205	2 335	5.9
Poland[10]	15 126	12 907	-14.7
Portugal	4 474	5 095	13.9
Slovak Rep.	2 107	2 084	-1.1
Spain	13 567	19 255	41.9
Sweden[11]	3 598	3 861	7.3
Switzerland[5]	3 950	4 786	21.2
Turkey[12]	20 586	25 997	26.3
United Kingdom	27 013	31 332	16.0
United States	148 983	174 176	16.9
EU15	154 373	173 993	12.7
EU19	180 380	197 851	9.7
OECD[13]	486 963	551 122	13.2



---: no region is classified within this type; n.a.: not available; ER: Economic regions.
EU15: Member states of the European Union from 1995 to 2003.
EU19: Member states of the European Union who are also members of the OECD, *i.e.* EU15 plus the Czech Republic, Hungary, Poland and the Slovak Republic who became members of the EU in 2004.
a. Aggregations are based on individual country data. While predominantly at the TL3 level they also contain TL2, ER and NUTS2 units.
1. 1996 instead of 1995, and 2006 instead of 2005.
2. 1997 instead of 1995, and 2004 instead of 2005.
3. 1998 instead of 1995.
4. 2001 instead of 1995.
5. 1996 instead of 1995.
6. 2000 instead of 1995.
7. 1999 instead of 1995.
8. 2001 instead of 1995, and 2006 instead of 2005.
9. 1997 instead of 1995.
10. 1998 instead of 1995, and 2004 instead of 2005.
11. 1998 instead of 1995, and 2004 instead of 2005.
12. 2000 instead of 2005.
13. The OECD total includes Turkey, which is not included in the calculation of OECD change by type of region.
Source: OECD Territorial Database, 2008.

Distribution of agricultural employment by type of region

70. The distribution of agricultural employment[14] across the three region types in general follows the same distribution path as that for the number of farms (Table 4.3), although in most countries, PU and IN regions account for a larger share of total agricultural employment than their share in the total number of farms. This would indicate a higher number of labour units per farms in PU regions than in PR regions. The distribution of agro-food industries across types of region is briefly discussed in Box 4.1.

Table 4.3. Distribution of agricultural employment by type of region, 1995 and 2005

	Regional Units	% of agricultural employment					
		Predominantly Rural		Intermediate		Predominantly Urban	
		1995	2005	1995	2005	1995	2005
Australia[1]	TL2	4.6	5.0	95.3	94.7	0.1	0.3
Austria	TL2	70.1	70.0	28.8	29.0	1.1	1.0
Belgium	TL3	6.2	5.7	13.1	12.2	80.7	82.1
Canada[1]	ER	56.8	52.5	33.7	34.8	9.5	12.7
Czech Rep.	TL3	10.4	12.3	88.7	85.8	0.9	1.8
Denmark[2]	TL3	61.1	60.5	33.3	32.6	5.6	7.0
Finland	TL3	77.7	79.7	18.7	16.9	3.7	3.5
France	TL3	36.3	35.5	57.2	58.0	6.5	6.4
Germany	NUTS2	6.8	6.3	56.5	54.3	36.7	39.4
Greece	TL3	67.3	67.8	30.6	30.2	2.1	1.9
Hungary	TL3	59.3	57.3	38.8	39.9	1.9	2.9
Iceland[3]	TL3	92.4	91.1	7.6	8.9	---	---
Ireland	TL3	97.8	97.7	---	---	2.2	2.3
Italy	TL3	15.8	16.8	52.9	53.8	31.3	29.4
Japan[4]	TL3	n.a.	28.7	n.a.	47.6	n.a.	23.7
Korea[5]	TL3	n.a.	57.7	n.a.	36.9	n.a.	5.4
Luxembourg	TL3	---	---	100.0	100.0	---	---
Mexico[6]	TL2	66.1	61.2	32.7	37.7	1.1	1.1
Netherlands[7]	TL3	---	---	20.5	20.4	79.5	79.6
New Zealand[8]	TL3	---	---	86.7	86.4	13.3	13.6
Norway[9]	TL3	63.5	67.3	36.4	32.4	0.1	0.3
Poland[10]	TL3	53.0	53.1	45.2	44.4	1.8	2.6
Portugal	TL3	46.5	51.2	36.0	34.1	17.5	14.6
Slovak Rep.	TL3	34.7	34.7	60.9	56.8	4.5	8.5
Spain	TL3	30.5	31.6	53.2	49.6	16.3	18.8
Sweden[11]	TL3	67.2	69.2	29.4	26.6	3.4	4.2
Switzerland[5]	TL3	16.2	15.7	63.6	64.1	20.3	20.1
Turkey[12]	TL3	n.a.	45.6	n.a.	35.2	n.a.	19.2
United Kingdom[13]	TL3	9.8	11.2	59.8	58.1	30.4	30.8
United States	TL3	58.4	58.2	18.6	18.5	23.0	23.3
EU15	Mix[a]	31.9	33.0	46.3	45.2	21.8	21.9
EU19	Mix[a]	38.7	38.2	47.1	45.8	14.1	16.0
OECD	Mix[a]	44.4	45.7	38.4	39.6	17.1	14.7

---: no region is classified within this type; n.a.: not available; ER: Economic regions.
EU15: Member states of the European Union from 1995 to 2003.
EU19: Member states of the European Union who are also members of the OECD, *i.e.* EU15 plus the Czech Republic, Hungary, Poland and the Slovak Republic who became members of the EU in 2004.
a. Aggregations are based on individual country data. While predominantly at the TL3 level they also contain TL2, ER and NUTS2 units.
1. 1996 instead of 1995, and 2006 instead of 2005.
2. 1997 instead of 1995, and 2004 instead of 2005. 3. 1998 instead of 1995.
4. 2001 instead of 1995.

14. Labour force employed in agriculture, hunting, forestry and fisheries as reported in the OECD territorial database (Sector A-B in ISIC Rev. 3.1).

5. 1996 instead of 1995.
6. 2000 instead of 1995 and 2004 instead of 2005.
7. 1999 instead of 1995.
8. 2001 instead of 1995, and 2006 instead of 2005.
9. 1997 instead of 1995.
10. 1998 instead of 1995, and 2004 instead of 2005.
11. 1998 instead of 1995, and 2004 instead of 2005.
12. 2000 instead of 2005,
13. 2002 instead of 2005.

Source: OECD Territorial Database, 2008, and OECD Secretariat calculations based on national sources (Annex I.2).

Share of agriculture in employment by type of region

71. It is estimated that around 11% of employment in PR regions is in agriculture on average in the OECD area (Table 4.4). Agriculture accounts for around 40% of PR employment in Turkey, 30% in Korea, Poland and Portugal, and for over 20% in Greece and Mexico. In the Czech Republic, Japan and Spain it is around 10%. At the other extreme, it represents less than 5% of PR employment in Norway, Sweden and the United States. In most OECD countries, agriculture contributes between 5-10% of PR employment.

72. Although the share of agriculture in employment is lower in IN regions, agriculture still represents around 7% of employment in this region type in the OECD area. Agriculture remains a vital employer of the IN population in Turkey and Poland, and accounts for around 15% in Greece, Mexico and Portugal. It accounts for 10% of IN employment in Korea and New Zealand. Even in PU regions, agriculture accounts for 10% of employment in Turkey.

73. When the spread around these averages by type of region is considered, the share of agriculture in employment in specific regions of Greece, Korea, Mexico, Poland Portugal and Turkey is significant (Figure 4.2). This is also the case for some regions of Italy, Japan and Spain. There is far less spread around averages for agriculture's share in employment than for the other three variables.

74. In addition to employment in agricultural production, the agri-food sector can also play a significant role in regional employment, but this is not always the case (Box 4.1). From available evidence, the share of the food industry in regional employment is generally less than that of agriculture, except in PU regions. However, the share in national employment of the whole agri-food sector, including wholesale and retail trade of farm inputs and food products; and services related to sales of food and beverages is larger. In addition, the agri-food sector is only part of the off-farm agricultural-related employment. Information on these issues is not easily available, in particular at the regional level.

Change in agricultural employment by type of region

75. Across all OECD countries, employment in agriculture has fallen by 16% between 1995 and 2005 (Table 4.5), while total employment has increased by 13% (Table 4.2). Only in Portugal and Luxembourg has there been an increase in agricultural employment over the period. The decrease in agricultural employment has been greatest in the four central European countries of Hungary, Poland and the Czech and Slovak Republics. Falls of around 20-25% have occurred in a number of countries.

76. This decrease in agricultural employment has been relatively even across the three region types for most OECD countries (Figure 4.3). A notable exception to this is the four central European countries, where agricultural employment in PR and IN regions has decreased much faster than in PU regions. In the Czech Republic, as well as in Australia, Canada, Mexico, Norway and Sweden, an increase in agricultural employment in PU regions is reported. An increase in agricultural employment in PR regions has occurred in Portugal. At the OECD level, the decrease has been greatest in the IN regions than in PR regions.

Change in the share of agriculture in employment by type of region

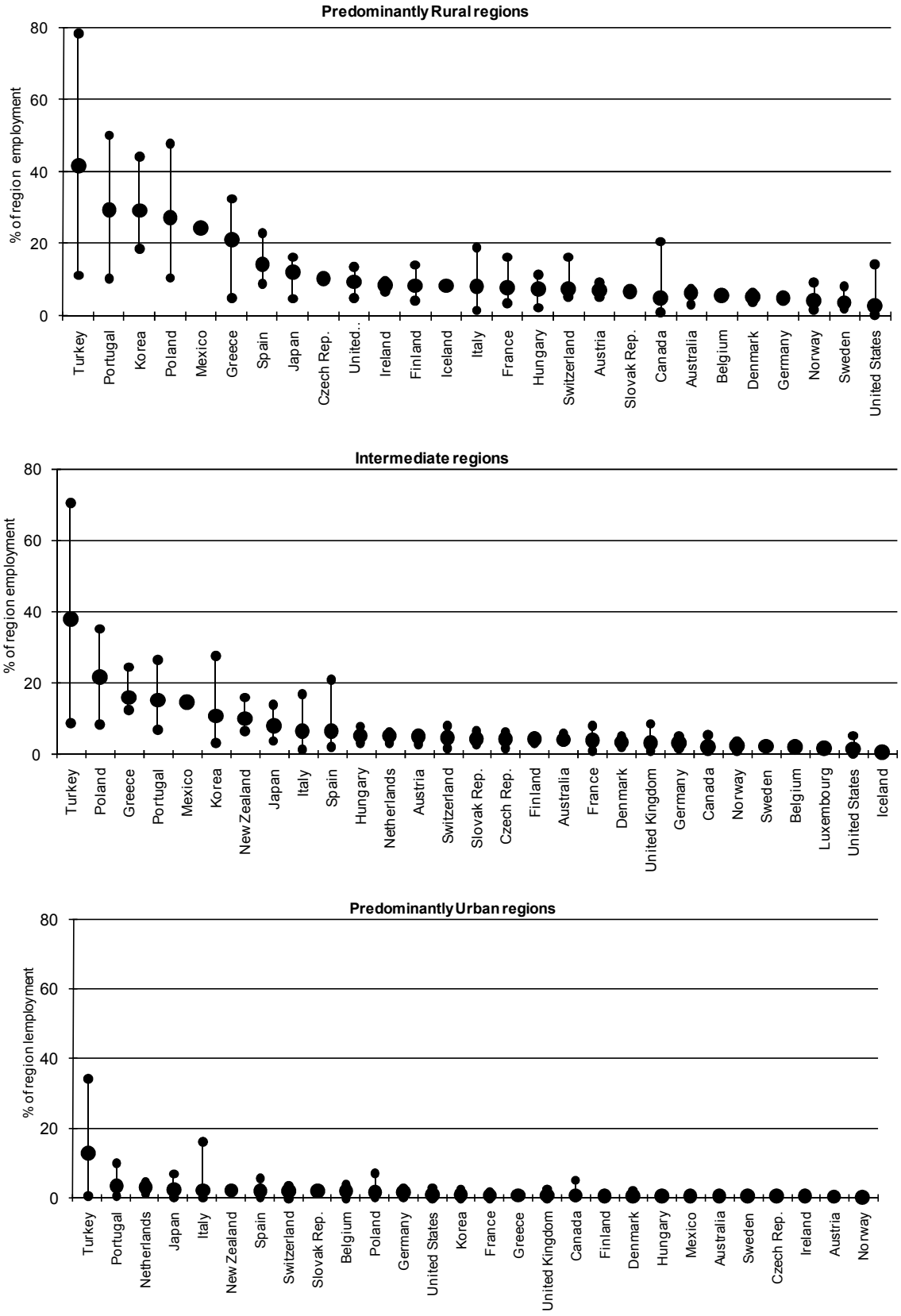
77. As a result, the share of agriculture in employment has decreased on average in all countries and in all types of regions between 1995 and 2005, except PR regions in Portugal and PU regions in Australia and the Czech Republic where it has increased (Table 4.4). On average for the OECD area, the share of agriculture in employment has decreased from 7.6% to 5.6%. The largest declines in percentage points have been in Greece, Mexico, Poland and Turkey.

Table 4.4. Share of agriculture in employment by type of region, 1995 and 2005

	Regional Units	Agricultural employment as % of regional employment							
		Predominantly Rural		Intermediate		Predominantly Urban		National	
		1995	2005	1995	2005	1995	2005	1995	2005
Australia[1]	TL2	7.3	6.4	5.5	4.1	0.3	0.5	5.5	4.1
Austria	TL2	9.9	7.1	7.3	5.1	0.4	0.2	7.1	5.0
Belgium	TL3	8.3	5.5	3.0	2.0	2.7	1.9	2.8	2.0
Canada[1]	ER	7.3	4.9	2.9	2.1	0.7	0.6	3.1	2.1
Czech Rep.	TL3	14.2	10.2	7.0	4.3	0.4	0.4	6.4	3.9
Denmark[2]	TL3	6.6	5.2	4.5	3.4	0.7	0.7	4.1	3.2
Finland	TL3	12.1	8.3	7.1	4.2	1.0	0.6	7.9	5.1
France	TL3	10.0	7.8	5.0	3.9	0.9	0.7	4.5	3.5
Germany	NUTS2	6.9	4.8	4.1	3.1	1.8	1.5	2.9	2.2
Greece	TL3	34.0	21.1	24.6	15.9	1.1	0.6	19.5	12.2
Hungary	TL3	12.4	7.5	8.1	5.2	0.7	0.6	8.2	4.9
Iceland[3]	TL3	16.4	8.2	0.5	0.5	---	---	4.6	3.4
Ireland	TL3	15.8	8.6	---	---	0.7	0.4	10.6	5.9
Italy	TL3	10.9	8.1	9.2	6.5	3.3	2.1	6.0	4.1
Japan[4]	TL3	n.a.	12.1	n.a.	8.0	n.a.	2.2	6.1	5.3
Korea[5]	TL3	n.a.	29.5	n.a.	11.0	n.a.	1.0	11.8	9.4
Luxembourg	TL3	---	---	1.9	1.6	---	---	1.9	1.6
Mexico[6]	TL2	37.4	24.4	18.3	14.7	0.7	0.6	19.4	14.0
Netherlands[7]	TL3	---	---	5.6	5.1	3.2	3.0	3.5	3.3
New Zealand[8]	TL3	---	---	12.1	10.0	2.5	2.0	8.0	6.5
Norway[9]	TL3	5.3	4.2	3.8	2.3	0.0	0.0	3.8	2.7
Poland[10]	TL3	35.1	27.1	30.8	21.7	1.9	1.6	25.3	17.9
Portugal	TL3	28.8	29.4	18.3	15.2	3.8	3.3	12.2	11.9
Slovak Rep.	TL3	12.5	6.8	9.3	4.3	2.4	1.9	9.0	4.4
Spain	TL3	18.4	14.3	10.5	6.4	2.7	2.0	7.9	5.2
Sweden[11]	TL3	4.2	3.6	3.2	2.3	0.5	0.4	3.1	2.5
Switzerland[5]	TL3	10.6	7.3	7.4	4.6	2.7	1.9	5.7	3.8
Turkey[12]	TL3	n.a.	41.8	n.a.	38.0	n.a.	12.8	44.1	28.5
United Kingdom[13]	TL3	11.1	9.4	4.6	3.2	0.9	0.6	2.1	1.5
United States	TL3	3.3	2.6	1.8	1.5	1.1	0.9	2.1	1.7
EU15	Mix[a]	13.3	10.2	6.4	4.7	2.0	1.5	4.8	3.6
EU19	Mix[a]	18.1	12.9	8.7	5.9	1.9	1.5	6.7	4.6
OECD	Mix[a]	14.4	10.9	9.0	7.1	2.8	1.8	7.6	5.6

---: no region is classified within this type; n.a.: not available; ER: Economic regions.
EU15: Member states of the European Union from 1995 to 2003.
EU19: Member states of the European Union who are also members of the OECD, *i.e.* EU15 plus the Czech Republic, Hungary, Poland and the Slovak Republic who became members of the EU in 2004.
a. Aggregations are based on individual country data. While predominantly at the TL3 level they also contain TL2, ER and NUTS2 units.
1. 1996 instead of 1995, and 2006 instead of 2005.
2. 1997 instead of 1995, and 2004 instead of 2005.
3. 1998 instead of 1995.
4. 2001 instead of 1995.
5. 1996 instead of 1995.
6. 2000 instead of 1995 and 2004 instead of 2005.
7. 1999 instead of 1995.
8. 2001 instead of 1995, and 2006 instead of 2005.
9. 1997 instead of 1995.
10. 1998 instead of 1995, and 2004 instead of 2005.
11. 1998 instead of 1995, and 2004 instead of 2005.
12. 2000 instead of 2005,.
13. 2002 instead of 2005.
Source: OECD Territorial Database, 2008 and OECD Secretariat calculations based on data from national sources.

Figure 4.2. Share of agriculture in employment by type of region, average and spread, 2005

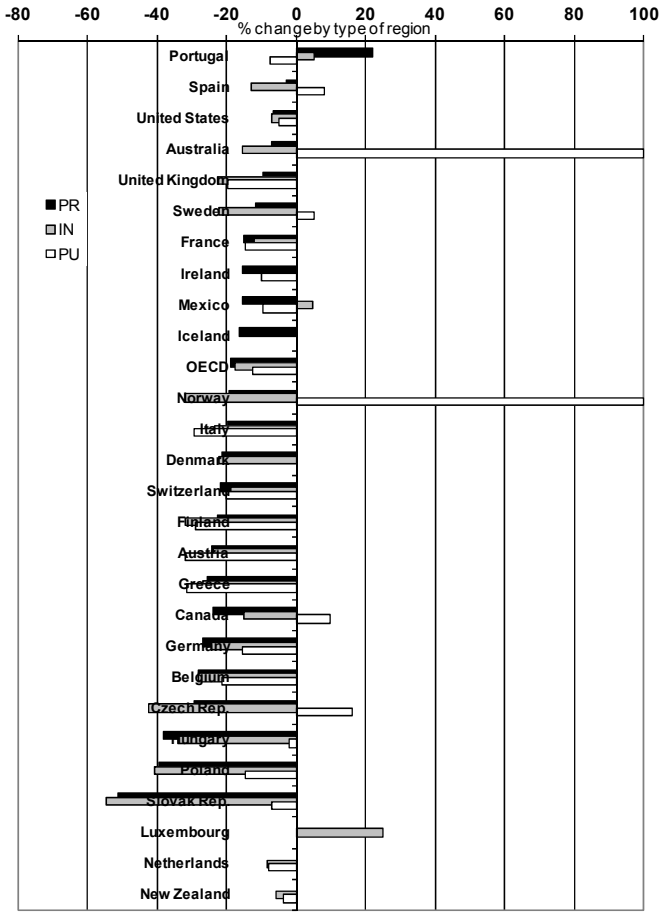


Source: OECD Territorial Database, 2008 and OECD Secretariat calculations based on data from national sources.

Table 4.5. Change in agricultural employment, 1995 and 2005

Figure 4.3. Change in agricultural employment by type of region, 1995 and 2005

	Number (000)		Total % change
	1995	2005	
Australia[1]	419	356	-15.1
Austria	278	211	-24.3
Belgium	109	84	-22.6
Canada	410	338	-17.6
Czech Rep.	328	195	-40.5
Denmark[2]	108	86	-20.4
Finland	162	122	-24.8
France	998	864	-13.4
Germany	1 079	850	-21.2
Greece	749	554	-26.0
Hungary	295	189	-35.9
Iceland[3]	7	6	-15.2
Ireland	136	116	-15.2
Italy	1 327	999	-24.8
Japan[4]	3 674	3 174	-13.6
Korea[4]	1 596	1 329	-16.7
Luxembourg	4	5	25.0
Mexico[5]	6 516	5 945	-8.8
Netherlands[4]	232	214	-7.9
New Zealand[6]	137	130	-5.7
Norway[7]	84	64	-23.7
Poland[8]	3 834	2 314	-39.6
Portugal	547	606	10.7
Slovak Rep.	189	92	-51.4
Spain	1 072	1 003	-6.5
Sweden[9]	112	96	-14.2
Switzerland[10]	225	181	-19.6
Turkey[11]	9 080	7 398	-18.5
United Kingdom[12]	560	445	-20.6
United States	3 106	2 913	-6.2
EU15	7 473	6 253	-16.3
EU19	12 119	9 043	-25.4
OECD[13]	36 873	30 876	-16.3



EU15: Member states of the European Union from 1995 to 2003.
EU19: Member states of the European Union who are also members of the OECD, *i.e.* EU15 plus the Czech Republic, Hungary, Poland and the Slovak Republic who became members of the EU in 2004.
a. Aggregations are based on individual country data. While predominantly at the TL3 level they also contain TL2, ER and NUTS2 units.
1. 1996 instead of 1995, and 2006 instead of 2005.
2. 1997 instead of 1995, and 2004 instead of 2005.
3. 1998 instead of 1995.
4. 2001 instead of 1995.
5. 1996 instead of 1995.
6. 2000 instead of 1995.
7. 1999 instead of 1995.
8. 2001 instead of 1995, and 2006 instead of 2005.
9. 1997 instead of 1995.
10. 1998 instead of 1995, and 2004 instead of 2005.
11. 1998 instead of 1995, and 2004 instead of 2005.
12. 2000 instead of 2005.
13. Change in regional distribution at the OECD level is based on 27 countries (excludes Japan, Korea and Turkey) who have a total decrease of 17.8%.
Source: OECD Territorial Database, 2008 and OECD Secretariat calculations based on data from national sources.

Box 4.1. The role of the agro-food sector in the rural economy

The extent to which agro-food industries are located in rural or urban areas has been well researched in the academic literature. Although situations are very diverse and many factors influence industry location, it is generally found that first-stage processing takes place in rural areas close to production, while further processing and distribution is generally located in urban areas where consumers are concentrated.

The OECD territorial database does not contain information on the share of agro-food industries and other related industries in employment or GDP. Data at the national level was investigated and revealed only sporadic information at the TL3 regional level that would allow consistent comparisons to be made between countries, and with the other indicators already presented. Evidence suggests that in a majority of countries, IN and PU regions account for most of food industry employment. In some countries, however, a significant share of food industry employment is located in PR regions.

The Canadian country review shows that in 2001, using TL3 territorial units, 50% of employment in the agri-food sector occurred in PU regions, with only 30% in PR regions (the shares for agriculture were 13% in PU regions and 71% in PR regions). In terms of share in regional employment, the agri-food sector accounted for 11% of total employment in PU regions and 12% of employment in PR regions, twice the share of agriculture at the TL3 level (see table below). According to Statistics Canada, the agri-food sector includes food processing, wholesale and retail trade of farm inputs and food products; and restaurants and taverns providing food and beverages. At the national level, the whole agri-food sector accounted for 7% of GDP and 12% of employment in 2005, with food processing being only 2% of national GDP and employment. According to regional statistics, food sales and services are concentrated in large urban provinces but the importance in employment is decreasing.[1]

Distribution of Employment by Industrial Sector and Type of Region, Canada, 2001

	Units	Predominantly urban regions	Intermediate regions	Predominantly rural regions	All regions
Employment in primary agriculture	persons	52 435	67 100	290 075	409 610
Employment in agri-food	persons	894 905	364 750	548 070	1 807 725
Employment in all sectors	persons	7 988 585	3 071 020	4 516 935	15 576 540
Share in total employment					
Primary agriculture	%	1	2	6	3
Agri-food	%	11	12	12	12
Distribution of national employment by type of region					
Primary agriculture	%	13	16	71	100
Agri-food	%	50	20	30	100
All sectors	%	51	20	29	100

Source: Statistics Canada, Census of Population 2001 (adapted from (Chartrand, 2005 p. 11)

In the United States, the share of food processing industries in GDP in 2005 was 1.4% at the national level and 3.2% in non-metropolitan areas. In Japan, food processing industries accounted for 3.1% of GDP in 2000, and the agri-food sector (from input industries to sales of food products and beverages) accounted for 11.4% of national GDP. In Korea, these industries accounted respectively for 2.4% and 7.5% of national GDP in 2000, and for 1.1% and 8.5% of employment.

At the EU27 level, food industries (food products, beverages and tobacco) accounted for 2.4% of employment and 2.2% of GDP in 2004 (note by the Commission). Although not publicly available, the EU Labour Force Survey collects data at NUTS2 level on employment in the food industry (food products, beverage and tobacco). As NUTS2 is generally equivalent to the OECD TL2 level, this data is not directly comparable with the resulted calculated in this study for agriculture, with the exception of Austria, Belgium, Greece and the Netherlands. The data shows a distribution in favour of IN and PU regions, although around 50% of food industry employment occurs in PR regions in Austria, Finland, Hungary and Sweden. While the food industry generally contributes to PR regional employment at a level higher than the national average, this is not always the case. For example, in Austria, Greece, France and Sweden the food industry is more important in terms of contributing to regional employment in IN regions than in PR regions.

1. http://www4.agr.gc.ca/resources/prod/doc/pol/pub/sys/pdf/sys_2007_f.pdf

Box 4.1. The role of the agro-food sector in the rural economy (cont.)

Distribution and share of the food industry (food products, beverage and tobacco) to employment by NUTS2 in EU countries, 2004

	Distribution			Contribution			
	% of food industry employment			Employment in the food industry as % of regional employment			
Country	PR	IN	PU	PR	IN	PU	National
Austria	50.4	27.6	22.0	2.0	2.6	1.8	2.1
Belgium	3.1	14.2	82.7	3.4	2.8	2.5	2.3
Czech Republic	---	95.6	4.4	---	3.1	1.0	3.0
Denmark	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2.7
Finland	48.4	51.6	---	1.7	1.7	---	1.7
France	4.9	81.1	14.0	3.0	3.3	1.5	2.3
Germany	5.2	46.2	48.6	4.0	2.7	2.0	2.5
Greece	41.8	28.8	29.3	3.0	3.4	2.2	3.0
Hungary	49.2	34.6	16.1	5.2	3.8	1.9	3.6
Ireland	27.6	72.4	---	3.1	2.9	---	2.9
Italy	6.8	48.5	44.7	2.2	2.0	1.8	2.0
Luxembourg	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1.3
Netherlands	---	12.6	87.4	---	2.8	1.9	1.7
Poland	34.1	47.6	18.2	4.2	3.6	3.5	3.4
Portugal	11.0	67.9	21.1	3.5	2.2	1.6	2.3
Spain	9.1	32.1	58.8	3.8	2.6	2.4	2.4
Slovak Republic	---	90.6	9.4	---	2.9	1.8	2.6
Sweden	62.0	24.9	13.1	1.4	2.6	0.9	1.4
United Kingdom	2.0	47.4	50.6	3.1	2.1	1.2	1.8
EU15	13.8	50.9	35.4	2.5	2.7	2.0	2.3
EU19	10.1	49.4	40.5	3.1	2.7	2.0	2.5

---: no region is classified within this type;
n.a.: NUTS2 being the whole country, information by region is not available.
EU15: Member states of the European Union from 1995 to 2003.
EU19: Member states of the European Union who are also members of the OECD, i.e. EU15 plus the Czech Republic, Hungary, Poland and the Slovak Republic who became members of the EU in 2004.
Source: Calculation by DG-AGRI based on: Primary Data Source: Eurostat; for national results: Economic accounts (Labour Force Survey for Austria and Greece); for results by "Types of area": Labour Force Survey.

5. Gross Domestic Product (GDP)

Rural GDP

78. According to the OECD regional typology, PR regions account for just under 20% of total GDP[15]. in OECD countries (Table 5.1). In terms of national GDP distributions:

- PR regions account for just over 60% of GDP in Ireland, around 40% in Austria, Finland, Norway and Sweden, and for about one-third in Denmark, Greece and the United States.

- IN regions account for just over 70% of GDP in the Czech Republic, and around 50% in France, New Zealand and the Slovak Republic.

15. All GDP related data are in national currency at constant prices.

- PU regions account for over 85% of GDP in Belgium and the Netherlands, 75% in the United Kingdom (UK) and between 50-60% in Germany, Italy, Japan and Portugal.

79. Between 1995 and 2005 the OECD area economy grew at an annual average rate of 2.6% in real terms, measured in Euros (Table 5.2). The Irish economy was the standout performer, growing by 10% per annum, with average annual increases of over 5% in Hungary, Iceland, Korea, Poland and the Slovak Republic.

80. In terms of GDP growth by type of region, at the OECD level PR regions grew at a slightly faster rate than other regions, resulting in a slight increase in the share of PR regions in OECD GDP. However, there is no clear consistent pattern among OECD countries. The four central European countries, along with Finland, Sweden and Greece experienced relatively large increases in GDP in IN and PU regions. Consequently, the share of GDP in PR regions fell in the EU15 and EU19 as compared to the overall OECD increase. However, in this context, it should be kept in mind that GDP, although widely used as an indicator of economic growth, does not take into account all the different aspects of the agricultural sector, in particular the provision of unpaid services.

