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## **Key Issues and Developments in Farmland Sales Markets in the EU Member States and Candidate Countries**

### **ABSTRACT**

This paper describes recent developments in sales markets of agricultural land in selected member states of the European Union and its candidate countries. Analysis focuses on the importance of the sales market for agricultural land, the average size of transacted plots, and the evolution and magnitude of the land sales prices. The share of agricultural land sold on the market is relatively stable in most of the old member states, with the exception of Finland, the Netherlands and the UK, where a more dynamic market is observed. For the new member states, the sales market for agricultural land is strongly affected by public sales under the ongoing land privatisation programmes, while strong variation prevails in the private sales market. Substantial differences are also observed in both the average size of the transacted plots and the sales prices. For the latter, price regulations partially explain the heterogeneity in the evolution of sales prices.

FACTOR MARKETS Working Papers present work being conducted within the FACTOR MARKETS research project, which analyses and compares the functioning of factor markets for agriculture in the member states, candidate countries and the EU as a whole, with a view to stimulating reactions from other experts in the field. See the back cover for more information on the project. Unless otherwise indicated, the views expressed are attributable only to the authors in a personal capacity and not to any institution with which they are associated.

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# **Key Issues and Developments in Farmland Sales Markets in the EU Member States and Candidate Countries**

**Pavel Ciaian, d'Artis Kanacs, Jo Swinnen,  
Kristine Van Herck and Liesbet Vranken\***

**Factor Markets Working Paper No. 12/February 2012**

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## **1. Introduction**

The efficiency of agricultural land markets can be studied by looking at the incidence of sales and rental transactions, as well as at the magnitude and evolution of land sales and rental prices. Theoretically, if markets are perfect and transaction costs are insignificant, then farmers would be indifferent in accessing land through sales or rental and the agricultural sales land prices would be equal to the net present productive value of land, while the land rental price would equal the marginal product of land. In that case, sales and rental prices would be expected to change in parallel. However, this might not be the case in the presence of market imperfections.

In particular, credit market imperfections and transaction costs play an important role. First, where capital markets work imperfectly, land purchases typically have to be financed out of one's own savings. Second, where financial markets do not work efficiently, or where confidence in money as a repository of value is low, land may be used to store wealth and may be acquired for speculative purposes. Third, in the absence of alternative investments or hedging options, land may be purchased, or held onto, as a hedge against inflation, or as an investment asset. Fourth, with constrained access to credit, much needed capital is tied up by investments in land, preventing farmers from using these savings for investments in technology, equipment or quality inputs. Further, people hold land for many reasons other than production, such as prestige value, lifestyle value, family traditions, leading wealthy and politically connected households to accumulate large tracts of land. As a result, the sales price for land appears to be typically higher than the productive value of land (Binswanger et al., 1995). Finally, transaction costs (including the costs of enforcing property rights, collecting the necessary documents and obtaining the approval from local officials) not only imply a premium that needs to be paid by the buyer, but also that significant losses can be incurred when buying and re-selling land, preventing flexible adjustments of land use through land sales (Carter & Zimmerman, 2000; de Janvry et al., 2001).

Based on the arguments raised above, it appears that it is expensive and difficult for efficient producers to buy land, whereas market imperfections also reduce the attraction for less efficient producers to sell their land. These factors imply that land markets require a premium over their expected production value to be included in the sales prices. As a

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\*Pavel Ciaian and d'Artis Kanacs are working at the European Commission (DG Joint Research Centre); Johan F.M. Swinnen is a Senior Research Fellow at CEPS and Director of the LICOS Centre for Institutions and Economic Performance at KU Leuven; Kristine Van Herck is a PhD Student at the LICOS Centre for Institutions and Economic Performance at KU Leuven; Liesbet Vranken is an Assistant Professor at the Department of Earth and Environmental Sciences, at KU Leuven.

The paper draws importantly on background information and comments provided by Eleni Kaditi (CEPS). The authors are solely responsible for the content of the paper. The views expressed are purely those of the authors and may not in any circumstances be regarded as stating an official position of the European Commission.

consequence, rural land sales markets might be thin and sales prices do not necessarily evolve in parallel with land rental prices. Market institutions and imperfections may also influence this. In this paper (Deliverable 14.1 of the Factor Markets project), we describe recent developments in the sales market of agricultural land in selected member states of the European Union (EU). Another paper in the Factor Markets project (Deliverable 14.2) describes the recent developments in the rental market.

