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# European Food Sector: Main contributions and future challenges for local and global development

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# Introduction -1

- Food Sector and Ag. Sector are certainly, if not the most important ones, among the crucial economic and social areas in the European construction.
- The CAP – common agricultural policy in European Union is, indeed, responsible for solving the food security gap providing guarantees of sufficient food intake for all in the region.
- The CAP European Union is also recognised as one of the most important structural economic policies in Europe.
- However, historically, has been losing relative importance in the last years....
- Probably is time to renew attention to the “basics” of our construction of the European Space....

# Introduction – 2 (background ideas)

- 1 - Europe and OECD countries are living on an **output surplus capacity phase**, mainly in food production ( but also in several other sectors);
- 2 – Food balance is certainly an objective in EU, providing guarantees of food security for local and global markets, where imports and exports have to play an important role, but where sustainable development and quality of life is the actual and most important challenge.
- 3 – Regulation and Markets are most of the time assumed to be working in opposite directions. The author's view, and main conceptual and theoretical basic models used, stands providing arguments, rational, facts and empirical evidence showing how important is to provide the economic policy for the most correct “regulatory environment,” always “pro-market oriented” and not against markets functions.
- 4 - The European Union and, specifically, the CAP – common ag. policy, has been very successful. Indeed, it is not evident, for all readers, that most of the background and policy choices, are, most of the time, oriented to use “markets” as the best instrument, whenever they can function in reasonable terms, but without giving up the objectives of pursuing social and environmental objectives, that is, a sustainable development process.
- 5 – The facts shows that CAP was able of turning the European area/set of countries, from a food deficit situation to a food surplus region (EU-15). Most recently with the enlargement in 2004, (EU-10), the situation deserves some other explanations, which should be made, with reference to a structural development models, WFSE (world food security equation model) and ICI (Induced Changes and Innovation model).

# Introduction – 3 (Future challenges)

- 1 – Sustainable development and quality of life is clearly the most important objective for any action, private, public and/or policy definitions.
- 2 – The relative importance of the ag. Sector, for food supply, but also to support services from nature along with territorial considerations, needs to be well understood, without forgetting a tremendous group of other activities which directly and/or indirectly are interdependent from it (indeed is a structural sector).
- 3 – An ecological perspective is also important, human kind is part of a biological system, and the contact and global equilibrium with nature is also a referential issue (climate changes but also ecological changes)

# Methodology and Structure

- Referential models and concepts
- Data facts and analysis
- Discussion
- Conclusions

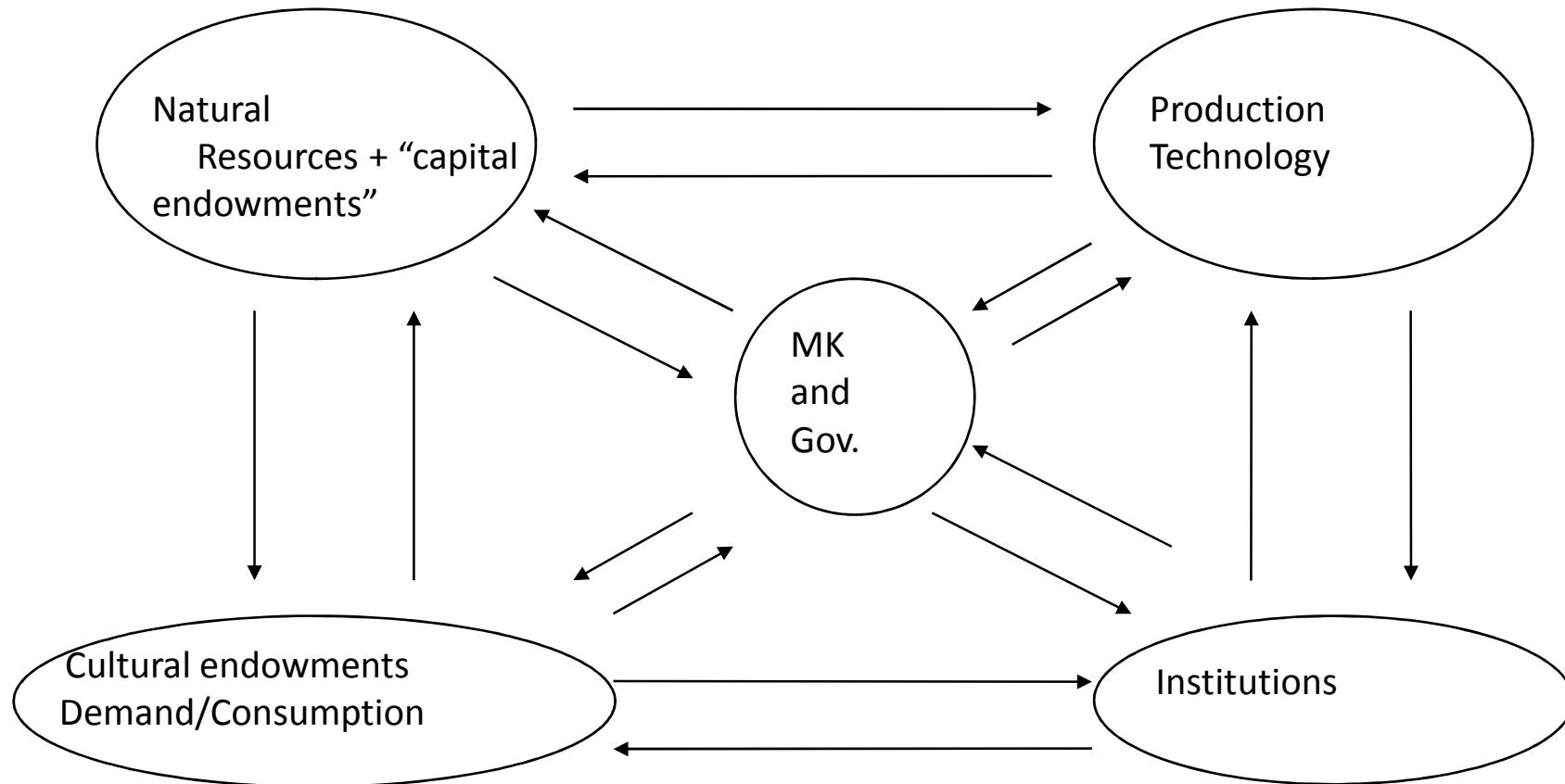
# – Referencial Models - Model A

## - WFSE (new proposed model based on demand/supply constraints rational)

- Stage/Phase I – Ecological Equilibrium
- Stage/Phase II – Excess Food Demand (demand growth tends to be higher than production growth)
- Stage /Phase III – Excess Supply (supply growth higher than demand growth).
- Stage /Phase IV – Supply and Demand with more equilibrium, with significant growth in production only when demand constraints are “relaxed” (through export markets and other non food uses).
- This last phase is characterized by Food Demand growth close to zero in quantitative terms (“saturation level” is reached), value creation in production still possible with innovation and qualitative oriented.

# - Referential Model B

## Fig. Induced Changes and Innovation model



Source: Carvalho, B. P de (2004) and author elaboration

# Referential Model C – Demand Constraints and New Demands

- Demand is the new “driving force” in the modern economy, where production capacity is now beyond consumption possibilities;
- New Demands arrive every day, but some constraints are present, such as the “time frame” and the “value of time;”
- A “modern definition” for production is needed....Production is the last aim of any activity, but we need a chain perspective where the last step is the “production of utility,” present and /or future utility (able to improve the well being of someone). Indeed, with that perspective, Consumption is the last step in the Production Chain and Chain Value.
- Chain Value studies are becoming every day more important, allowing to focus on the essential objective, “creation of value” and at the same time with focus on the Market Functioning, power issues along the chain and respective distribution of the value creation process.



# Derived Comments:

- 1 – Europe (EU-15) is clearly achieving a new equilibria in food production and consumption, with almost no growth in both sides – production and consumption;
- 2 – Demand growth is always dependent from more consumers (population), and per capita growth consumption. In per capita terms, in many products is evident the “plateau” and/or decreasing levels of consumption (Engel’s law, 1857).
- 3 – Food is one of the first consumption needs to be “solved” in any development process (saturation levels are achieved frequently in many consumption goods)

**Table 1 - Food Supply per capita (kcal/capita/day) and total average growth rate in the period, per year.**

	1961	1971	1981	1991	2001	2007	1961-2007 (Geom. Growth)
World	2200	2370	2512	2620	2722	2797	0.52
USA	2881	3058	3230	3509	3683	3748	0.57
European Union	3000	3212	3279	3377	3457	3465	0.31
LDC's	1918	1968	1957	1966	2053	2161	0.26
South America	2304	2457	2611	2637	2781	2885	0.49
Asia	1804	2026	2233	2441	2590	2668	0.85
Africa	2029	2111	2236	2298	2366	2461	0.42

Source: FAOSTAT, 2011

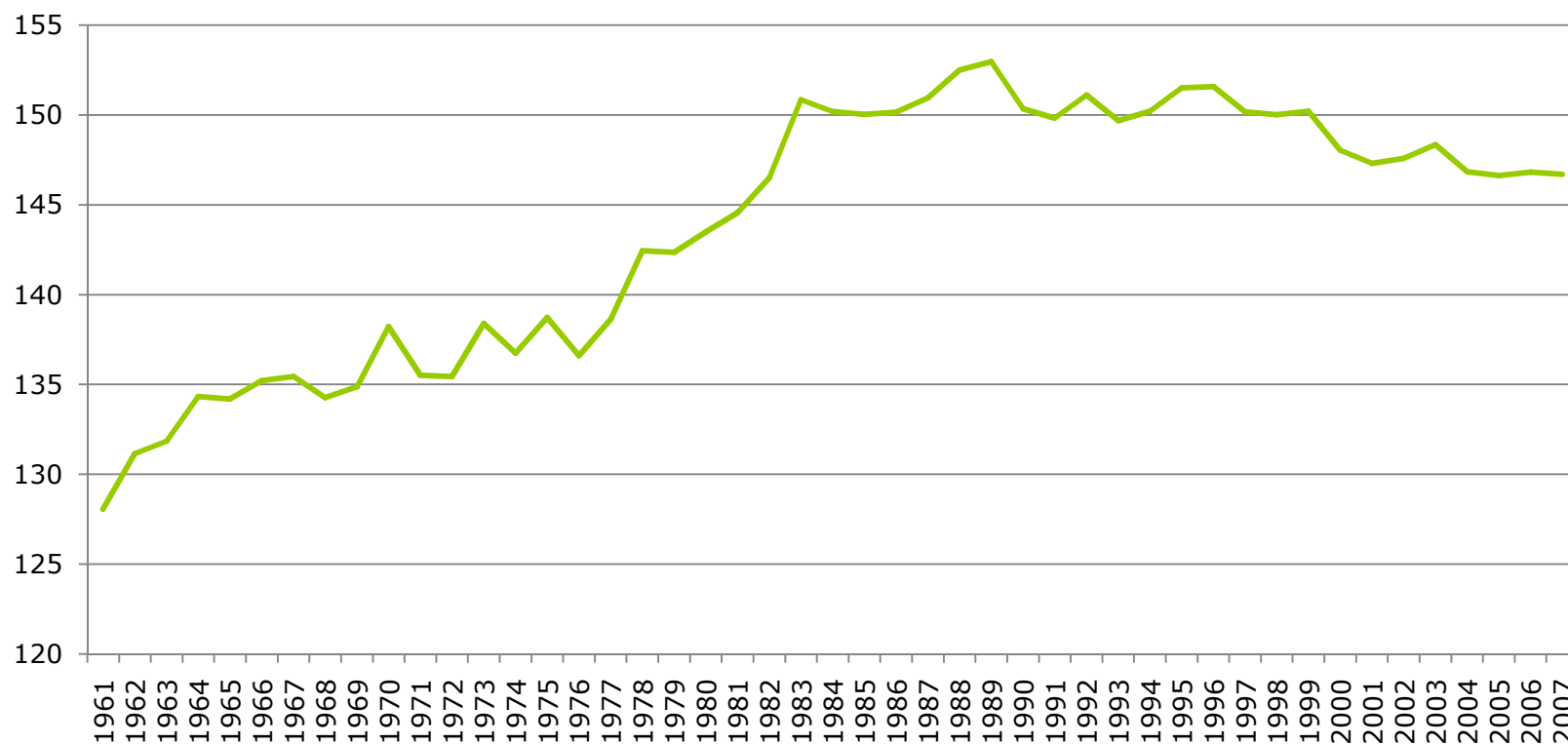
**Table 2– Geometric Growth of Food Supply  
per capita (kcal/capita/day)**