Table 5.1. Distribution of national GDP in national currency by type of region, 1995 and 2005

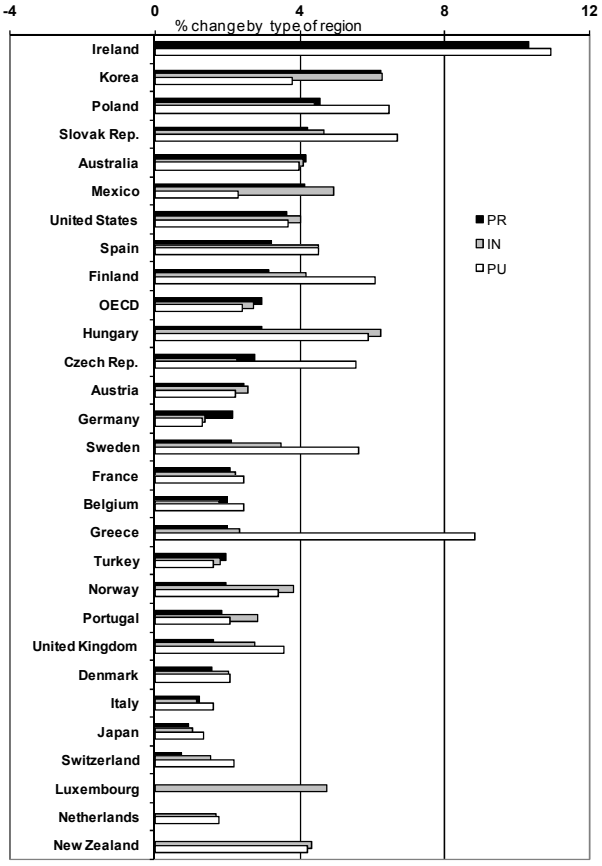
	Regional Units	% of total GDP					
		Predominantly Rural		Intermediate		Predominantly Urban	
		1995	2005	1995	2005	1995	2005
Australia	TL2	3.2	3.2	94.7	94.7	2.1	2.1
Austria	TL2	44.6	44.7	27.5	27.9	27.9	27.4
Belgium	TL3	1.7	1.7	10.8	10.3	87.5	88.0
Canada[1]	ER	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Czech Rep.	TL3	4.3	4.2	75.7	71.7	20.0	24.0
Denmark[2]	TL3	35.4	34.5	28.4	28.7	36.2	36.8
Finland	TL3	48.2	44.4	20.5	20.3	31.3	35.3
France	TL3	13.6	13.4	48.3	48.0	38.0	38.6
Germany	NUTS2	2.6	2.8	35.3	35.4	62.1	61.8
Greece	TL3	39.3	32.1	22.7	19.0	38.1	48.8
Hungary	TL3	33.0	28.4	33.0	35.7	33.9	35.9
Iceland	TL3	n.a.	n.a.	n.a.	n.a.	---	---
Ireland	TL3	62.9	62.2	---	---	37.1	37.8
Italy	TL3	8.0	7.8	33.3	32.5	58.7	59.7
Japan[2]	TL3	11.3	11.0	29.6	29.2	59.1	59.8
Korea	TL3	22.0	23.6	33.1	35.5	44.9	40.9
Luxembourg	TL3	---	---	100.0	100.0	---	---
Mexico[2]	TL2	28.6	29.8	27.5	30.1	43.9	40.1
Netherlands	TL3	---	---	13.7	13.6	86.3	86.4
New Zealand[3]	TL3	---	---	48.7	48.8	51.3	51.2
Norway[4]	TL3	41.5	39.1	36.8	38.7	21.7	22.2
Poland	TL3	30.8	29.6	34.8	33.0	34.4	37.4
Portugal	TL3	17.1	16.6	21.5	22.6	61.4	60.8
Slovak Rep.	TL3	21.7	20.4	53.7	52.2	24.6	27.3
Spain	TL3	11.3	10.4	39.0	39.4	49.8	50.3
Sweden	TL3	47.2	42.7	27.8	28.0	25.0	29.2
Switzerland	TL3	8.2	7.5	43.3	42.4	48.5	50.2
Turkey[5]	TL3	20.6	20.9	19.0	19.1	60.4	60.0
United Kingdom[2]	TL3	1.6	1.4	25.4	24.4	73.1	74.3
United States[6]	TL3	31.5	31.3	22.1	22.5	46.4	46.2
EU15	Mix[a]	10.6	10.5	33.0	32.2	56.4	57.3
EU19	Mix[a]	11.3	11.1	33.4	32.7	55.3	56.3
OECD[7]	Mix[a]	18.4	18.9	30.0	29.8	51.6	51.2

---: no region is classified within this type; n.a.: not available; ER: Economic regions.
EU15: Member states of the European Union from 1995 to 2003.
EU19: Member states of the European Union who are also members of the OECD, *i.e.* EU15 plus the Czech Republic, Hungary, Poland and the Slovak Republic who became members of the EU in 2004.
a. Aggregations are based on individual country data. While predominantly at the TL3 level they also contain TL2 and NUTS2 units.
1. Data on regional GDP are only available at TL2 level.
2. 2004 instead of 2005.
3. 2000 instead of 1995, and 2003 instead of 2005.
4. 1997 instead of 1995.
5. 2001 instead of 2005.
6. Distribution of GDP based on distribution of total earnings across Bureau of Economic Analysis (BEA) Economic Areas.
7. OECD distribution excludes Canada and Iceland.
Source: OECD Territorial Database, 2008.

Table 5.2. Change in national GDP in national currency, 1995 and 2005

Figure 5.1. Change in national GDP by type of region, 1995 and 2005

	Currency	GDP (billion)[7] 1995	2005	Annual average % change
Australia	AUD	535	754	4.1
Austria	EUR	182	226	2.4
Belgium	EUR	220	272	2.4
Canada[1]	CAD	879	1 184	3.9
Czech Rep.	CZK	2 034	2 632	2.9
Denmark[1]	DKK	1 114	1 304	1.9
Finland	EUR	105	150	4.3
France	EUR	1 249	1 536	2.3
Germany	EUR	1 867	2 122	1.4
Greece	EUR	115	169	4.7
Hungary	HUF	11 113	16 709	5.0
Iceland	ICK	539	843	5.6
Ireland	EUR	67	137	10.5
Italy	EUR	1 084	1 240	1.4
Japan[1]	YEN	484	536	1.2
Korea	KOW	480	727	5.1
Luxembourg	EUR	18	26	4.8
Mexico[1]	MEX	3 998	5 278	3.6
Netherlands	EUR	378	444	1.7
New Zealand[2]	NZD	116	131	4.3
Norway[3]	NOK	1 369	1 653	3.0
Poland	PLN	572	866	5.2
Portugal	EUR	105	128	2.2
Slovak Rep.	SKK	789	1 189	5.1
Spain	EUR	515	740	4.4
Sweden	SEK	1 909	2 552	3.4
Switzerland	CHF	381	450	1.8
Turkey[4]	TRL	104	115	1.7
United Kingdom[1]	GBP	818	1 063	3.3
United States[5]	USD	7 973	10 951	3.7
EU15	EUR	7 250	9 194	2.7
EU19	EUR	7 576	9 596	2.7
OECD[6]	EUR	20 007	25 007	2.5



EU15: Member states of the European Union from 1995 to 2003.
EU19: Member states of the European Union who are also members of the OECD, *i.e.* EU15 plus the Czech Republic, Hungary, Poland and the Slovak Republic who became members of the EU in 2004.
a. Aggregations are based on individual country data. While predominantly at the TL3 level they also contain TL2 and NUTS2 units.
1. 2004 instead of 2005.
2. 2000 instead of 1995, and 2003 instead of 2005.
3. 1997 instead of 1995.
4. 2001 instead of 2005.
5. Distribution of GDP based on distribution of total earnings across Bureau of Economic Analysis (BEA) Economic Areas.
6. The OECD total includes Canada and Iceland, which are not included in the calculation of OECD change by type of region.
7. VOB: national currency, constant prices, 2000 base year. Trillions in the case of Japan and Korea
Source: OECD Territorial Database, 2008.

Distribution of agricultural GDP by type of region

81. Agricultural GDP, as measured by the share of agriculture[16] in national GDP, resembles the distribution of agricultural land use more than population or employment, with IN regions accounting for the greatest share of agricultural GDP (Table 5.3). Only one-third of agricultural GDP at the OECD level is generated in PR regions, with almost 20% arising in PU regions. PU regions are significant for Belgium and the Netherlands, and generate one-third of agricultural GDP in Germany and Italy, and one-quarter in the UK. PR regions account for over three-quarters of agricultural GDP in Finland, Ireland and Sweden.

16. Agriculture, hunting, forestry and fishing. Agro-food industries are not included.

Table 5.3. Distribution of agricultural GDP in national currency by type of region, 1995 and 2005

	Regional Units	% of agricultural GDP[7]					
		Predominantly Rural		Intermediate		Predominantly Urban	
		1995	2005	1995	2005	1995	2005
Australia	TL2	4.7	4.2	95.2	95.8	0.1	0.1
Austria	TL2	70.9	68.5	26.2	27.8	2.9	3.7
Belgium	TL3	5.0	4.9	14.5	12.7	80.4	82.4
Canada[1]	ER	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Czech Rep.	TL3	10.7	12.3	88.4	86.2	0.9	1.5
Denmark[2]	TL3	67.3	66.5	28.8	28.8	3.9	4.7
Finland	TL3	78.2	78.8	18.0	16.9	3.8	4.3
France	TL3	31.5	31.5	62.6	63.2	5.9	5.3
Germany	NUTS2	5.6	5.9	57.9	56.6	36.5	37.5
Greece	TL3	63.6	63.1	31.6	32.0	4.9	4.9
Hungary	TL3	57.9	57.8	39.5	40.4	2.5	1.8
Iceland	TL3	n.a.	n.a.	n.a.	n.a.	---	---
Ireland	TL3	97.6	96.7	---	---	2.4	3.3
Italy	TL3	14.5	16.0	49.1	48.9	36.4	35.1
Japan[2]	TL3	n.a.	25.0	n.a.	53.7	n.a.	21.3
Korea	TL3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Luxembourg	TL3	---	---	100.0	100.0	---	---
Mexico[2]	TL2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands	TL3	---	---	22.3	22.6	77.7	77.4
New Zealand[3]	TL3	---	---	93.5	94.4	6.5	5.6
Norway	TL3	70.1	69.9	29.6	29.8	0.3	0.4
Poland	TL3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Portugal	TL3	51.3	45.3	32.0	37.5	16.7	17.2
Slovak Rep.	TL3	35.1	36.7	57.9	57.7	7.0	5.6
Spain	TL3	31.8	32.5	51.4	49.3	16.9	18.2
Sweden	TL3	73.0	73.5	24.9	23.8	2.0	2.7
Switzerland	TL3	7.4	6.8	52.1	51.4	40.5	41.8
Turkey[4]	TL3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
United Kingdom[2]	TL3	9.4	9.7	63.2	63.7	27.4	26.6
United States[5]	TL3	59.3	58.7	18.9	22.9	21.8	18.4
EU15	Mix[a]	28.8	27.9	47.3	47.9	23.9	24.2
EU19	Mix[a]	29.3	28.4	47.8	48.5	22.9	23.1
OECD[5]	Mix[a]	33.3	35.5	44.9	43.9	21.8	20.5

---: no region is classified within this type; n.a.: not available; ER: Economic regions.
EU15: Member states of the European Union from 1995 to 2003.
EU19: Member states of the European Union who are also members of the OECD, *i.e.* EU15 plus the Czech Republic, Hungary, Poland and the Slovak Republic who became members of the EU in 2004.
a. Aggregations are based on individual country data. While predominantly at the TL3 level they also contain TL2 and NUTS2 units.
1. Data on regional GDP are only available at TL2 level.
2. 2004 instead of 2005.
3. 2000 instead of 1995 and 2003 instead of 2005.
4. 2001 instead of 2005.
5. Distribution of agricultural GDP based on distribution of farm earnings across Bureau of Economic Analysis (BEA) Economic Areas.
6. While Canada, Iceland, Korea, Mexico, Poland and Turkey are included in the OECD total, they are not included in the distribution calculation.
7. In all cases except Australia, Canada, Iceland and Switzerland, agriculture includes hunting, forestry and fisheries (ISIC A and B).
Source: OECD Secretariat calculations based on EUROSTAT regional database and national sources (Annex I.2).

Share of agriculture in GDP by type of region

82. Agriculture accounts for less than 2% of GDP at the OECD level (Table 5.4). For most countries, the share lies in the range of 1-3%, although it accounts for more than 5% in the case of New Zealand and Turkey. Its share is 1% or less in Belgium, Germany and the United Kingdom.

83. In terms of the rural economy, the share of agriculture in regional GDP is highest in New Zealand, where 11.5% of GDP is produced by agriculture in IN regions. The spread around the averages reveals that regions where agriculture accounts for more than 15% of regional GDP are only found in New Zealand and Spain, while one or more regions with a share of agriculture in GDP above 10% are also found in Finland, France, Greece, Italy, Portugal, the United Kingdom (Figure 5.2).

84. Across all OECD countries the share of agriculture in GDP is smaller than the share in employment, reflecting a lower productivity of labour compared to the national average. Comparing regions, labour productivity in agriculture appears to be higher in PU and IN regions than in PR regions. However, such conclusions have to be interpreted with care. Given the importance of part-time farming and pluriactivity, it would be more accurate to estimate labour productivity by comparing GDP to full-time labour equivalents, rather than the number of people employed in agriculture.[17]

Change in agricultural GDP by type of region

85. Over the period 1995 to 2005, the value of agricultural GDP increased in constant 2000 prices at the OECD level by 1.6% per annum on average (Table 5.5). Decreases occurred in Greece, Ireland, the Netherlands, Portugal and Switzerland. Increases of over 5% per annum took place in Australia, Hungary, New Zealand and the United States. With the number of farms, the area in agriculture production and the number of persons employed all falling, the increasing real value of agricultural output reflects increases in productivity.

86. In general, across the OECD countries, the one noticeable pattern in regional agricultural GDP growth rates is that increases were larger in IN and PR regions than in PU regions (Figure 5.3). However, in terms of the countries with a decrease in agricultural GDP, for Greece, Ireland and Portugal, the rate of decrease was much larger in PR regions than elsewhere.[18]

Change in the share of agriculture in GDP by type of region

87. As a result of changes in total and agricultural GDP, the share of agriculture in GDP decreased slightly in the OECD area between 1995 and 2005 (Table 5.4). Compared to 1995, agriculture accounts for a lower share of the economy in 2005 in all but five countries (Australia, Hungary, New Zealand the Slovak Republic and the United States). The share of agriculture in GDP of PR regions increased in the Czech Republic, Hungary, the Slovak Republic and Italy. Countries where the decline in the share of agriculture in GDP is more pronounced include Greece, Ireland, Korea, Poland and Portugal.

17. Guillard and Lesdos (2007) publish estimates for France using the apparent labour productivity defined as the ratio between gross value-added and total employment in full-time equivalent. http://www.insee.fr/fr/ffc/docs_ffc/ref/agrifra07e.pdf

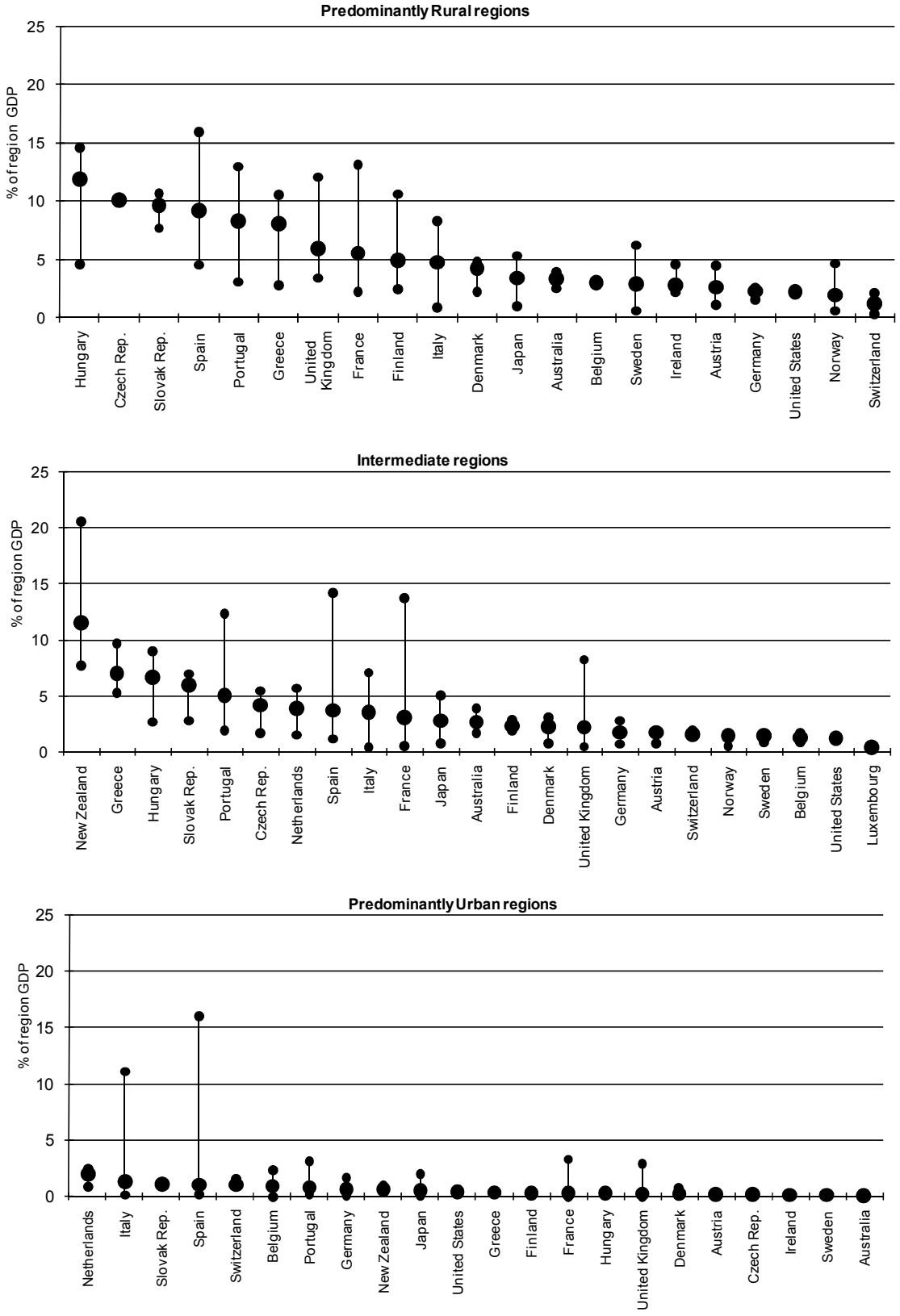
18. In Ireland, all seven regions at TL3 except Dublin are classified as PR.

Table 5.4. Share of agriculture in GDP by type of region, 2005

		GDP from agriculture as % of regional GDP							
	Regional Units	Predominantly Rural		Intermediate		Predominantly Urban		National	
		1995	2005	1995	2005	1995	2005	1995	2005
Australia	TL2	2.9	3.4	2.1	2.6	0.1	0.1	2.1	2.6
Austria	TL2	3.1	2.6	1.9	1.7	0.2	0.2	2.0	1.7
Belgium	TL3	3.6	3.0	1.7	1.3	1.1	1.0	1.2	1.0
Canada[1]	ER	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1.7	1.4
Czech Rep.	TL3	9.7	10.2	4.5	4.2	0.2	0.2	3.9	3.5
Denmark[2]	TL3	4.4	4.3	2.4	2.2	0.3	0.3	2.3	2.2
Finland	TL3	6.1	4.9	3.3	2.3	0.5	0.3	3.8	2.8
France	TL3	6.1	5.5	3.4	3.1	0.4	0.3	2.6	2.3
Germany	NUTS2	2.4	2.3	1.8	1.7	0.7	0.7	1.1	1.1
Greece	TL3	11.3	8.1	9.7	7.0	0.9	0.4	7.0	4.1
Hungary	TL3	10.2	12.0	7.0	6.7	0.4	0.3	5.8	5.9
Iceland	TL3	n.a.	n.a.	n.a.	n.a.	---	---	2.1	1.5
Ireland	TL3	7.0	2.8	---	---	0.3	0.2	4.5	1.8
Italy	TL3	4.5	4.8	3.7	3.5	1.5	1.4	2.5	2.3
Japan[2]	TL3	n.a.	3.4	n.a.	2.8	n.a.	0.5	1.7	1.5
Korea	TL3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	5.8	3.5
Luxembourg	TL3	---	---	0.8	0.4	---	---	0.8	0.4
Mexico[2]	TL2	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	4.6	4.3
Netherlands	TL3	---	---	4.0	3.8	2.2	2.1	2.4	2.3
New Zealand[3]	TL3	---	---	10.4	11.5	0.7	0.7	5.4	6.0
Norway	TL3	3.4	3.4	1.6	1.5	0.0	0.0	2.0	1.9
Poland	TL3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	5.7	4.4
Portugal	TL3	12.5	8.3	6.2	5.1	1.1	0.9	4.1	3.0
Slovak Rep.	TL3	7.7	9.7	5.1	6.0	1.4	1.1	4.8	5.4
Spain	TL3	9.7	9.3	4.5	3.7	1.2	1.1	3.4	3.0
Sweden	TL3	3.2	2.9	1.9	1.4	0.2	0.2	2.1	1.7
Switzerland	TL3	1.5	1.2	1.9	1.6	1.4	1.1	1.6	1.3
Turkey[4]	TL3	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	14.4	13.4
United Kingdom[2]	TL3	6.2	5.9	2.6	2.2	0.4	0.3	1.0	0.8
United States[5]	TL3	1.7	2.2	0.8	1.2	0.4	0.5	0.9	1.2
EU15	Mix[a]	5.6	4.8	3.0	2.7	0.9	0.8	2.1	1.8
EU19	Mix[a]	5.8	5.0	3.1	2.8	0.9	0.8	2.2	1.9
OECD[6]	Mix[a]	2.9	3.0	2.4	2.3	0.7	0.6	1.8	1.7

---: no region is classified within this type; n.a.: not available; ER: Economic regions.
EU15: Member states of the European Union from 1995 to 2003.
EU19: Member states of the European Union who are also members of the OECD, *i.e.* EU15 plus the Czech Republic, Hungary, Poland and the Slovak Republic who became members of the EU in 2004.
a. Aggregations are based on individual country data. While predominantly at the TL3 level they also contain TL2 and NUTS2 units.
1. Data on regional GDP are only available at TL2 level.
2. 2004 instead of 2005.
3. 2000 instead of 1995 and 2003 instead of 2005.
4. 2001 instead of 2005.
5. Distribution of agricultural GDP based on distribution of farm earnings across Bureau of Economic Analysis (BEA) Economic Areas.
6. While Canada, Iceland, Korea, Mexico, Poland and Turkey are included in the OECD total, they are not included in the regional calculation.
Source: OECD Territorial Database, 2008, and OECD Secretariat calculations based on EUROSTAT regional database and national sources (Annex I.2).

Figure 5.2. Share of agriculture in GDP by type of region, average and spread, 2005



Source: OECD Territorial Database, 2008, and OECD Secretariat calculations based on EUROSTAT regional database and national sources (Annex I.2).

Box 5.1. Multiplier effects

Multipliers estimate the total impact of an **exogenous shock** (*e.g.* one dollar investment, change in demand) in one sector on economic variables such as output, value-added, income and employment, through interrelationships within the economy. They can be derived from Input-Output (I-O) matrices, Social Accounting Matrices (SAM), or economic base models. I-O tables and SAMs can be built at the national or regional levels, and generate **regional multipliers**. Economic base models can apply to smaller scale regions.

An **Input-Output** matrix captures interdependencies between sectors in a disaggregated production account.

A **Social Accounting** Matrix (SAM) accounts for the interrelationships among production activities, production factors, income, consumption and capital formation. Each row of the SAM shows the receipts for a specific sector while the corresponding column lists the sector expenditure. Being a double entry accountancy system, the sums of corresponding rows and columns totals must balance. The rows of the matrix can present several types of accounts: a) production activities, b) factors of production, c) institutions' current accounts, such as households (possibly further disaggregated by type), firms, government, d) a capital formation account, and e) the rest of the world account. A similar structure holds for the columns of the matrix (Rocchi *et al.*, 2005).

The total effect of an exogenous shock on a given account can be decomposed in:

a) direct effects on a given account,

b) indirect effect due to linkages within the same group of accounts ('intragroup' effect),

c) induced effects to the group of accounts originally affected by the shock as a consequence of its impacts on account groups other than the initial-ones ('intergroup' effect), and

d) impact of the initial shock on the groups of accounts other than the initial-one ('extra-group' effect).

The sum of direct and intra-group effects (a+b) for productive sectors is equal to the Leontiev multiplier in standard input-output analysis. The sum of direct, intra-group and inter-group effects (a+b+c) for productive sectors is equal to the Leontiev-Keynesian multiplier in the standard input-output model (Rocchi *et al.*, 2005).

Multipliers can be used to estimate the total impact of a project (*e.g.* investment) or programme on regional output, value-added, or employment. Depending on the type of programme, the external shock will be applied at different levels in the system. The impact of an investment project will directly affect investment. Concerning agricultural policy, Rocchi *et al.* (2005) suggest, following Roberts and Russell (1996), that a) price support schemes can be simulated as a shock on final demand of the relevant sector as they exogenously increase the nominal value of output; b) income supporting schemes linked to the level of factor use can be simulated by increases of factor earnings, and c) fully decoupled household income supporting schemes (*i.e.*, transfers to agricultural households) can be simulated in a SAM framework as a positive shock on the accounts referring to household groups.

Economic base models decompose regional economic activities into those that meet external demand (basic activities) and those that meet local demand (non-basic or derived activities). They are specifically adapted to analysis of small-scale economies as they consider external demand and they require fewer data than full matrices (Vollet, 1998). They are well suited to look at employment effects, for which data exist at disaggregated level, using econometric methods.

Annex I.3 contains a selection of employment, output and value-added multipliers from a literature/internet search. It is very difficult to compare the estimates because of differences in the methodology used (survey methods employed, assumptions on "import"/"export" flows between regions, etc) and the industry/sector groupings chosen. In general, the more interactions are taken into account, the higher the multipliers are expected to be. The regional multiplier effects depend on the extent to which downstream and upstream activities take place within that region. If they take place outside of the region under consideration then the output, employment, value-added multiplier effects take place outside the region. One important observation is that the national multiplier for a sector is not necessarily a good indicator of the regional multiplier for that sector in a particular region.

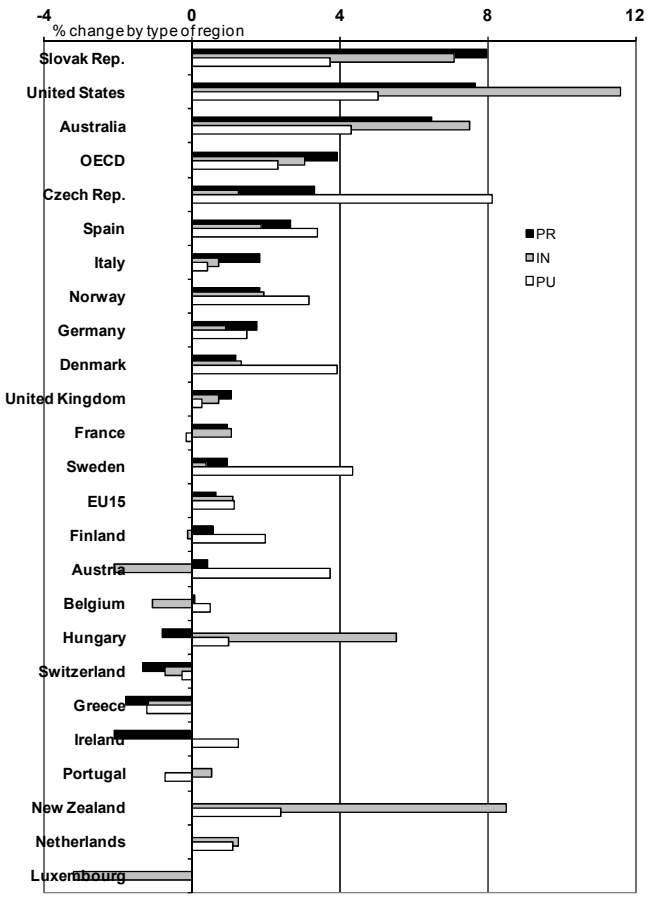
Box 5.1. Multiplier effects (cont.)

Given these differences, it is difficult to give a general estimate of the importance of economic multipliers for agriculture and related industries. For example, in a single study of several small regions, production multipliers of primary agriculture derived from a SAM vary between 1.05 and 2.94 depending on the region (Mayfield *et al.*, 2005). Using estimates presented in Annex I.3, it is, however, possible to compare the multipliers of various sectors drawn from the same study. Evidence shows, thus, that agro-food industries often have higher multiplier effects on the regional economy, notably employment, than primary agriculture. It also shows large differences across products: Production multipliers in Wales range from 1.06 for cereals to 2.67 for pigmeat (Midmore *et al.*, 2007).Studies show in general that multipliers are higher for intensive livestock production and meat and dairy processing industries, than for crop products. Finally, services, in particular residential and recreational functions, seem to have higher regional effects than other sectors, notably primary ones.

Table 5.5. Change in agricultural GDP in national currency, 1995 and 2005

Figure 5.3. Change in agricultural GDP by type of region, 1995 and 2005

	Currency	GDP (million)[7] 1995	GDP (million)[7] 2005	Annual average % change
Australia	AUD	11 206	19 549	7.4
Austria	EUR	3 580	3 856	0.8
Belgium	EUR	2 737	2 808	0.3
Canada[1]	CAD	15 269	17 013	1.3
Czech Rep.	CZK	79 013	91 140	1.5
Denmark[1]	DKK	25 967	29 093	1.3
Finland	EUR	3 938	4 138	0.5
France	EUR	32 915	36 081	1.0
Germany	EUR	20 668	23 082	1.2
Greece	EUR	8 014	6 987	-1.3
Hungary	HUF	647 532	985 257	5.2
Iceland	ICK	11 392	12 501	1.0
Ireland	EUR	2 994	2 479	-1.7
Italy	EUR	26 867	28 911	0.8
Japan[1]	YEN	8 368	8 042	-0.4
Korea	KOW	23 309	25 447	0.9
Luxembourg	EUR	144	98	-3.2
Mexico[1]	MEX	185 067	227 176	2.5
Netherlands	EUR	9 232	10 274	1.1
New Zealand[2]	NZD	6 269	7 791	8.1
Norway[3]	NOK	27 681	31 283	1.9
Poland	PLN	32 579	38 391	1.8
Portugal	EUR	4 338	3 892	-1.0
Slovak Rep.	SKK	37 487	64 307	7.2
Spain	EUR	17 666	21 849	2.4
Sweden	SEK	39 348	42 741	0.9
Switzerland	CHF	6 172	5 840	-0.6
Turkey[4]	TRL	15 070	15 491	0.5
United Kingdom[1]	GBP	8 392	8 879	0.6
United States[5]	USD	72 918	130 000	7.8
EU15	EUR	150 987	165 948	1.0
EU19	EUR	168 446	184 201	0.9
OECD[6]	EUR	365 891	422 338	1.5



EU15: Member states of the European Union from 1995 to 2003.
EU19: Member states of the European Union who are also members of the OECD, *i.e.* EU15 plus the Czech Republic, Hungary, Poland and the Slovak Republic who became members of the EU in 2004.
a. Aggregations are based on individual country data. While predominantly at the TL3 level they also contain TL2 and NUTS2 units.
1. 2004 instead of 2005.
2. 2000 instead of 1995, and 2003 instead of 2005.
3. 1997 instead of 1995.
4. 2001 instead of 2005.
5. Distribution of agricultural GDP based on distribution of farm earnings across Bureau of Economic Analysis (BEA) Economic Areas.
6. The OECD total includes Canada, Iceland, Korea, Mexico, Poland and Turkey, which are not included in the calculation of OECD change by type of region.
7. VOB: national currency, constant prices, 2000 base year. Trillions in the case of Japan and Korea
Source: OECD Territorial Database, 2008, and OECD Secretariat calculations based on EUROSTAT regional database and national sources (Annex I.2).

6. Conclusions – Agriculture in the rural economy

Main findings

88. Definitions of rural vary significantly between countries and sometimes between databases within a country. While population size or density are the most common criteria for defining rural areas, countries increasingly use other socio-economic variables, such as distance to employment centres or access to services. Moreover, for specific research or policy analysis purposes, more refined, tailored typologies of rural areas have been developed. The OECD regional typology provides a way of comparing regional information between countries on a consistent basis, although national typologies applied at a more disaggregated level would provide a more precise description of the situation of rural areas in given countries. It is primarily based on population density and applied at regional administrative levels. Applying this typology results in the inclusion of farms/agriculture into all three categories, *i.e.* farms exist in predominantly urban, intermediate and predominantly rural regions. Alternative methodologies, especially those based on population size applied at census block level would result in the large majority of farms/agriculture being classified as rural.

89. The study considered the distribution and share of agriculture with regard to four variables: population, land, employment and GDP. It found that the PR region share did not exceed 50% at the OECD level for any of the variables.[19] While PR regions account for the greatest share of farms and agricultural employment, a greater proportion of agricultural land and GDP was located in IN regions. In terms of its share in the rural economy, at the OECD level agriculture occupies almost 30% of PR land area, 11% of population and employment and 3% of GDP. Agriculture's share is greatest in PR regions for population, employment and GDP, but not for land. In the case of land, agriculture occupies almost 40% of land in both IN and PU regions.

90. In terms of population and employment in PR regions, agriculture plays a significant role in countries such as Greece, Hungary, Korea, Poland, Portugal, Mexico and Turkey, accounting for over 20% of regional population and employment. By contrast, the countries in which agriculture contributes most significantly in terms of PR land use (around 60% of land area) are Denmark, Ireland and the United Kingdom. In terms of GDP, for the countries for which information is available, the share of agriculture in PR GDP is greatest for Hungary, the Czech and Slovak Republics, Portugal and Spain.