Eight Central and Eastern European countries accessed the EU in 2004 and another two joined in 2007. Until 1989, the agricultural sector in these countries was state-regulated, being dominated by large-scale state and collective farms. There are only two exceptions, namely Poland and the former Yugoslav countries, where collectivisation largely failed so that a considerable share of agricultural land was already used by individual farmers during the communist era (Lerman, 2001). Given the history of collective and state land use, which has a long lasting impact on the current functioning of land markets, and the radical changes that have taken place in the region over the past ten years, we opted to distinguish between old member states (OMS) and new member states (NMS).<sup>1</sup> In addition, we highlight the most important evolutions in the farmland sales markets for three candidate countries: Croatia, the Former Yugoslavia Republic of Macedonia (FYROM) and Turkey. However, it should be noted that land markets of these candidate countries are analysed in detail in a Factor Markets Working Paper prepared by Bojnec (2011).

In this paper, we will discuss the differences observed between the selected member states, as well as the recent developments in terms of three main issues: 1) the importance of the sales market for agricultural land (i.e. share of transacted land), 2) the average size of transacted plots and 3) the evolution and magnitude of the land sales prices. We will draw upon earlier work by Ciaian et al. (2010), Swinnen & Vranken (2009, 2010) and a questionnaire sent to the different partners of the Factor Markets project.

## **2. Number and share of land sales transactions**

The number of transactions and the share of land transacted by land sales are two measures that indicate the importance of the land sales market in an EU member state. It is also an indication of the possibility to transfer land from more-to less-endowed owners in response to changes in the external environment, such as policy changes, off-farm labour opportunities or changes in relative factor ratios and hence factor demand and supply, such as changes in the household composition.

Unfortunately, there are no comparable data on the total utilised agricultural area (UAA) that is exchanged through sales every year in each member state. We can only base ourselves on data obtained from national sources.<sup>2</sup>

For the OMS, the national statistical data on agricultural land market transactions suggest that the share of agricultural land sold on the market is relatively stable in most countries (Figure 1). In only three member states (Finland, the Netherlands and the UK) is the sales market for agricultural land more dynamic in terms of transacted area. In these countries, the share of sold agricultural area in the total UAA is higher, and it is fluctuating more significantly during the examined period.

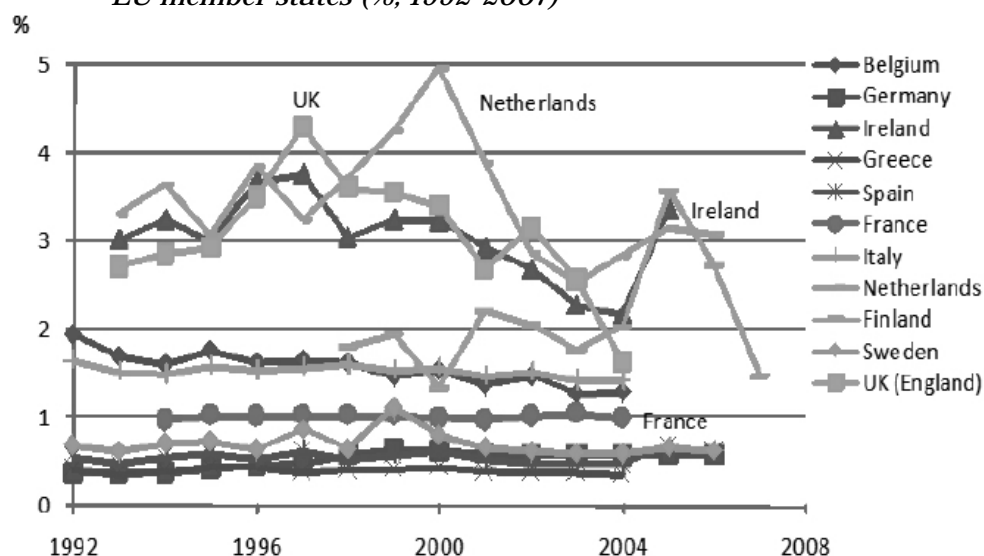
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<sup>1</sup> The selected OMS in this study are Belgium, Germany, Ireland, Greece, Spain, France, Italy, the Netherlands, Finland, Sweden and the United Kingdom. The NMS are Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania and Slovakia. The selection of these countries is purely based on data availability.