	1961- 1971	1971- 1981	1981- 1991	1991- 2001	2001- 2007
World	0.75	0.58	0.42	0.38	0.45
USA	0.60	0.55	0.83	0.49	0.29
European Union	0.65	0.21	0.30	0.23	0.04
LDC's	0.26	0.04	-0.05	0.43	0.86
South America	0.65	0.61	0.10	0.53	0.62
Asia	1.16	0.98	0.89	0.60	0.49
Africa	0.39	0.58	0.28	0.29	0.66

Source: Faostat, 2010

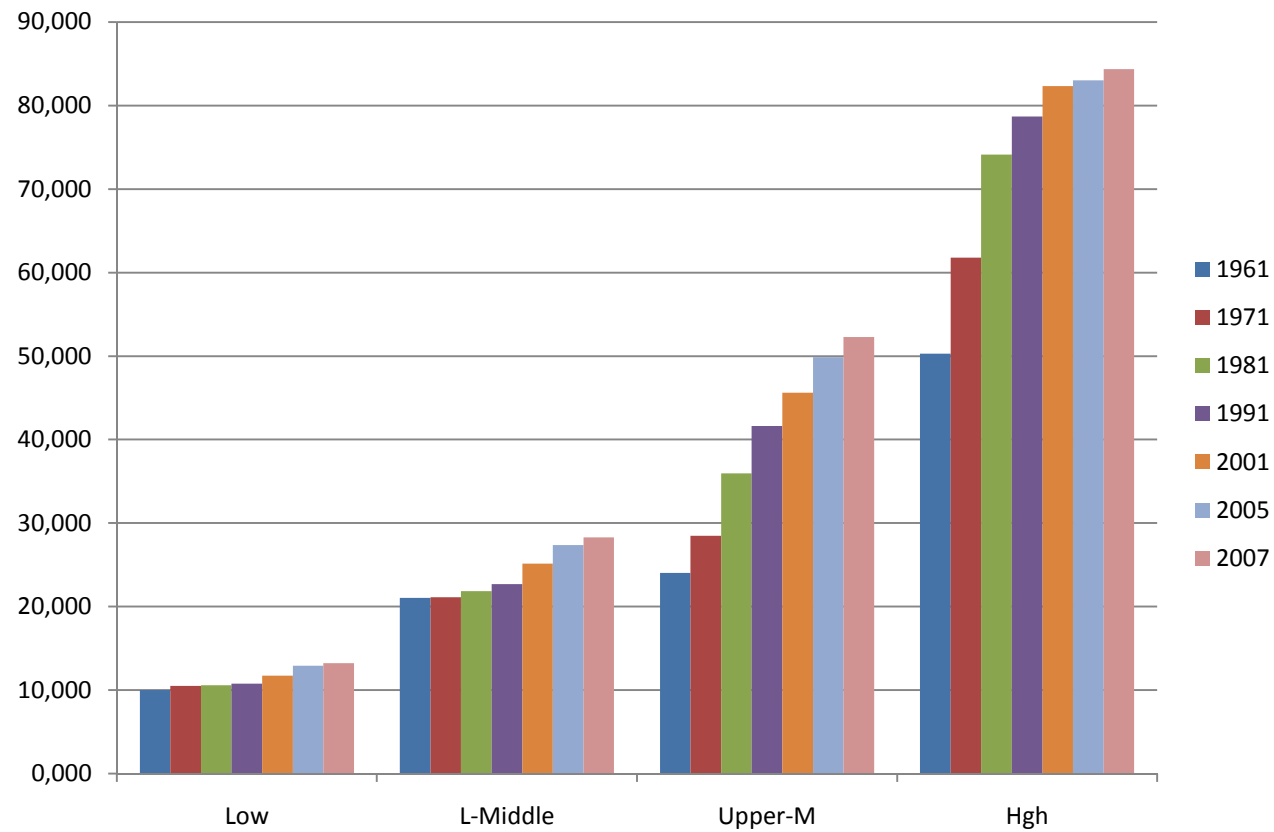
# Demand Constraints Hypothesis: Main Facts and Data (based on wheat, rice and maize)

**Fig. 1 - World Food Supply of Cereals  
(kg/capita/yr)**



Source: FAOSTAT, 2011 and author calculations

**Figure 2 – Meat Supply (kg/capita/year) by country group  
(low income, lower-middle, upper-middle and high income countries)**