91. From 1995 to 2005 there has been a decrease in the number of farms and in agricultural employment of about 20%, but an increase in agricultural GDP by a similar amount. Over the same period, the area in agricultural production has decreased by only 2%. The analysis shows that the regional incidence of these changes has been variable across the OECD countries. These developments in the agricultural sector combined with overall economic changes have led to a decline in the share of agriculture in the economy in almost all countries and regions. On average and in many countries, the decrease in the share of agriculture in the economy has generally been more pronounced for employment than GDP, reflecting an increase in the productivity of labour in agriculture.

92. Regarding agro-food industries, main findings relate to the share of food processing in regional employment in EU member states. This is in general lower than that of primary agriculture. Although food industries account for a larger share of regional employment in PR regions, food industry employment occurs mainly in IN and PU regions in many countries. Information found in the literature on regional multipliers shows that agro-food industries have a higher impact on the regional economy than primary agriculture, in particular in terms of employment.

19. It should be kept in mind that within each type of region, OECD average indicators combine regions with very different characteristics.

Data assessment

93. Overall, the study has shown that there is a considerable amount of data to provide an accurate picture of the share of agriculture in the rural economy in terms of its share in population, land use, employment and GDP. The OECD territorial database provides both a comparable framework and a ready dataset to carry out this analysis. This is very well supplemented by the datasets available at Eurostat. A lot of additional information, which can supplement these databases in a consistent way, can be sourced from publically available data. However, it does take time to find, compile and cross-check the data. When the TL3 region relates directly to an administrative region, data on agriculture is easier to find than when it is based on a combination of smaller territorial units. Even if all information was available at TL3 level in all countries, however, interpretation of cross-country comparison would remains difficult as the size of territorial units can differ greatly by country. It should also be kept in mind that regional results are very dependent on the typology used.

94. It would be difficult to develop consistent data on the share of agriculture at a lower territorial unit than TL3. It should also be noted that the agriculture related data is not necessarily available for every year in every country. Some of the data relies on specific surveys or censuses which are carried out every two or even five years.

95. That being said, the data set used for this analysis could be improved in a number of ways:

- More detailed regional data for Australia for all four variables would be useful. The current analysis uses state/province level data (TL2) which is readily available. For this country, the territorial level at which TL3 data is produced is too small for agricultural data to be found. Some middle ground could be developed. This is not so much of an issue for Austria, Germany and Mexico – the three other countries for which TL3 level data are not used. In the case of Canada, data for all variables except GDP are available at a specific level (economic regions) that are an intermediate category between TL2 and TL3.
- Similarly, it would be useful to complete the regional distribution for the countries for which regional information has not been found to date in terms of one or two of the variables.
- In particular, it may prove enlightening to obtain data regarding the regional distribution of farms and agricultural land use in 1995 for a greater number of countries.
- It would be interesting to be able to compare land use in agriculture and forestry, by type of region, at the same level as for other variables.
- It should be noted that the employment and agricultural GDP data generally include hunting, forestry and fishing. Unfortunately it appears that this is generally the definition for which regional data are collected and compiled. Further attempts could be made to separate out at least fishing or forestry for those countries for which they are important. For example, fishing was separated out in the case of Iceland for this study.
- It would be interesting to know more about upstream and downstream industries, in particular the extent to which they contribute to the rural economy and are linked to regional or local production.
- It would be desirable to obtain more precise information on the farm household population, which, for most countries, has been estimated in this study.
- Finally, in order to better reflect the role of farm households in the rural economy, it would be interesting to take account of the share in employment and GDP of non-agricultural activities carried out by farm households.

Policy implications

96. A number of policy implications arise from this analysis. Perhaps the most important policy implication arises from the dominant role agriculture plays in terms of land use. As the largest land user, agriculture plays an important role in almost all environmental issues, whether erosion, water pollution, biodiversity, landscape, etc. In relation to the last two, it could be suggested on the other hand that where agriculture dominates land use, it may actually be less prized and other land uses may be considered more important. For example, in the UK and Ireland where agriculture dominates the landscape, the value of other uses that are relatively scarce, for example woodlands, may be greater. By the same token the small proportion of land in agriculture in a few countries such as Finland, Sweden and Norway may give weight to the importance of agriculture in terms of landscape and biodiversity values.

97. Structural adjustment in agriculture is still on-going in Greece, Hungary, Korea, Mexico, Poland, Portugal and Turkey. A very significant proportion of the rural population and employment are dependent on agriculture in these countries. Are policies in place to assist future adjustment? Can lessons be learnt from the experience of countries where this adjustment has been on-going for a long time or is completed and where traditional agriculture plays only a minor and decreasing role in employment in most regions?

98. In terms of viability of rural areas, the analysis shows that in general the rural economy has been doing rather well despite the decrease in the share of agriculture in population and employment. This emphasises the need to specifically target policies to address specific problems when and where they arise.

99. The analysis also raises an important issue regarding the way in which agricultural support is delivered. Given the distribution patterns of farms, land, employment, and GDP, it does not necessarily follow that using any one of these variables will mean that support is being provided to rural areas in that country. For example, 90% of a general per hectare payment provided to all farmers would go into PR regions in Sweden, but only 25% would go into PR regions in the United Kingdom, according to the definition of these regions used in this report. Indeed, in many countries, a large part of the agricultural production takes place in urban or intermediate regions.

PART II. DIVERSIFICATION AMONG FARM HOUSEHOLDS – ROLE IN THE RURAL ECONOMY

100. Part II considers the various types of diversification activities on and off the farm carried out by farm households.[20] Whenever possible, developments in farm household income are also reviewed, specifically the extent to which income is derived from non-agricultural sources. While diversification reflects only one aspect of the integration of farm households in the rural economy, such an examination is important for three reasons. First, it can shed light on the potential for farm households to be the driving force of rural development through their diversification into other activities. It can also show the possibilities for rural areas to provide farm households with a source of employment to enable them to continue farming, and thus maintain landscapes, protect biodiversity, and help to maintain population in rural areas. Finally, it could be argued that a broad view of the activities and incomes of farm operators is necessary to explain current production patterns of land use, investment behaviour (both productive assets and environmental capital), farm viability, succession and entry and exit decision, and broader structural changes occurring within the sector. But these aspects of diversification are not the subject of this report. Neither are considered the potential side-effects of diversification (*e.g.* the possible under-provision of agricultural public goods).

101. This part draws heavily on the thirteen country reviews[21] prepared for the study and the questionnaire responses.

- Section 7 introduces the concept of income diversification and provides a framework for classifying various income generating activities. This framework is used to examine the patterns of income diversification that have taken place in OECD countries, with a special focus on farm tourism. This section is of a qualitative nature, illustrating the types and extent of diversification activities being undertaken by farmers.

- Section 8 is more quantitative, examining the composition of farm household income. The focus of the discussion is not on the overall level of income but on the sources from which farm households derived their income.

20. Farm households are households of farm operators. Definitions of what constitute a farm vary by country and statistical source. The members of households, whose activity and income are taken into account, also vary. In this report, national definitions are used. Definitions used for income statistics are reported in Table 8.3 and Annex II.1. Statistics presented in Section 7 mainly come from the EUROSTAT Farm Structure Survey, in which the statistical unit observed is the agricultural holding (a single unit, both technically and economically, which has a single management and which produces agricultural products), which has: 1) a utilised agricultural area of 1 ha or more; 2) a utilised agricultural area less than 1 ha if it market produce on a certain scale or if its production units exceed certain natural thresholds.

21. They include diverse countries in all continents and cover a large part of the OECD area, but specific situations such as those of countries in the extreme north of Europe are not represented.

- Section 9 summarises the various formal and informal factors enhancing or limiting farm household diversification into non-agricultural activities, separating them into human, farm and external characteristics.

- Section 10 considers the impact of government policies on farm household diversification, one of the most important factors affecting diversification. Both policies with the objective of assisting diversification and others have the opposite effect are reviewed.

- Section 11 provides conclusions regarding the extent to which farm households have diversified, along with a discussion of data deficiencies and areas for improvement. It also discusses the policy implications, including whether current policies are placing obstacles in the way of diversification (potentially undermining policies trying to encourage diversification); and improvements in information and analysis needed to better monitor and evaluate diversification policies.

7. Diversification activities of farm households

A framework for classifying diversification activities

102. Farm households increasingly rely on diverse sources of income other than farming.[22] They receive income from non farming activities, either as self-employed workers or wage employees. Such income can originate from the farm holder, his/her spouse or other members of the household. Some non-agricultural activities such as farm tourism or on-farm processing may be related to farming activity and take place on the farm, but most are off the farm. Other sources include income from property (rents from land and interest and dividends from financial assets) and social transfers (pension, childcare, etc.).

103. Before proceeding further it is important to define what is meant by the term diversification in the context of this report. In terms of agriculture, the concept of diversification is commonly used in two different senses. First, it is often taken to mean a shift away from the production of surplus commodities to those which may be expanded – a focus on the diversification of output – with emphasis placed on diversification into other agricultural products, *e.g*. move away from wheat to soybean, or a change in the method of production, *e.g*. move from conventional to organic farming. Alternatively, it is often used to describe the strategy of utilizing excess capacity of farm production factors, involving the use of farm resources for non-agricultural activities – a focus on diversification of resources. For the purposes of this study examining linkages between agriculture and rural economies, a third sense – a focus on the location of the activity – is also considered to be an important issue that needs to be incorporated into the analysis.

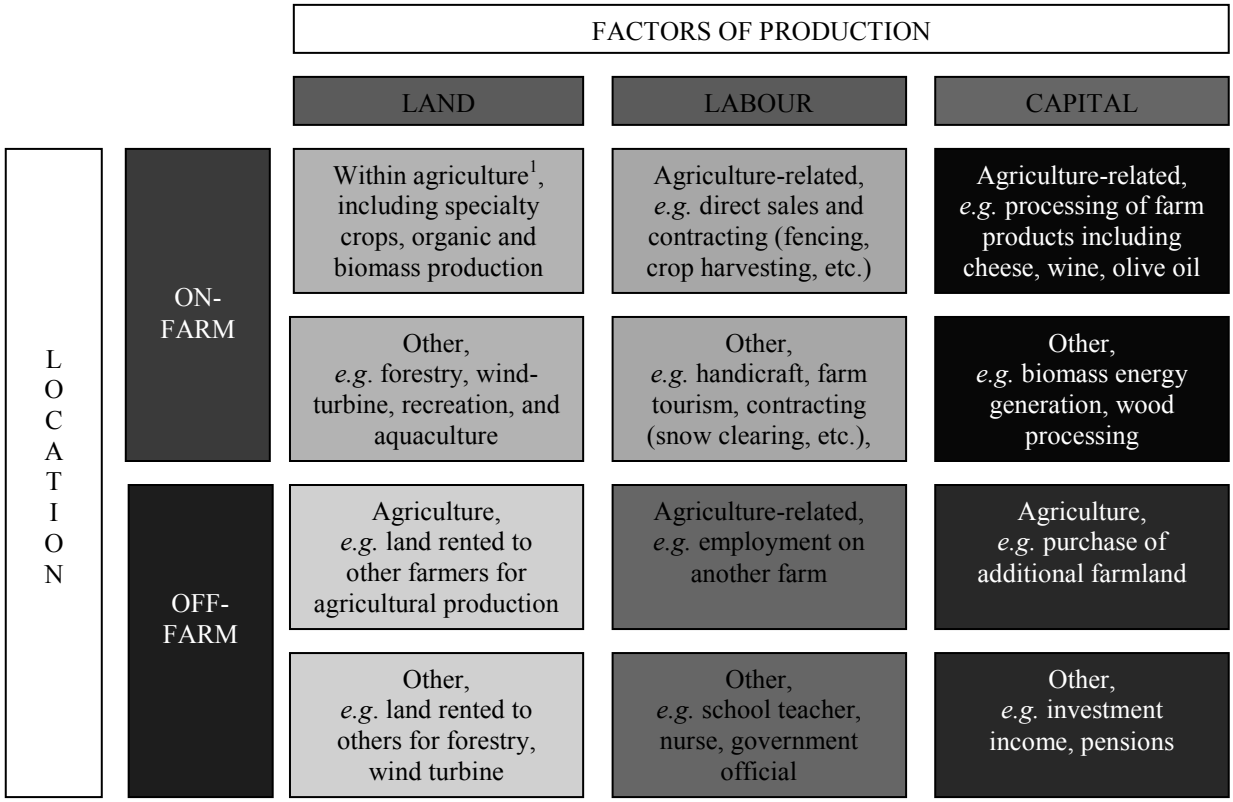
104. Figure 7.1 provides a framework in which to consider the issue of farm household diversification by differentiating between activities in terms of resources (factors of production), location (on-farm or off-farm) and output (agricultural or non-agricultural). While the classification of income generating activities within the framework is not always clear cut, it gives a methodology in which a wide variety of possibilities and permutations of household activities can be considered. Given the complexity of the issue and the variety of permutations possible, any framework considering farm household income diversification is going to have its limitations.

105. The columns differentiate between activities on the basis of the ***resources*** (factors of production) most directly related to or used in the activity, whether land, labour or capital. Although a mix of resources is likely to be involved with any activity, it is possible to differentiate between activities on the basis of which factor is most required or most available in order to proceed. This may be somewhat subjective in some instances, but nevertheless, the consideration of resources is important for analysing the process involved in the decision to undertake alternative activities.

106. Since all activities of farm households are engaged in competition for resources, resource availability obviously limits the uptake of additional income-generating activities. For example, in order to proceed with a farm tourism activity, a farmer may need some capital to improve the facilities, *e.g.* to put in a new bathroom or to refurbish an old, disused building, but labour is what is most needed to make sure that it operates on a day to day basis. Similarly, labour will be required for the processing of farm products but capital is most likely to be the constraining factor. For larger farms, the surplus factors of production are mainly capital and land, whereas for smaller farms it is labour which is most often in surplus. While some combinations of alternative income generating activities are complementary, others may be in conflict or even hinder each other.

22. This was the finding of previous OECD work analysing the composition of farm household income in selected OECD countries where information is available (OECD, 1995a, 1995b and 2003c).

Figure 7.1. A framework for classifying farm household income diversification activities



1. Diversification of commodity production within the farm enterprise is not the focus of this report.

107. The major row differentiation between activities is made on the basis of the ***location*** of the activities, either on-farm or off-farm. In most cases this is an obvious distinction, although it is not always clear cut. For example, in the case of direct sales, sometimes this occurs on the farm, *e.g.* via a road side stall, other times it occurs off-farm, *e.g.* via a farmers market in an urban environment. Similarly, handicrafts can be sold at the farm or supplied to shops located in urban areas. In this analysis, an activity is classified as on-farm if the supply of the activity originates on the farm even if it is sold off-farm. As such, contracting activities are classified as on-farm although almost all of the services will be provided elsewhere. Land rental is classified as an off-farm activity because although the household still owns the land, the day-to-day decisions about the operation of the land are no longer the responsibility of the household. They simply receive a rent.

108. Within each location, diversification activities are further differentiated as to the type of ***output***, whether: agricultural production (*e.g.* growing crops or raising livestock); continuation (*e.g.* processing of food or providing contracting services to other farmers); or other.

109. Agricultural production includes output that is grown for particular markets such as specialty crops or biofuel production, and using particular methods such as organic. Having agricultural production within the framework allows it to be seen as part of the overall farm decision making process. Forestry is sometimes considered an agricultural production activity. However, following standard OECD practice of defining agriculture, forestry is considered as "other" in this analysis, a viable alternative form of land use. The framework also includes what is sometime referred to as "unearned income". This is income which does not require human resources of the receiver in order to be obtained. Examples are interest from

savings, dividends, remittances, pensions and other state benefits. The term "agriculture-related" is used to note the connection between these activities and agricultural production – either developing and marketing agricultural output or using farms resources to produce agricultural output but in another location.

110. Over the past ten to twenty years there are some notable examples of changes occurring within agricultural production that have taken place in OECD countries. The Australian and New Zealand country studies refer to the move away from sheep to beef, crops and dairying, and the large increase in horticultural and viticulture production. The Austrian and Spanish studies refer to the growth in the use of organic production methods, while the Canadian and German studies mention the more recent switch to production for the biofuel market.

111. While the framework presented includes agricultural activities, and changes in the type and form of primary production, as well as the purchase of additional land to expand production or the rental of land to other farmers, which can well be considered as viable diversification strategies undertaken by the farmer, this study takes a narrower focus. Income diversification in the context of this study refers to income derived from sources other than primary agricultural production, termed non-agricultural diversification activities, classified either as "related to agriculture" or "other", and as taking place either on-farm or off-farm.[23]

112. Having established a framework for analysis and a definition for reference, the next step is to obtain information on the non-agricultural diversification activities undertaken by farmers. However, datasets about alternative income-generating activities are generally difficult to obtain and even more of a challenge to compare because of definitional differences, even within a country.[24] Great care needs to be taken when comparing datasets and/or survey results. Consequently, rather than establish precise figures about how many OECD farmers are doing this or that diversification activity, what can be done is to provide an idea of the relative importance of various activities, noting similarities and differences between countries.

On-farm income diversification outside primary agricultural production: general

113. One useful source of data reporting on on-farm diversification activities outside primary agricultural production is the EUROSTAT Farm Structure Survey (FSS). It provides a time series for the EU countries on the number of agricultural holdings in which a member of the family, who is engaged in farming,[25] also undertakes Other Gainful Activities (OGA), that is, "every activity other than activity related to farm work (*i.e.* work contributing to primary agricultural production), carried out for remuneration (salary, wages, profits or other payments, including payments in kind, according to the service rendered)" (EC, 2002).[26] Statistics Norway also publishes information on OGAs (called

23. Pluriactivity is not synonymous with income diversification. It may be thought of as a specific case in which attention is given to the allocation of farm household labour, *i.e.* just one of the factors of production.

24. These definition differences not only relate to what is included or excluded within the concept of diversification, but also to what constitutes a farm (*e.g.* minimum area, agricultural income level, labour requirements). In addition, some surveys focus on the whole farm household while others focus only on the farm operator.

25. This means that OGAs undertaken by family members, who are not engaged in farming activities, are not reported.

26. Work is currently being undertaken to incorporate the information derived from the FSS on "Other Gainful Activities" into the Farm Accounting Data Network (FADN) dataset (Karlsson, *et al.*, 2006)

supplementary activities in Norwegian statistics) carried out by farm households and the gross income they generate.

114. Between 2000 and 2005 the number of farms carrying out OGA directly related to their holdings increased by 4% in the EU19 (Table 7.1). However, this trend was not even across EU countries. While the majority recorded an increase in the number of holdings with OGA, a decrease occurred in Italy, the Slovak Republic, Hungary, Portugal and France. This may reflect more the trend towards the consolidation of primary production activity, with fewer farms (the reduction in the number of farms was particularly pronounced in Italy and the Slovak Republic), than a move away from OGA, as demonstrated by relative developments discussed below.[27]

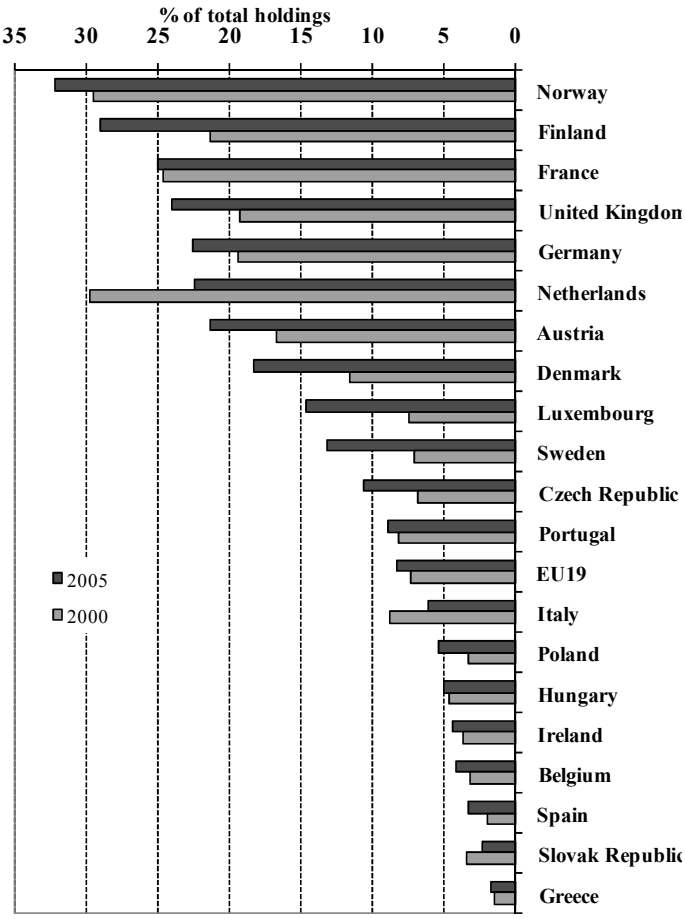
115. Between 2000 and 2005 the number of farms involved in OGA increased as a proportion of total farm holdings in all EU19 countries with the exception of Italy and the Slovak Republic (Figure 7.2). OGA directly related to holdings occur relatively more frequently on farms in northern/western Europe, for example in Austria, Germany, Finland, France, the Netherlands and the United Kingdom, along with Norway, than in southern/central Europe, such as Greece and Spain, and Hungary, Poland and the Slovak Republic. Very large increases in the share of OGA in total holdings have occurred in Denmark and Sweden.

27. It is also possible that some minor diversification activities are not reported and thus included in official statistics, and that the rate of reporting increased over the period.

Table 7.1. Agricultural holdings with Other Gainful Activities directly related to the holding, 2000 and 2005

Figure 7.2. Agricultural holdings with OGA directly related to the holding as a share of total holdings, 2000 and 2005

	Number of holdings		
	2000	2005	% change
Austria	33 250	36 500	9.8
Belgium	1 920	2 140	11.5
Czech Republic[1]	3 720	4 500	21.0
Denmark	6 710	9 480	41.3
Finland	17 340	20 460	18.0
France[1]	151 390	141 670	-6.4
Germany[1]	80 040	87 870	9.8
Greece	11 800	14 050	19.1
Hungary	45 160	36 140	-20.0
Ireland	5 120	5 860	14.5
Italy	188 540	105 390	-44.1
Luxembourg	210	360	71.4
Netherlands[1]	25 400	18 400	-27.6
Norway	20 850	17 050	-18.2
Poland[1]	71 100	133 840	88.2
Portugal	33 890	29 030	-14.3
Slovak Republic	2 440	1 610	-34.0
Spain	25 810	35 030	35.7
Sweden	5 710	9 950	74.3
United Kingdom	45 010	68 730	52.7
EU15	652 990	601 970	-7.8
EU19	775 410	778 060	0.3



EU15: Member states of the European Union from 1995 to 2003.
EU19: Member states of the European Union who are also members of the OECD, *i.e.* EU15 plus the Czech Republic, Hungary, Poland and the Slovak Republic who became members of the EU in 2004.
1. 2000 is replaced by 2003.
Source: EUROSTAT Farm Structure Survey database.

116. In 2003, for the first time, the FSS collected information about the variety of alternative income generating activities being undertaken. In this study, the seven specific OGAs listed in the FSS have been assigned to the various categories of the framework, with the "Other" category placed to the side (Table 7.2). The FSS OGA definitions are listed in the notes to the table.

117. While some of the specific OGAs are relatively straightforward to place within the framework, some "squeezing" or "juggling" is required for others. For example, the activity "renewable energy production" includes both "other" activities such as wind farms and agricultural crops grown for energy production. A decision is made to include all under "agriculture" as this is likely to be dominant. A breakdown of Contract work into "continuation" (services such as fencing, etc.) or "other" (services such as snow clearing, etc.) is not possible.

Table 7.2. Relative importance of various activities among EU farms with OGAs directly related to the holding, 2005

Percentage of farms with OGAs[1]

TYPE OF OUTPUT	Agriculture	Agriculture-related	Agriculture-related/Other	Other					Total
FACTOR(S)	Land	Labour and Capital	Labour	Land	Labour and capital				
OGA ACTIVITY	Renewable energy production[2]	Processing of food products[3]	Contract work[4]	Aquaculture[5]	Tourism, accomodation and other leisure activities[6]	Handicraft[7]	Wood processing[8]	Other[9]	
Austria	6.2	44.2	28.7	0.8	35.0	0.9	3.2	0.0	119.0
Belgium	0.5	20.6	25.2	0.9	20.1	6.1	2.8	42.5	118.7
Czech Republic	0.7	25.3	0.0	0.0	8.0	2.9	21.1	51.8	109.8
Denmark	12.1	3.2	43.8	0.0	4.6	8.9	0.0	43.2	115.8
Finland	7.4	4.3	55.9	0.4	10.0	1.3	5.1	39.9	124.4
France	0.2	36.2	16.3	0.1	12.6	1.4	3.1	71.8	141.8
Germany	18.2	38.3	19.8	1.7	17.1	1.2	3.2	24.7	124.2
Greece	0.2	37.2	55.4	0.4	5.0	1.1	0.6	1.8	101.6
Hungary	38.3	62.7	0.0	2.0	3.3	0.9	1.9	4.5	113.5
Ireland	2.2	3.6	32.3	2.0	19.6	3.9	3.1	43.5	110.2
Italy	0.2	84.0	2.4	0.1	12.1	0.9	1.2	5.0	105.9
Luxembourg	52.8	25.0	13.9	0.0	16.7	2.8	8.3	5.6	125.0
Netherlands	11.5	5.8	19.7	0.3	15.5	0.0	0.0	70.4	123.2
Poland	0.2	4.0	23.6	10.2	6.8	1.6	6.8	51.1	104.3
Portugal	0.6	86.2	5.7	0.0	2.7	0.5	2.4	4.7	102.9
Slovak Republic	0.6	18.0	33.5	1.2	9.3	5.6	5.6	54.0	128.0
Spain	0.8	42.8	10.4	0.2	13.1	1.0	0.4	35.0	103.7
Sweden	8.7	11.1	46.7	1.8	22.8	5.6	9.8	21.2	127.8
United Kingdom	0.9	5.0	33.6	0.6	46.8	1.5	2.3	36.5	127.2
EU15	4.4	41.4	19.8	0.5	18.1	1.4	2.5	33.9	122.1
EU19	5.3	35.7	19.5	2.3	15.3	1.4	3.3	35.7	118.5

EU15: Member states of the European Union from 1995 to 2003.
EU19: Member states of the European Union who are also members of the OECD, *i.e.* EU15 plus the Czech Republic, Hungary, Poland and the Slovak Republic who became members of the EU in 2004.
1. Agricultural holdings in which a member of the family, who is engaged in farming, also undertakes OGAs,
2. Producing renewable energy for the market, *inter alia*, windmills or biogas producing electricity, selling agricultural products, straw or wood to energy production facilities, etc.
3. All processing of a primary agricultural product to a processed secondary product on the holding, regardless of whether the raw material is produced on the holding or brought from outside. This includes, *inter alia*, processing meats, making cheese, wine production, etc. Sale of farm products directly to consumers is included here, except if no processing of the product at all is taking place on the holding.
4. Contract work, usually using the equipment of the holding inside or outside the agricultural sector, *e.g.* clearing snow, haulage work, maintenance of landscape, agricultural and environmental services, etc.
5. Production of crayfish, etc., produced on the holding.
6. All activities in tourism, accommodation services, showing the holding to tourists or other groups, sport or recreation activities, etc where either the area, the buildings or other resources of the holding are used.
7. Handicraft either manufactured on the holding by the holder or family members, or by non-family labour force, provided that they are also carrying out farm work, regardless of how the products are sold.
8. The processing of raw wood on the holding for the market (saw milling, timber, etc.). Further processing, such as producing furniture from the timber, belongs normally under Handicraft.
9. Other gainful activities not mentioned elsewhere, *inter alia*, raising fur animals, horse boarding.
Source: EUROSTAT Farm Structure Survey database, definitions from EC (2002).

118. It should be noted that multiple OGAs are possible on any one farm, and therefore the share of farms undertaking the respective activities will generally sum to more than 100% (Total column of Table 7.2). A pattern emerges in terms of a greater number of OGA per farm, shown by a higher percentage total figure, in northern/western European countries as compared to southern/central European countries. A major finding of a New Zealand study was that alternative enterprises often run in parallel, sometimes across several sectors, such as garden tours and nursery sales or tea and gift shops, specialist food products and various crafts. The German review noted that organic production is often combined with direct marketing and farm tourism.

119. Data from the FSS and the thirteen country studies show that the ***processing of food products*** (including direct selling) is a relatively important on-farm, diversification activity undertaken by farm

households. This is a perfectly reasonable outcome, reflecting attempts by farm households to increase their income by adding value to what they are already producing on the farm.

120. However, within EU countries there is a great variation. While on average more than one-third of the EU19 farm households engaged in OGA indicate that this is in food processing (including direct selling), it represents 5% or less of farm households engaged in OGA in six of the 19 countries (Table 7.2). This particular activity seems relatively more important in southern rather than northern/western European countries, which may indicate that the type of agricultural production is important in determining the viability of this diversification option, or reflect a stronger tradition of regional specialities in southern Europe. The German country review notes that while initially mainly organic food products were directly sold to customers, the direct marketing of conventional food products has become increasingly popular in Germany.

121. The importance of further processing and direct selling as an on-farm, non-agricultural diversification strategy were mentioned in a number of the non-European country reviews. In Australia, dairy processing, garment manufacturing from own wool, essential oil production (including tea-tree, eucalyptus, lavender, parsley, peppermint and dill) are noted as examples of such activities. In Canada, 18% of farmers used non-bulk or non-traditional methods to market their products in 2003. Sixty-five percent of them sold directly to consumers through farmers markets/roadside stands/pick-your-own, 18% sold directly to retail stores or restaurants, 5% exported and 13% processed a product on the farm or owned a plant. The rest (13%) had investments in processing companies or cooperatives. Farmers Markets Ontario estimates that 27 000 people work in that sector alone, generating CAD 596 million in sales and a CAD 1.8 billion impact on the provincial economy. In Japan, 18% of farms indicate they are engaged in "continuation" activities (up from 11% in 2000), with over 90% of these farms involved in direct sales. Other types of activities are not yet very developed in Japan despite encouragement from both the public and private sector.

122. Another on-farm diversification activity that is relatively important is ***contract work*** (Table 7.2), although unfortunately the split between provision of agriculture-related services (*e.g.* cropping) and "other" (*e.g.* snow clearing) purposes is not available in the FSS database. Around 20% of households in the EU19 who engage in OGAs indicate that it involves contract work. This activity is particularly significant in Finland, Greece and Sweden. As for the processing of food products activity, this diversification activity reflects attempts by farm households to diversify their income by making use of what is already available on the farm, in this case farm machinery or labour.

123. In Norway, contract work using farm machinery was the most common additional activity in 2006/07 (Table 7.3). It involved 16% of all farms, 40% of farms with some additional activity, and it generated 33% of all income from supplementary activities. Other common additional activities included renting out hunting and fishing rights, renting out farm buildings or farmhouses, farm tourism and processing of timber for sale.

Table 7.3. Relative importance of various activities among Norwegian farm households with supplementary industries directly related to the holding, 2006/07

	Total supplementary activities	By type of supplementary activity				
		Contracting work with tractor, combine harvester etc.	Renting out hunting or fishing rights	Processing timber for sale	Camping site, cabin renting, farm tourism etc.	Renting out farmhouse or farm buildings
Number of farms with supplementary activities	20 075	8 108	4 774	3 038	2 353	4 105
% of all farms	40	16	10	6	5	8
Gross income from supplementary activities (Million NOK)[1]	2 242	734	87	147	265	253
% of total income from supplementary activities	100	33	4	7	12	11

1. Comprise only farms where gross income is given.
Source: Statistics Norway, http://www.ssb.no/english/subjects/10/04/10/lu_en/

124. In Canada, around half of the farms operating a non-farm business are engaged in service provision. The New Zealand survey reported that one of the major changes in employment patterns in rural areas since the mid-1980s has been the rise in the use of contract labour on farms, replacing in many instances the employment of permanent part-time workers.