<sup>2</sup> There are no reliable data available on the transacted area in the candidate countries (Croatia, FYROM and Turkey).



**Figure 1. The evolution of agricultural land sales as a percentage of total UAA in selected EU member states (% , 1992-2007)**

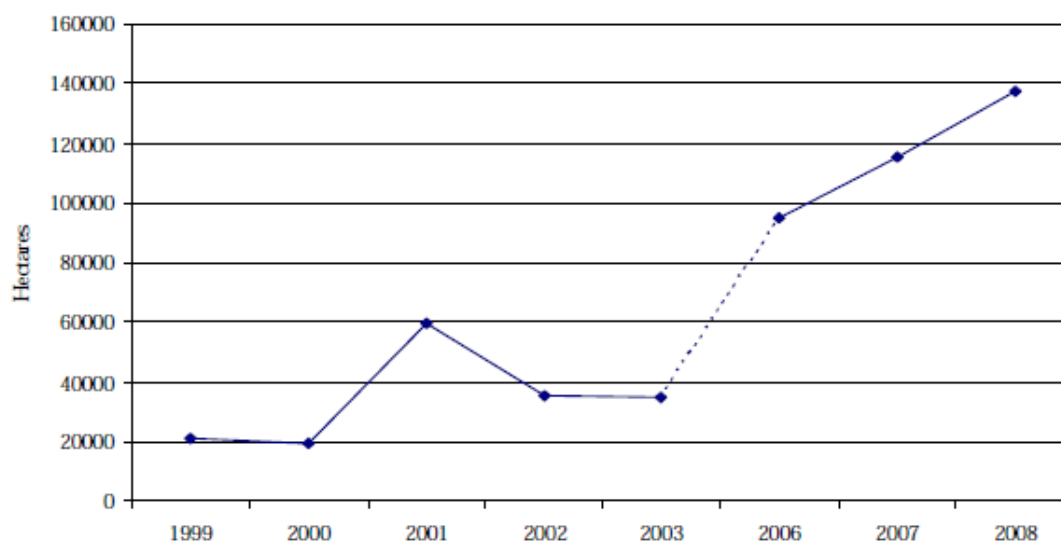


Source: National statistics obtained from Ciaian et al. (2010).

For the NMS, the sales market for agricultural land is strongly affected by public sales under the ongoing land privatisation programmes, especially in Poland, the Czech Republic and Lithuania. In terms of the private sales of agricultural land, there is strong variation between the NMS. While in Poland the number of private sales of agricultural land is decreasing consistently since 1997, the sales market for agricultural land in other countries, such as Bulgaria, Romania, Slovakia and Lithuania has increased substantially after the EU accession (Swinnen & Vranken, 2009; 2010). For example, in Bulgaria, the area transacted on the sales market was seven times higher in 2008 than ten years earlier (Figure 2). Despite these dynamics in the sales market, the share of agricultural land that is transacted each year is relatively small.

In the remainder of this section, we will make a distinction between countries where the share of agricultural land that is transacted through sales is fluctuating (i.e. Finland, the Netherlands, the UK and the NMS) and countries where the transacted area is relatively stable (i.e. Belgium, Germany, Ireland, Greece, Spain, France, Italy and Sweden).