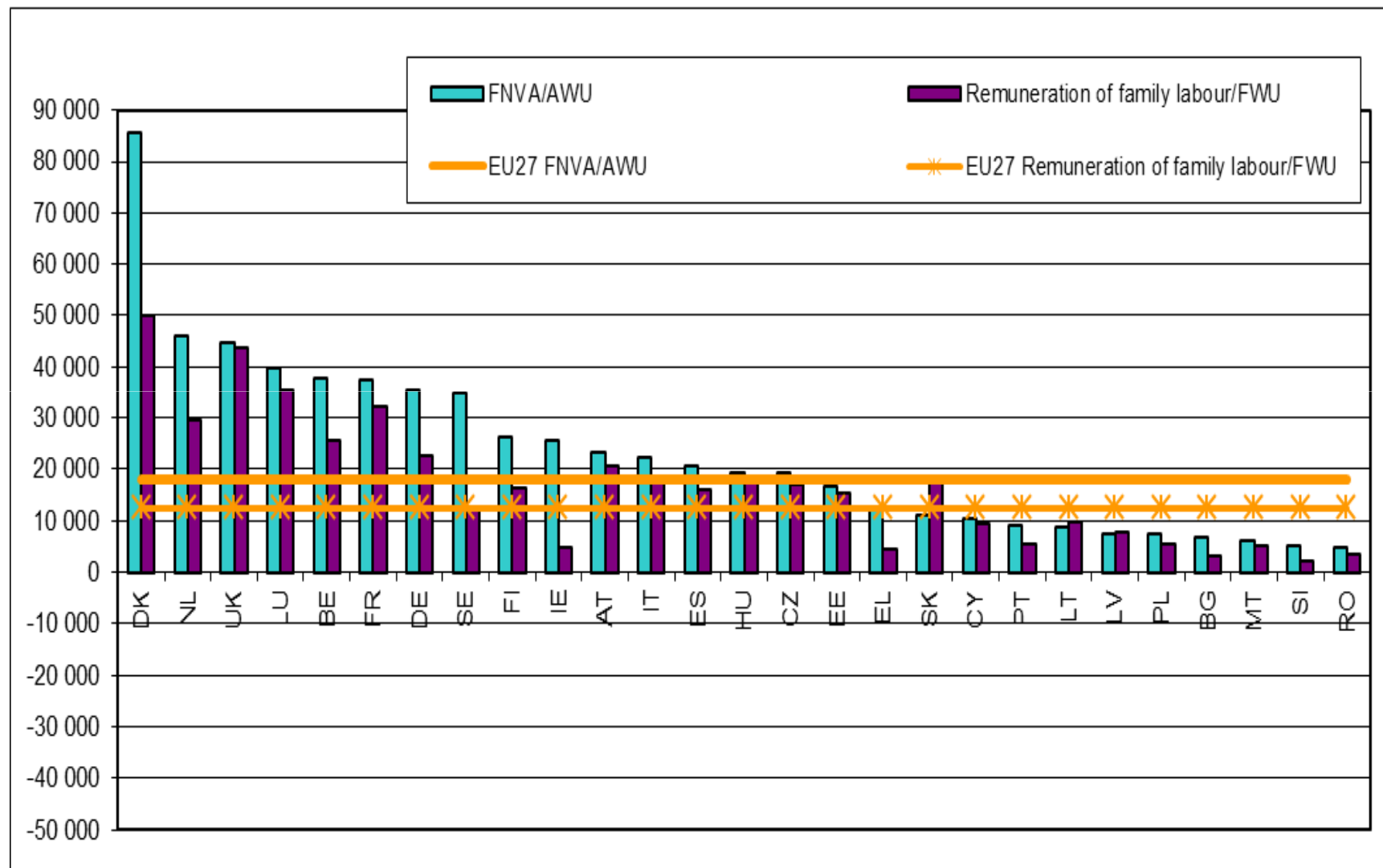


Source: FAOSTAT (2011) basic data and author's elaboration

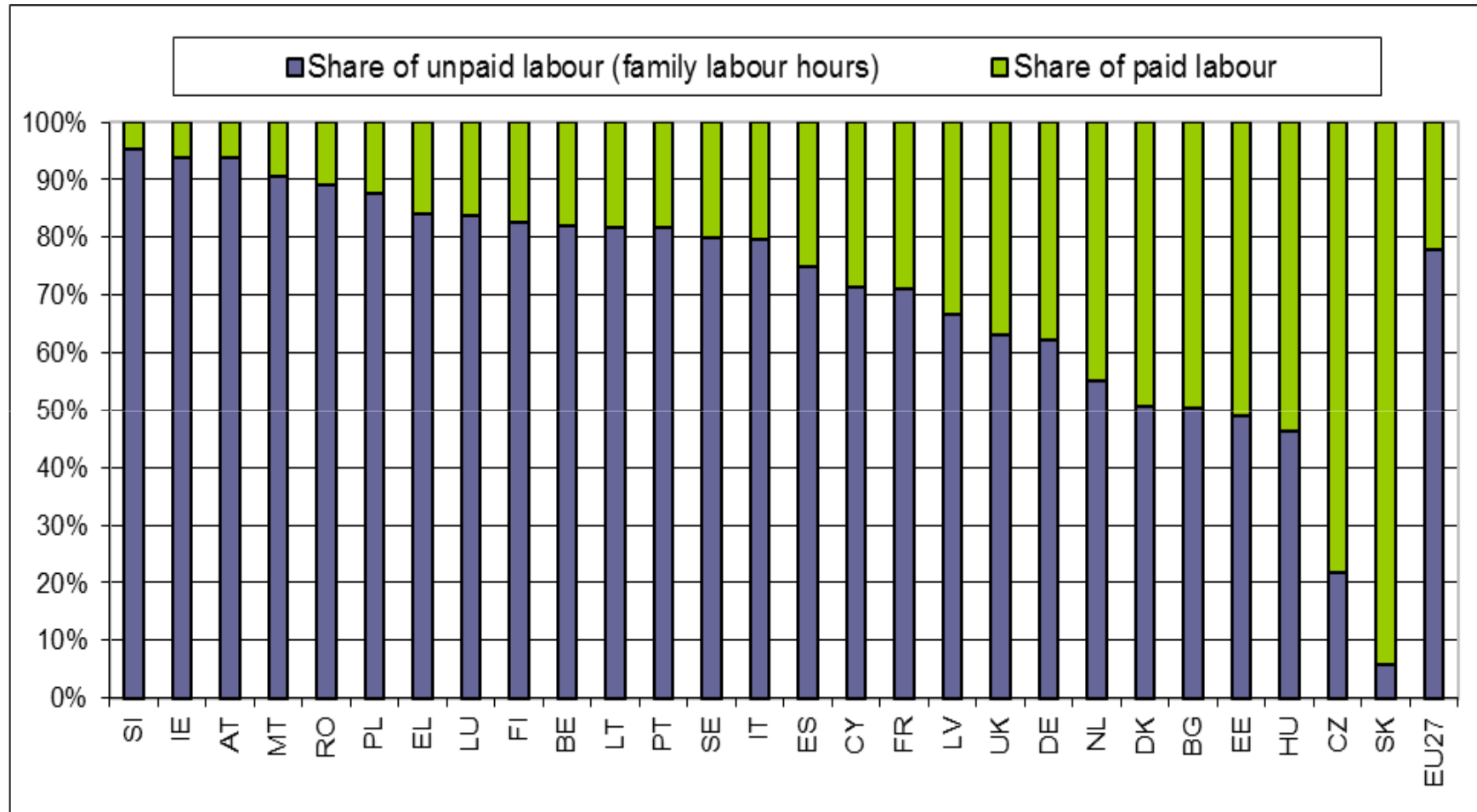
# Data from European Union: (Brussels, September 2004)

- The use of the Farm Accountancy Data Network (FADN) – data from 2011 based on 80 000 holdings in the EU-27, representing 5 million farms (40% of the total FSS – farm structural survey).
- FNVA – Farm net value added, recover after the sharp decline in 2009. The income GAP between the EU-10 and EU-15 appeared to narrow in 2011, but remuneration of family work unit (FWU) in the EU-15 still 3 times higher than in the region that registered the highest income per FWU in the EU-10.

## FNVA per AWU (annual work unit) and remuneration of family labour /FWU, by Member State in 2011 (average in EUR)



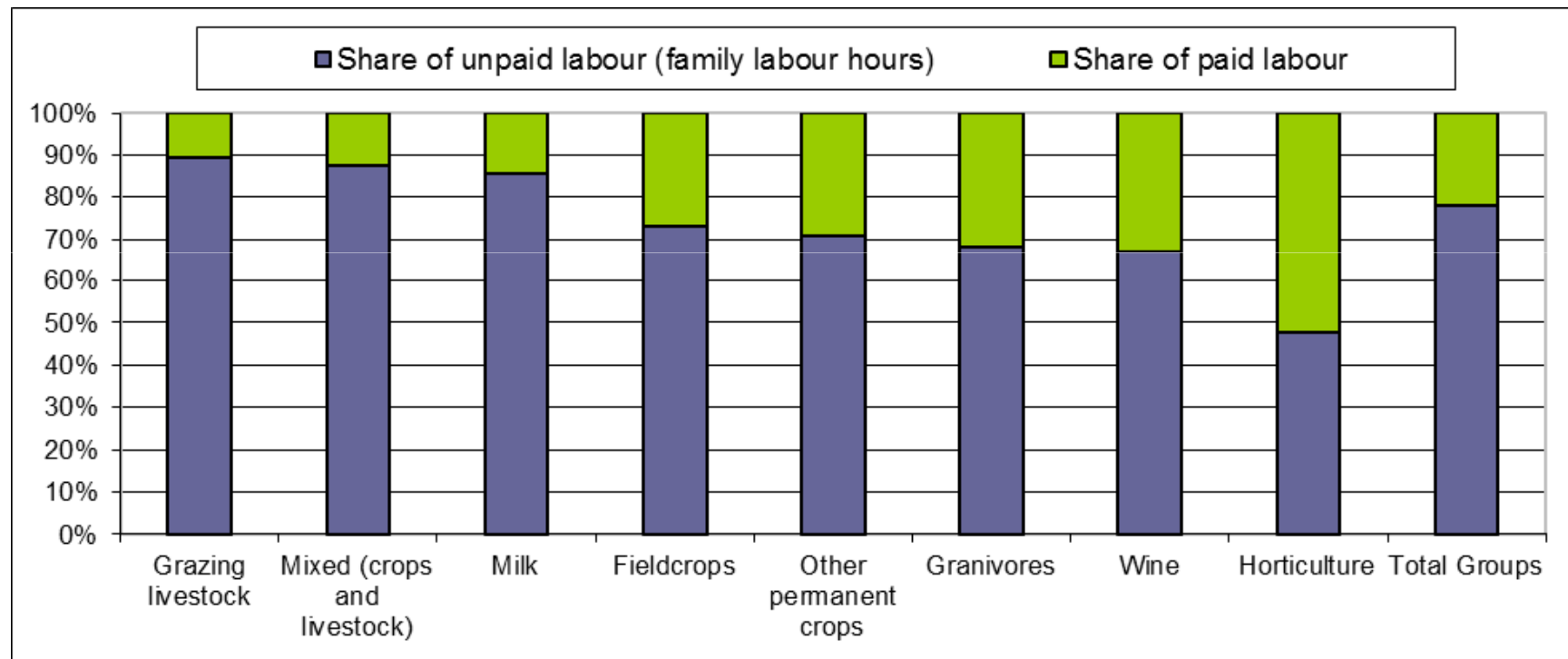
## Proportion of working hours of paid and unpaid labour by Member State in 2011.



Source: European Commission - DG AGRI EU-FADN.

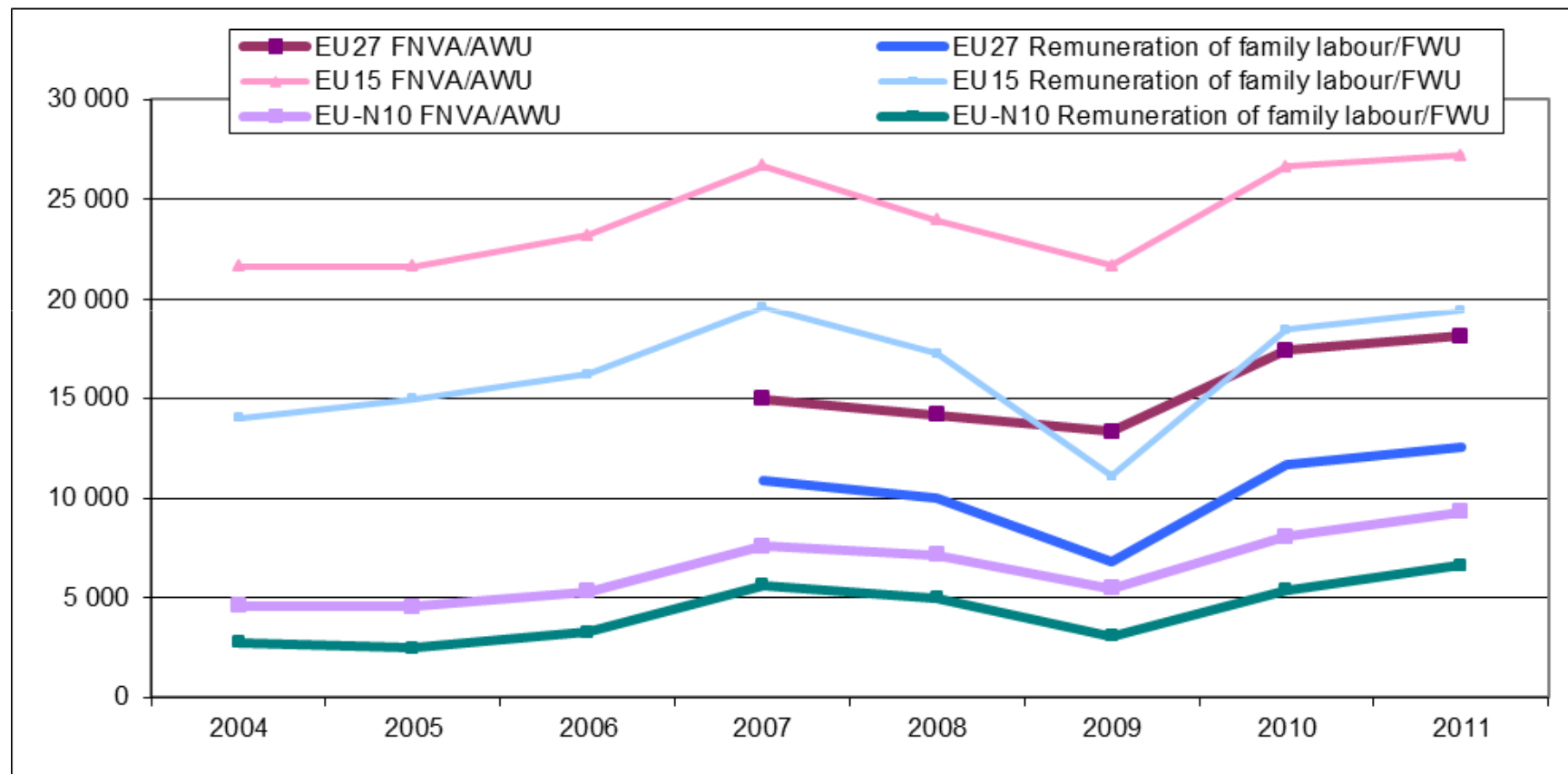


# Proportion of working hours of paid and unpaid labour in the EU-27 by type of farming in 2011



SOURCE: DG AGRI EU-FADN.