125. In terms of diversification into "other" activities, ***farm tourism*** (tourism, accommodation and other leisure activities) is by far the most important among the EU19 (Table 7.2). This activity is covered in depth in the following sub-section. While not specifically listed in the FSS, the UK review notes the importance of the ***letting out of farm buildings*** for non-agricultural purposes as an important diversification activity engaged in by English farmers, again, illustrating the use of existing farm resources for income generation.

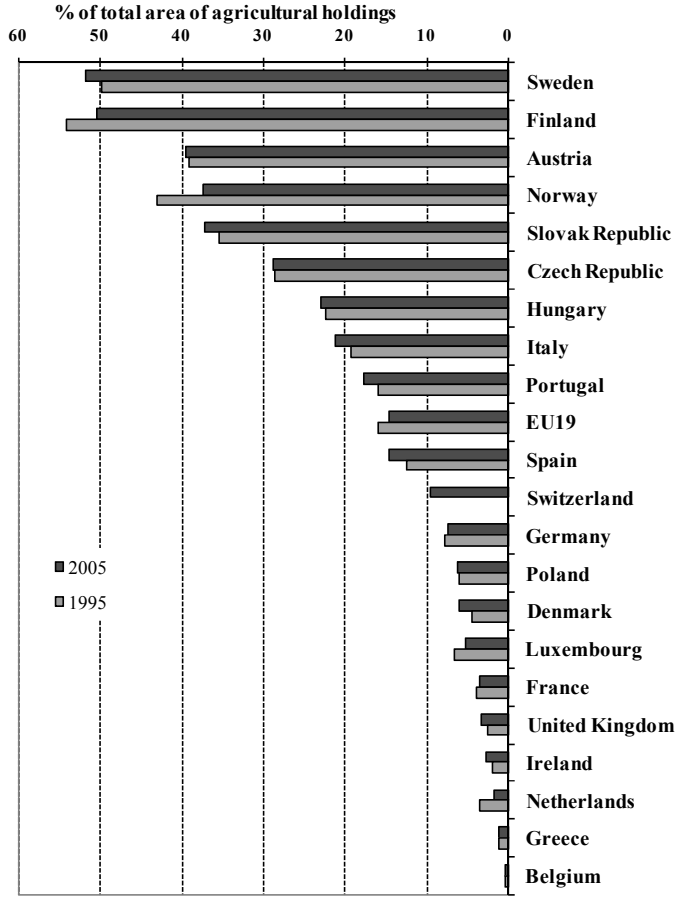
126. The Australian and New Zealand reviews emphasize the on-farm, non-agricultural diversification that has taken place in terms of land use change, specifically the move by farmers into ***plantation forestry***. In Australia, the total rate of new plantings by smaller growers (*i.e.* those wholly owned and managed by individual landowners) increased from less than 5 000 hectares per year in the mid-1980s to over 22 000 hectares per year in the mid-1990s.

127. While the FSS does not consider forestry as an OGA, it does collect information on the wooded area on agricultural holdings, *i.e.* the "area covered with trees or forest shrubs, including poplar plantations inside or outside woods and forest-tree nurseries grown in woodlands for the holding's own requirements, as well as forest facilities (forest roads, storage depots for timber, etc.)" (EC, 2002). Wooded areas occupy a large share of the total area of agricultural holdings in northern and central European countries. On average for the EU19, they represented close to 15% (Figure 7.3). Between 1995 and 2005, the total wooded area on EU19 agricultural holdings decreased by 3% (Table 7.4). The largest increases in percentage terms were recorded in Denmark, Ireland and the United Kingdom, countries with a relatively small area of agricultural holdings in wooded area (Figure 7.3). Only in Spain was there a notable increase in absolute and percentage terms. The largest decreases in percentage terms were recorded in the Netherlands and Luxembourg, where a very small proportion of total area of agricultural holdings is wooded (less than 10%), as well as in Finland and Norway, where wooded areas account for a large share of land on agricultural holdings.

Table 7.4. Wooded area on agricultural holdings, 1995 and 2005

Figure 7.3. Wooded area as a share of total agricultural holdings, 1995 and 2005

	000 hectares		
	1995	2005	% change
Austria	2 681	2 651	-1.1
Belgium	6	5	-4.7
Czech Republic[1]	1 488	1 481	-0.5
Denmark	136	176	29.6
Finland	4 150	3 275	-21.1
France[1]	1 163	1 028	-11.6
Germany[2]	1 497	1 392	-7.0
Greece	44	51	17.6
Hungary[2]	1 404	1 411	0.5
Ireland	93	126	35.8
Italy	3 958	3 770	-4.8
Luxembourg	9	7	-21.4
Netherlands	78	35	-54.7
Norway[2]	2 868	2 423	-15.5
Poland[1]	1 014	1 085	7.0
Portugal	816	851	4.2
Slovak Republic[2]	1 227	1 159	-5.5
Spain	4 219	4 848	14.9
Sweden	3 910	3 659	-6.4
Switzerland		113	
United Kingdom	451	553	22.6
EU15	26 078	24 964	-4.3
EU19	31 211	30 101	-3.6



EU15: Member states of the European Union from 1995 to 2003.
EU19: Member states of the European Union who are also members of the OECD, *i.e.* EU15 plus the Czech Republic, Hungary, Poland and the Slovak Republic who became members of the EU in 2004.
1. 2003 replaces 1995.
2. 2000 replaces 1995.
Source: EUROSTAT Farm Structure Survey database.

128. While Section 8 specifically looks at the composition of farm household income, a word of caution is needed at this point. Specifically, while the number of farms engaged in on-farm enterprise diversification is increasing and by no means insignificant in some countries, the financial returns derived from such activities appear to be far less significant.[28] For example, while 18% of Japanese farmers indicated in 2005 that they are engaged in on-farm diversification activities, the returns represent only 0.1% of farm household income. The Japanese review concludes that income diversification through farm-related business is minuscule in terms of amount of money. The Australian review notes a detailed financial evaluation of ten farms that had diversified into on-farm, non-agricultural production. It found that only one had recouped the costs invested in diversifying within two years while another still has not reached breakeven point after 15 years.

28. Financial returns don't include non-market benefits of these activities.

On-farm income diversification: special case of farm tourism

How is it defined?

129. While this study uses the term "farm tourism", the thirteen country reviews and other references often refer to a variety of other terms including "rural tourism" and "land tourism". Consequently basic data or information on farm tourism is very difficult to obtain and compare among countries because each body usually has its own terminology which is determined by the background or policy targets.

130. For the purposes of this study, farm tourism (sometimes referred to as agri-tourism) involves the provision of services for tourists by using farm resources, which is run by farm households or farms. The provision of accommodation (whether self-contained or bed and breakfast style) and meals are the most common form of farm tourism activities mentioned in the country reviews. However, it is not limited to this, and includes day-visits, outdoor recreation, such as fishing, hunting, wildlife study, horseback riding, etc.; education experiences, such as tours, cooking classes, wine tasting, etc.; entertainment, such as festivals, barn dances, petting zoos. Often these services are located on the farm. Others involve travel to off-farm activities, although these are often, but not necessarily, associated with farm stays. At times the distinction between farm tourism and on-farm direct sales becomes blurred, particularly with reference to winery visits and pick-your-own operations.

131. The relationship between farm tourism and the surrounding areas is a two-way one, with positive and negative linkages in both directions. Benefits of farm tourism include stimulating the surrounding local economy, providing incentives to farmers to preserve agricultural land and related natural amenities, and visitors may purchase goods and services (including farm products) in such environment. As an activity that shapes the appearance of the countryside, making it attractive to visitors, it may enhance economic opportunities for the regional tourist sector. In addition, farm tourism may enhance the sense of place for local residents, giving them a reason to stay and invest in their community. On the contrary, farm tourism can have a negative side as well, for example, reduction in privacy, over use of resources, local traffic congestion, conflicts over non-traditional land uses, etc.

132. In the opposite direction, farm tourism can benefit from the surrounding areas. This is particularly the case where there are natural features (landscape, wildlife, hunting, etc.) that attract visitors to the region. There are certainly instances where farms have promoted themselves on the basis of their proximity to such features rather than on the attraction of staying on a farm. It suffers when it is located within an area that has low amenity value, or lacks sufficient infrastructure which may be demanded by tourists, such as mobile phone reception and broadband internet service.

How important is it?

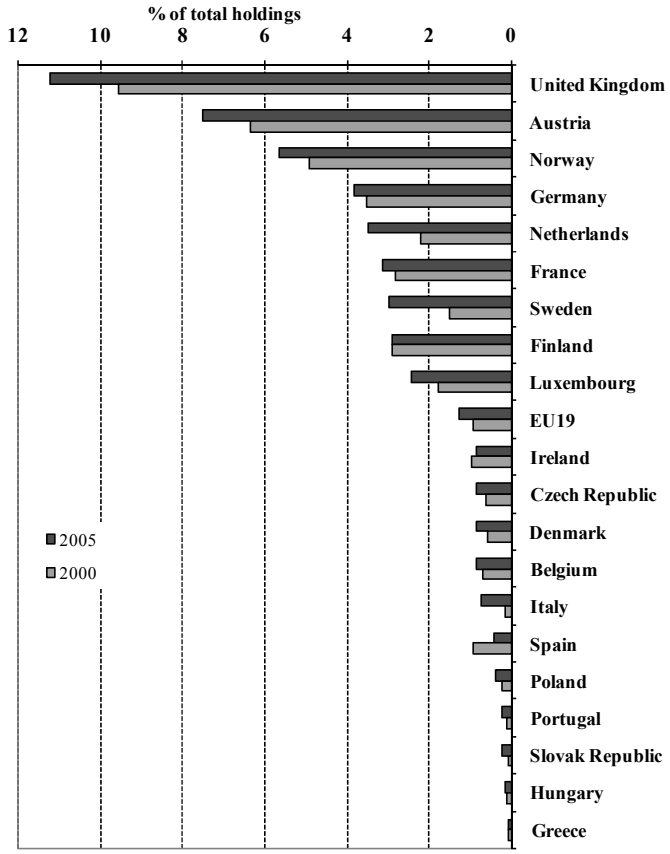
133. One main information source that reveals the relative importance of farm tourism is the FSS database, where it is defined as "all activities in tourism, accommodation services, showing the holding to tourists or other groups, sport or recreation activities, etc where either the area, the buildings or other resources of the holding are used" (EC, 2002). Farm tourism is an important on-farm diversification activity in the United Kingdom, Austria and Norway, where more than 5% of farm households have tourism activities on their holdings (Figure 7.4). In contrast, less than 0.5% of farm households indicated that they were involved in farm tourism activities in a number of central European (Hungary, Poland and Slovak Republic) or southern members states (Greece, Portugal and Spain).[29]

29. The number of farms involved in tourism activities is a widely-used indicator of the importance of farm tourism, but it does not measure all the links between agriculture and tourism, in particular benefits for rural tourism of agriculture-related public goods.

Table 7.5. Agricultural holdings with farm tourism activities directly related to the holding, 2000 and 2005

Figure 7.4. Agricultural holdings with farm tourism activities directly related to the holding as a share of total holdings, 2000 and 2005

	Number of holdings		
	2000	2005	% change
Austria	12 630	12 790	1.3
Belgium	430	430	0.0
Czech Republic[1]	340	360	5.9
Denmark	330	440	33.3
Finland	2 350	2 050	-12.8
France[1]	17 330	17 790	2.7
Germany[1]	14 460	14 990	3.7
Greece	630	700	11.1
Hungary	1 110	1 200	8.1
Ireland	1 360	1 150	-15.4
Italy	3 070	12 700	313.7
Luxembourg	50	60	20.0
Netherlands	2 240	2 860	27.7
Norway	3 480	2 990	-14.1
Poland[1]	4 940	9 150	85.2
Portugal	440	790	79.5
Slovak Republic	60	150	150.0
Spain[1]	10 410	4 600	-55.8
Sweden	1 240	2 270	83.1
United Kingdom	22 320	32 140	44.0
EU15	85 850	105 760	23.2
EU19	92 300	116 620	26.3



Farm tourism is defined in the FSS as "all activities in tourism, accommodation services, showing the holding to tourists or other groups, sport or recreation activities, etc where either the area, the buildings or other resources of the holding are used."
EU15: Member states of the European Union from 1995 to 2003.
EU19: Member states of the European Union who are also members of the OECD, *i.e.* EU15 plus the Czech Republic, Hungary, Poland and the Slovak Republic who became members of the EU in 2004.
1. 2000 is replaced by 2003 for these countries.
Source: EUROSTAT Farm Structure Survey database.

134. Over the period 2000 to 2005, the number of holdings with farm tourism activities increased by around a quarter across the EU as a whole (Table 7.5). Significant increases in percentage are shown for Italy, Poland and the Slovak Republic, while decreases were reported in three EU countries, Spain, Ireland and Finland, along with Norway. As a percentage of total holdings, the share of holdings with farm tourism activities directly related to the holding increased in all countries reported except Ireland and Spain (Figure 7.4).

135. In addition to the FSS data, the thirteen country reviews also provide information about the size, development and financial returns of farm tourism activities. Table 7.6 summarises the main characteristics of the farm tourism industry in each of the thirteen review countries, along with the description for Italy in OECD (2005c). Comments regarding the factors explaining the development or otherwise of this activity and the effect of government policies are discussed in Sections 9 and 10 respectively as part of a broader discussion of these issues in regards to farm household income diversification in general.

Table 7.6. Characteristics of farm tourism in the country reviews

	Main characteristics
Australia	Farm tourism is dominated by the wine sector. Of the 1 798 wineries in 2004, almost 80% had cellar door facilities, with just over a third of these also serving meals and 14% providing on-site accommodation. Visitors to wineries increased by more than 50% between 1999 and 2007. Outside the wine industry, farm tourism is not very significant within either the agricultural or tourism sectors as a whole but has been expanding and is closely linked to major urban centres. The most comprehensive estimate suggests that there are 650 working farms providing accommodation, about 0.5% of farms.
Austria	In traditional farm holidays, guests are in close contact with the agricultural activities of their hosts. Austrian farmers typically rent out rooms or holiday flats as well as provide meals, often prepared from their own products or other local speciality food products. In 2005, a total of 5.1 million over-night stays on farms were registered, equalling 4.4% of all over-night stays in Austria (farms account for 7.3% of registered beds). The distribution of the farms offering farm holidays is very difference between east and west, with more than 50% of all farms with farm holiday activities situated in Tirol and Salzburg Bundesländer. The Austrian association of farmers engaging in farm holiday activities estimated that farm holidays create employment for 23 000 persons and on average, the income from farm holidays contributed 34.5% to the total income per farm.
Canada	The Farm Financial Survey indicates that slightly more than 1% of Canadian farms were involved in agricultural tourism and the value was CAD 99.8 million. Rural tourism activity in Canada, measured in terms of "leisure tourist visits to Canadian destinations", was 211 million visits, with more than 85% of these visits made by Canadians. Some information is available at the provincial level. Cultivating Tourism states that British Columbia's agri-tourism industry employed 4 400 people in 2003, 25% in full-time year round positions and 29% in full-time seasonal jobs. The average operator generated revenue of CAD 98 000.
France	Tourism is an important sector in France and 'rural tourism' accounts for close to 30% of the number of rooms occupied. The most traditional form of farm tourism in France is the rural "*gîtes*", started in the 1950s, and very successful. However, farmers now account for less than 40% of owners of rural "*gîtes*". Less than 2% of farms offer housing and 0.4% meals. According to a 1993 survey, farm tourism was highly concentrated in Auvergne and the Alpes: the 2000 Census indicates that it is now more widespread but mainly in the South of France.
Germany	In 2005, about 1.6 million people (including children) took land/farm holidays. Assuming EUR 575 per holiday and person, farm/land tourism in Germany generated a turnover of about EUR 943 million. The German review indicates that employment opportunities in agri-tourism generally seem to be limited, but if other services relevant for agri-tourism (*e.g.* shops, restaurants, leisure activities, tourist attractions) are included, agri-tourism and thus agriculture could have a positive effect on the employment situation in rural areas.

Table 7.6. Characteristics of farm tourism in the country reviews (cont.)

Italy	Agri-tourism activity has expanded since it first began in the 1980s. The number of farms offering some kind of tourist services has almost tripled to 17 720 units in 2007 (12 500 units in 2003), with a turnover of EUR 1 billion. Many farmers offer accommodation (14 822 units), restaurants (7 500 units), camping facilities (930 units), and horse riding (1 520 units). A recent, but expanding, activity is the development of itineraries that seek to introduce agriculture, rural activities and traditions to families and, in more specialised cases, to schools. Agri-tourism farms are spread over the country, but are most prevalent in the northern and central regions, particularly in Tuscany (22.4%) and the Trentino Alto Adige region (17.3%). Only in the last decade has there been an expansion of agri-tourism farms to the southern regions, particularly in Puglia, located in south-east Italy, where the share of agri-tourism is 1.5%.
Japan	In Japan, direct sales on farm are considered as contributing to farm tourism, together with farmers' restaurants and farm accommodation. The number of farm households engaged in those farm tourism activities has increased rapidly (from 235 000 in 2000 to 353 000 in 2005), but the income they generate is relatively modest. Although rural development policy promotes "Complementarities and Interrelationships between Urban and Rural Areas", a number of factors restrict green tourism in Japan. They include the labour system, which concentrates holidays in specific, short periods, serious lack of entrepreneurial leadership due to ageing and depopulation, various regulations in land acquisition, building standards, fire protection, and food safety, and poor infrastructure (transport access, internet connection, sewage system, etc.).
Korea	Rural tourism is expanding in Korea with demand sharply increasing since 2000. For example, visitors to the "Green Rural Experiencing Villages" increased sharply from 157 500 persons in 2002 to 1 037 700 in 2005, and visitors to the Farm-Stay Villages supported by the government also increased from 101 795 in 2001 to 938 743 in 2005. With respect to non-farm income earned through rural tourism, rural tourism villages receive earnings from lodging, food sales, and the sale of agricultural products. According to a Korea Rural Economy Institute (KREI) survey of 78 rural tourism villages and 79 home-stay farms in 2006, on average 5 117 visitors per year pay a visit to each rural tourism village and total earnings were KRW 86 378 thousand. 251 urban dwellers visited each home-stay farm per year, and the total earnings were KRW 5 507 thousand. Sales of agricultural products in rural tourism villages and lodging in home-stay farms are the most important source of income.
Mexico	In 2004, the tourism sector in general represented 7.8% of Mexico's GDP and had 5.4% of total employment. However, 'rural tourism' is marginal, which makes data difficult to find. The same situation applies to farm tourism, which is even smaller. Despite the government's efforts to promote rural tourism since the 1990s, it still presents a low level of development and little research can be found that measures its impacts on rural and farm households.

Table 7.6. Characteristics of farm tourism in the country reviews (cont.)

New Zealand	It is estimated that 3 000-3 500 small operators (annual turnover of less than NZD 30 000) exist in the hosted accommodation sector, of which the vast majority are farm-based-- around 2 000 in total. These small operators make up 80-85% of hosted accommodation establishments (less in terms of guest capacity). Wine tourism has developed in line with the expansion of the viticulture industry. Between 2001 and 2006, the area in productive vines increased by 94% (to 22 616 hectares) and the number of wineries by 39% (to 530). Over the same period, the number of international visitors to wineries rose from 108 000 to 225 000 persons, an annual average increase of 16. A survey of 93 farm stay operators in 1997 found that on average, this activity contributes 35% of the total on-farm income. The survey found considerable regional variation. Those with the greatest proportion of income from farm stays tend to be close to the country's main cities
Poland	Farm tourism and tourism in rural areas are becoming an increasingly important form of activity and the source of additional income for farmers and the remaining rural inhabitants. Farm tourism accommodation and guest rooms were present in 60% of communities in 2005 and 69% in 2007 (they increased from 1 486 to 1 704), and the number of 'gminas' with farm tourism accommodation increased by about 11% (43% to 54%) for individual accommodation and by 1% (39% to 40%) for guest rooms. There are two categories of rural tourist accommodation in Poland, that is, "Farm tourism facilities" and "Collective tourist accommodation establishments". The number of "Farm tourism facilities" increased by 25% between 2005 and 2007. On the contrary, "Collective tourist accommodation establishments", which includes hotels, motels, camping sites and holiday centres, decreased by 26.5% from 2000 to 2005
Spain	The most common farm tourism activities in Spain are bed & breakfast, guest houses and self-catering without any recreational activities. The number of rural establishments in 1994 was around 1 000: by 2007 that number had increased to 11 500. Farm-based tourism is included in these figures, but cannot be identified separately.
United Kingdom	According to the Countryside Agency, in 2000 rural tourism attracted a spend of GBP 14 billion (in England) and its estimated 25 000 businesses hosted 80 million visits and overnight stays from domestic visitors. On a more local level, expenditure of GBP 943 million by visitors in the far South-West county of Cornwall in 1998 was estimated by South-West Tourism to amount to 23% of Cornwall's GDP. In Wales, rural tourism accounts for a significant share of the economy in rural communities as a major source of employment (some 12%) and economic activity. Only in the most rural of Welsh counties does agriculture account for a similar share of employment. The Wales Tourist Board estimated that rural tourism is worth around GBP 350 million to rural communities per annum; to put this in context, the GVA of Welsh agriculture (including subsidies) was GBP 418 million in 2003.
United States	Agri-tourism is a growing industry. According to estimates in an ERS study (USDA, 2007) about 52 000 farms (2.5% of US farms) participated in some form of agri-tourism, and earned about USD 955 million in income from farm-based recreation in 2004. The National Agriculture Statistics Services also has some agricultural tourism statistics for states in which agri-tourism plays a large role. In Hawaii, the value of agri-tourism in 2003 was USD 33.9 million. Specific agro-tourism activities include on-farm sales direct to farm visitors, other retail sales, outdoor recreation, accommodation, education, and entertainment. In Vermont, income from agri-tourism was USD 19.5 million in 2002, and over a third of farms in the state participated in some agri-tourism activity. The most common source of agri-tourism income was direct sales of farm products. Other agri-tourism activities include accommodation, outdoor recreation, education and entertainment.

Source: Country reviews (OECD, 2008a-m).

Off-farm income diversification

136. In terms of off-farm income diversification into agriculture-related and other activities, despite definitional differences and whether the farmer or farm household is being considered, the thirteen country reviews reveal two major findings regarding farm household off-farm engagement: (a) relatively more farm households are engaged in off-farm income diversification activities compared to on-farm diversification activities; and (b) the number of farm households engaged in off-farm employment is steadily increasing, whether this is the farm operators themselves or their spouse/partner. [30] Information regarding off-farm activities regarding the use of labour *(i.e.* employment) is more readily available than that for other resources. Analysis of the share of off-farm income activities in total farm household income is provided in Section 8.

137. The following examples from the thirteen country studies indicate the level and trend in farm household engagement in off-farm employment.

- Australia – over the period 1989-90 to 2002-03, the proportion of broadacre farm families deriving a share of their income from off-farm wages and salaries increased from 30% to 45% and the average number of off-farm hours worked by spouses increased from 4 to 9 hours while those of farm operators increased from 3 to 4 hours per week.

- Austria – in 2006, approximately 50% of all farm household members active in agriculture were engaged in off-farm activities.

- Canada – the percentage of farm holders reporting that they participated (both full- and part-time) in off-farm work increased from 44.5% in 2001 to 48.4% in 2006, with the percentage reporting that they work full-time (40 hours or more a week) off-farm rising from 17.6% to 20.2%.

- France – while the share of farmers engaged in another activity has remained fairly stable since the late 1980s at about 11%, the share of spouses involved in off-farm employment has increased.

- Germany – nearly 80% of all agricultural holdings in Germany undertook at least two activities (both on-farm and off-farm). Given that around 25% of holding undertake on-farm OGA, off-farm employment occurs on around 50% of farms.

- Japan – in 2005, 77% of commercial farm households had at least one member engaged in off-farm employment compared to 84% in 1990.

- Korea – in 2006, 37% of farmers indicated that they had off-farm employment (of which two-thirds derived more income from this activity than farming) compared to 21% in 1985.

- New Zealand – in the mid-1990s, off-farm work took place on 45% of dairy farms and 41% of sheep and beef farms. Census data from 2001 reveals that the agricultural sector has the highest incidence of multiple job-holding.

- Poland – the percentage of the farm household population engaged in some form of off-farm employment increased from 28% in 2000 to 34% in 2005.

30. The increase in off-farm employment among spouses may reflect two trends: More women are managing farms, while the spouse is employed off-farm; and the higher participation of women in non-family labour markets.

- UK – incomes from off-farm activities are typically greater than those that come from the non-agricultural use of farm resources.

- United States – in 2004, 52% of farm operators and 45% of spouses worked off-farm. In 2006, neither the operator nor spouse worked off-farm on only one-third of farms. On a further third of farms both worked off-farm. This percentage has increased over time, but off-farm work is not a new phenomenon – in the 1930s about 30% of operators reported off-farm work.

138. In terms of the sectors in which off-farm employment takes place, differences appear to exist between female and male members of the farm household. The Australian and New Zealand reviews note that women work mainly in managerial or professional occupations in the education, health and community services industries. These occupations are attractive because they are often available on a part-time basis or with timing that is compatible with having responsibility for school-age children. Men are more likely to work as labourers and tradespersons, on other farms or in the forestry or fishing industries. Men work more on a seasonal, casual basis; for women, regular work is more common.

139. In terms of the location of off-farm employment, the Australian and New Zealand reviews report that women are more likely to work in urban environments, while men remain in the rural areas. Both the Mexican and Polish reviews refer to the international migration of farm household members (including farmers themselves) and the importance of remittances which are used not only to maintain farm household income but to invest in off-farm or non-agricultural activities in the local market. Many of these households face difficulties in obtaining capital, so remittances are important as an alternative.

8. The income situation of farm households

140. The previous section has shown that in many countries, a significant share of farm households is engaged in one or several non-farm activities. The purpose of this section is to assess the relative share of these activities in the total income of farm households. Information from a questionnaire answered by countries on the income from on-farm diversification activities is first reviewed. It then gives a broader picture of the average income per farm household and its components, with specific emphasis on income from remunerated activities. It then compares the situation in rural areas with the national average.

Income from on-farm activities other than primary agricultural production

141. Some information on the income generated by diversification activities taking place on the farm can be drawn from macro-economic sources. Agricultural accounts report aggregate information on the receipts generated by on-farm activities other than primary production. These activities are called "Non-separable non-agricultural secondary activities" and are defined as activities using farm resources, whose costs cannot be separated from agricultural production costs (Box 8.1). Contract work by farm households, which is considered in section 7 as an agriculture-related activity (Figure 7.1), is reported in European Union agricultural account statistics as agricultural services, together with similar activities by cooperatives and enterprises.

142. In the European Union as a whole, receipts from activities that are not separable from agricultural activities accounted for 2.6% of the total output of the agricultural sector in 2005 and 2006, compared to 1.9% in 1995 (Table 8.1). Activities other than the transformation of agricultural products grew more strongly in the last decade than activities linked to transformation of agricultural products (see definition in Box 8.1): They accounted for 56% of the total in 2005 and 2006 compared to 49% in 1995. In Switzerland, the share of farm related income in the total output of the agricultural sector grew from 2.5% in the early 1990s to 3.1% in 2006 (Table 8.1).

Box 8.1. Non separable non-agricultural secondary activity in European Union Agricultural Accounts

Non-agricultural inseparable secondary activities are defined as activities closely linked to agricultural production for which information on any of production, intermediate consumption, compensation of employees, labour input or gross fixed capital formation cannot be separated from information on the main agricultural activity during the period of statistical observation.[1]

Two types may be distinguished:

• Activities which represent a continuation of agricultural activity and which use agricultural products. This type of activity can be found in most of the European Union Member States. The processing of agricultural products is the typical activity of this group:

- Processing of agricultural products.

- Grading and packaging of agricultural products, *e.g.* eggs and potatoes.

• Activities involving the agricultural holding and its means of agricultural production (equipment, installations, buildings, workforce). These activities are basically the following:

- Agro-tourism – camping, catering, hotels, various kinds of accommodation, etc.

- Farm shops – retail trade activities concerning products other than those from the holding. Direct sales of agricultural products raw or processed are recorded in the output of the products concerned.

- Sports and rural recreation – the use of land for activities such as golf, horse-riding, hunting, fishing, etc.

- Services for third parties – e.g. the renting and repair of agricultural machinery, irrigation projects, agricultural advisory services, product storage, maintenance of farm buildings, commercial services relating to agricultural products, transport of agricultural products, etc. These services are recorded as secondary activities, only if they are performed for a third party.

- Landscaping services – grass mowing, hedge trimming, snow clearing, laying out, planting and maintenance of green areas and the like.

- Fish-farming.

- Other activities involving the use of the land and the means of agricultural production.

1. Some secondary activities are always considered separable from agricultural activity *e.g.* renting out of buildings or dwellings.

Source: Manual on the Economic Account of Agriculture and Forestry EAA/EAF 97 (Rev. 1.1)
(http://epp.eurostat.ec.europa.eu/portal/page?_pageid=1090,1&_dad=portal&_schema=PORTAL)

Table 8.1. Share of services and activities non-separable from agriculture in total agricultural output in the European Union and Switzerland

	EU15		EU25				Switzerland					
	1995		2005		2006		1990/92		2005		2006	
A. Agricultural good output	94		93		93		94		90		91	
B. Agricultural services output	3.6		4.6		4.5		3.0		7.0		6.3	
- Agricultural services[1]	3.5		4.5		4.5		3.0		6.7		6.2	
- Renting of milk quota	0.1		0.1		0.0		0.0		0.3		0.1	
C. Non- separable secondary activities[2]	1.9	100.0	2.6	100.0	2.6	100.0	2.5	100.0	2.8	100.0	3.1	100.0
- Transformation of agricultural products	1.0	51.1	1.1	43.8	1.1	43.7	2.0	77.1	1.9	65.8	2.1	66.0
- Other non-separable secondary activities	0.9	48.9	1.4	56.2	1.5	56.3	0.6	22.9	1.0	34.2	1.1	34.0
D. Total output (A+B+C)	100		100		100		100		100		100	

1. Includes contract farm work by farm households, cooperatives and enterprises.
2. See definition in Box 8.1.
Source: Eurostat; OFAG, *Rapport agricole 2008*, Table 15.

143. Similar information on the income from on-farm activities other than primary agricultural production can be found in micro-economic sources such as farm accounts data. Few countries collect detailed information on the income generated by individual on-farm diversification activities. Table 8.2 presents some evidence in countries, which publish this information and/or provided it via a questionnaire. For comparison purposes, it also includes the share of off-farm activities in the total income of farm households from the same source. (Additional information on off-farm activities is given in the following sub-section).

Table 8.2. Income from activities other than primary agricultural production taking place on and off the farm

	Canada[4] 2005	Denmark 1996	2006	Finland 2005	Japan[5] 2005	United States 1997-2002
% share in total income of farm households of other[1] activities:						
- Off-farm activities	***59***	***39***	***51***	***35***	***44***	--
- On-farm activities [2]	***11***	***5***	***10***	--	***5***	--
- Contract farm work	7.7	3.5	5.0	--	--	--
- Forestry work	0.8	0.1	0.1	6.0		--
- Food processing/direct sales	--	--	--	--	--	--
- Letting buildings and land	2.2	1.3	2.3	--	--	--
- Farm tourism	--	0.2	0.2	--	--	--
- Other	--	1	2	--	--	--
On-farm other[1] activities as a % of farm income[3]	**--**	**8.9**	**19.7**	**--**	**--**	**6.2**
% share in income from on-farm other[1] activities of:						
- Contract farm work	72	63	52	--	24	--
- Forestry work	7	2	1	--	16	--
- Food processing/direct sales	--	--	--	--	7	--
- Letting buildings and land	20	23	24	--	49	--
- Farm tourism	--	3	2	--	4	--
. accommodation	--	--	--	--	1	--
. meals	--	--	--	--	1	--
. Recreation	--	--	--	--	2	--
- Other	--	10	22	--	--	--

1. On-farm activities other than primary agricultural production.
2. Contract farm work by farm households and activities other than primary agricultural production taking place on farm, using on-farm resources, including letting buildings and land and non separable activities.
3. As a % of gross farm cash income in the United States.
4. Families of two or more people.
5. Income from contract work is included in farm income in Japanese statistics.
Source: Questionnaires (Annex II.2)

144. Among on-farm activities other than primary agricultural production, contract farm work by farm households (included in agricultural services in macro-economic statistics) generates the highest income in Canada and Denmark, followed by letting buildings and land. In Japan, the ranking of those two activities is reverse. Forestry work on the farm generates significant income for farm households in Canada, Finland and Japan. In the countries for which the information is available, non separable activities such as processing of farm products and farm tourism generate marginal income for the farm households included in farm account surveys. This might be due to the exclusion from the data of smaller, diversified farms, where farm tourism is more prominent.