**Figure 2. Amount of sales of agricultural land in Bulgaria (hectares)**



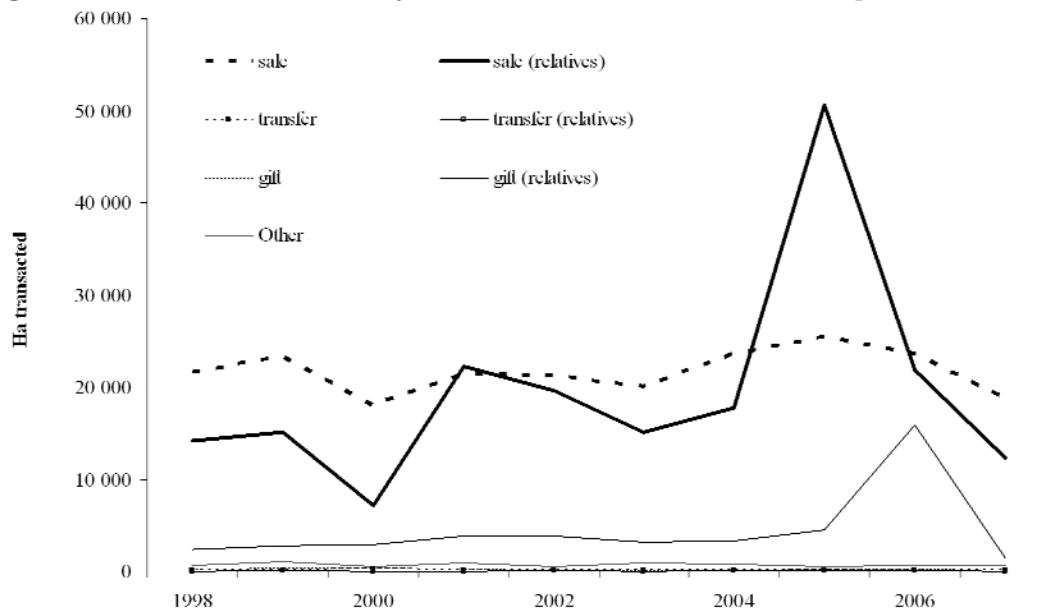
Source: SAPI (Status and tendencies in development of land market in Bulgaria), various years between 1999 and 2008, obtained from Swinnen & Vranken (2009).

## 2.1 Countries with a fluctuating share of sold agricultural land

In Finland, the annual number of land sales transactions has been fluctuating between 4,500 and 6,500 during the last ten years. An exceptional year was 2005, because almost twice as many land sales transactions were registered as in 2004. This exceptional year in land sales could be related to changes in investment support programmes, regulations in generation transfers and farmers' expectations or uncertainty over the continuation of the temporary early retirement programme. Uncertainty about future support has also encouraged farmers to exit before the expiry of the program. In fact, this factor played an important role for land market sales as the large 'baby-boom' generation reached the early retirement age at this time. The start-up support grants for new farmers, which were introduced in this year, were valued at €25,000 for crop farm and €55,000 for livestock and dairy farms. These may have then boosted generation transfers in 2005, i.e. sales between relatives (Figure 3).

It should be further noted that the number of sales transactions is strongly correlated with the yearly average transacted area. In terms of the transacted area, there are some exceptional years such as the one of 2005 and 2006, as well as some low transaction years (e.g. 2000).

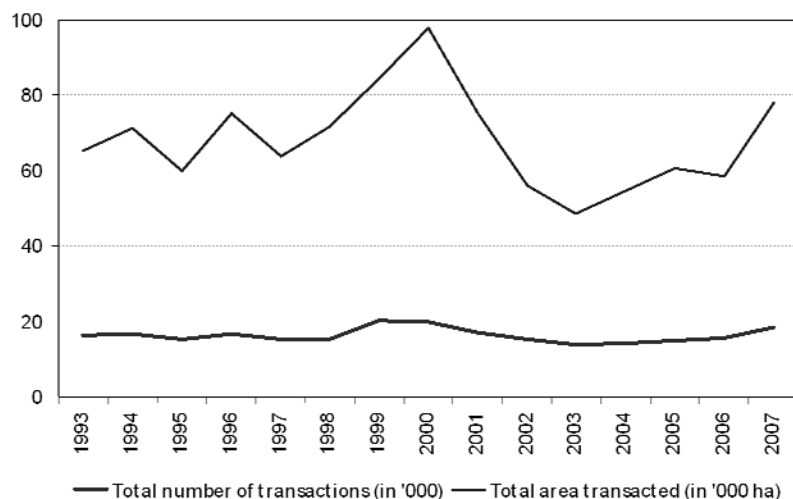
*Figure 3. Transacted hectares by transfer class and relation of the parties in Finland*



*Source:* National Land Survey (2008) obtained from Ciaian et al. (2010).