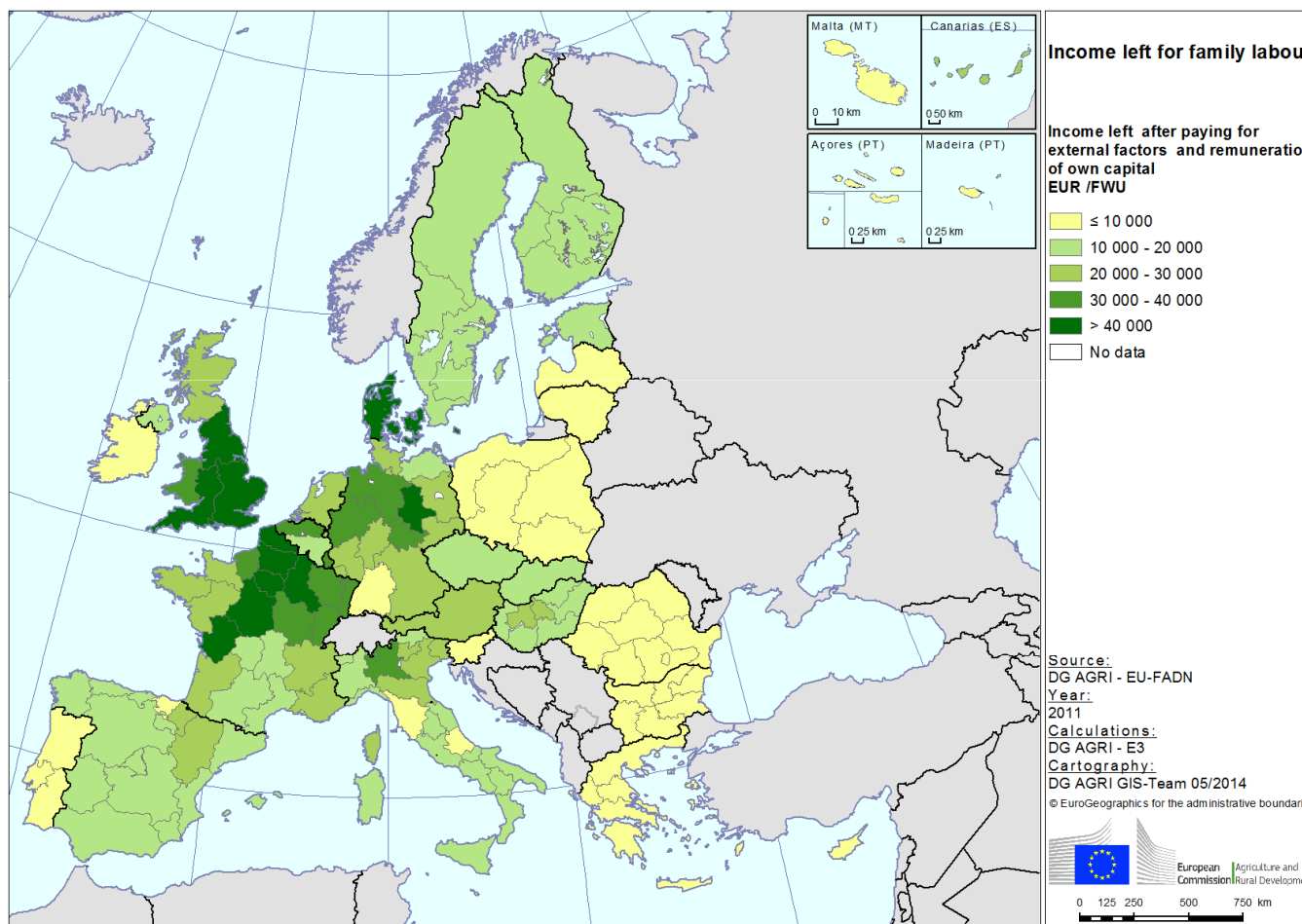
# Farm Net Value Added (FNVA) per Annual Work Unit(AWU) and Remuneration of Family Labour/Family Work Unit



# Comments - 1

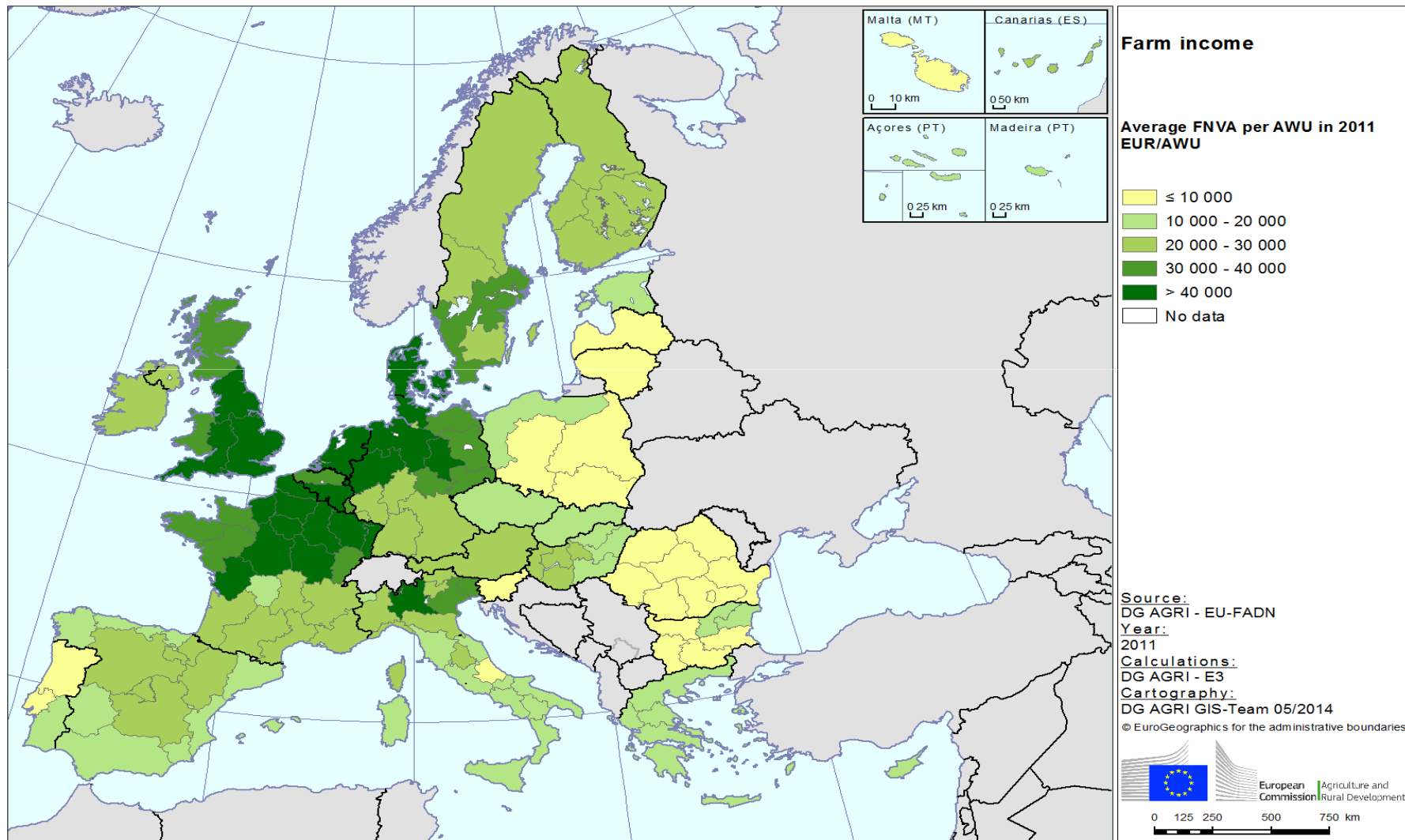
- 1 – The data shown, shows how important is family farming in Europe.
- 2 – According to FADN survey the average number of workers employed per farm in the EU-27 stood at 1,6 AWU in 2011, and the average farm size was 32ha. The FNVA average was around 28000 euros (EU-27)
- 3 – Family labour accounted for 78% of the total labour force in EU-27. It is the most prevalent form of labour in all member states (more than 50%) with the exceptions of Slovakia, the Czech Republic, Hungary and Estonia.
- 4 – Farming is not only a “business,” is also employment/economic occupation and a “way of living,” providing tangible outputs, but also intangible “goods,” such as environmental services, and/or supporting and exploring services from nature.