145. It should also be mentioned that the importance of food processing and farm tourism on the farm varies a lot among European Union member states: As a percentage of total agricultural output, income

from non separable activities other than transformation of agricultural products is around the EU average (of 1.5%) in Denmark and Italy, it is much below the average in Belgium, France, Germany, Portugal and the Netherlands, but it is over 5% in Austria, Finland, Sweden and the United Kingdom (Eurostat).

Income from off-farm versus farm activities

146. The availability, quality and comparability of data used in this sub-section has been assessed extensively in previous OECD work (OECD, 1995a, 1995b and 2003c) and other sources such as Hill (1996) and UNECE (2007). Box 8.2 summarises these issues.

Box 8.2. Data availability and comparability on the total income of farm household

In many OECD countries, there is no information available on non-agricultural income of farm households (13 out of 30 countries). When this information is available (Figure 8.1 and Table 8.3), there is often little detail on the sources of income. In four out of 17 countries, non-agricultural income is reported as one aggregate number. In the remaining 13 countries, income from off-farm activities is identified, but the nature of the activity and the relationships with the farm activity (through use of farm inputs) are not identified. The main distinction made in some countries is between salaried and independent activities. Denmark also indicates whether the income comes from the farm holder or another member of the household.

Even when all sources of income are reported, the income situation of farm households is not comparable across countries, mainly because the definition of households and farm households varies. Farm households are more or less narrowly defined, depending on whether there is a minimum limit on sales or income from agriculture, or on farm inputs such as labour and land; and whether this limit restricts the definition of a farm to those operating on a commercial basis. Precise definitions and thresholds for farm households are given in Annex II.1 and summarised in Table 8.3. On the basis of these definitions and thresholds, farm households are classified as either narrowly or broadly defined, for presentational purpose. The top part of Figure 8.1 presents the composition of farm household income in countries where farm households are defined broadly, while the bottom part presents the situation in countries where farm households are defined narrowly.

147. It is clear from data presented in this sub-section that farm households derive a significant share of income from non-agricultural sources, even when a very restrictive definition of a farm household is adopted (Figure 8.1, Table 8.3). When a broad definition of a farm household is adopted, farm income is not usually the main source, reflecting the diversity of farm households, which include pluriactive, retirement or hobby farm households.

148. In countries where the information is available, income from off-farm activities, usually wages and salaries, is the main source of non-agriculture income. In most countries for which information is available, the share of off-farm activities varies between one-third and two-third of the total income of farm households (Tables 8.2 and 8.3). Evidence presented in Table 8.3 shows that off-farm activities account for a much larger share of farm household income than activities other than primary agricultural production taking place on the farm.

149. In six cases out of eleven, the share of off-farm activities in total income has increased in the last decade, while it has been stable in the other five (Figure 8.2). The decline in the case of Japan reflects a change in methodology, as from 2004 income from household members other than the farm holder is no longer included. There is also a break in the series in Norway in 2003.

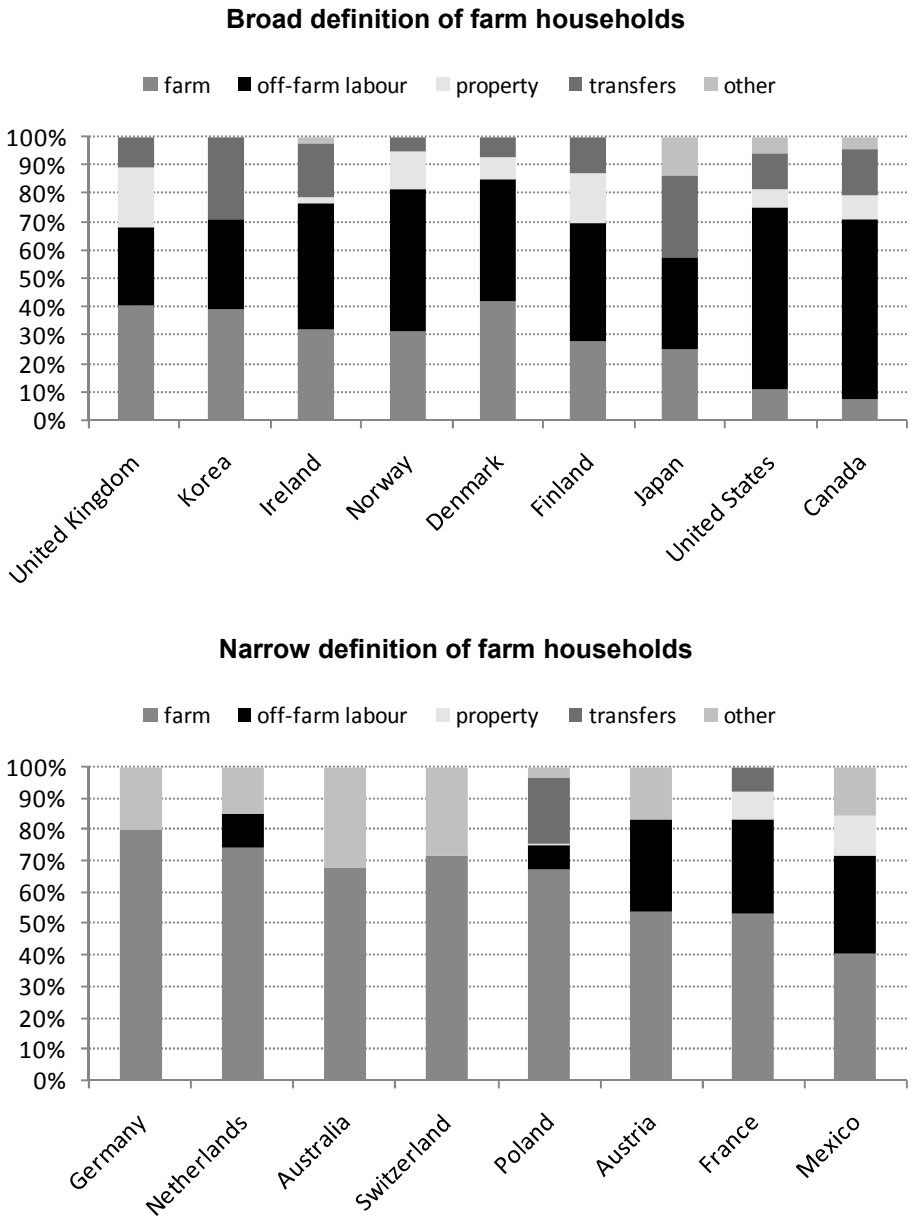
Regional differences in farm household income levels and composition

150. Income composition could vary by type of region, reflecting differences in farm size, farm type and off-farm work opportunities. Regional information on farm household income has not been exploited systematically, but information derived from public sources is presented for a number of countries in Table 8.4. For those countries, regional data on average income per farm household was obtained, as well as the number of farms in each region at the TL2 level. Consequently, an average for each type of region is computed.

151. Farm household income is usually lower in rural and intermediate areas than the national average, except in intermediate regions of Austria, Japan and Korea. The share of farm income in the total income of farm households tends to increase with the degree of rurality, while the share of income from non-farm activities tends to decrease (except in Japan and Korea). These results are highly dependent on the level of definition of the region (usually TL2 or more aggregate) used to compute the averages and should be interpreted with care. Micro-level data would allow for more refined calculations.

Figure 8.1. The components of farm household income

Share of each component in total income, average of the last three years available[1]

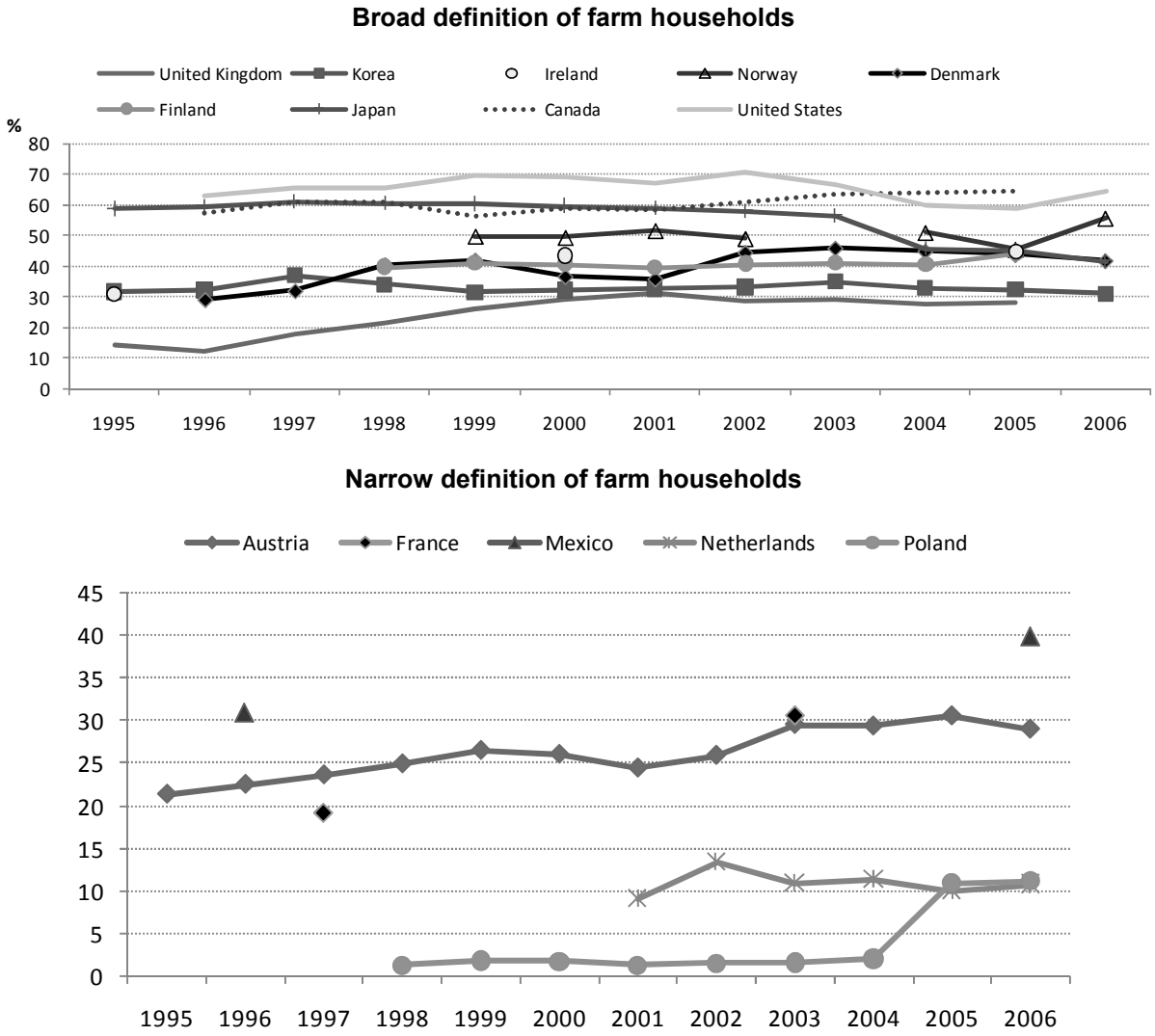


1. 2003 for France; 2002/03- 2004/05 for the United-Kingdom; 2004/05 for Ireland; 2004/05-2006/07 for Australia and Germany; 2003-05 for Canada, Finland and Poland; 2004-06 for Austria, Denmark, Japan, Korea, the Netherlands, Norway and Switzerland; 2005-07 for the United States; 2006 for Mexico.

Data are not comparable across country, as definitions of farm households and methodologies differ.

Source: National statistics (see Annex II.1).

Figure 8.2. Percentage share of off-farm labour activities in farm household income, 1995-2006



Income from non agricultural activities received by farm household members includes income from self-employed non-agricultural activities that take place on or off the farm as well as wages and salaries. See Annex 8.1 for a more precise description of income sources and household members in national statistics.

Data are not comparable across country, as definitions of farm households and methodologies differ.

Source: National statistics (see Annex II.1).

Table 8.3. Composition of farm household income in selected OECD countries

		Farming	Off-farm labour activities	Investment and property	Transfers	Other sources	Total	Definition of a farm	Household members whose income is taken into account	Definition of a farm household
Australia	2004/05-2006/07	68	nri	nri	nri	32	100	Minimum sales:		
	1995/96-1997/98	65	nri	nri	nri	35	100	AUD 22 500 (AUD 40 000 from 2005/06	Operator and spouse	Narrow
	1986/87-1988/89	78	nri	nri	nri	22	100	USD 18 825 (USD 33 467 from 2005/06)		
Austria	2004-06	54	30	nri	nri	17	100	Minimum SGM:	Operator and spouse	Narrow
	1995-97	63	22	nri	nri	15	100	EUR 7 200 or USD 10 000		
Canada	2003-05	7	64	8	16	5	100	Minimum revenue:		
	1995-97	24	53	8	10	5	100	CAD 10 000 or USD 9 300	Operator and spouse	Broad
	1985-87	30	49	10	9	2	100			
Denmark	2004-06	42	43	7	7	0	100	Minimum area:	All members under	Broad
	1996-98	47	34	11	8	0	100	10 ha	the same dwelling	
Finland	2003-05	27	42	18	13	0	100	Minimum area:	Operator and spouse	Broad
	1996	28	39	17	16	0	100	2 ha		
France	2003	53	31	9	8	0	100	Minimum area: 12 ha	All members declaring income	Narrow
	1997	67	19	6	8	0	100	Minimum labour unit: 0.75	for tax purpose together	
Germany	2003/04-2005/06	80	nri	nri	nri	20	100	Minimum SGM: 16 ESU or USD 26 300	Operator and spouse	Narrow
	1995/96-1997/98	85	nri	nri	nri	15	100	Minimum labour unit: 1		
Ireland	2004/05	32	45	2	19	2	100			
	1995	51	31	2	13	3	100	Any gain from agricultural activity	All members	Broad
	1987	49	24	2	19	6	100			
Japan	2004-06*	25	33	nri	29	13	100	Minimum area: 0.3 ha	All members	
	1995-97	15	65	nri	nri	20	100	Min. sales: JPY 500 000 or USD 4 250	From 2004, only those	Broad
	1985-87	14	65	nri	nri	21	100		engaged in agriculture	
Korea	2004-06	39	32	nri	29	0	100	Minimum area: 0.1 ha		
	1995-97	46	34	nri	20	0	100	Minimum sales: USD 1 000	All members	Broad
	1985/87	64	18	nri	18	0	100			
Mexico	1996	41	31	13	nri	16	100	Rural areas	All members	Narrow
	2006	29	40	9	nri	23	100	Main economic activity in agriculture		
Netherlands	2004-06	74	11	nri	nri	15	100	Minimum SGM:	Operator and spouse	Narrow
	1996	73	nri	nri	nri	27	100	16 ESU or USD 26 300		
Norway	2004-06*	31	50	14	5	0	100	Any agricultural taxable income	Operator and spouse	Broad
	1999-2001	33	50	11	6	0	100			
Poland	2003-06	67	8	0	21	3	100	Main source of income from agriculture	All members	Narrow
	1998-2000	73	2	0	22	3	100			
Switzerland	2004-06	72	nri	nri	nri	28	100	Minimum area: 16 ha	All members	Narrow
	1995-97	81	nri	nri	nri	19	100	Minimum number of cows: 6		
United Kingdom	2002/03-2004/05	40	28	21	11	0	100		Operator and spouse	Broad
	1995/96-1997/98	53	18	21	8	0	100	Any income from agricultural activity	declaring income together	
	1985/86-1987/88	57	19	20	5	0	100			
United States	2006	11	65	6	13	6	100	Minimum sales:		Broad
	1995-97	11	nri	nri	nri	89	100	USD 1 000	All members	
	1985-87*	35	nri	nri	nri	65	100			

nri: not reported independently; SGM: Standard Gross Margin; ESU: European Size Unit.
Data are not comparable across country as definitions of farm households and methodologies differ.
* change in methodology, see Annex 8.1.
Source: National statistics as reported in Annex II.1.

Table 8.4. Composition of farm household income by type of region in selected OECD countries

	PR	IN	PU	All
Australia (2005/06)				
Ratio of regional average to all farm average (%)				
- Farm income	183.6	98.0	---	100.0
- Farm household income	153.1	98.7	---	100.0
%share in farm household income of:				
- Farm income	82.1	68.0	---	73.2

Table 8.4. Composition of farm household income by type of region in selected OECD countries (cont.)

Austria (2006)				
Ratio of regional average to all farm average (%)				
- Farm income	100.5	98.4	---	100.0
- Farm household income	97.8	106.4	---	100.0
%share in farm household income of:				
- Farm income	56.5	50.8	---	55.0
- Non agricultural self employment income	2.8	4.2	---	3.2
- Wages and salaries	24.8	28.5	---	25.8
- Social transfers (inc. pensions)	15.6	15.7	---	15.6
Japan (2005)				
Ratio of regional average to all farm average (%)				
- Farm income	98.5	101.9	97.2	100.0
- Farm household income	92.9	102.2	100.9	100.0
%share in farm household income of:				
- Farm income	26.0	24.5	23.7	24.6
- Non agricultural employment income	43.4	44.3	43.5	43.6
'-- of which wages and salaries	29.5	31.2	24.7	28.0
- Social transfers (inc. pensions)	30.4	31.3	32.7	31.8
Korea (2005)				
Ratio of regional average to all farm average (%)				
- Farm income	98.6	129.0	---	100.0
- Farm household income	95.9	133.6	---	100.0
%share in farm household income of:				
- Farm income	39.6	51.8	---	40.2
- Non-farm labour income	28.5	45.3	---	31.6
- Transfers	27.8	36.5	---	28.2
Norway (2006)				
Ratio of regional average to all farm average (%)				
- Farm income	98.1	117.9	81.6	100.0
- Farm household income	98.2	96.7	136.8	100.0
%share in farm household income				
- Farm income	31.6	34.0	19.4	31.1
- Non agricultural self employment income	12.9	11.7	20.1	13.2
- Wages and salaries	43.1	38.1	44.4	42.4
- Social transfers (inc. pensions)	5.2	4.9	5.0	5.1
UK (2004/05)				
Ratio of regional average to all farm average (%)				
- Farm income	---	94.9	109.3	100.0
- Farm household income	---	73.4	120.7	100.0
%share in farm household income of:				
- Farm income	---	42.0	35.5	39.3
- Non agricultural self employment income	---	7.8	8.3	8.0
- Wages and salaries	---	18.5	22.1	20.0
- Social transfers (inc. pensions)	---	11.3	9.7	10.6

Source: National statistics as reported in Annex II.1.

9. Factors explaining farm household diversification

152. A characteristic of farm households that participate in non-agricultural activities, whether on- or off-farm, is their heterogeneity. Thus any analysis of the factors enhancing/limiting diversification has to be capable of embracing both the farmer who has chosen alternative ways of using the available resources, the household where the next generation chooses to follow a career outside farming (whether for reasons of lack of opportunity in the family farm business, as a transitional option as part of a strategy for inter-generational transfer,[31] or for other motives of a social or economic nature), and the businessman or wealthy individual who has bought a farm for financial or environmental or social reasons. While the main policy interest of this study is in those families already in agriculture that use diversification as a reaction to the longer-term trends to which agriculture is exposed and to economic shocks, in particular those resulting from policy reform, the presence of other forms of diversified households should not be forgotten.

153. The literature on agricultural adjustment suggests that at the farm household level the main factors affecting change and adaptation, of which diversification forms a part, are as follows:

- ***Human capital characteristics***, including age, experience, education, training and personal qualities such as the attitude to risk, intelligence, and motivation.

- ***The nature of the farm and farm business***, including its capital base and access to borrowing, the size of farm, its profitability, land type and related enterprise pattern, etc.

- ***The external environment*** in which the farm is situated, which includes proximity of potential demand for diversified output and ease of access to these markets, off-farm employment opportunities, formal and informal local networks, good infrastructure in the form of transport (especially where consumers are required to visit the farm site) and IT facilities.

154. These three general headings are used in this section to discuss the evidence presented in the thirteen country reviews regarding the factors explaining farm household diversification patterns. It should be noted that not all the factors listed under the three headings were found in the reviews nor did all the reviews necessarily distinguish or prioritise the most important factors. As a result, the findings may not apply to all countries. The effect of government policies, both positive and negative, on diversification is specifically discussed in Section 10.

155. A mix of these factors is present in any individual farm situation. At a general level, some encourage any form of diversification activity, others discourage any activity. Furthermore, some factors encourage specific diversification activities while being a disincentive to other forms. How it all plays out at the individual farm level, and the relative strength of the factors, is a case by case matter. For example, while sheep and beef farms are generally less labour intensive than dairy farming, therefore allowing a greater possibility of off-farm employment, the remote location of a particular sheep and beef farm may reduce the probability of this occurring.

Human capital characteristics

156. One of the common human capital characteristics noted in many of the country reviews was the importance of ***business skills*** such as those associated with human resource management, networking and market development including research, marketing and customer relations. These skills are often lacking in

31. The potential successor works off the farm (or develops on-farm activities) until the farm holder retires, gradually increasing participation in farm activities as his/her predecessor steps down in order to facilitate transition. While working on other activities, the successor can acquire experience that could be beneficial for the farm and also accumulate capital to buy farm assets.

farmers who have worked by themselves for many years and/or have been price takers for the primary agricultural products they have been farming.

157. For example, the UK review refers to the finding of a special Joint Industry-Government Working Group which identified the lack of generic business skills in the farming industry as one of the two most significant barriers to farm diversification (DEFRA, 2007).[32] A number of obstacles to the acquisition of these business skills were postulated, including the lack of awareness of the benefits (both to the business and personally), problems with access to training facilities, and time scarcity. However, the UK review goes on to note that people other than farmers (stakeholders, administrators and advisors) tend to be strongly in favour of training, seeing it as an important pre-requisite of capital investment within diversification to ensure it is used to the greatest capacity and value, while many farmers are unconvinced.

158. This characteristic is mentioned in other country reviews. A study of two Landcare farm tours in Australia noted the difficulty farmers encountered in successfully accessing the local tourism marketing and distribution networks due to their unfamiliarity with the commission pricing structure of tourism as compared to the fixed price structure for agricultural commodities. In Canada, participation in non-farm business is positively influenced by managerial abilities, business experience, participation in organizations and off-farm employment. A similar finding was noted in the New Zealand review where a relatively high level of off-farm employment was found in a study of farms with alternative enterprises. The Japanese review draws attention to the fact that many rural communities have a serious lack of leaders or volunteers to establish new businesses because of long-term trends in depopulation and ageing.

159. Another common explanation given for farm household diversification was that such activities are driven by a ***financial motivation***, whether to increase farm household income, maintain farm equity, provide for retirement, and/or ensure family succession. In New Zealand, on-farm, non-agricultural enterprises and off-farm employment were important strategies adopted by farm households facing cyclical commodity prices, periodic rises in farm input prices and climatic events such as prolonged drought. The most commonly cited benefit from on-farm diversification in Australia is the levelling out of farm income, both throughout the calendar year and over a number of years, while increasing off-farm income characterises the response of many farmers to declining income relative to non-farm employment. It is also viewed as a valid alternative to increasing farm size and a risk management strategy.

160. In the United States, off-farm income is generally seen as a means of smoothing out household income flow, which is often viewed as inadequate and/or unstable. The Austrian review noted that part-time farming dominates in less-favoured and mountain areas (more than 70% of total land area), where the average output per farm is 20% less than in non-mountainous areas due to low productivity and other factors. The main reasons cited by Japanese farmers for starting direct sales were to increase income, expand sales and obtain higher prices.

161. ***Non-economic motivations*** are also noted in the studies. The New Zealand review refers to the general societal trend towards dual incomes, casualisation of work, and individualisation – even of the nuclear family household – as factors explaining an increase in diversification and pluriactivity on farms. Social motivations – meeting others with similar interests, overcoming isolation – appear to be relatively more important in terms of farm tourism, where contact between farm households and others is perhaps at its closest.

162. The Polish review notes that farmers are a traditional group with strong fears about change and about the future. The "good neighbour example" is very important. The increasing diversity of farms has

32. Planning controls was the other significant barrier identified by the Group. This issue is discussed in Section 10.

given rise to multiplier effects. A similar point is also made in the New Zealand review, where a study on off-farm income in the late 1990s revealed that for some farmers off-farm work is an admission of defeat or failure, although for others, working off-farm is part of a success story. A more recent study notes that the drive for many farm women and men to work off-farm, and/or develop alternative enterprises, may be stronger than ever, despite relatively high levels of farm income in recent years, driven by personal fulfilment and the entrepreneurial ethos of farm families to fully utilise farm and household resources and labour.

163. Another common feature across the country reviews is the ***role of farm household women*** in the development of alternative income-generating activities, whether on-farm enterprises or off-farm employment. In Germany direct marketing and work related to agri-tourism are important activities of farm women, while an increasing number of women take up off-farm work in order to contribute to farm household income. In contrast to the core farming operation, women had a high involvement in alternative enterprises in New Zealand, in many cases as the major operator or as a joint operator with their male partner. It was evident that women operating enterprises had a high degree of motivation and considerable satisfaction from their work. In Canada, there is a relatively higher level of participation in value-added activities in farms where the person responsible for the farm operation was a woman. A study on employment in rural areas of EU countries reports that it is often the female who initiates and engages in on-farm alternative activities (Copus *et al*., 2006).

164. A final human characteristic mentioned in more than one country survey is the impact of ***education***. In Mexico there are strong positive relationship between education and both non-agricultural wage employment and self-employment. Schooling of household members is negatively correlated with rural households' participation in agriculture, but positively correlated with non-farm activities. Similarly, the Polish survey notes that income outside agriculture was mainly sought by farm household members with secondary, post-secondary and basic vocational training. In Canada Alasia *et al.* (2007) found that participation in off-farm work is influenced positively by higher levels of education, but Howard and Swidinsky (2000) report a negative impact on off-farm employment, although for those farmers who do work off-farm, education increases the number of hours worked off-farm. However, education had a positive influence on the likelihood of farmers' engagement in value-added activities.

Nature of farm and farm business

165. The most common factor in relation to the nature of the farm presented in the country reviews concerned the influence that ***farm size*** has on the participation of farm households in diversification activities. In Austria, for example, small farms are more frequently engaged in full-time alternative off-farm and on-farm activities. In contrast, part-time activities taking place on a regular or seasonal basis are more attractive for large farms. The Canadian review reported that value-added activities tend to be especially important for operators of small farms, with larger farms having a lower probability of participation in off-farm employment. The Australian review noted that 14-25% of the total revenue of smaller wineries (AUD 0–10 million in total revenue) was from cellar door sales, and merchandise, restaurant and accommodation revenue, compared with 2.2-4.5% on average for larger wineries. However, the UK review noted that diversification is not restricted to the smallest farms; an element of pluriactivity is found across the farm size spectrum, and at the top end it is often found that farming is only one of a portfolio of business interests that extend across several economic sectors, and these are not necessarily closely related to agriculture, forestry or the food sectors.

166. The ***type of farm*** enterprise also has an effect on diversification possibilities. The Canadian review noted that dairy production (used as a proxy for labour intensive activities) had a negative effect on the probability of farmers' participation in off-farm work. This was supported by the Australian review which explained that off-farm employment (both for farm operators and spouses) tends to be lower for

those involved in industries with greater on-farm labour requirement, such as dairying. The German review suggested that traditional farm holidays can be expected to be less successful and are indeed not really an option in rural areas characterised by intensive agricultural production and large farms. Alternatively, the Canadian review noted that farmers are more likely to participate in value added activities related to production of perishable products such as fruit and vegetables.

167. Both the Australian and New Zealand reviews noted the strong growth in diversification activities (*e.g.* vineyard sales, day visits, restaurants, accommodation) surrounding the expansion of the viticulture industries. Outside wine, most farm tourism in these countries operates on sheep and beef farms, although there is a high proportion of tourism on farms producing other than "mainstream" commodities, *e.g.* grazing alpacas. A study of farm tourism in Australia commented on the under representation of some farm types, specifically dairy and sugar cane farms, suggesting that their absence may be due to the time commitment required to operate a dairy farm and the difficulty in making a sugar cane farm an attractive tourist package.

168. A few country reviews drew attention to the possible effects of ***farm structure and ownership*** on diversification. The Canadian review noted that farms that employ non-family labour, requiring the operator to be present to supervise farm work, limit the ability of the farmer to participate in off-farm work. The UK review commented on specific issues faced by tenant farmers such as the difficulties in accessing capital, as they do not have the collateral available to farmers who own their own land, and problems with their tenancy agreements, in that these may carry restrictions on land use. It also noted that a change of occupancy (within a family by succession, or by sale) can lead to farms becoming pluriactive, for example, when new entrants have established careers in other sectors and have accumulated resources that enable them to buy farm real estate and to continue their previous career.

The external environment

169. In terms of the external environment, a common factor noted was the ***location*** of the farm. The US review declared that the most important determinant of the ability of US farmers to diversify their operations and to find off-farm employment is degree of rurality as measured by the remoteness of the location from urban areas and population density. However, the impact of location of diversification is not a straight forward issue, involving two issues: distance and geography.

170. In terms of ***distance***, the German review noted the challenges imposed the further the farm is from the market, both for on-farm diversification (transportation of products, visitor travelling distance, etc.) and access to off-farm employment opportunities. While consumers may not find their way to remote farm shops, neither are consumers of the respective agri-food products or other non-agricultural products easily reachable. Changes in consumer preferences and trends are more difficult to identify because selling opportunities are limited in rural areas.

171. Similar issues were raised in the Australian review. Distance from the market was seen as a disincentive to the development of on-farm forestry, with the stumpage price received by a grower being lower by 12.5% for each additional 90 kilometres. Average incomes received from off-farm work tend to be lower for people living in remote locations, reflecting the more limited range of off-farm opportunities in these locations. Similarly, the farm tourism industry in Australia is closely linked to major urban centres. Of the 650 farms covered by a major study a few are large, remote and luxurious, but the majority are small, family-priced and close to major population centres.

172. The regional ***geography*** in which the farm is located can also have an influence on diversification patterns. For example, a remote location may not necessarily be a limiting factor for agri-tourism. In fact remoteness can be a considerable attraction for visitors and holiday makers, particularly if combined with

specific natural characteristic such as mountains or lakes. The German review notes that the success of agri-tourism in rural areas depends on a variety of factors, "most importantly, natural characteristics such as scenery, landscape as well as cultural heritage determine whether areas appeal to tourist and holiday-makers and are thus important conditions for agri-tourism". Only 55 of the 193 rural districts in Germany are in areas that could be attractive for tourist purposes, mainly in the South or in the coastal areas in the North of Germany. The results of a recent study about agri-tourism show that these areas have been the most popular destination for farm holidays. One of the features of Austrian farm tourism is a large variation in the distribution of the farms offering farm holidays between East and West Austria. Regions with unfavourable conditions for agricultural production are often popular tourist regions.

173. However, remote rural areas often lack infrastructure and other services (shops, post-office, restaurants, etc.) and this may be disadvantageous for agri-tourism. The Japanese study noted that many rural villages have poor transport access, old sewage systems, or low accessibility to high-speed internet, which may be barriers to welcoming people from urban areas.

174. The country reviews also demonstrated that the disincentives associated with location can be reduced overtime through improved ***accessibly*** in terms of both transport and communication links. Faster and cheaper transport has played an important role in closing the distance between rural and urban areas in New Zealand while the internet has been successfully used to market both agricultural products (*e.g.* many vineyards use the internet as a medium through which their wine can be purchased) and non-agricultural products (*e.g.* farm stay accommodation). A recent review of the state of the tourism industry in Australia concluded that the internet is particularly good for regional and niche products, an excellent tool for enhancing regional dispersion. In fact, the internet is playing an increasing role in the development of farm tourism, as a medium to both attract tourists and to provide education and tools to farmers.

175. The country reviews also point out the role of ***organisational development*** in overcoming barriers associated with location. An Italian case study referred to a national consortium (Anagritur), which monitors and co-ordinates the activities promoted by the three single national agri-tourism farm associations (OECD, 2005). They provide fiscal, legal and economic advisory services, but the most important activity is probably the promotion activity by Internet. The German review noted the importance of co-operation and communication between all actors involved in agri-tourism.

176. A number of the studies note the importance of consumer ***demand***, particularly in relation to farm tourism services. A comprehensive interview study with guests and potential guests in Austria found that the main reasons for going on farm holidays are to enjoy good homemade food, to relax in the countryside and to experience farm life. Most New Zealanders, while living in an urban environment, recognise the importance of agriculture to the economy and/or their farming roots. In Poland, people have been losing accessibility to rural areas through family links since World War II, and thus rural areas are becoming increasingly popular and fashionable amongst Poles wanting to experience nature and amongst families that cannot afford other types of leisure. In contrast, there has been a decreasing trend in the number of persons having farm/land holidays in Germany. Between 2001 and 2005, the number of persons having farm/land holidays fell considerably by about 36%, and fewer people were generally interested in farm/land holidays (about -21%). The review postulated that one reason for the decline of farm/land holidays in Germany, but most probably also in other countries, is the more and increasingly diverse offer of other holiday arrangements, for example specific holiday packages, cruises and cheap flights.

177. Two additional restricting factors were noted in the Japanese review: Japanese holidays are normally short and concentrated in specific periods, which results in congestion during peak periods and a low rate of occupation on average; and lack of experience and finance in administrations at the municipality level to support ambitious farmers.

10. The potential effect of selected policies on farm household diversification

178. In addition to the factors discussed in the previous section, government policies can also influence the extent of farm household diversification into non-agricultural activities whether on- or off-farm. This section specifically discusses the impact of selected government policies, drawing on the thirteen country reviews and the questionnaire responses received from countries.[33]

179. Since the mid-1980s, a number of policy measures designed to encourage farm income diversification activities have been introduced in OECD countries. These are discussed in the first part of this section according to the type of instrument used. Often a combination of policy measures impact on diversification: sometimes these are co-ordinated, other times they are not. The second part discusses the influence of other policy measures on diversification. These include agricultural support policies, tax systems, social security systems and regulations, including labour and land regulations. Specific aspects of these general measures can, in some instances, discourage farm households from engaging in diversification activities.

Policy measures which specifically assist diversification

180. Within a limited number of the thirteen country reviews, comment is made regarding the introduction and influence of policies specifically intended to assist farm household income diversification. Consequently the discussion in this sub-section is not a comprehensive review or analysis of the policies that have been introduced in OECD countries. It does, however, provide a flavour of the variety of policies that have been attempted and some of the difficulties encountered.

Grants

181. The EU Rural Development Regulation (Council regulation No. 1257/1999) proposes a menu of 22 measures that can be implemented by member countries in their Rural Development Plans (RDP). Some of these are directly related to the current discussion, namely: processing and marketing of agricultural goods, afforestation, and diversification of agricultural activities. However, these particular measures are not necessarily taken up by all member countries, and the proportion of the RDR budget spent on these measure is generally very small (Table 10.1).

182. The United Kingdom RDP contained schemes to facilitate diversification. In the period 2000-06 England had the Rural Enterprise Scheme (RES) and Wales the Farm Enterprise Grant (FEG). By the time the mid-term evaluations of these RDPs took place in 2003, in England the progress on RES in assisting on-farm diversification had been satisfactory (some 364 projects out of a target for the period of 500) but off-farm projects to extend the base of economic activities in rural areas (only some of which were undertaken by farmers as off-farm activities) were less successful (achieving only 12-18% of target project numbers). By its closure DEFRA stated that over 1 200 (on-farm) diversified projects had been assisted, with another 3 500 new tourism and craft related enterprises having received support (some belonging to farmers). To put this in context, England had some 191 000 holdings in 2003, suggesting that only a small minority of farms were involved. In Wales by 2003 the scheme to aid diversification into non-agricultural

33. Please note that the implications for the rural economy of agricultural policies and environmental aspects of land-use changes are examined in the context of work reported to the JWP on agriculture and the environment. A draft report will be discussed at the December 2008 meeting of the JWP.

enterprises had made relatively little progress for a variety of reasons, including restrictions on activities because of the outbreak of foot-and-mouth disease.[34]

Table 10.1. Support to on-farm diversification activities in the EU15, 2006

	Share of diversification in overall RDR payments (%)			RDR payment	Share of RDR in total EAGGF guarantee budget (%)
	Processing and marketing of agricultural products	Afforestation	Diversification of agricultural activities	EUR (million)	
Austria	1.8	2.2	2.8	501	39.3
Belgium	23.0	4.1	0.1	74	7.8
Denmark	5.3	12.0	0.4	75	6.4
Finland	0.0	2.0	2.4	254	30.9
France	7.3	5.4	1.3	1,192	11.9
Germany	2.8	3.0	0.1	942	14.4
Greece	0.0	4.4	0.0	227	7.4
Ireland	0.0	10.3	0.0	377	21.9
Italy	10.1	10.3	4.4	593	10.8
Luxembourg	0.0	0.0	0.0	11	25.6
Netherlands	0.0	2.7	5.4	74	6.1
Portugal	0.0	12.1	0.0	232	24.7
Spain	10.8	13.8	1.2	683	10.3
Sweden	0.6	0.0	1.4	165	17.9
United Kingdom	3.0	11.8	3.7	237	5.5
EU15	5.1	6.8	1.5	5,638	11.9

EU15: Member states of the European Union from 1995 to 2003.
Source: EU Commission

183. A feature of this public assistance under the RDPs is that it has been broadly spread. It has not been targeted at, for example, only farms where the holding is the main occupation of the occupier, or where incomes from farming were particularly in need of supplementation. The basic Regulations for the two programming periods 2000-06 and 2007-13 (Council Regulations (EC) Nos. 1257/1999 and 1698/2005 respectively) do not specify tests of eligibility on the nature of the operator, and the schemes do not appear to have applied tests in practice. Applicants for diversification grants (including into tourism) are simply listed as being in agriculture or horticulture, with provision for farms that are arranged as companies. Grants for processing and marketing agricultural products were open to farmers, though mostly taken up by other firms in the food chain, and not necessarily ones located in rural areas.

184. In New Zealand, the major programme involving financial assistance to encourage farm household diversification into non-agricultural activities is the East Coast Forestry Project (ECFP), which has been operating since 1992. Under the scheme landholders tender for government grants which help fund the cost of establishing and managing the forest. While the primary purpose of the ECFP is to reduce soil erosion, it has had a wider impact on the commercial viability of farms and regional employment. Despite the availability of funding, uptake has been low, with a recent review of the ECFP explaining that relative price signals and the disappearance of a forestry company have been very influential factors in the slow uptake, with the complexities of the scheme being another contributing factor.

34. Formal *ex post* evaluations of these schemes are taking place in 2008 and, when available, will provide valuable information on scheme performance.

185. The Austrian country review refers to the 'Agri-tourism and Landscape Conservation Programme in Weissensee', which is a private community programme taxing tourists who stay in the community and paying farmers who observe landscape cultivation guidelines. The objective of this programme – a by-product of the green tourism concept which is based on a broad consensus in the local population about the necessity of the measures undertaken– is to protect the rural landscape and ecology and to prevent farmers from quitting their business (OECD, 2005c).

Training

186. Section 9 discussed a lack of skills as an important factor limiting farm household diversification. A number of countries have introduced programmes to specifically address this issue. The UK RDPs included Vocational Training Schemes (VTS) for people working in agriculture and forestry that were frequently relevant to diversification. In the European Union, the basic Regulation for the programming period 2007-13 (Council Regulation EC No. 1698/2005) includes a specific measure to support the training and information of economic actors operating a diversification activity in rural areas.

187. Australian agricultural policy measures have provided support for farming families in severe financial difficulties by offering income support and professional advice to develop a farm plan to improve the farm's financial position or to gain skills to obtain off-farm income or move out of farming. A programme review concluded that farmers whose financial position had improved following participation attributed this positive outcome to changes in farming/management techniques (almost certainly prompted by professional advice) and the earning of off-farm income. Some 20% of respondents had increased their reliance on off-farm income. Box 10.1 outlines the various policy measures which have had an influence on the uptake of plantation forest production on Australian farms.

188. In Canada, a number of programmes have been implemented to develop the skills and capacity of stakeholders to elaborate on and evaluate business plans, and to provide starting capital needed for establishing new ventures. However, these programmes are usually oriented toward small business in the downtown areas of rural communities rather than specifically to the farming sector. Most of these programmes are developed in partnership between government agencies and local organizations and are directed toward individual entrepreneurs, groups or local partnerships. In addition, in most communities there is a series of business development services (*e.g.* accounting services, business counselling, quality control and export promotion programmes) available to assist entrepreneurs in the establishment and operation of new enterprises.

Facilitation

189. A third broad area of government policy intervention concerns facilitation, which includes the provision of information, industry organisation, and market creation. In New Zealand the government contributed to diversification through a focus on facilitation. During the 1990s a number of government agencies worked together as facilitators with community groups to help them build their social and economic capacity to create wealth and well-being. These were set up to assist farmers to overcome the malaise of adverse climatic events, low commodity prices and economic restructuring. The groups assisted local communities and farmers to identify an economic opportunity; brought the needs of rural tourism operators to the attention of the tourism industry; facilitated the flow of information on rural tourism to potential operators, communities, local government and other agencies; and, have been a catalyst in developing support and commercial networks between operators.

190. The facilitation role included the publication of a book entitled *Thinking of starting in rural tourism? A resource book* in 1994. Similar "How to get started in farm tourism" type documents have been released by most State and some local governments in Australia. State and local governments have also

supported the development of "farm trails" by providing advice and facilitation, with some providing funding for the operation of the trail, *e.g*. employment of a programme manager, development of brochures and web-sites. Another example is the Farm and Nature Tourism (FANT) programme, which is designed to help landholders assess their property's tourism potential without having to make a huge investment in money or time. The intention is to establish "clusters" of farm and nature based tourism in rural and regional communities across Australia.

Box 10.1. Australian government policies encouraging the on-farm diversification into forestry

A variety of ***policy instruments*** have been used by the Commonwealth and State/Territorial governments to encourage on-farm diversification into forestry, including research, extension, capacity building, market creation and grants. Examples of these include:

- The Joint Venture Agroforestry Program established in 1993 with the objective of providing knowledge to underpin profitable, sustainable and resilient agroforestry within Australian farming systems and landscape.
- The Commonwealth's National Farm Forestry program (NFF) operated from 1996 to 2001, through the Natural Heritage Trust. Its aim was to encourage the incorporation of commercial tree growing and management into farming systems for wood and non-wood production, increasing agricultural productivity and sustainable natural resource management by supporting the provision and communication of information that enabled growers, potential growers and/or traditional and non-traditional investors to make informed investment decisions. A review of the FFP concluded that the farm forestry sector would not be at its current stage of development without the Program, emphasizing the role it played in establishing farm forestry in the consciousness of the communities in which projects were conducted and the up-skilling of hundreds of individuals.
- The NFF was aided at the regional level by the establishment of Regional Plantation Committees (RPCs), to promote information networks, increase the skill base, initiate demonstration projects and design regional strategies.
- To encourage private investment in forestry by demonstrating the potential of bluegum crops, the Western Australia Forest Product Commission (FPC) planted about 4 000 hectares of eucalyptus on farms along the State's west and south coast in 1988 and 1989. The success of this planting lead to a joint venture between a Japanese company and the FPC, resulting in the establishment of 20 000 hectares of eucalyptus in small farm woodlots and shelterbelts of 10 to 20 hectares.
- The establishment of farm forests in North Queensland commenced on a significant scale in the 1990s with funding from the Community Rainforest Reforestation Program.

In August 2005, the federal and state governments issued a ***Farm Forestry National Action Statement*** (DAFF, 2005b). The NAS vision is to increase the adoption of commercial tree growing and management as a widely accepted part of Australian farming and as a component of regional natural resource planning for the production of wood and non-wood products, and natural resource management benefits. The action emphasizes information gathering, market facilitation, support for research, development and extension; liaison and policy co-ordination between states and agencies; forest certification; and the development of markets for environmental services.

While not directly targeting farmers, a number of changes to the ***regulatory environment*** during the 1990s were made which improved the market conditions for private investment into plantation forestry, making farm forestry a more viable alternative land use. These actions included the lifting of the export ban log chips; measures to ensure that public agencies move to competitive neutrality, by separating their business and regulatory functions; changes to the tax regime, and the decision made by an increasing number of states to ban the harvesting of native wood.

191. Local governments have also played a role in establishing farmers markets. For example in Canada, the Ontario Ministry of Agriculture Food and Rural Affairs actively supports the Farmers Market Ontario and a series of partnerships among municipal government, local business groups and farmers is also creating the proper environment for the resurgence of farmers markets. Farmers markets associations, apart from providing an outlet for direct selling, provide additional services to farmers such as advertising, providing updated information and organized educational sessions on issues of interest related to marketing, regulations, food safety, etc., as well as developing promotional campaigns that encourage consumers to buy fresh and local products.

192. Some of the business development initiatives directed toward value-added activities have been promoted through the Agricultural Policy Framework. These programmes are directed at increasing the competitiveness of the agriculture and agri-food sector by improving food safety and the quality of processing plants involved in processing food or drink for human consumption. However, most of the programmes do not contemplate the promotion of small-scale value-adding initiatives developed on the farm.

193. The government of Korea has promoted rural tourism business such as tourism farms, rural leisure complexes, home-stay villages and weekend farms since 1984 under the Special Act on Farm and Fishery Villages Development. In this context, a good model is the "One Institute and One Rural Village" programme, under which an institute in an urban area forms an alliance with a rural village, a sister-institute or a village affiliation. This programme was launched in 2004 and has been continuously expanding (from 2 404 exchanges in 2004 to 14 498 exchanges in 2006).

Impact of other policies on diversification

194. In addition to the policies specifically designed to assist farm household diversification, other policies may also have an influence on the level and form of diversification that does or does not take place. These effects are not normally among the objectives of the policies, although they can be, but are spill-over or unintended consequences of policies introduced to achieve other objectives. A noticeable difference exists between countries in terms of the level and form of diversification that has occurred; could the effect of other policies offer an explanation?

195. The analysis in this section draws heavily on the questionnaire responses (Box 10.2 and Annex II.2). It looks at five important policy areas where conditions or requirements attached to specific policies may have an effect on diversification. The five policy issues are discussed in descending order of importance as determined by consideration of the questionnaire responses. This is measured in terms of the number of countries indicating a possible impact on diversification and an assessment of the likely impact. Comments from the thirteen country reviews are included in the discussion where relevant, and these support the relative importance of the five policy areas in terms of their potential impact on diversification as determined by this simple analysis. Annex Table II.2 summarises the questionnaire responses.

Box 10.2. Questionnaire on Diversification in Rural Areas

As an integral part of the study, a *Questionnaire on Diversification in Rural Areas* was distributed to all 30 OECD countries in January 2008. It was requested that the questionnaire be completed and returned to the Secretariat by March 2008. The questionnaire asked for data and comment regarding: (a) the diversification activities by farm households in rural areas, and (b) the policy stance with regard to diversification. The questionnaire was initiated in recognition that this information was difficult to find in published sources. A copy of the questionnaire is contained in Annex II.2.

The first part requested data on the number of farms engaged in various forms of non-agricultural diversification activities and the level of income derived from these sources. The second part asked questions with the purpose of determining whether aspects of agricultural support programmes, social security systems, tax systems, labour regulations and land regulations are likely to have an effect on diversification activities of farmers.

As of August 2008 when this document was drafted, completed (although not necessarily full) questionnaire responses had been received from 18 of the 30 OECD countries: Austria, Belgium (Flanders only), Canada, Czech Republic, Denmark, Finland, France, Germany, Hungary, Ireland, Italy, Japan, Korea, Mexico, Slovak Republic, Spain, Sweden and Switzerland. These varied considerably in terms of the data and comment provided, reflecting, among other things the lack of information on the extent of diversification activities undertaken by farmers.

196. For each country indicating a potential impact on diversification in relation to a particular policy area, an assessment is made as to the impact of the policy on farm household diversification. While the policies mainly have a negative effect on farm household diversification, there are some instances of positive effects.

Land regulations, including zoning and planning permission

197. The questionnaire asked if there are differences in land zoning and planning regulations depending whether they are applied to farm land or other land. Fourteen of the eighteen countries said yes (Table 10.2). Three countries (Austria, Finland and Mexico) did not respond to these questions.

198. Most countries indicated that some form of planning permission, generally at the local government level, was required before the farmer could commence a diversification activity on his/her farm. Comments by some countries, such as France, Japan and Switzerland, indicate that a move into non-agricultural activities is opposed to the general land use policy objective. Belgium (Flanders only) and Sweden noted the on-going requirement of the diversified business to comply with planning regulations associated with that activity.

Table 10.2. Potential impact of land regulations on farm diversification

	Description of the situation based on questionnaire responses
Belgium (Flanders)	There are specific regulations for buildings used for farm tourism, selling of farm products, biogas installations, school education on farms and childcare on farms. Specific regulations exist for buildings listed as having historical value in the case of use as a hotel/restaurant.
Canada	Land regulations generally restrict farm splitting.
Czech Republic	Approval must be obtained for diversification activities on agricultural land, and a fee is normally collected. When the land is located in zones of most strict water/nature/landscape protection, no development is usually approved. When the land is located in zones of less strict water/nature/landscape protection, the fee is higher than in areas without any restrictions.
Denmark	Basic agricultural activities are exempt from whatever restrictions the planning regulations may imply for the territory in which the farm is situated. Relevant permission according to the planning regulations of the territory must be obtained for diversification activities outside these basic agricultural activities.
France	No construction is allowed on farm land unless it is public or farm buildings. It is possible to change the use of farm buildings under certain conditions. There are some compromises at local level but this is not encouraged.
Hungary	Land use plans are based on territorial development plans at county or village level. The use of agricultural land can only be changed (*e.g.* from arable land to forest land) with permission of the land office.
Ireland	Planning permission is required to develop non-agricultural activities.
Italy	Yes, but implications are not clear.
Japan	Non-agricultural activities are prohibited on land that is designated as farmland-use. Within these zones, permission must be sought to use farmland for other purposes such as farm stalls or restaurants.
Korea	Yes.
Slovak Republic	Yes.
Spain	Yes for residential real estate and industrial purposes.
Sweden	Farmers must comply with the regulations associated with the activity.
Switzerland	There are restrictions on what activities may be undertaken on farm land. Only agricultural or "close to agricultural" activities are allowed. For example, agro-tourism is permitted while cloth manufacture is not.[1]

1. This restriction is in place so that other sectors would not be discriminated against since their activities are taking place on non-farm land which is much more expensive.
Source: OECD, responses to questionnaire.

199. The negative impact of planning requirements was also mentioned in a number of the country reviews. For example, the Joint Industry-Government Working Group in the UK, set up to examine the

barriers to farm diversification, identified planning controls as one of the two most important issues affecting both decisions to undertake diversification projects and the future success of those projects (DEFRA, 2007).[35]

200. In its study of the effect of public funding on farmers' attitudes to diversification (CRR, 2006) the University of Exeter asked farmers with current diversified enterprises what were their major challenges in setting up each diversified enterprise and also which of these had been their greatest challenge. Planning was cited as one of the major challenges for 32% of current diversified enterprises, ahead of all other challenges, followed by securing grants (29%), securing financing (18%) and marketing (15%). 20% of diversified enterprises put planning as the *greatest* challenge they had experienced in setting up their current business, again the largest number, followed by securing grants (18%), with marketing and securing finance tying at 9%. Among cases where a diversified enterprise was NOT set up, farmers gave planning issues as the reason for not going ahead for 24% of enterprises, second only to failure to secure a grant (40%) and ahead of financing issues (16%) and expected profitability/financial return (13%). Among farmers considering diversifying, 23% cited sorting out planning constraints as a significant challenge, second only to market opportunities.

201. The evidence above shows that farmers perceive planning as a substantial barrier towards diversification activities in England. Furthermore, there is a suggestion that it has become more of a problem, in that it was more strongly represented in the CRR (2006) research than in its base-line study of four years earlier (CRR, 2002). What is clear is that diversification is not only an issue for agricultural policy, as it impinges on other policies, including those for which diversification on farms might pose a threat. In particular, the willingness of Local Planning Authorities to embrace business development in the countryside has to be considered.

202. The New Zealand review noted that regulatory barriers such as the requirements under the Resource Management Act 1991 may directly preclude investment, however in many cases the problems arise because they create uncertainty around the standards that have to be met, the time that resource consent (*i.e.* planning permission) and other processes take, and the costs that will be incurred.

203. While not only dealing with planning regulation, the Canadian review illustrated the point well by reference to a study conducted by the Ministry of Agriculture, Food, and Fisheries of British Columbia. The provincial government is mostly responsible for broader regulations, which range from land use stipulations in the Agricultural Land Reserve Act to health concerns in the Health Act. Local governments, on the other hand, usually deal with laws and regulations related to zoning and development considerations. Lastly, the federal government deals with regulations predominantly related to food safety, food standards, trade and packing. In addition, the study indicates "there are 154 municipalities and 27 districts with the power to make by-laws in the province". Furthermore, with respect to the types of regulations that affect rural tourism in British Columbia, the study indicates that the province has 35 separate laws and regulations that directly or indirectly affect the development of agri-tourism activities.

Access to government assistance

204. Half of the countries that responded (9 out of 18) indicated from their responses to the questions that requirements concerning access to government assistance measures may have an impact on diversification activities (Table 10.3).

35. The other important issue identified was lack of business skills on the part of the farmers. This issue is discussed in Section 9.

205. Most of the support policies for which diversification activities may limit access concern those with the objective of farm modernisation/structural improvement/investment. In France and Spain, diversification activities may result in a reduction in the level of less favoured area payments received by farmers. The disincentive is perhaps the greatest in Austria, with access to support payments removed once income from specific diversified activities exceeds 49% of farm income. However, there is no disincentive to diversifying up to this point.

Table 10.3. Potential impact of access to government assistance on farm diversification

	Description of the situation based on questionnaire responses
Austria	Eligibility requirements for support payments indicate that income received from diversification activities may not exceed the income from the main agricultural business, *i.e.* can be a maximum of 49% of total income.[1]
Belgium (Flanders)	Yes, but implications are not clear.
France	Eligibility criteria for less favoured area payments include a ceiling on the level of non-agricultural income, differentiated by type of area. Set-up grants for young farmers are differentiated according to whether the farmer is working full-time or part-time on the farm.
Germany	Eligibility for "Agricultural structure improvement and coast protection" scheme requires that agricultural sales be at least 25% of total sales volume.
Ireland	Eligibility for a number of on-farm investment schemes, including installation aid, includes a limit on off-farm earnings.
Korea	Policies with the objective of enhancing agricultural competitiveness focus on main-occupation farmers. Policies with the objective of stabilising farm income or enhancing multifunctional roles take into account total farm household income when determining eligibility.
Spain	Eligibility for support provided for the modernisation of farms (setting up of young farmers, investment in agricultural holdings, and support for less favoured areas) requires that more than 50% of income should come from agriculture and that eligible farmers should spend more than 50% of their time working in the farm.
Sweden	For some investment aids there might be restrictions based on the farmer's income situation.
Switzerland	Improvement in rural constructions support is only available to farmers who spend a minimum of 1.25 labour units (*Standardarbeitskraft*) on the farm.

1. Diversification activities that count towards this limit must have at least one of the following criteria: close relationship to the farm; utilisation of machinery typically used by farmers (*e.g.* transport, winter road clearance); activities have to take place at the farm building or farm land (*e.g.* on-farm child minding, hay adventure pools); or specific agricultural knowledge (*e.g.* hosting seminars, teaching, consulting).
Source: OECD, responses to questionnaire.

206. Both the Australian and New Zealand reviews noted that a reduction in support, in conjunction with other factors, played a role in encouraging farm household diversification. For example, in New Zealand, one of the initial farmer responses to the subsidy reform programme that began in 1984 (along with a reduction in capital expenditure, labour force, fertiliser, etc.) was to seek off-farm employment. The removal of subsidies had not only an impact on farm income but also on land values, which declined in the late 1980s. This in turn made borrowing difficult for farmers, creating a further incentive to seek alternative income sources. The decrease in land values, along with a log price spike in the early 1990s and changes to taxation rules (*i.e.* the removal of the "cost of bush" account and reintroduction of immediate

deduction of qualifying costs against income from any source in 1991) contributed to the diversification into forestry.[36]

Labour regulations

207. The questionnaire asked if there are differences in regulations applied to (independent and employed) farm labour and other labour. Seven of the eighteen replied yes, with Switzerland raising an important issue in answer to a later question (Table 10.4). No responses were provided from Austria. The remaining nine indicated that there were either no or insignificant differences, *e.g.* just for seasonal labour.

Table 10.4. Potential impact of labour regulations on farm diversification

	Description of situation based on questionnaire responses
Canada	Different regulations apply to farm workers, such as for hours of work and minimum wages, and these vary by province. No response provided as to how diversification activities affect this status.
France	The different regulations applying to agricultural workers, such as those relating to hours of work and remuneration, also apply to those employed for on-farm activities considered as an extension of agricultural activities like farm tourism or wood and food processing.
Ireland	The Employment Regulation Order (ERO)[1] applying to agricultural employers and agricultural workers does not apply to diversification activities because the definition of agriculture is very precise.[2] This means that persons employed in diversification activities on the farm that do not meet this definition will work under different labour regulations.
Italy	A farmer who employs farm labour benefits from having to pay both a lower taxable income to, and a lower social security cost for, the employees that they hire compared to other sectors. As all activities which are performed on the farm are considered "agricultural", farmers will continue to receive this benefit when they employ labour for on-farm diversification activities. However, these fiscal advantages associated with being a farmer disappear once income from diversification exceeds agricultural income.
Japan	The regulations relating to working hours and days-off within the Labour Standard Law are not applicable to farm labour. These exceptions are also available for activities closely linked to agriculture, such as contract farm labour. Whether these exceptions also provide for a particular on-farm non-agricultural diversification activity is determined on a case-by-case basis.
Korea	The standard labour regulations regarding working hours, rest breaks and holidays do not apply to agricultural workers.
Mexico	Specific regulations apply to farm workers. No response provided as to how diversification activities affect this status.
Switzerland	When a farmer employs a non-family member for non-agricultural activities, the farmer is required to apply all the labour conditions that apply to that sector.

1. An ERO covers a range of employment issues including minimum pay, overtime rates, working hours and rest periods.
2. Agriculture means horticulture, the production of any consumable produce which is grown for sale of for consumption or other use, dairy farming, the use of land as grazing, meadow, or pasture land or orchard or osier land or woodland, or for market gardens, private gardens, nursery grounds, the caring for or the rearing or training of animals and any other incidental activities connected with agriculture.
Source: OECD, country responses to questionnaire.

208. The impact of labour regulations hinges around the issue of what work is classified as agricultural and what is not. Where it is broadly defined, diversification activities can benefit from similar

36. By the mid-2000s, the situation was almost completely reversed, with land moving out of forestry and into dairy production following significant increases in land values; a drop in log prices at a time of high world dairy prices; and uncertainty regarding the financial implications to forestry of proposed legislative changes being introduced as a result of New Zealand's Kyoto commitments.

advantages as given to primary agricultural production: where it is narrowly defined diversification activities increase the complexity of the farm operation, requiring additional employment procedures to be put in place. This seems to be a potential issue in the case of Ireland, Japan, Korea and Switzerland. In Italy, while farmers benefit from a broad definition of agricultural activities, a major disincentive is reached when income from diversification activities exceeds farm income.

Social security system

209. The questionnaire asked if farmers belong to a different social security system than the general regime. Nine out of the eighteen countries replied "yes" (Table 10.5).

210. In most countries where a preferential social security system is provided to farmers, diversification activities do not hinder diversification activities as income from these activities is classified as farm/agricultural income, *i.e.* a rather broad definition of agriculture is used in terms of social security arrangements. In addition, three countries (Finland, Germany and Japan) specifically note that there is no limit as to what can be earned from these other activities. On the other hand, France, Italy, Korea and Spain explain that the benefits of being a farmer for social security purposes cease once a certain point, usually 50% of total income from non-agricultural activities, is reached.

211. The unique social security system in the United States, with its emphasis on personal responsibility, would appear to have two rather opposing effects on farm diversification activities – encouraging off-farm and discouraging on-farm diversification. In the US health insurance is not universally available. While the elderly and the poor have publicly-provided health insurance, working-aged residents (and their children) must get insurance through their employer, purchase it privately or go without. The self-employed, including farmers, are more likely to have no health insurance. Consequently off-farm income activities can provide fringe benefits such as health insurance and pensions. On the other hand, studies of farm tourism noted in the United States country review reveal that the most restrictive obstacles impeding the expansion of on-farm diversification relate to legal liability and the high cost of liability insurance.

Tax system

212. The questionnaire asked if farm profits/capital gains/capital transfers/value added taxes were treated differently to the general regime.[37] Ten of the eighteen said yes (Table 10.6). Questions were then asked to determine whether diversification activities affected this tax status.

213. The responses indicate that in general diversification activities do not result in the loss of any tax concessions provided to farmers. In most countries diversification activities count as agricultural income, without any limits on the amount that can be earned from such activities. Only in Austria, Ireland and France are constraints noted. In Austria and France, while a broad range of diversification activities count as agricultural income, the tax concessions provided to farmers are no longer applicable once income from the diversification activities exceeds a threshold (50% for Austria, 30% for France where the concession remains applied to farm activities). In Ireland, a narrower definition of agriculture is applied, meaning that diversification requires extra administration and financial obligations. These constraints may be in place to ensure farmers and non-farmers compete on the same grounds.

37. The questionnaire asked this question in the alternative sense, *i.e.* asked if farm profits/capital gains/capital transfers/value added taxes were taxed as in the general regime, for which a "no" answered indicated a difference. To make it compatible with the other sections, where a "yes" answer means that agricultural is treated differently, the sense of this question has been changed in this analysis.

Table 10.5. Potential impact of social security system on farm diversification

	Description of situation based on questionnaire responses
Austria	Different social insurance agencies exist according to the kind of profession or employment. A key issue is the delimitation of agricultural activities and non-agricultural activities[1] as each additional non-agricultural activity requires the farmer to participate in a separate social insurance regime, with additional compulsory contributions, although there is a ceiling of combined insurable earnings.
Finland	Farmers have a specific insurance institution (Farmers' Social Insurance Institution). All diversification activities contribute towards this, and there is no ceiling on the share of income derived from diversification activities.
France	A specific regime managed by Mutualité Sociale Agricole is available to farmers with a minimum area (half the minimum area for setting up a farm) or a minimum of 1 200 hours of work on a farm per year. Some diversification activities, including processing, packaging and marketing of agricultural produce and farm tourism, are considered as agricultural.
Germany	Farmers belong to a different social security system. All on-farm activities are defined as "agricultural" activities, and there is no ceiling on the share of income derived from diversification activities.
Ireland	A special Farm Assist Scheme is available for low income farm families. The scheme is means tested, including income from diversified activities.
Italy	Farmers benefit by paying a lower contribution for both themselves and their employees than other occupations in the general social security system. Farmers lose their eligibility for this concession if their income from diversification activities exceeds agricultural income.
Japan	Farmers pay a contribution to both the national Basic Pension and the Farmers Pension fund. Income from diversification activities is included when assessing the contribution of an individual farmer. There is no limit on diversification income.
Korea	Farmers benefit by paying a lower contribution to the National Pension. Farmers lose their eligibility for this concession if their income from diversification activities exceeds income from farm activities.
Spain	A Special Social Security Regime for Farmers (REASS) was available for small self-employed farmers and agricultural employees. The rest subscribed to the general regime for autonomous workers (RETA). To be eligible for REASS a farmer must spend 50% of their total working time on agricultural activities and should get more than 50% of their total income from agriculture. Both regimes converged in 2005 and REASS is due to disappear as such.