# Remuneration of family labour per FWU, by FADN region in 2011



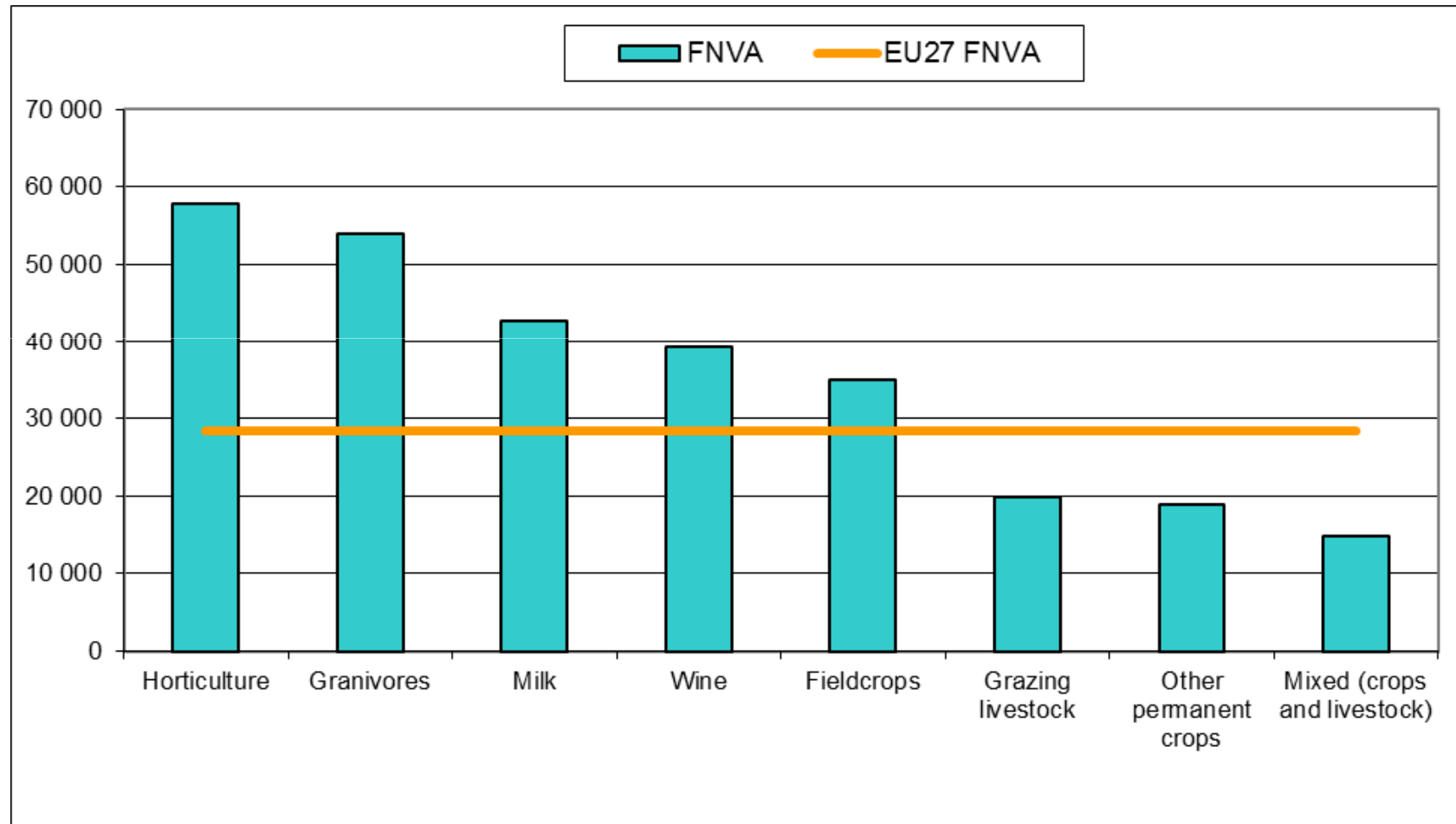
Source: DG AGRI EU-FADN

# Average Farm Net Value Added per AWU – Annual Work Unit



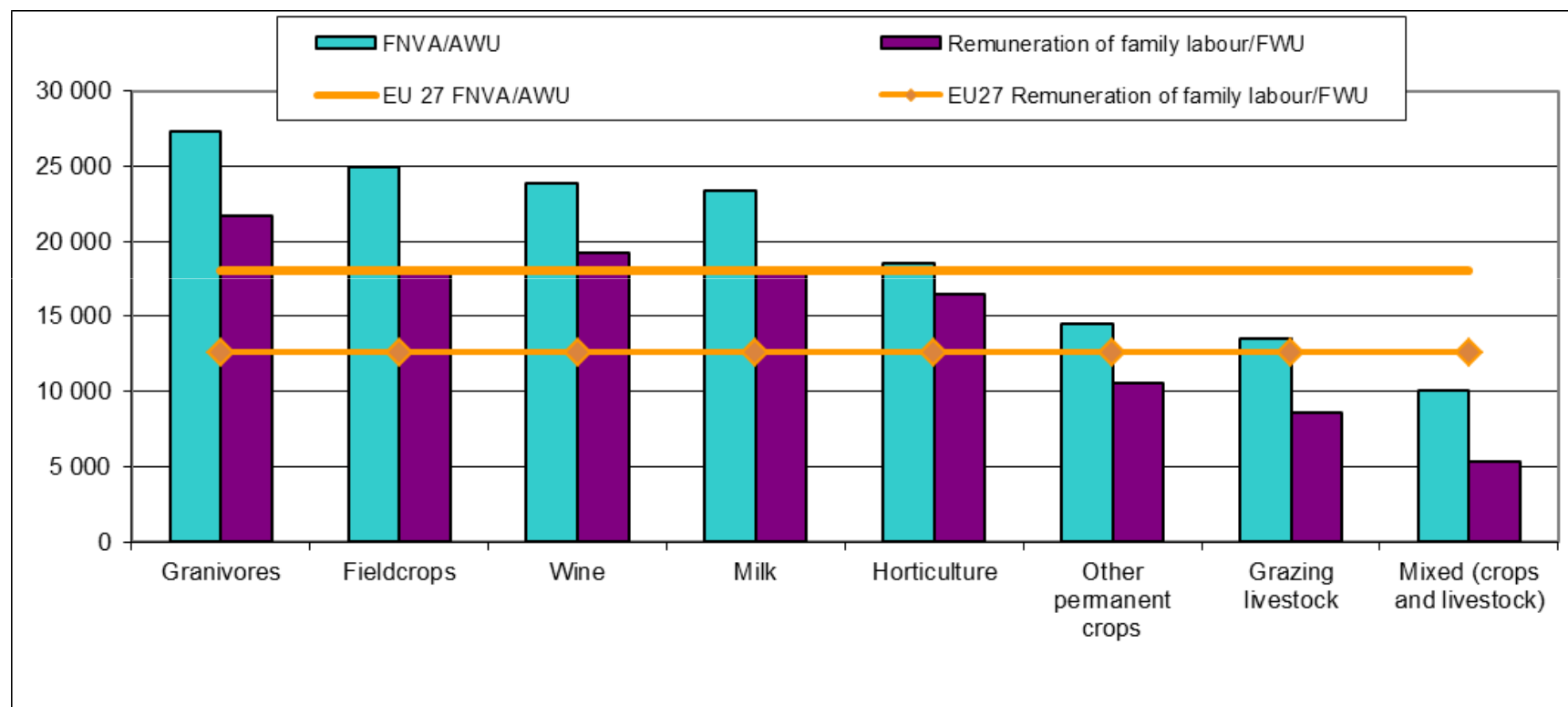
Source: DG AGRI EU-FADN.

# Average FNVA in EU-27 by type of farming in 2011 per farm (and global average)



Source: DG AGRI EU-FADN

# FNVA per AWU by type of farming in 2011 (in EUR)



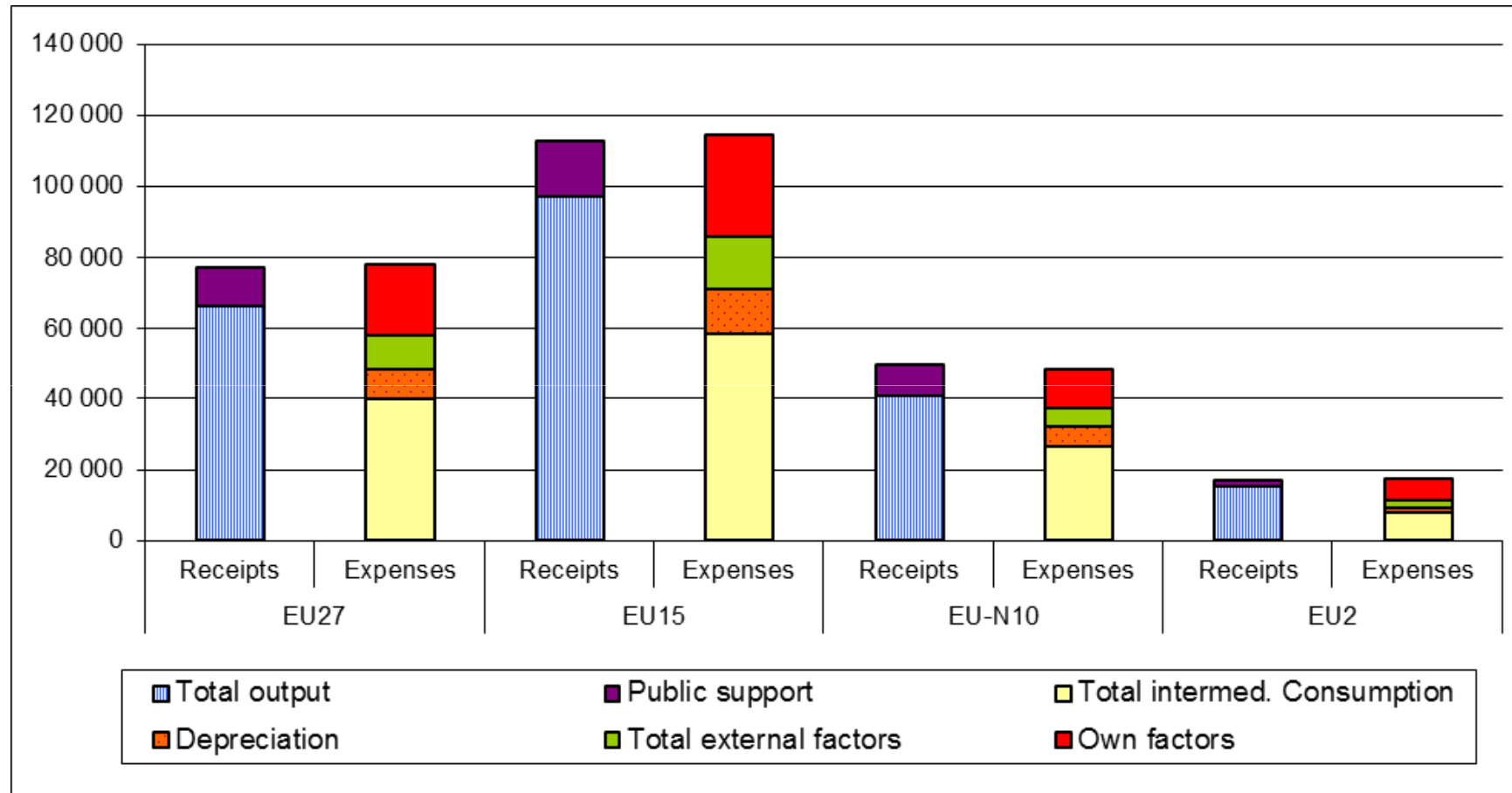
Source: DG AGRI EU-FADN

# Comments - 2

- 1 – The composition of farms receipts and expenses are different in EU groups.
- 2 - The results shows that EU-15, on average, has higher expenses (including own factors of production remuneration) than receipts. This fact deserves attention, and is probably a sign of profit problems....and necessary adjustments.
- 3 – The EU-10 generated a small profit.
- 4- Average receipts per farm in the EU-27 was 77100€, with output standing for 66200 € (86%) and subsidies 10900€ (14%).
- 5 – For EU-15 subsidies account roughly for 14% of receipts, and more than 18% in EU-10.