1. Diversification activities that count as agricultural activities (and therefore do not required separate social insurance contributions) must have at least one of the following criteria: close relationship to the farm; utilisation of machinery typically used by farmers (*e.g.* transport, winter road clearance); activities have to take place at the farm building or farm land (*e.g.* on-farm child minding); or specific agricultural knowledge (*e.g.* hosting seminars, teaching, consulting).
Source: OECD, country responses to questionnaire.

Table 10.6. Potential impact of tax system on farm diversification

	Description of situation based on questionnaire responses
Austria	Agricultural enterprises benefit from certain accounting privileges and expenditure allowances in relation to income tax. Diversification activities that meet certain criteria count as agricultural income.[1] A farm loses its tax status as an agricultural enterprise if the income from these diversification activities exceeds either the income from the main agricultural business or a threshold of EUR 24 200.
Canada	Farmers benefit from special tax treatment for capital gains and farm transfer. Diversification does not affect that special tax treatment.
Czech Republic	Farmers benefit from a higher expenditure allowance, refunds from the consumer tax on diesel, and a tax allowance for biodiesel. Farms with diversification activities receive the same benefits.
Denmark	Concession regarding local property tax, and energy and carbon dioxide tax may be partially reimbursed for farming activities.
France	Farmers may benefit from simplified book keeping provisions for income tax purpose. Non-agricultural activities may be declared as agricultural income provided they do not exceed 30% of agricultural turnover or EUR 50 000. Similarly for VAT, the benefits of a simplified regime disappear once this threshold is exceeded.
Germany	Farmers benefit from taxation based on average VAT rates. All on-farm diversification activities similarly benefit.
Ireland	Farmers have the option of either registering for VAT or using a flat rate VAT which pays a VAT addition on output sales to compensate for VAT paid on business inputs. This option is only available for main occupation farmers. If a farmer has other self-employed income he/she must register for VAT. Farmers may elect to be assessed in the normal way with an accounting period of 12 months for the year of assessment, or on the basis of averaging farming profits and losses over three years of assessment. However, if the farmer or the spouse has another trade or profession (except income from farmhouse holidays), they cannot choose the averaging option.
Italy	Yes, but implications are not clear.
Mexico	For farms organised as companies, income tax rates are reduced by 19% if 90% of income comes from agricultural, forestry or fisheries activities. Farmers benefit from simplified administrative procedures and a lower tax rate on fuel used for agricultural activities.
Spain	Farmers benefit from a simplified VAT regime and from a methodology which estimates income for income tax in an indirect way. Farms with diversification activities receive the same benefits.

1. Diversification activities that count as agricultural activities (and therefore do not required separate social insurance contributions) must have at least one of the following criteria: close relationship to the farm; utilisation of machinery typically used by farmers (*e.g.* transport, winter road clearance); activities have to take place at the farm building or farm land (*e.g.* on-farm child minding); or specific agricultural knowledge (*e.g.* hosting seminars, teaching, consulting).
Source: OECD, country responses to questionnaire.

11. Conclusions – Diversification among farm households – role in the rural economy

Main findings

214. In terms of non-agricultural diversification activities undertaken by farmers, the findings indicate the importance of off-farm rather than on-farm activities. In most countries for which information is available, off-farm activities are the main source of non-agricultural income for farm households, but there is little information on the type of activity (except that it is often a salaried activity); on which household member is engaged in off-farm activities; or on the regional location of the activity. In terms of on-farm activities, they consist of (i) moving up the value chain through further processing or direct selling of primary production, (ii) using existing farm household resources (either land, labour or capital), to move into contracting, forest production, or services (*e.g.* renting, farm tourism). With the exception of farm tourism, evidence indicates that there has been little diversification into new areas. This is not a surprising result. It is easier and to use existing resources and skills in a familiar endeavour than to develop a whole new service, *e.g.* computer training. However, it is possible that new diversification activities are not yet identified in statistics.

215. Efforts are being made to monitor the extent to which farm households are engaged in on-farm non-agricultural activities, in particular in European Union member countries, but information on the level of income generated by these activities is very limited. Income from these activities is difficult to track because they are classified differently in different sources of data and across countries. Related, non separable activities, such as on-farm processing of agricultural products and farm tourism are only a small share of on-farm non agricultural activities. The main source of on-farm non agricultural income is contract farm work, which is included in agricultural services or farm income depending on the country. According to micro-economic sources, letting farm buildings and land is also a significant source of income for farm households. This is not considered as belonging to the agricultural sector, and is therefore not included in macro-level agricultural accounts.

216. Information available on farm tourism is rather anecdotal in nature, and does not permit very general conclusions. Where there are data, however, it is clear that farm tourism is a very small part of the income of farm households, and of their income from non-agricultural activities. The significance of farm tourism and trends also vary enormously from region to region. It is clear, therefore, that farm tourism can be only one element in a much broader strategy to help farm families to diversify or to stimulate growth in rural areas. Clearly the potential of farm tourism is greatest in regions that are attractive in terms of landscape and potential for recreational and sporting activities. In these cases farm tourism can be an important element contributing to the vitality of the region by improving farm viability, providing jobs for the local people, promoting sales of local brands, and encouraging the preservation of the natural environment including landscapes

217. Although tourism is of special policy concern in rural areas, agriculture's role in providing the features that attract people to rural areas is not well-defined. Thus it is not clear what sort of agriculture should be promoted to increase rural tourism, what sort of activities would benefit farm income diversification, and whether the public cost would be justified by the public benefits.

218. It is difficult to generalise about the challenges of income diversification for agricultural holdings because they have a strong regional character or lie in the characteristics of the farm or farm household. In terms of the farm household, a financial motivation appears to be the strongest driver for diversification in general, although social motivations are shown to be important for farm tourism. However, it appears that weak business skills are limiting the extent of diversification. Women play a more important role in the diversification of the farm into non-agricultural activities than in the primary agricultural activities.

219. Differences also appear in terms of the size and type of farm operation. In general, off-farm diversification activities are undertaken to a larger extent by smaller farms, for which they are more financially important. A number of factors would explain this including the existence of less utilised farm resources and greater financial pressure. Small farms are also perhaps more represented in the type of farm operations more likely to diversify, producing for example horticultural products and more attractive than large-scale, industrialised farms.

220. The location of the farm also plays an important role in determining the extent of diversification activities. The further a farm is located away from an urban area, the less opportunity the farm household has to diversify into non-agricultural activities. However, accessibility has improved in recent years, with better transportation and telecommunications networks. In particularly, the internet provides enormous possibilities for farmers in more remote areas to sell their products or offer their services. Furthermore, the surrounding geography of the farm is an attractive feature for farm tourism, with visitors attracted not just to the farm but also to see the surrounding countryside, whether mountains, wilderness or coastal landscapes.

221. A range of policy measures have been introduced in various OECD countries to assist farm household diversification into non-agricultural activities. These measures have involved grants, training and facilitation. The diversity of these measures reflects not only differences in policy objectives and country approaches but also differences in terms of the obstacle or barrier that the policy is trying to overcome or correct for.

222. Analysis of other policy measures indicates that they may be having an impact on diversification activities. In particular, planning controls appear to have limited the extent of diversification that has taken place, either by reducing the incentive to diversify by increasing the complexity and cost of change, and/or by restricting the ability to diversify by simply not allowing certain non-agricultural activities to be undertaken. This is an issue raised in almost all countries. In some countries, diversification activities also appear to reduce access to some types of agricultural support. These mainly concern access to farm modernisation/investment type grants or less favoured area payments rather than general support policies.

223. The impact of labour regulations and the social security and tax systems on diversification essentially depends on how agriculture is defined under those regulations/systems. Often a broad definition of agriculture is used, allowing many forms of on-farm diversification activities to be classified as agricultural or farming, and thus permitting a continuation of the status quo in terms of administration requirements and special concessions. Sometimes, a threshold limit, usually 50% of farm income, is in place, after which the benefits related to being a farmer are no longer available. When a narrower definition is applied, diversification activities increase the administrative requirements and complexity of the farm operation. These constraints may be in place to ensure farmers and non-farmers compete on the same grounds.

Data assessment

224. While it provides valuable information, the study of diversification among farm households is severely constrained by a number of factors relating to data, including:

- The lack of a comparable data on farm households' activities and income.
- The difficulty in following households over time (panel data).
- The imperfect coverage of diversification activities, which leads probably to understate the extent of diversification among farm households.

225. A major source of difficulty for cross-country comparisons stems from the heterogeneity of definitions and data collection. Some countries have a very broad definition of farm households, which may include hobby farms, whereas others focus on professional farmers. Data collected on diversification also have different focus: some cover farm households, whatever the national definition, others farm household members active in agriculture, agricultural holdings, or farmers. These differences often reflect differences in the policy stance.

226. In OECD countries that collect information on the composition of farm household income, and report income from non-farm remunerated activities (13 out of 30), evidence shows that these are the main source of non agricultural income for farm households, followed by social transfers. However, there is little detail on the type of activity and whether it is linked to the rural economy or not. In addition, it is difficult from available evidence to determine whether there are consistent differences in the composition of farm household income by type of region depending on the degree of rurality.

227. It would also be of interest to policy makers in countries with income distribution objectives to be able to compare the situation of farm households with that of other households, and to determine whether differences are related to degree of rurality. If such information was available, a number of issues could arise. For example, which type of households should farm households be compared with: all, rural or urban households? What is the appropriate indicator for comparison: total or disposable income, average income per household or average income per household member?

Policy implications

228. The complexity of the issue, not only in terms of definition but also of the factors influencing the outcome is important to recognise. The move from the analysis of an agricultural production function to farm household income options involves the introduction of a multitude of additional influences, factors and variables. Differences may also relate to the type of diversification activity, in particular depending on which factors are used, and where it is located, on or off the farm.

229. The heterogeneity of farm operators and the variety of non agricultural activities mean that, within agriculture at any one time, there will be sets of circumstances that are highly favourable to diversification of economic activities (whether as an off-farm OGA or on-farm diversification) and others where there are insuperable obstacles. This has a number of policy implications for countries wishing to encourage diversification towards on-farm and/or off-farm activities:

- It suggests that when designing diversification policies, governments should take these specific factors into account.

- Some of the factors may be influenced by policy (in particular, by grants and subsidies where cost is an issue) whereas others are largely fixed (such as the attitudes of farmers to diversification, which may only change under extreme circumstances or where there is a generation change). Where human capital development is concerned, some of the farmers who most need to improve their business skills are also those most resistant to doing so.

- A combination of policies may be needed – one which simply tries to influence one factor without paying attention to other factors will not be successful.

- Priority should be given to reviewing and possibly altering current policies that unduly hinder or discourage diversification rather than adding new ones. Regulations relating to planning permission and labour appear to be important. The DEFRA Working Group on diversification provided fifteen recommendations on ways in which the planning system could be modified so

that it did not pose such a substantial barrier to diversification (DEFRA, 2007). Many were concerned with the cohesion and coherence of the planning process, breaking down barriers between policy areas and achieving better balance, but some were more practical, such as raising the threshold below which diversification can proceed without the application of detailed controls.

- The business competence of farm operators seems to be a key factor in determining the rate of development of on-farm diversification. A case may exist for the public provision of training and advice as part of policy towards agriculture and rural areas.

- With regard to the diversification of farm household members into activities off the farm, factors outside the agricultural sector are likely to dominate. They include off-farm employment opportunities overall and in rural areas in particular, infrastructure in the form of transport and IT facilities that facilitate access to employment, and education. Uptake of off-farm work by farm household member is thus largely outside the scope of agricultural policies, while it is strongly affected by macroeconomic, labour, infrastructure, education, tax and regional policies.

230. In conclusion, diversification of farm households into other activities on and off the farm affects the rural economy, by raising the level of farm income and the viability of farms, (OECD, 2003) and thus affecting farm households' consumption of local goods and services, and the provision of agriculture-related amenities. But the relationship is a two-way one, whereby those farm families depend on the existence of a healthy and diversified rural economy, which provides off-farm work opportunities as well as the economic, social and cultural services that attract and retain people in rural areas.

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ANNEX I.1.

COVERAGE OF COUNTRY REVIEWS

Country reviews were prepared by experts or the OECD Secretariat for thirteen countries: Australia, Austria, Canada, France, Germany, Japan, Korea, Mexico, New Zealand, Poland, Spain, the United Kingdom and the United States (see Annex Table I.1.1 for references and authors). Authors were asked to review national and regional statistical information and published literature to answer the following questions:

1. **Definition of rural areas in national statistics:** How are rural areas defined in national statistics? What typology is used to classify rural areas? On which criteria is it based? Are there different definitions/typologies used for specific studies?

2. **Rural areas in the national economy:** What is the share of rural areas in total population, land, GDP and employment?

3. **Role of agriculture in rural areas:** What is the share of agriculture in land use, GDP and employment at national level, in rural areas or regions? What is the share of farm family members in the rural population? How have these shares evolved in the last two decades?

4. **Role of agri-food industries in rural areas:** What is the share of agri-food industries (upstream and downstream) in GDP and employment at national level, in rural areas or regions? What is the share of forestry in land use at national level, in rural areas or regions? How have these shares evolved in the last two decades?

5. **Diversification of activities by farm households in rural areas:** What are the activities in which farm households are engaged on the farm and outside? To which extent are they related to farm activities? Do they take place on or off the farm? What is the number of farms engaged in these various non-agricultural activities? Which member of the farm household is engaged in non-agricultural activities? What is the share of farm household income derived from the various non agricultural activities?

6. **Factors enhancing/limiting farm household diversification into non-agricultural activities:** What are the main factors explaining farm household diversification (or the lack of) into non-agricultural activities: the general economic situation (employment), accessibility/connections, attractiveness, regulations and policies?

7. **Focus on farm tourism:** Is it developed (same questions as in 5 and 6)? What are the tourism services provided by farm households (housing, meals, recreation, etc.)? What are the factors explaining the development (or lack of development) of farm tourism?

8. **Multiplier effects of agriculture and other rural activities:** What are the multiplier effects of agriculture in rural economies compared to those of agri-food industries, farm tourism, public services or any other activity?

Annex Table I.1.1. References and authors of the thirteen country reviews

Country	Author	Affiliation
Australia	Darryl Jones	Consultant
Austria	Marie-Luise Rau	Research Assistant, Humboldt University of Berlin
Canada	Julio Mendoza and Thomas G. Johnson	Research Associate, University of Missouri Frank Miller Professor of Agricultural Economics and Professor of Public Affairs, University of Missouri Columbia
France	Catherine Moreddu	OECD, Trade and Agriculture Directorate
Germany	Marie-Luise Rau	Research Assistant, Humboldt University of Berlin
Japan	Toru Kumagai	OECD, Trade and Agriculture Directorate
Korea	Jang Heo and Yong-Lyoul Kim	Korea Rural Economic Institute.
Mexico	Dalila Cervantes-Godoy	OECD, Trade and Agriculture Directorate
New Zealand	Darryl Jones	Consultant
Poland	Dorota Klepacka-Kołodziejska,	Institute of Rural and Agricultural Development, Polish Academy of Sciences.
Spain	Dalila Cervantes-Godoy	OECD, Trade and Agriculture Directorate
United Kingdom	Berkeley Hill	Consultant
United States	Kathleen K. Miller and Thomas G. Johnson	Program Director, Rural Policy Research Institute, University of Missouri Frank Miller Professor of Agricultural Economics and Professor of Public Affairs, University of Missouri Columbia

These country reviews are posted on the OECD website to allow readers of this report to reference the background material.

ANNEX I.2.

SOURCES OF FIGURES AND TABLES IN PART I

The following table details the national sources from which data regarding the regional distribution of agriculture for each of the four variables was obtained, and from which the regional shares of agriculture were calculated.

	Number of farms/ farm population	Land	Employment	GDP
EU19	Eurostat, Farm Structure Survey[1]	Eurostat, Farm Structure Survey[1]	OECD Territorial Database[2]	Eurostat regional database, Gross Value Added at basic prices at NUTS level 3[1]
Australia	Australian Bureau of Statistics, 7121.0 Agricultural Commodities and 7113.0 Agriculture Australia	Australian Bureau of Statistics, 7121.0 Agricultural Commodities and 7113.0 Agriculture Australia	OECD Territorial Database[2]	Australian Bureau of Statistics, 5222.0 Australian National Accounts: State Accounts, Table 11 – Agricultural Income
Canada	Statistics Canada, censuses of agriculture	Statistics Canada, censuses of agriculture	OECD Territorial Database[2]	Statistics Canada, Table 379-0025, GDP at basic prices by NASIC and province, CANSIM database
Iceland	Not available	Not available	Statistics Iceland, Labour Force Survey	Not available
Japan	Ministry of Agriculture, Forestry and Fisheries, Statistics Department, Year Book	Ministry of Agriculture, Forestry and Fisheries, Statistics Department, Year Book	OECD Territorial Database[2]	Department of National Accounts, Economic and Social Research Institute, Prefectural Accounts, total Primary Activity

Korea	Korean Statistical Information Service, Statistical Database	Korean Statistical Information Service, Statistical Database	OECD Territorial Database[2]	Not available
Mexico	Not available	Not available	OECD Territorial Database[2]	Not available
New Zealand	Statistics New Zealand, Agricultural Production Survey	Statistics New Zealand, Agricultural Production Survey	Statistics New Zealand, Census results[2]	Statistics New Zealand, Regional Gross Domestic Product, Agriculture only, Current Prices
Norway	Statistics Norway, Agricultural Statistics,	Statistics Norway, Agricultural Statistics	Statistics Norway, Regional Accounts, Employment by kind of activity (Agriculture, hunting and forestry)	Statistics Norway, Regional Accounts, GVA by kind of activity (Agriculture, hunting and forestry)
Switzerland	Office fédéral de la statistique, Recensement des entreprises agricoles	Office fédéral de la statistique, Recensement des entreprises agricoles	Office fédéral de la statistique, Recensement des entreprises agricoles	Not available
Turkey	Turkish Statistical Institute, 2001 General Agricultural Census results	Turkish Statistical Institute, 2001 General Agricultural Census results	OECD Territorial Database[2]	Not available
United States	Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, Number of farm proprietors	USDA, National Agricultural Statistic Service, The Census of Agriculture	Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, Farm employment	Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, Farm earnings

1. See definitions and national sources on the EUROSTAT website at: http://epp.eurostat.ec.europa.eu/portal/page?_pageid=0,1136206,0_45570467&_dad=portal&_schema=PORTAL (structure of agricultural holdings).

2. See definitions and national sources on the OECD website at: http://www.oecd.org/document/62/0,3343,en_2649_34413_36878718_1_1_1_1,00.html

ANNEX I.3.

ECONOMIC MULTIPLIERS: REVIEW OF AVAILABLE EVIDENCE

1. Employment multipliers

Annex Table I.3.1.1. Employment multipliers in the Lamballe region, in France

Authors (country or region)	Small region studied (NUTS3 or lower)	Year	Activities	Open Inter-industry multipliers[1]
Daucé and Léon (Brittany)	Lamballe region[2]	2000	Pig farms of less than 40 ESU	1.5
			Pig farms over 40 ESU	2.3
			Meat industry (pig and poultry meat)	3.2
			Feed industry	3.1

1. Direct and indirect impacts of a unit increase in final demand on local production.
2. The Lamballe region includes five cantons with the highest density of pig farming in Brittany.
Source: Daucé and Léon (2003) reported in Léon and Surry (2009).

Annex Table I.3.1.2. Employment needed to produce one million AUD output for selected industries in Queensland and regions, 1996-97

Industry	Queensland	Brisbane-Moreton	Wide Bay-Burnett	Darling Downs	Fitzroy	Mackay	South West	Central West	Northern	North West	Far North
Sheep	17.91	na	na	19.6	na	na	15.8	9.0	na	10.9	na
Grains	27.35	35.8	27.8	27.7	16.7	17.9	18.0	na	na	na	19.4
Beef cattle	18.21	19.9	19.0	13.2	14.1	12.5	13.1	12.5	16.8	10.1	15.6
Dairy cattle and pigs	20.51	19.8	19.4	15.9	13.6	18.1	10.7	na	na	na	16.2
Other agriculture	20.30	19.1	24.2	9.7	14.3	15.2	13.1	13.4	21.4	15.4	22.7
Sugar cane growing	15.31	17.3	17.3	na	na	9.4	na	na	12.9	na	14.5
Forestry and fishing	17.75	25.2	16.2	21.6	9.4	8.2	na	na	10.3	5.7	12.4
Coal: oil and gas	9.89	17.9	7.2	6.9	7.2	7.3	3.6	na	9.1	na	na
Other mining	13.78	17.6	9.2	13.8	7.8	6.2	5.1	6.3	13.7	6.3	9.5
Food manufacturing	17.35	13.7	13.4	12.3	10.9	10.6	13.3	10.0	11.6	9.7	15.2
Accomodation, cafes and restaurants	21.82	20.6	17.5	17.7	16.7	17.0	14.4	13.0	19.8	13.4	20.4
Government administration and defence	23.32	22.6	19.1	19.0	19.1	17.9	15.8	15.2	18.6	18.7	22.0

Source: Office of the Government Statistician, 2004.

Annex Table I.3.1.3. Economy Multipliers for Agriculture and Agri-Food in Canada

For every $1 created in:	Impact on GDP and Employment	
Industry/Commodity	**Ratio of total to direct GDP**	**Ratio of total to direct employment**
Primary Agriculture	2.80	1.91
Total food processing	2.81	3.55
Sausages	2.80	3.24
Pork	2.81	2.01
Potatoes	1.69	1.40

Source: Statistics Canada Input/output Model, 2003 cited by Agriculture and Agri-Food Canada (2007a).

Annex Table I.3.1.4. Employment multipliers for traditional functions and residential or recreational functions in French regions

Area	Overall multiplier[1]	Traditional functions[2]	Residential and recreational functions
Montbard[a]	1.56	1.29	2.52
Avallon[a]	1.62	1.54	2.71
East Dijon[a]	1.11	1.16	3.98
Aix les Bains[a]	2.14	1.66	2.88
Southern Ardèche[a]	1.78	1.44	2.93
Aubrac[b]	1.63	n.a.	n.a.
Cézallier[b]	1.42	n.a.	n.a.
Morlaix[c]	1.97	2.95	n.s.
Redon[c]	1.79	1.33	6.24
Pontivy-Loudéac[c]	1.83	1.82	4.40

n.a.: not available; n.s.: not significant.
1. All basic sectors, i.e. traditional functions and residential and recreational functions.
2. Agriculture and industries
Source: a) Vollet (1998); Vollet (2006) reporting b) Vollet and Dion (2001) and c) Samson-Gueguen (2003).

Annex Table I.3.1.5 Employment to output value ratio by industry in Korea, 1990, 1995, 2000

			2000		
	1990	**1995**	**Employment (A)**	**Output value (B)**	**Employment to output ratio (A/B)**
Unit	Person per billion won	Person per billion won	Person	billion won	Person per billion won
Agriculture, forestry and fisheries	81.9	61.3	2 228 849	38 286	58.2
Mining and quarrying	22.5	12.1	19 010	2 648	7.2
Manufacturing	15.2	8.6	3 195 100	647 344	4.9
Electricity, gas, water supply and construction	5.4	3.4	71 944	31 488	2.3
Services	32.7	25.7	9 912 879	543 909	18.2
Whole industry	24.4	16.9	16 676 556	1 362 945	12.2

Source: Bank of Korea (2003); http://ecos.bok.or.kr/ebook/html/bok_02/VIEW.HTM.

Annex Table I.3.1.6. Direct-effect employment multipliers by industry and for 3 US regions

	Jackson County, MO	Kansas city, MO-KS Metropolitan Area	Kansas city, MO-KS Economic Area
Farm and agricultural services, forestry, and fishing:			
Farm products and agricultural, forestry, and fishing services	1.2005	1.6807	2.246
Forestry and fishing products	3.2337	2.3937	2.7143
Mining:			
Coal mining 1.0000	0.0000	0	4.0024
Oil and gas extraction	2.1094	1.6603	1.6713
Metal mining and nonmetallic minerals, except fuels	2.0024	2.3847	2.4225
Construction:			
Construction	1.9889	2.3509	2.3971
Manufacturing:			
Food and kindred products and tobacco products	3.0084	4.887	7.3179
Textile mill products	1.4722	1.7267	1.7391
Apparel and other textile products	1.4594	1.6813	1.7679
Paper and allied products	1.9042	2.3587	2.4034
Printing and publishing	2.1230	2.4464	2.4708
Chemicals and allied products and petroleum and coal products	3.2149	4.0376	4.2042
Rubber and miscellaneous plastics products and leather and leather products	1.7847	2.3064	2.4134
Lumber and wood products and furniture and fixtures	1.7159	2.015	2.0634
Stone, clay, and glass products	2.2446	2.6714	2.6874
Primary metal industries	2.6618	3.2333	3.1802
Fabricated metal products	2.1243	2.5524	2.1798
Industrial machinery and equipment	1.9703	2.391	2.4968
Electronic and other electric equipment .	1.8935	2.2725	2.4186
Motor vehicles and equipment	3.0121	4.5336	4.8885
Other transportation equipment	2.2037	2.9927	3.1788
Instruments and related products	2.0904	2.4461	2.518
Miscellaneous manufacturing industries	1.6266	1.9087	1.9465
Transportation and public utilities: *			
Transportation	1.8833	2.4347	2.4512
Communications	3.2091	3.7578	3.7844
Electric, gas, and sanitary services	2.9406	3.6683	3.7429
Wholesale and retail trade:			
Wholesale trade.	2.0242	2.3815	2.4018
Retail trade	1.3955	1.5458	1.552
Finance, insurance, and real estate:			
Depository and nondepository institutions and security and commodity brokers	1.3955	2.6481	2.6295
Insurance	2.6011	2.9416	2.9429
Real estate	2.7711	3.089	3.1358
Services:			
Hotels and other lodging places, amusement and recreation services, and motion pictures	1.6681	1.7681	1.7619
Personal services	1.4320	1.5477	1.5517
Business services	1.6620	1.9468	1.9482
Eating and drinking places	1.2777	1.419	1.4683
Health services	1.6487	1.9555	1.9862
Miscellaneous services	1.7071	1.9454	1.9332
Private households	--	--	--

* Includes Federal Government enterprises.

1. Total change in number of jobs in all row industries that results from a change of one job in the industry corresponding to the entry.

Source: Regional multipliers: A user handbook for the Regional Input-Output Modelling System (RIMS II), Third edition, March 1997. *http://www.bea.gov/scb/pdf/regional/perinc/meth/rims2.pdf*

2. Output multipliers

Annex Table I.3.2.1. Output multipliers in small European regions

Authors (country or region)	Small region studied (NUTS3 or lower)	Year	Activities	Inter-industry multipliers		
				Inter-industry		Others[3]
				Open[1]	Closed[2]	
Bossard et Daucé[4] (Brittany)	Programme 5b regions	1990	Agriculture	1.2 (1.8)		
			Meat industry	1.7 (2.1)		
			Dairy industry	1.8 (2.2)		
Johns and Leats (Scotland)	Grampians	1987		1.30	1.53	
			Agriculture	1.34	2.09	
			Forestry	1.50	1.74	
			Meat industry	1.54	1.68	
			Slaughtering industry	1.45	1.76	
			Other agro-food industries			
Balamou et al.[5] (Crete)	Archanes region (rural region)[5]	1998	Vine	1.29	1.67	1.67
			Olive	1.29	1.68	1.69
			Other agriculture	1.41	1.78	1.79
			Agro-food industries	1.47	1.70	1.71
	Héraklion (urban reg.)[5]		Agriculture	1.11	1.76	1.76
Mayfield et al[6]		2004				
	Leominster (As)		Agriculture			1.21
	Tiverton (Ts)					1.32
(United Kingdom)	Swanage (Tm)					1.05
	Burnham (Tm)					1.35
	Towcester (Pp)					1.39
	Saffron (Pm)					1.33
	Brioude (As)		Agriculture			1.22
	Mayenne (Am)					1.32
(France)	Prades (Ts)					1.09
	Douarnenez (Tm)					1.19
	Magny-en-Vexin (Ps)					1.06
	Ballancourt (Pm)					1.04
	Dalfsen (As)		Agriculture			1.45
	Schagen (Am)					1.56
(Netherlands)	Bolsward (Ts)					1.36
	Nunspeet, Tm					1.48
	Oudewater (Ps)					1.19
	Gemert (Pm)					1.74
	Gogowek (As)		Agriculture			1.79
	Jerdzejow (Am)					2.33
(Poland)	Duzniki (Ts)					1.69
	Ustron (Ps)					2.19
	Ozarow (Ps)					1.46
	Lask (Pm)					2.94
	Mirandela (As)		Agriculture			2.08
	Vila Real (Am)					2.06
(Portugal)	Tavira (Ts)					1.66
	Silves (Tm)					1.63
	Lix (Ps)					1.69
	Espesende (Pm)					1.55

Notes to Annex Table I.3.2.1:

1. Direct and indirect impacts of a unit increase in final demand on local production.
2. Along with direct and indirect impacts, induced impacts, which result from the spending of increased household income that results from the change in economic activity, are also estimated. Closing an input-output model to households serves to increase the interdependence within the system and results in higher economic impacts compared to those in the open version.
3. Multipliers derived from a SAM and inter-regional.
4. Programme 5b regions correspond to 10 rural employment areas benefitting from EU structural policy. Figures between brackets correspond to open multipliers for the whole of Brittany.
5. Inter-regional multipliers for two adjacent regions.
6. SAM multipliers. Three types of regions are examined: Agricultural (A); Touristic (T) or Periurban (P), surrounding small (s) or middle (m) towns. (multipliers between brackets are simple averages of multipliers obtained for each branch.

Source: Bossard and Daucé (2004; Johns and Leat (1987); Balamou and Psaltopoulos (2006), Mayfield *et al.* (2005) Reported in Léon and Surry (2009).

Annex Table I.3.2.2. Output multipliers for European regions

Authors (country or region)	**Region studied** (NUTS1 or 2 level)	**Year**	**Activities**	Inter-industry multipliers (open)
André-Fas[1] (France)	Languedoc-Roussillon	1996	Agriculture	1.40 (1.86)
			Agro-food industries	1.85 (2.15)
			All branches	(1.67)
Mahé et al.[1] (France)	Brittany	1990	Agriculture	1.75 (1.97)
			Meat industry	2.06 (2.44)
			Dairy industry	2.21 (2.44)
			Feed industry	1.45 (2.32)
			Other agro-food industries	1.90 (2.01)
Bossard *et al.* (2000)	Brittany	1990	Mixed crops	1.60
			Special crops	1.55
			Dairy cattle 1	1.75
			Dairy cattle 2	1.76
			Pig/poultry 1	1.82
			Pig/poultry 2	1.85
			Fisheries and forestry	1.47
			Bovine meat industry	2.39
			Other meat industries	2.02
			Dairy industry	2.24
			Preserves	1.63
			Feed industry	1.46
			Other agro-food industries	1.61
			Energy	2.08
			Chemistry	1.64
			Parachemistry	2.02
			Intermediate goods	1.65
			Equipement goods	1.83
			Consumption goods	1.82
			Construction-Building	1.41
			Services	1.40

Annex Table I.3.2.2. Output multipliers for European regions (cont.)

Midmore et al.[2] (United Kingdom)	Wales	1993	Cereals	1.06
			Pastures and forage	1.47
			Other crops	1.03
			Milk	1.79
			Beef and veal	1.52
			Sheepmeat	2.07
			Pigmeat	2.67
			Other livestock products	1.34
Bonfiglio et al.				
Bulgaria	North-East region	1997	Agriculture	1.07
			Agro-food industries	1.48
			All branches	1.23
´Croatia	Bjelovar-Bilogora	1997	Agriculture	1.24
			Agro-food industries	1.28
			All branches	1.32
Greece	Thessalia	1997	Agriculture	1.05
			Agro-food industries	1.49
			All branches	1.20
Roumania	North-West region	1997	Agriculture	1.03
			Agro-food industries	1.08
			All branches	1.08
Slovenia	Rural regions	1997	Agriculture	1.59
			Agro-food industries	1.86
			All branches	1.55

1. Figures between brackets correspond to open multipliers for the whole of France.
2. In this study, there are no multipliers for the whole of branches. Multipliers refer to conventional agriculture.