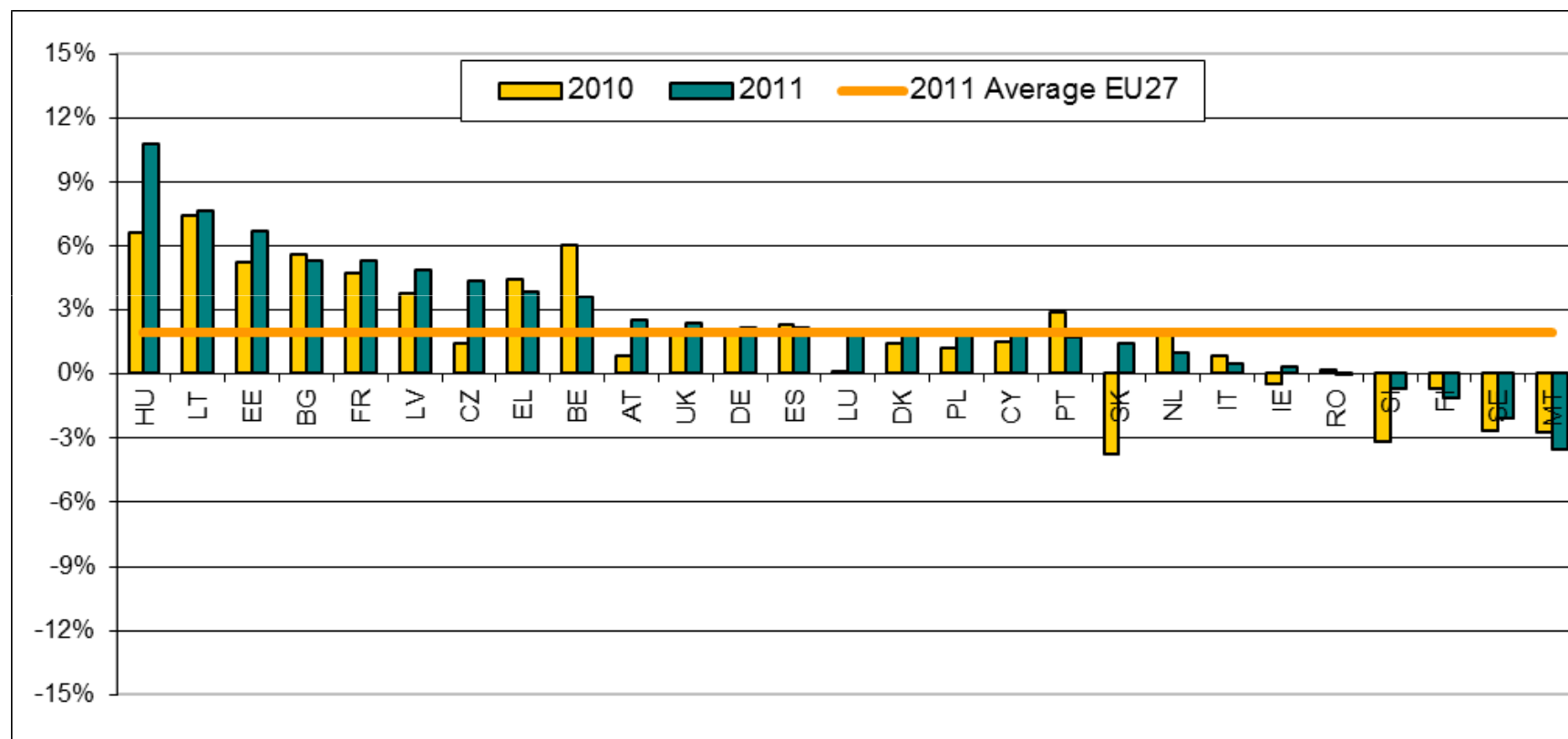


## Income components per farm by EU group in 2011 (average per farm in EUR)



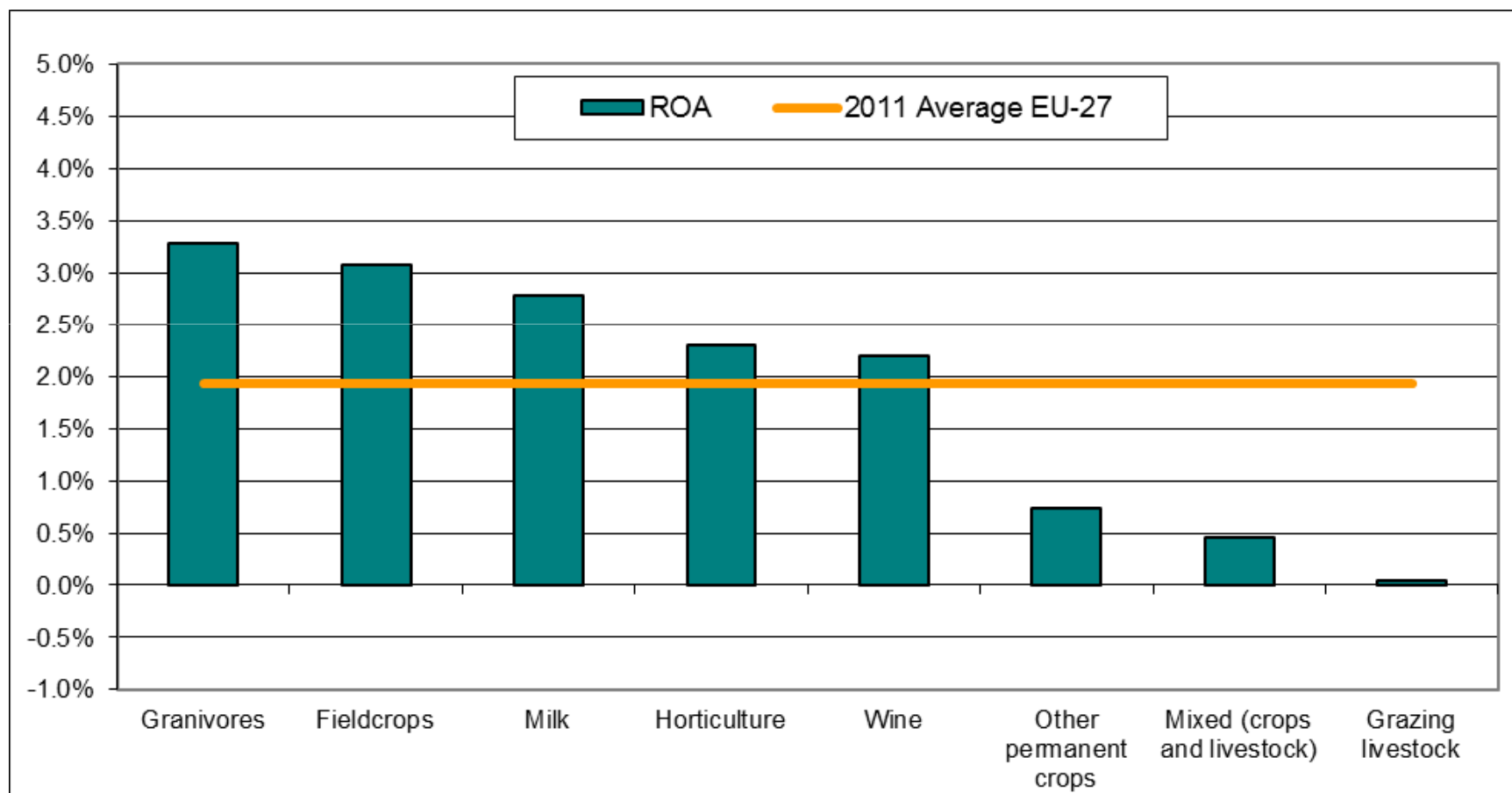
Source: DG AGRI EU-FADN

# Return on assets by Member State in 2010-11 (average per farm in EUR)



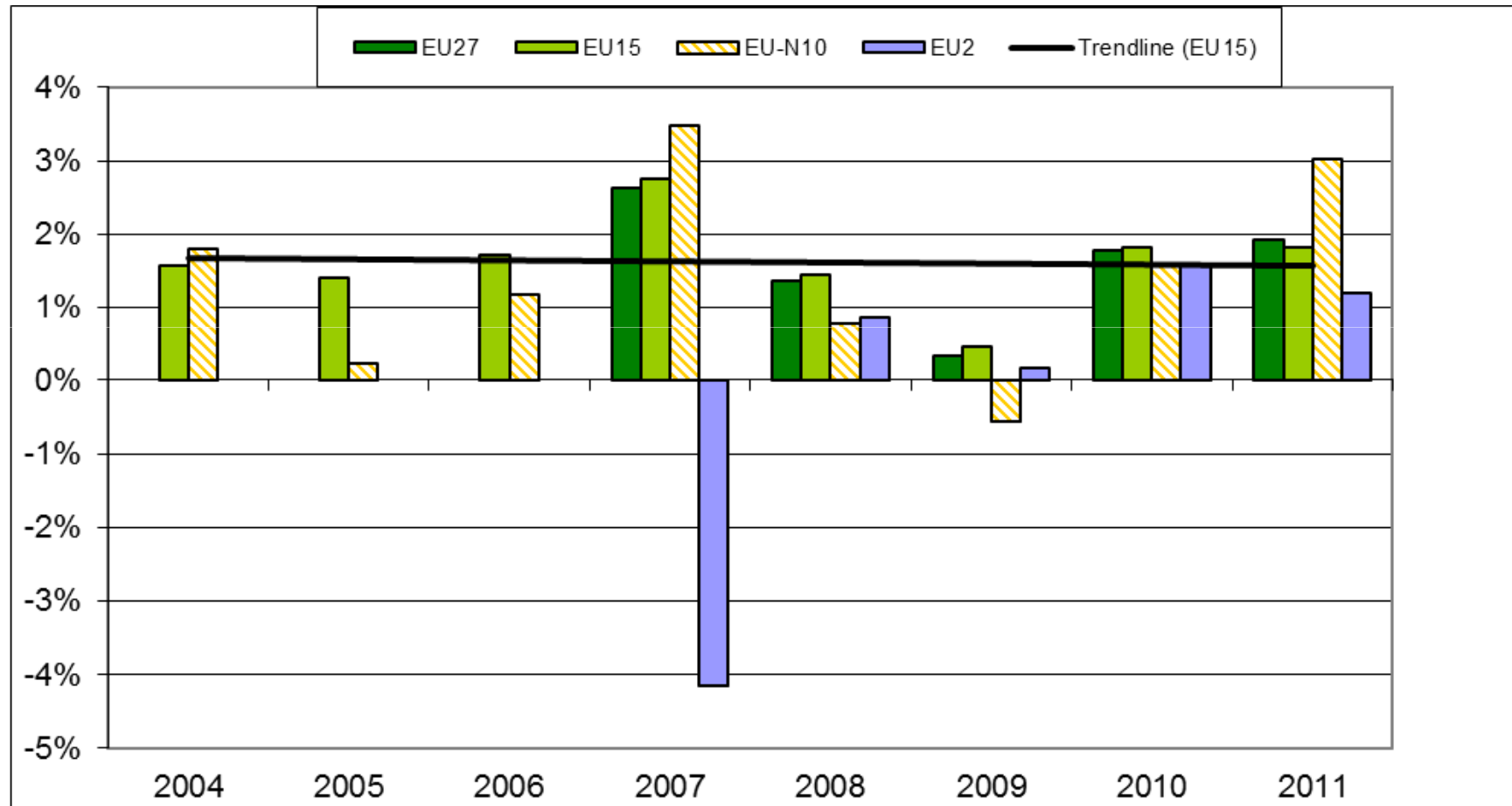
Source: DG AGRI EU-FADN

# ROA in the EU-27 by type of farming in 2011 (average per farm in EUR)



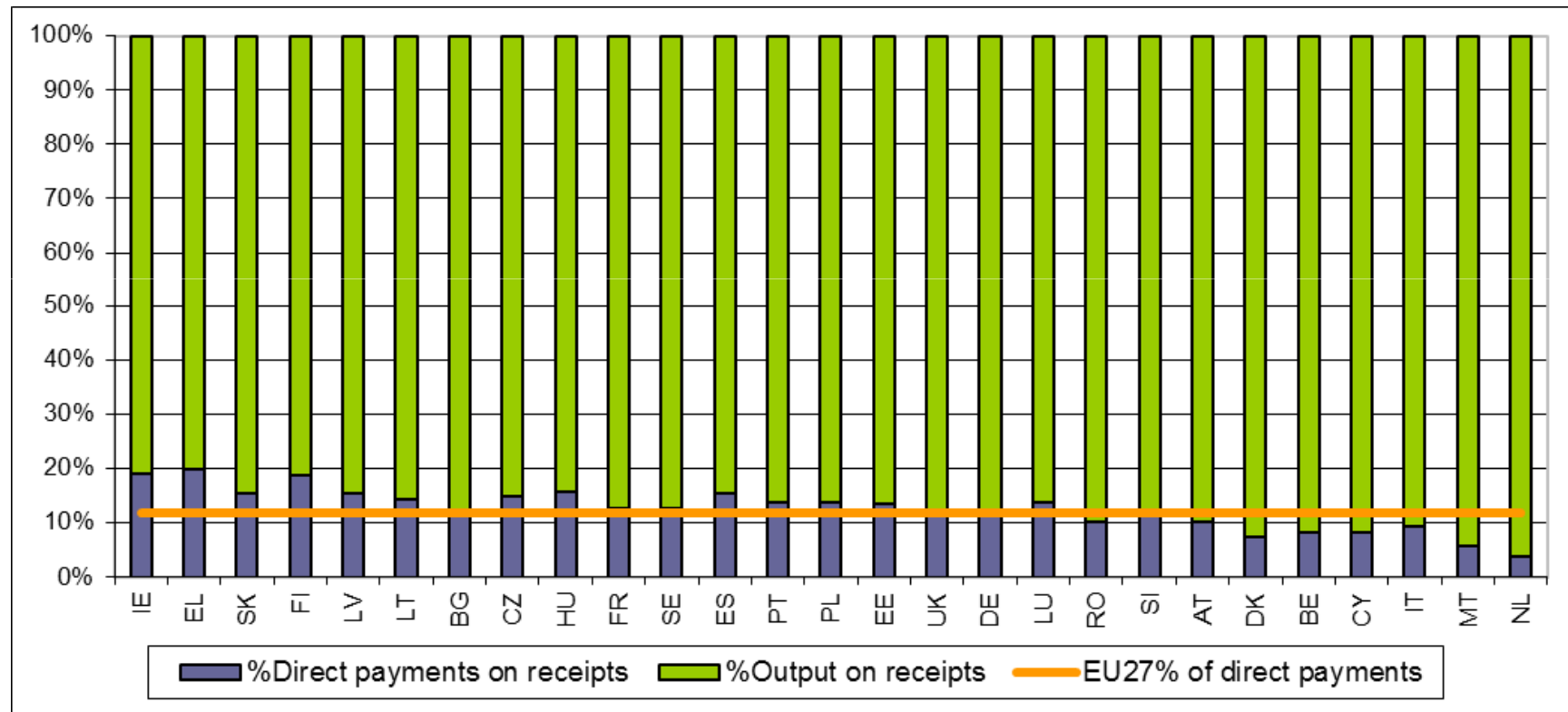
Source: DG AGRI EU-FADN

# Changes in the ROA by EU group (average per farm in EUR)



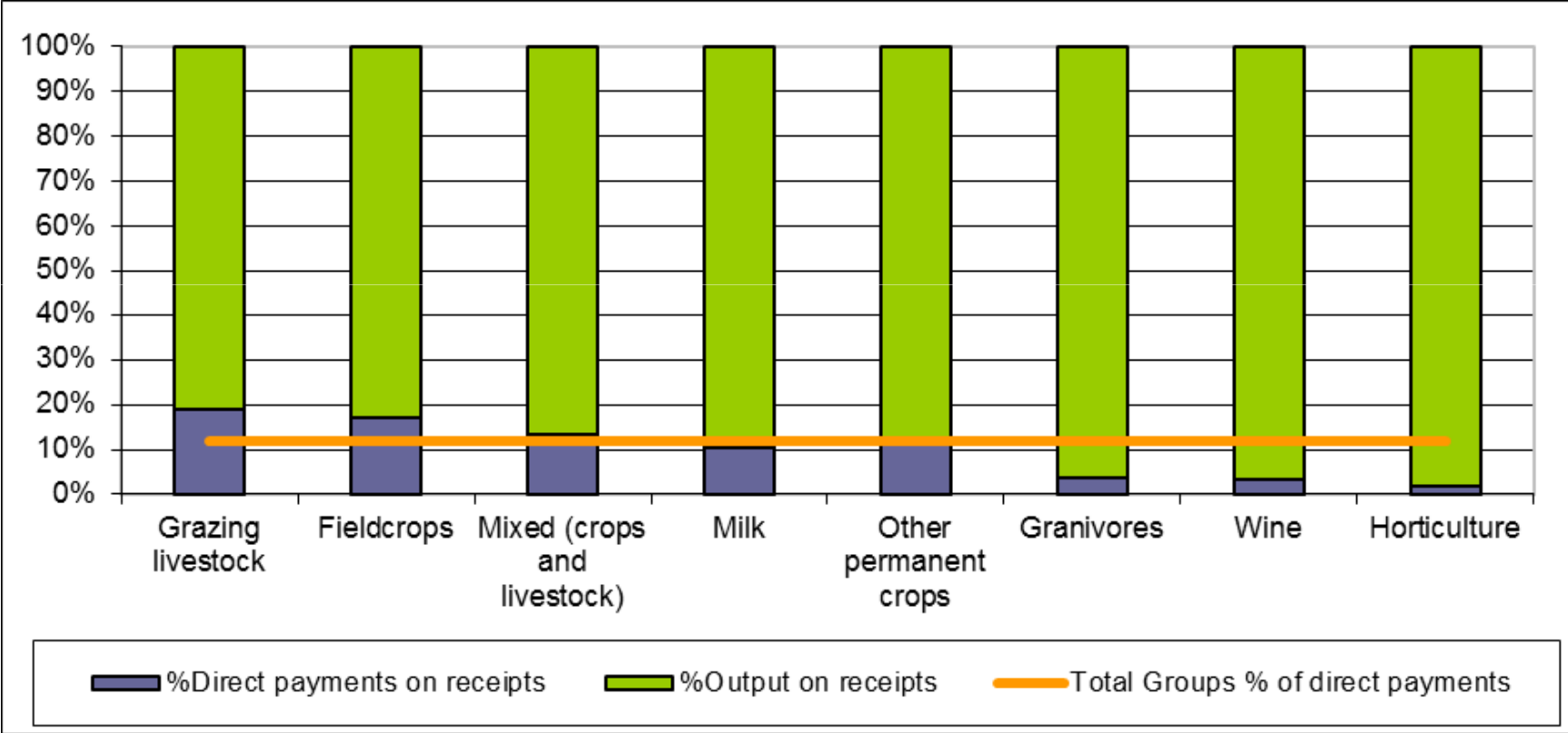
Source: DG AGRI EU-FADN

# Proportion of direct payments in total receipts, by Member State in 2011 (average per farm in EUR)



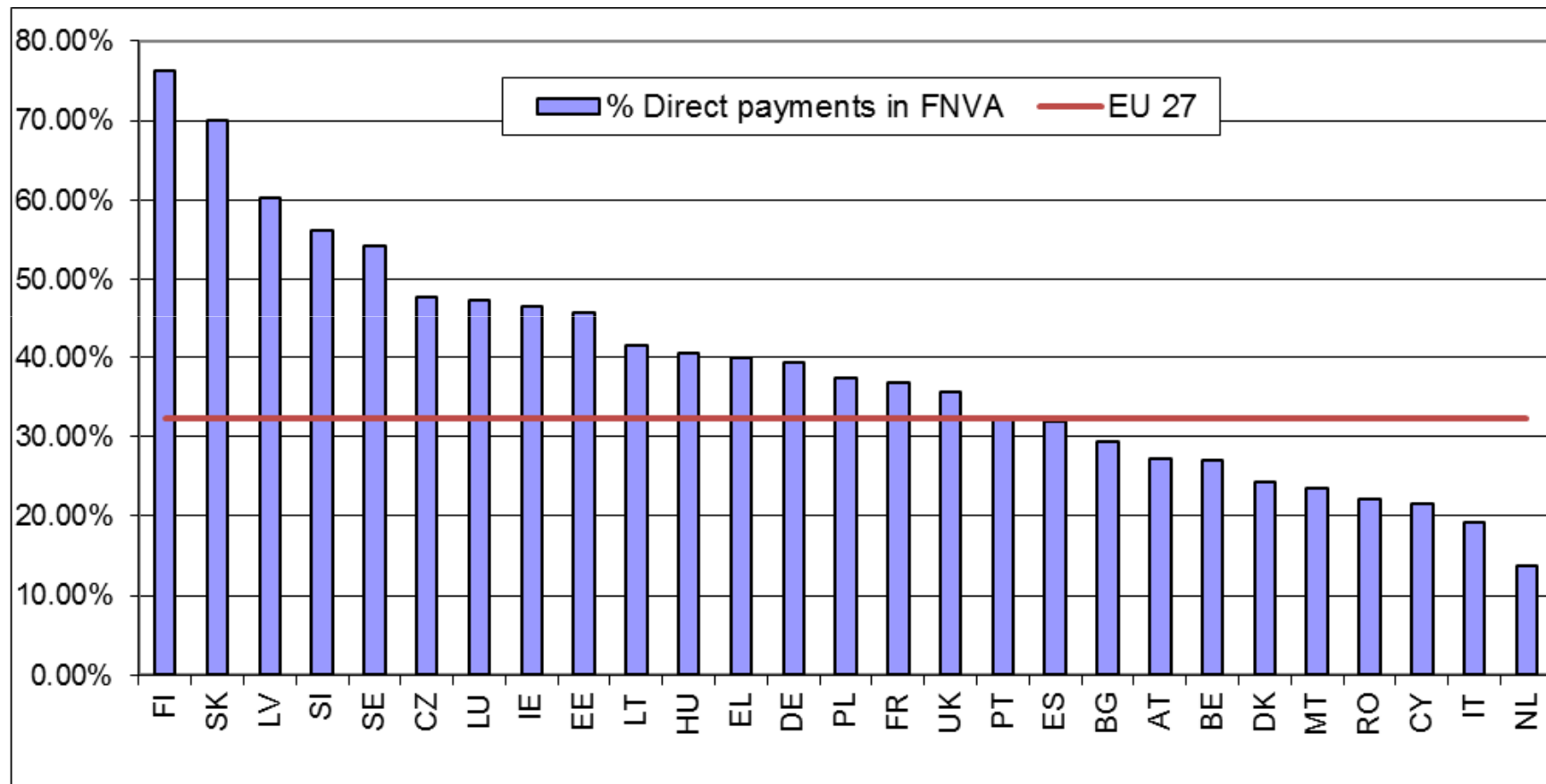
Source: DG AGRI EU-FADN

# Proportion of direct payments in total receipts by type of farming in 2011 (average per farm in EUR)



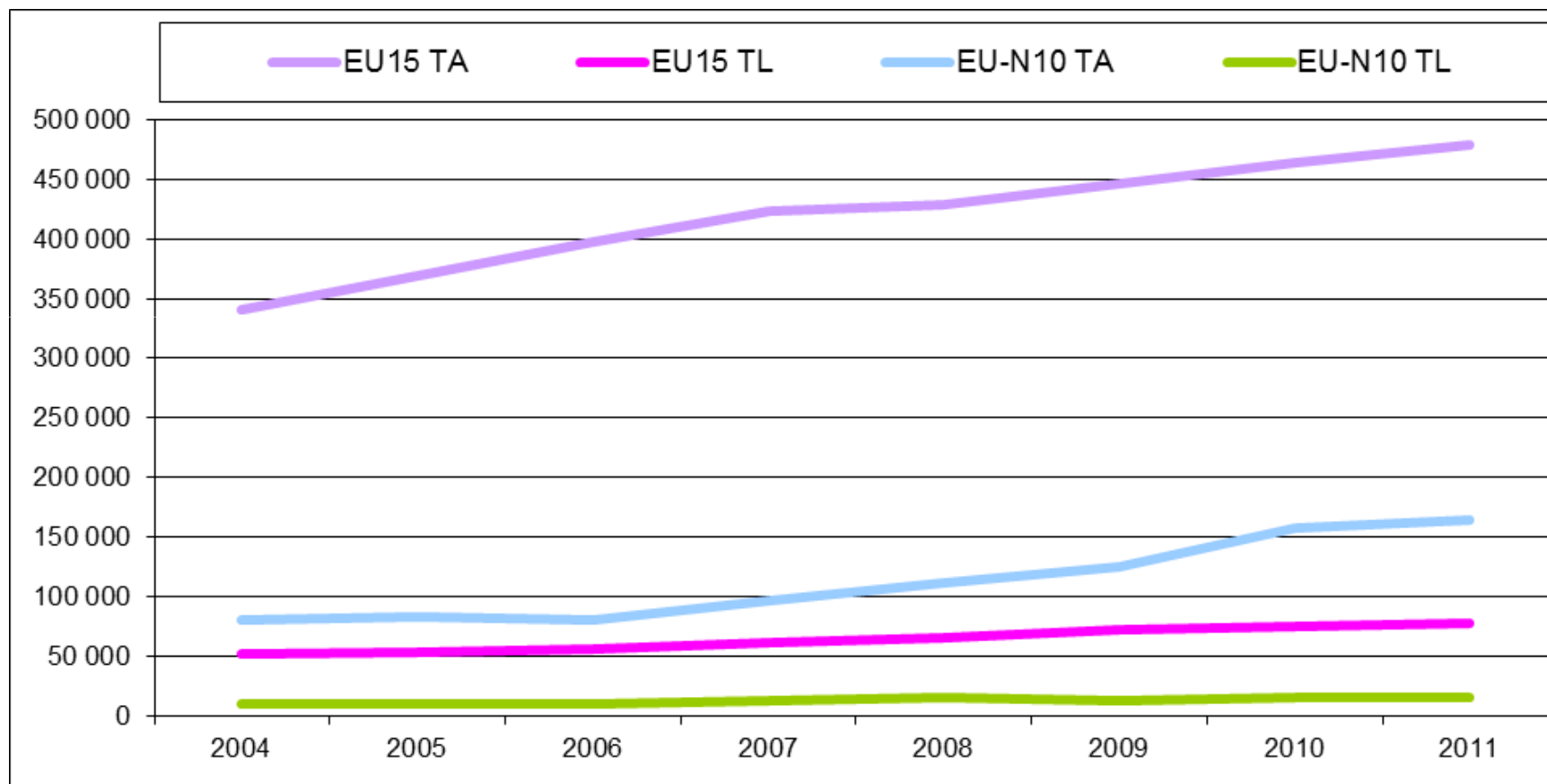
Source: DG AGRI EU-FADN

## Proportion of direct payments in FNVA by Member State in 2011 (average per farm in EUR)



Source: DG AGRI EU-FADN

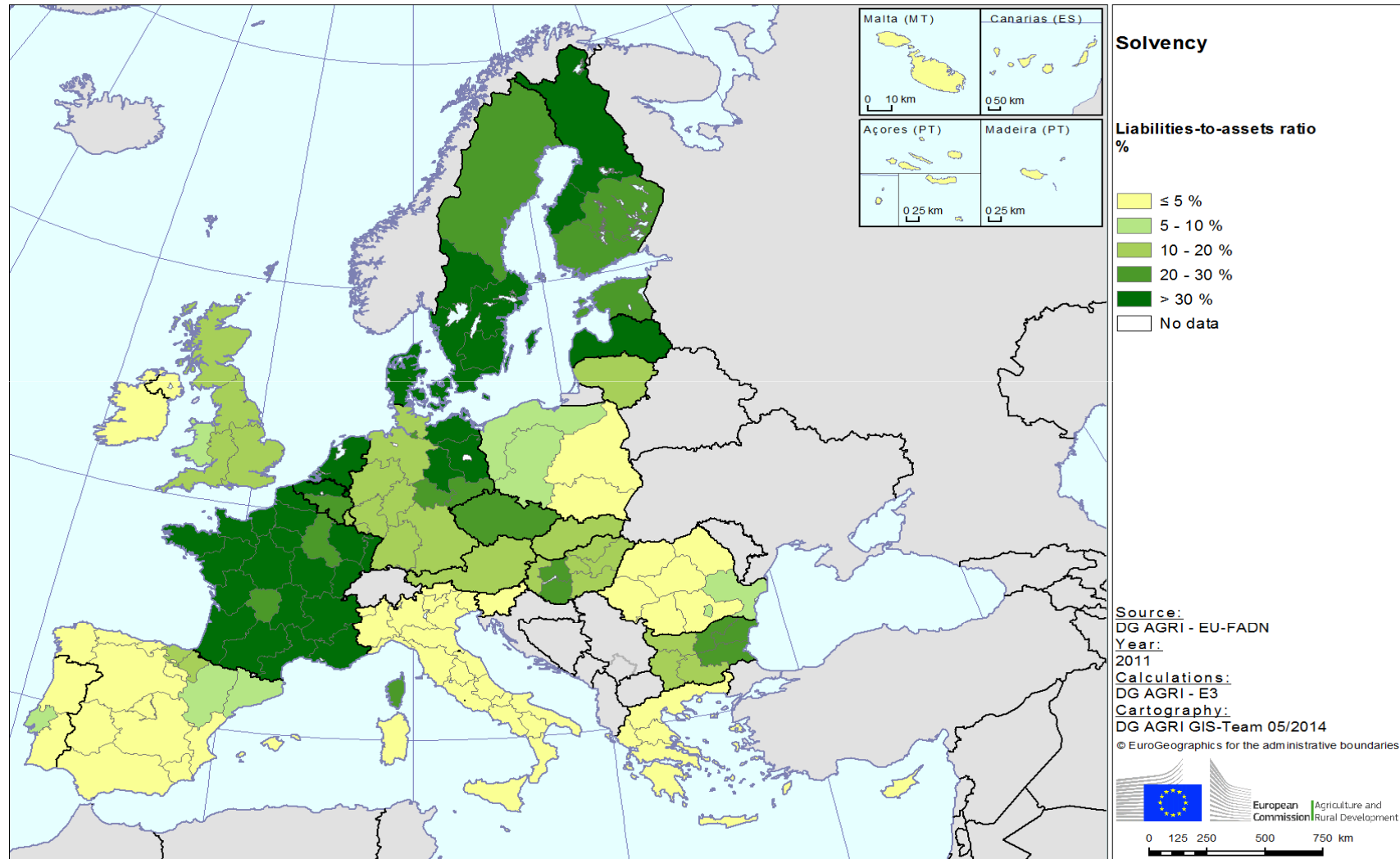
# Long-term developments in the value of total assets (TA) and total liabilities<sup>18</sup> (TL) (average per farm in EUR)



Source: DG AGRI EU-FADN



# Figure: Liabilities to Assets Ratio



# Consumption and Institutional Innovation

- 1 – Most of the time economists and engineers are concentrated on technological changes, but those should clearly include technological changes in consumption and also in institutional arrangements.