Source: André-Fas (2003) ; Mahé *et al.* (2001); Midmore *et al.* (1997) and Bonfiglio (1991) reported in Léon and Surry (2009); Bossard *et al.* (2000).

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Annex Table I.3.2.3. Output multipliers for regions of Australia, Canada and the United States

Authors (country)	State/region	Year	Activities	Inter-industry Multipliers	
				Open[1]	Closed[2]
Broomhill[3]	Indiana	1996			
(United States)	Employment area 13		Agriculture, forestry and fisheries		1.88
	Employment area 14		Agriculture, forestry and fisheries		1.56
Swenson et Ethington	Iowa	1999	Agriculture	1.50	1.60
(United States)			Agro-food industries		1.80
			Agricultural machinery		1.50
MacMillan et al.	Manitoba	1999	Pig farms	2.20	2.70
(Canada)	Pembina valley				
Queensland Government[4]	Queensland	1996-97	Sheepmeat	1.44	2.57
(Australia)	Brisbane region		Cereals	1.49	2.39
			Beef and veal	1.68	2.52
			Dairy and pig farms	1.66	2.44
			Agro-food industries	1.87	2.92
	Queensland	1996-97	Sheepmeat	1.34	2.17
	Fitzroy region		Cereals	1.40	1.68
			Beef and veal	1.49	1.89
			Dairy and pig farms	1.27	1.50
			Agro-food industries	1.76	2.28
	All Queensland	1996-97	Sheepmeat	1.61	2.33
			Cereals	1.60	2.23
			Beef and veal	1.84	2.62
			Dairy and pig farms	1.84	2.67
			Agro-food industries	2.15	3.26
Johnson[5]	Western Australia	1994-95	Cereals	1.15	1.29
(Australia)	Kimberly region		Beef and veal	1.20	1.37
			Meat industry	1.15	1.66
	All Western Australia	1994-95	Cereals	1.42	1.65
			Beef and veal	1.86	2.33
			Meat industry	2.47	3.15

1. Direct and indirect impacts of a unit increase in final demand on local production.

2. Along with direct and indirect impacts, induced impacts, which result from the spending of increased household income that results from the change in economic activity, are also estimated. Closing an input-output model to households serves to increase the interdependence within the system and results in higher economic impacts compared to those in the open version.

3. The two employment area selected (among 17) have respectively the highest and the lowest multipliers. An employment area includes several counties and 100 000 inhabitants or more.

4. Two statistical regions have been selected among ten: 1) the Brisbane region has the highest multipliers of the state; 2) the Fitzroy region has the lowest multipliers.

5. The Kimberley region is large and sparsely populated.

Source: Broomhill (1996); Swenson and Eathington (2002); MacMillan *et al.*, Qeensland Government (2004) and Johnson (2001) reported in Léon and Surry (2009).

Annex Table I.3.2.4. Output multiplier (direct and indirect) effects for the Austrian agricultural sector, 2000

	Production multiplier – domestic	Production multiplier – imports	Value-added multiplier	Wage multiplier
Agriculture	1.68	0.19	0.81	0.18
Forestry	1.80	0.05	0.94	0.16
Agri-food industry	1.56	0.36	0.64	0.30

Source: Statistics Austria.

Annex Table I.3.2.5. Output multiplier by industry in Korea, 1990, 1995, 2000

	1990	**1995**	**2000**
Agriculture, forestry and fisheries	1.591	1.58	1.642
Mining and quarrying	1.58	1.542	1.588
Manufacturing	2.056	1.946	1.959
Electricity, gas, water supply and construction	1.905	1.973	1.872
Services	1.558	1.542	1.581
Whole industry	1.765	1.671	1.659

Source: Bank of Korea (2003); http://ecos.bok.or.kr/ebook/html/bok_02/VIEW.HTM.

Annex Table I.3.2.6. Final demand, output multipliers by industry and for three US regions

	Jackson County, MO	Kansas city, MO-KS Metropolitan Area	Kansas city, MO-KS Economic Area
Farm and agricultural services, forestry, and fishing:			
Farm products and agricultural, forestry, and fishing services	1.7944	2.1363	2.6533
Forestry and fishing products	1.4646	1.7180	1.9748
Mining:			
Coal mining 1.0000	1.0000	1.0000	1.8218
Oil and gas extraction	1.4591	1.5642	1.5807
Metal mining and nonmetallic minerals, except fuels	1.5680	1.8199	1.8689
Construction:			
Construction	1.8723	2.2521	2.3270
Manufacturing:			
Food and kindred products and tobacco products	1.5222	2.0154	2.6498
Textile mill products	1.4834	1.6974	1.6891
Apparel and other textile products	1.4528	1.6512	1.7359
Paper and allied products	1.4647	1.7074	1.7251
Printing and publishing	1.6296	1.8940	1.9207
Chemicals and allied products and petroleum and coal products	1.6214	1.8357	1.8983
Rubber and miscellaneous plastics products and leather and leather products	1.5946	1.9662	2.0466
Lumber and wood products and furniture and fixtures	1.6863	1.9772	2.0294
Stone, clay, and glass products	1.7749	2.0127	2.0524
Primary metal industries	1.7600	2.0070	2.0308
Fabricated metal products	1.7173	2.0087	2.0989
Industrial machinery and equipment	1.7207	1.9927	2.0785
Electronic and other electric equipment .	1.6214	1.9033	1.9596
Motor vehicles and equipment	1.6967	1.7921	1.9636
Other transportation equipment	1.5913	1.9214	1.9878
Instruments and related products	1.6120	1.8665	1.9246
Miscellaneous manufacturing industries	1.7072	1.9511	2.0076
Transportation and public utilities: *			
Transportation	1.8649	2.1793	2.2263
Communications	1.7956	1.9948	2.0209
Electric, gas, and sanitary services	1.5292	1.6890	1.7034
Wholesale and retail trade:			
Wholesale trade.	1.7245	2.0276	2.0623
Retail trade	1.8285	2.1561	2.1917
Finance, insurance, and real estate:			
Depository and nondepository institutions and security and commodity brokers	2.0713	2.4879	2.4733
Insurance	2.2921	2.6027	2.6292
Real estate	1.3669	1.4374	1.4322
Services:			
Hotels and other lodging places, amusement and recreation services, and motion pictures	2.0903	2.3668	2.3923
Personal services	2.0362	2.3700	2.4157
Business services	1.9597	2.3783	2.4058
Eating and drinking places	1.7608	2.0982	2.2618
Health services	1.8793	2.2912	2.3624
Miscellaneous services	1.9062	2.2065	2.2759
Private households	1.0997	1.3747	1.4576

* Includes Federal Government enterprises.

1. Total dollar change in output in all row industries that results from a $1 change in output delivered to final demand by the industry.

Source: Regional multipliers: A user handbook for the Regional Input-Output Modelling System (RIMS II), Third edition, March 1997. *http://www.bea.gov/scb/pdf/regional/perinc/meth/rims2.pdf*

3. Value-added multipliers

Annex Table I.3.3.1. Value-added multipliers for selected industries in Australia, 1996-97

Industry	Gross value added multiplier	Ranking (Out of 107 industries)
Government administration	1.75	4
Services to agriculture; hunting and trapping	1.50	16
Bakery products	1.46	18
Accommodation, cafes and restaurants	1.46	19
Meat and meat products	1.43	27
Textile fibres, yarns and woven fabrics	1.42	30
Other wood products	1.41	33
Services to mining	1.40	36
Knitting mill products	1.40	37
Forestry and logging	1.37	46
Fruit and vegetable products	1.34	54
Leather and leather products	1.34	55
Iron and steel	1.34	56
Dairy products	1.32	59
Flour mill products and cereal foods	1.32	60
Poultry	1.31	62
Pigs	1.30	67
Beer and malt	1.30	68
Textile products	1.30	69
Wine and spirits	1.29	71
Iron ores	1.28	72
Coal; oil and gas	1.26	76
Beef cattle	1.25	78
Dairy cattle	1.25	79
Non-ferrous metal ores	1.25	80
Other agriculture	1.23	84
Oils and fats	1.23	85
Sheep	1.21	87
Other mining	1.21	88
Clothing	1.21	89
Pulp, paper and paperboard	1.19	92
Commercial fishing	1.17	93
Grains	1.16	95
Tobacco products	1.13	100

Source: ABS, *Australian National Accounts: Input-Output Tables, 1996-97* (data available on request).

Annex Table I.3.3.2. Value added and employment for selected industries in Queensland and regions, 1996-97

Industry	Queensland	Brisbane-Moreton	Wide Bay-Burnett	Darling Downs	Fitzroy	Mackay	South West	Central West	Northern	North West	Far North
	Value added multipliers per AUD million of output										
Sheep	1.02	na	na	0.9	na	na	0.8	0.7	na	0.7	na
Grains	0.99	1.0	0.9	0.8	0.8	0.6	0.8	na	na	na	0.7
Beef cattle	1.01	0.7	0.9	0.9	0.7	0.8	0.7	0.6	0.8	0.7	0.8
Dairy cattle and pigs	0.96	0.9	0.8	0.8	0.6	0.7	0.5	na	na	na	0.8
Other agriculture	1.03	1.0	1.0	0.8	0.7	0.6	0.7	0.5	0.9	0.5	0.9
Sugar cane growing	0.98	1.0	0.9	na	na	0.8	na	na	0.8	na	0.8
Forestry and fishing	0.93	1.1	0.9	0.8	0.5	0.6	na	na	0.7	0.4	0.7
Coal: oil and gas	1.12	1.2	0.9	0.9	0.9	1.0	0.8	na	1.0	na	na
Other mining	1.10	1.2	0.8	0.9	0.9	0.8	0.7	0.6	1.0	0.7	0.8
Food manufacturing	1.06	0.9	0.8	0.8	0.6	0.8	0.8	0.5	0.8	0.6	0.9
Accomodation, cafes and restaurants	1.18	1.1	1.0	0.9	0.9	0.9	0.8	0.7	0.9	0.7	0.9
Government administration and defence	1.40	1.4	1.2	1.1	1.2	1.2	1.1	1.0	1.0	1.1	1.3

Source: Office of the Government Statistician, 2004

Annex Table I.3.3.3. Economy Multipliers for Agriculture and Agri-Food in Canada

For every $1 created in:	Impact on GDP and Employment	
Industry/Commodity	**Ratio of total to direct GDP**	**Ratio of total to direct employment**
Primary Agriculture	2.80	1.91
Total food processing	2.81	3.55
Sausages	2.80	3.24
Pork	2.81	2.01
Potatoes	1.69	1.40

Source: Statistics Canada Input/output Model, 2003 cited by Agriculture and Agri-Food Canada (2007a).

Annex Table I.3.3.4. Value added multiplier by industry in Korea, 1990, 1995, 2000

	1990	1995	2000
Agriculture, forestry and fisheries	0.920	0.913	0.892
Mining and quarrying	0.915	0.924	0.899
Manufacturing	0.670	0.686	0.627
Electricity, gas, water supply and construction	0.835	0.835	0.797
Services	0.903	0.908	0.886
Whole industry	0.755	0.746	0.714

Source: Bank of Korea (2003); http://ecos.bok.or.kr/ebook/html/bok_02/VIEW.HTM.

Annex Table I.3.3.5. Income multipliers in Cataluña and Extremadura

Branch of production	Extremadura	Cataluña
Labour factor	3.7	3.55
Capital factor	4.58	4.7
Private sector	3.58	3.70
Agriculture and fishing	**4.79**	**2.99**
Energy	4.19	3.42
Minerals	1.48	1.55
Non-metal minerals	2.59	4.29
Chemistry	1.33	2.89
Metals	2.16	3.08
Transport material	1.05	2.9
Food and beverages industry	**3.33**	**3.39**
Textile	1.51	3.33
Paper	2.18	3.40
Other industries	3.05	3.36
Construction	4.57	4.79
Commerce	4.67	4.96
Transportation	4.56	4.62
Finance	5.07	4.95
Private services	5.01	4.78
Public services	4.71	4.78

Source: Llop *et al.*, 2002.

Annex Table I.3.3.6. Final demand, household earnings multipliers by industry and for three US regions

	Jackson County, MO	Kansas city, MO-KS Metropolitan Area	Kansas city, MO-KS Economic Area
Farm and agricultural services, forestry, and fishing:			
Farm products and agricultural, forestry, and fishing services	0.5693	0.6123	0.6479
Forestry and fishing products	0.2058	0.3255	0.3783
Mining:			
Coal mining 1.0000	0.0000	0.0000	0.5080
Oil and gas extraction	0.1584	0.2336	0.2391
Metal mining and nonmetallic minerals, except fuels	0.3337	0.4938	0.5117
Construction:			
Construction	0.4528	0.6887	0.7122
Manufacturing:			
Food and kindred products and tobacco products	0.2060	0.3950	0.5265
Textile mill products	0.2795	0.3892	0.3851
Apparel and other textile products	0.2776	0.4112	0.4302
Paper and allied products	0.2763	0.4182	0.4215
Printing and publishing	0.3174	0.4986	0.5086
Chemicals and allied products and petroleum and coal products	0.2812	0.4087	0.4244
Rubber and miscellaneous plastics products and leather and leather products	0.3112	0.4913	0.5081
Lumber and wood products and furniture and fixtures	0.3702	0.5556	0.5705
Stone, clay, and glass products	0.3348	0.4994	0.5187
Primary metal industries	0.3125	0.4744	0.4913
Fabricated metal products	0.3722	0.5551	0.5762
Industrial machinery and equipment	0.3916	0.5759	0.5955
Electronic and other electric equipment .	0.3334	0.5209	0.5183
Motor vehicles and equipment	0.3160	0.3443	0.3907
Other transportation equipment	0.3769	0.5280	0.5345
Instruments and related products	0.3556	0.5374	0.5534
Miscellaneous manufacturing industries	0.3744	0.5296	0.5450
Transportation and public utilities: *			
Transportation	0.5455	0.7167	0.7393
Communications	0.3262	0.4760	0.4866
Electric, gas, and sanitary services	0.2176	0.3371	0.3414
Wholesale and retail trade:			
Wholesale trade.	0.4446	0.6605	0.6737
Retail trade	0.5281	0.7749	0.7888
Finance, insurance, and real estate:			
Depository and nondepository institutions and security and commodity brokers	0.5620	0.8293	0.8177
Insurance	0.5846	0.8503	0.8620
Real estate	0.0945	0.1395	0.1371
Services:			
Hotels and other lodging places, amusement and recreation services, and motion pictures	0.5817	0.7959	0.8017
Personal services	0.5768	0.8355	0.8541
Business services	0.6355	0.9184	0.9273
Eating and drinking places	0.4157	0.6267	0.6659
Health services	0.6052	0.9003	0.9261
Miscellaneous services	0.4247	0.6257	0.6561
Private households	0.2587	0.4063	0.4272

* Includes Federal Government enterprises.

1. Total dollar change in earnings of households employed by all row industries that results from a $1 change in output delivered to final demand by the industry corresponding to the entry.

Source: Regional multipliers: A user handbook for the Regional Input-Output Modelling System (RIMS II), Third edition, March 1997. *http://www.bea.gov/scb/pdf/regional/perinc/meth/rims2.pdf*

ANNEX II.1.

DEFINITIONS, SOURCES AND BACKGROUND TABLES ON FARM HOUSEHOLD INCOME SITUATION

This annex describes the sources and definition of income indicators from national statistics used in Section 8 of this report. It also contains a summary table of the composition of farm household income in selected OECD countries for which this information is available.

Australia

Narrow definition of farm household income	
Source	Annual Australian agricultural and grazing industries survey.
Farms in the survey	Crop, sheep and beef farms with an estimated value of agricultural operations (sales) of ASD 22 500 or more. This effect is to exclude hobby farmers, whose contribution to agricultural production is negligible.
Farm household members whose income is taken into account	Operator and spouse.
Definition of farm household income	Farm cash income plus off-farm income of owner manager and spouse wages (off-farm + other business income + investment + social welfare payments).
Publication	ABARE, *Australian Farm Surveys reports*. www.abareconomics.com/surveys/farmsurveys.html

Austria

Narrow definition of farm household income	
Source	Farm account survey.
Farms in the survey	Farms with a standard gross margin between EUR 7 200 and EUR 150 000 (from 2005). In 2005, the survey included 55.9% of farms representing 89.8% of agricultural standard gross margin.
Farm household members whose income is taken into account	Operator, spouse and other household members registered in the agricultural social security system. Pensioners are not included.
Definition of farm household income	Total income = income from farming and forestry + income from other activities + income from capital gains and rents + social transfers
Publication	Federal Institute of Agricultural Economics, *Grüner Bericht.* www.gruenerbericht.at

Canada

Broad definition of farm household income	
Source	Survey of Consumer Finances (up to 1997), Survey of Labour and Income Dynamics (1997-2000) and from 2000, Longitudinal Administrative Databank (Canadian Agricultural Income Stabilization and Taxation Data Program).
Farm families in the survey	Families operating a single unincorporated farm which reported gross farm operating revenues of CAD 10 000 or more.
Farm household members whose income is taken into account	Families are defined as couples (married or common-law) living in the same dwelling, with or without children; and lone-parents with one or more children. Income of the couple and their children are taken into account.
Definition of farm household income	Sum of net farm income as reported for tax purposes and non-farm income, including wages, salaries and commissions, training allowances, tips, gratuities and royalties, non-farm net self-employment income, investment income, pension income, government transfers and other income (including net rental income, alimony, scholarships, etc.)
Publication	Statistics Canada, *Statistics on Income of Farm Families*, 2004 (Catalogue n. 21-207-XIE), March 2007.

Denmark

Broad definition of farm household income	
Source	Farm account survey.
Farms in the survey	Farms with at least 10 hectares or significant animal husbandry.
Farm household members whose income is taken into account	All members living at the same address and sharing some family ties. Non-farm income of operator is reported separately from non-farm income of other family members.
Definition of farm household income	Total income = Net profit from agriculture + income from other activities + income from capital gains and rents + a calculated profit from the dwelling + pension and allowances.
Publication	Institute of Food and Resource Economics, *Agricultural Account Statistics*, Series A nr. 91. www.foi.kvl.dk

Finland

Broad definition of farm household income	
Source	Income and living condition survey.
Farms in the survey	Farms over 2 hectares with some taxable income.
Farm household members whose income is taken into account	Operator and spouse.
Definition of farm household income	Total income = wages and salaries, entrepreneurial income, property income and transfers. From 1996, the income from agricultural activities is estimated based on the income from independent activities.
Publication	Statistics Finland, *Statistical Yearbook of Finland*.

France

Narrow definition of farm household income	
Source	Farm Account Data Network and taxation data for 1997 and 2003
Farms in the survey	Farms with 12 hectares of wheat-equivalent or more and with 75% of a labour unit. They account for 60% of farms, 90% of farm land and 95% of agricultural production.
Farm household members whose income is taken into account	All household members declaring income for tax purpose together.
Definition of farm household income	Total income = income from farm activities plus taxable off-farm income, i.e. wages and salaries, property and investment income and pensions.
Publication	Ad hoc INSEE publications (www.insee.fr) and *Service des Statistiques et de la Prospective (SSP)* of the Ministry for Agriculture and Fisheries (agreste.agriculture.gouv.fr).

Germany

Narrow definition of farm household income	
Source	Farm account survey
Farms in the survey	Income data refer to main occupation farms with a European Size Unit (ESU) of 16 or more (1 ESU = EUR 1 200 of Standard Gross Margin) and at least one labour unit. Income from small and part-time farm is reported separately in statistics.
Farm household members whose income is taken into account	Farm owner-operator and spouse.
Definition of farm household income	Total income = income from farming + income from other activities (including salary of the spouse on the farm) + income from capital gains and rents + social transfers.
Publication	Federal Ministry of Food and Agriculture and Consumer Protection, *Agrarbericht* or *Die wirtschaftliche Lage der landwirtschaftlichen Betriebe: Buchführungsergebnisse der Testbetriebe* 2006/07. www.bmelv.de

Ireland

Broad definition of farm household income	
Source	Household Budget Survey, 1987, 1994/95, 1999/2000 and 2004/05
Farms in the survey	Farm households are those identified in the National Farm Survey, as households where the head of household is gainfully employed on the farm. If the head of household is a retired farmer at least one other person must be gainfully employed on the farm.
Farm household members whose income is taken into account	All people who reside together and who share meals.
Definition of farm household income	All money receipts of a recurring nature which accrue to the household regularly at annual or more frequent intervals, together with any free goods and services regularly received by household members and the retail value of own farm or garden produce consumed by the household. This definition excludes certain receipts of an irregular nature such as the sales of possessions, withdrawals from savings, loans and maturing insurance policies.
Publication	Central Statistics Office (CSO). www.cso.ie/pressreleases/hbs.pdf.

Japan

Broad definition of farm household income	
Source	Statistical survey on farm management and economy
Farms in the survey	Farms with more than 0.1 hectare of land or more than JPY 150 000 yearly sale of agricultural products. From 1992, income data are reported for commercial farms, which are farms with more than 0.3 hectare of land or more than JPY 500 000 of farm products.
Farm household members whose income is taken into account	All members, including those who temporarily work away from home, but return home from time to time. From 2004, the income of household members that are not engaged in agriculture is excluded.
Definition of farm household income	Total income = agricultural income +income of relational agriculture (sales of processed products, farm tourism, etc.) + non-agricultural income + income from annuities, presents, etc.
Publication	Ministry of agriculture, forestry and fisheries, *Statistical Yearbook*. www.maff.go.jp/toukei/geppo/geppo-e.html

Korea

Broad definition of farm household income	
Source	Farm Household Economy Survey from the Korea National Statistical Office.
Farms in the survey	Farms with more than 0.1 hectare of farm land or more than KRW 1 million (USD 1 000) in sales of agricultural products including livestock products; or engaging in farming more than 90 days per year.
Farm household members whose income is taken into account	All members.
Definition of farm household income	Total income = agricultural income + non-agricultural income + transfer income + irregular income.
Publication	Ministry of Agriculture and Forestry, *Statistical Yearbook*. ebook.maf.go.kr/

Mexico

Narrow definition of farm household income	
Source	INEGI, National Income and Expenditures Household Survey (*Encuesta Nacional de Ingresos y Gastos de los Hogares*)
Farms in the survey	Rural households whose main activity is in agriculture
Farm household members whose income is taken into account	All members.
Definition of farm household income	Income from agricultural activities plus salaries and wages, income from non-farm business activities, financial income and others, including social transfers, gifts, donations, etc.
Publication	Survey transmitted by SAGARPA.

Netherlands

Narrow definition of farm household income	
Source	Farm Accountancy Data Network (FADN)
Farms in the survey	Farms with a European Size Unit (ESU) of 16 or more (1 ESU = EUR 1 200 of Standard Gross Margin)
Farm household members whose income is taken into account	Farmer and spouse.
Definition of farm household income	Family farm income plus income from non-farm activities and social security benefits paid to the farmer and his spouse.
Publication	Agricultural Economics Research Institute (LEI), *Agricultural Economic Report 2007 of the Netherlands*. www.lei.dlo.nl/publicaties/PDF/2007/PR_xxx/PR_07_02.pdf

Norway

Broad definition of farm household income	
Source	Administrative statistics on Farmers' Income and Property are based on the whole population of agricultural holdings operated by a natural person and the tax assessment for personal taxpayers.
Farms in the survey	Agricultural holdings operated by a natural person. Hobby and small farms with small-scale production under the threshold to be considered as industry by the tax authorities are included.
Farm household members whose income is taken into account	Farm holder and spouse, registered partner or cohabitant. Up to and including 2004, cohabitants included only those who have children in common with the holder. As from 2005, also cohabitants who lived together according to the Population and Housing Census 2001 and still lived together as per 1 January 2005 are included.
Definition of farm household income	Total income = Wages and salaries + Entrepreneurial income from agriculture + Other entrepreneurial income + Pensions + Capital income. Gross income and entrepreneurial income from agriculture for 2003 are not comparable with the other years because of a one-off change in the tax reporting of entrepreneurial income.
Publication	Norwegian Agricultural Economics Research Institute Statistics Norway, *Jordbrukstatistikk (*Agricultural Statistics) www.ssb.no/english/subjects/10/04/10/binfo_en/tab-2007-05-29-03-en.html

Poland

Narrow definition of farm household income	
Source	Survey of household budgets.
Farms in the survey	A farm household is a household where income from the use of a private farm is the exclusive or primary source of income. An agricultural holding in private use includes private farms exceeding 1 ha of agricultural land, tended by farmers on their own or rented land; and private farms up to 1 ha of agricultural land (agricultural plots, of which e.g. company plots) used for agricultural purposes by natural persons as well as livestock owners who do not possess agricultural land.
Farm household members whose income is taken into account	All members.
Definition of farm household income	Available income includes current monetary and non-monetary income (including the value of own consumption) = income from hired work, income from private farm in agriculture, income from self-employment, income from property and rental of real estate, income from social security and assistance benefits, and other income (including gifts).
Publication	Central Statistical Office, *Statistical Yearbook of the Republic of Poland*. www.stat.gov.pl/gus/45_2144_ENG_HTML.htm

Switzerland

Narrow definition of farm household income	
Source	Centralised Census (dépouillement central)
Farms in the survey	Farms with 10 hectares or more or 6 cows or more, representing 90% of total cultivated area and around 90% of agricultural production.
Farm household members whose income is taken into account	All members.
Definition of farm household income	Farm income and non-farm income.
Publication	Office fédéral de la Statistique, *Rapport agricole*. www.blw.admin.ch/imperia/md/content/agrarbericht_2003/d/tab_wirt.pdf

United Kingdom

Broad definition of farm household income	
Source	Farm business survey and Inland Revenue's Survey of Personal Incomes (SPI), based on tax records.
Farms in the survey	The SPI records for each individual up to four sources for which they may receive self employment income. If an individual receives any of his/her income from the agricultural and horticultural sector they are considers as farm households.
Farm household members whose income is taken into account	Farm operator and spouse declaring income together.
Definition of farm household income	Total income assessed for tax as defined by the Inland Revenue comprises income from self employment, employment, pensions and investments. Capital allowances, stock relief and losses, which are allowable against profits for tax purposes, are deducted to derive self-employment income.
Publication	DEFRA, *Farm diversification*. statistics.defra.gov.uk/esg/statnot/Diver07.pdf

United States

Broad definition of farm household income	
Source	Agricultural Resource Management Study (ARMS).
Farms in the survey	All establishments, except institutional farms, that sold or would normally have sold at least USD 1 000 of agricultural products during the year.
Farm household members whose income is taken into account	All members.
Definition of farm household income	Farm self-employment income, other farm-related earnings of the operator household, and earnings of the operator household from off-farm sources (wages, salaries, net income from non-farm businesses, interest, dividends and transfer payments).
Publication	USDA's Economic Research Service, *Agricultural Outlook* www.ers.usda.gov/Publications/AgOutlook/AOTables/

ANNEX II.2.

QUESTIONNAIRE ON DIVERSIFICATION IN RURAL AREAS

A. Diversification of activities by farm households in rural areas

1. What is the number and share of farm households engaged in remunerated non-agricultural activities? -- National average for the most recent year for which data are available and one year of the mid-90s (*e.g.* 1995); -- By farm type and by region for the most recent year available.		
	Number	%share of all farm households
1.a. On the farm, *e.g.* - Contract farm work - Food processing - Direct sales - Letting buildings and land - farm tourism . housing . meals . recreation/education - forestry work - horse riding facilities Etc.		
1.b. Off the farm, *e.g.* - employee - manager - manual worker - elected representative Etc.		
All farm households with other remunerated activities		
All farm households		
Sources, notes and comments: What type of data? Where are they published? What definition of farm households is used? What definitions of activities?		
Additional questions: Is the information available for farm holder and other household members separately? If off-farm work taking place in rural or urban areas as defined in your country?		

2. What is the level and share of farm household income derived from the various non-agricultural activities? -- National average for the most recent year for which data are available and one year of the mid-90s (*e.g.* 1995); -- By farm type and by region for the most recent year available.		
	Average income per household	%share of total income of farm households
2.a. On the farm, *e.g.* - Contract farm work - Food processing - Direct sales - Letting buildings and land - farm tourism . housing . meals . recreation/education - forestry work - horse riding facilities Etc.		
2.b. Off the farm, *e.g.* - employee - manager - manual worker - elected representative Etc.		
Of which off-the farm in rural areas		
Farm income		
Income from investments		
Social transfers		
Other sources		
Total farm household income		100%
Sources, notes and comments: What type of data? Where are they published? What definition of farm households is used? What definitions of activities?		
Additional questions: Is the information available for farm holder and other household members separately?		

B. Policy stance with regard to diversification

1. Access to government assistance	
a. Are there agricultural policy measures ONLY restricted to main-occupation farms?	YES NO
- If yes, which ones?	
- -	
b. Which criteria limit eligibility of pluriactive farmers: - share of time spent on other activities? - income from other activities in total farm household income? - others?	
-	
c. Are there measures with different rates of government support for pluriactive and main-occupation farms?	YES NO
- If yes, which ones?	
- -	

2. Social security systems	
a. Do farmers belong to a different social security system than the general regime?	YES NO
b. If yes, can diversification activities on the farm contribute to (or be included in) the farm social security system?	
c. If diversification activities generate more income than farm activities, is the farmer still included in the farm social security system?	YES NO
d. What are the implications for farm household income?	

3. Tax system (income, value added tax, property, transfers, etc.):
a. Are farm profits/capital gains/capital transfers/value added taxed as in the general regime?
b. if no, are diversification profits/capital gains/capital transfers/value added taxed as in the farm or the general regime?
c. What are the implications of diversification for the taxation of farm activities?

4. Labour regulations
a. Are there differences in regulations applied to (independent and employed) farm labour and other labour?
b. If yes, do farm labour regulations apply to diversification activities related to agricultural activities?
Yes for … No for …
c. What are the implications of diversification for regulations applied to farm labour?

5. Land regulations: land zoning, planning permission
a. Are there differences in land zoning and planning regulations depending whether they are applied to farm land or other land?
b. If yes, do farm land regulations apply to diversification activities taking place on the farm? Does it make a difference whether diversification activities are related to agricultural activities or not?
Yes for … No for …
c. What are the implications of diversification for regulations applied to farm land?

Annex Table II.2.1. Summary of questionnaire responses

	Response to questionnaire				
	Access to government assistance	**Social security system**	**Tax system[1]**	**Labour regulations**	**Land regulations, including zoning and planning**
Austria	Y	Y	Y	NR	NR
Belgium (Flanders)	Y	N	N	N	Y
Canada	N	N	Y	Y	Y
Czech Republic	N	N	Y	N	Y
Denmark	N	N	Y	Y	Y
Finland	N	Y	N	N	NR
France	Y	Y	Y	Y	Y
Germany	Y	Y	Y	N	N
Hungary	N	N	N	N	Y
Ireland	Y	Y	Y	Y	Y
Italy	N	Y	Y	Y	Y
Japan	N	Y	N	Y	Y
Korea	Y	Y	N	Y	Y
Mexico	NR	N	Y	Y	NR
Portugal	N	N	N	Y	Y
Slovak Republic	N	N	N	N	Y
Spain	Y	Y	Y	N	Y
Sweden	Y	N	N	N	Y
Switzerland	Y	N	N	Y	Y

Y: Yes; N: No; NR: No response

1. The questionnaire asked this question in the alternative sense, *i.e.* asked if farm profits/capital gains/capital transfers/value added taxes were taxed as in the general regime, for which a "no" answered indicated a difference. To make it compatible with the other sections, where a "yes" answer means that agricultural is treated differently, the sense of this question has been changed in this analysis.

Source: OECD, country responses to questionnaire.