- 2 – Many problems can be addressed looking to systems governance, access to information, access to adequate technology and to capital ( at a fair price).

- Mediterranean Diet Example  
(Intangible Cultural World Heritage)  
– Unesco Classification (2010-2013):  
An Institutional Innovation

Average calories available per person per day in  
European States - 2007-2009

Estados Membros da UE	Anos		
	2007	2008	2009
>3700 calorias por pessoa/dia			
Áustria	3816	3826	3800
Bélgica	3736	3751	3721
>3500 e <3700 calorias por pessoa/dia			
Grécia	3637	3656	3661
Luxemburgo	3599	3592	3637
Itália	3628	3612	3627
Portugal	3582	3614	3617
Irlanda	3564	3588	3617
Alemanha	3552	3537	3549
França	3520	3598	3531

Fonte: DGS – direcção geral de saúde

# - Mediterranean Diet - 2

Average calories available per person per day in European States  
2007-2009  
(cont.)

Estados Membros da UE	Anos		
	2007	2008	2009
>3000 e <3500 calorias por pessoa/dia			
Roménia	3442	3546	3487
Lituânia	3487	3514	3482
Hungria	3491	3495	3477
Malta	3444	3428	3438
Reino Unido	3453	3453	3432
<b>Polónia</b>	<b>3389</b>	<b>3363</b>	<b>3392</b>
Dinamarca	3393	3370	3378
República Checa	3244	3466	3305
Eslovénia	3221	3268	3275

Fonte: DGS – direcção geral de saúde

# Some conclusions - 1

- 1 – Food Policy and Agricultural policy has been very important, based on markets and different forms of “regulation.”
- 2 – Regulation should be seen as an instrument to support markets functioning when possible, not against markets.
- 3 – Consumption constraints is already in place, globally, but there is enormous alternatives for expansion locally, mainly in EU-10 and for exports outside Europe.
- 4 – The EU role in food and agricultural imports is also very important, and can play a “vital”role” for LDC’s countries. For tropical countries there are many products that are complementary and not competing with local production.
- 5 – Consumption should be seen as the last step in the Production Chain, now redefined to be focused in “value creation.”

# Some Conclusions -2

- 6 – Value creation on the chain is not equal neither the “power in the chain” of the several players.
- 7- Markets in food and agricultural products do not work frequently in good conditions, where scientific contribution is needed and necessary. (REDISA-CPLP/CIAT-CD contributions).
- 8 – The Food and Ag. Sector is a structural sector, with many function beyond the production of tangible goods.
- 9 – The importance of new paradigm, with the co-relation of demand constraints and new demands with quality of life, should revealed the need for newer approaches for sustainable development
- 10 – The necessary equilibrium with the eco-system, food and health factors, and human economic activities should be revisited , looking for news ways of creating value related with services, in particular services from nature.
- 11 – Being a “space” with excess production capacity, a new challenge should be embraced, which has been the European tradition in regard to support development in LDC’S, based on knowledge transfer to developed appropriated technology to local conditions.