In the Netherlands, the thickness of the market is subject to large swings across years and regional heterogeneity, while it is correlated with the price of land (Figure 4). In the boom period of 2000, 5% of the total agricultural area was traded, compared with only 2.5% during the price dip three years later.



*Figure 4. Number of sales and area transacted in the Netherlands*

*Source:* CBS (1990-2001); Eurostat (2002-2006) obtained from Ciaian et al. (2010).

This pattern is shared across the regions, but large regional differences exist. For instance, in the Northern Provinces of Groningen, Friesland and Flevoland (Northern Pasture), a higher share of the agricultural area is traded than in the rest of the Netherlands, making it easier for a farmer (or an investor) to buy or sell land if needed (Table 1). The regional land markets have been harmonised since 2002, when the regional shares of transacted area moved towards a common range of 2-4%.

*Table 1. Number of transactions and transacted area in the Netherlands (2010)*

	Number of transactions	Number of hectares
Bouwhoek & Hogeland	89	780
Veenkoloniën & Oldambt	221	1.639
Northern Pasture	406	2.186
Eastern Livestock	515	1.755
Central Livestock	140	335
Ijsselmeer Polders	67	1.230
Western Holland	116	808
Waterland & Droogmakerijen	26	163
Hollands/Utrechts Pasture	100	589
River area	98	362
South-Western Arable	208	1.868
Southwest-Brabant	68	250
Southern Livestock	492	1.653
South-Limburg	106	248
Total	2.652	13.865

*Source:* DLG, calculations LEI.

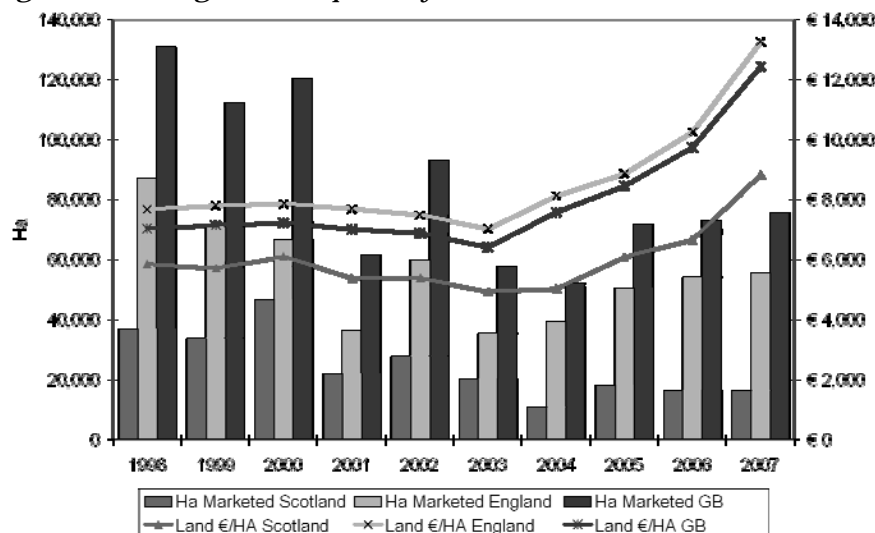
In the United Kingdom, around 1.6% of land was turned over in sales in Great-Britain in the 1960s and this share has currently fallen to about 0.6% per annum. Private transactions account for about 15% of the land market transactions with the remainder sold through public means, and as such the use of publicly marketed land as a proxy for the area sold is sufficient enough to give an accurate picture of trends. Figure 5 shows the average number of hectares, publicly marketed in Scotland, England and in Great Britain from 1990 to 2007 and the reported price per hectare. The figure shows that the land market in Great Britain is

closely tied to the value of the English farmland, despite significant areas being sold in Wales and Scotland (particularly pre-2000). The figure also clearly highlights how the number of hectares transacted in Scotland has been particularly stifled in recent years, and how the transacted area in England has partially recovered since the very low levels marketed in 2003. Similar to the transacted area, the number of transactions also decreased over time in the UK (Figure 6).

In Northern Ireland, most of the transactions take place through the rental market (by taking land in conacre). Only a small share of land is sold annually in this area. In 1993, 4,721 hectares were sold in 467 transactions (indicating a small average plot size), and the supply to the land market continued to fall up to a low of only 520 hectares (or 44 transactions) in 2003 (Figure 7).

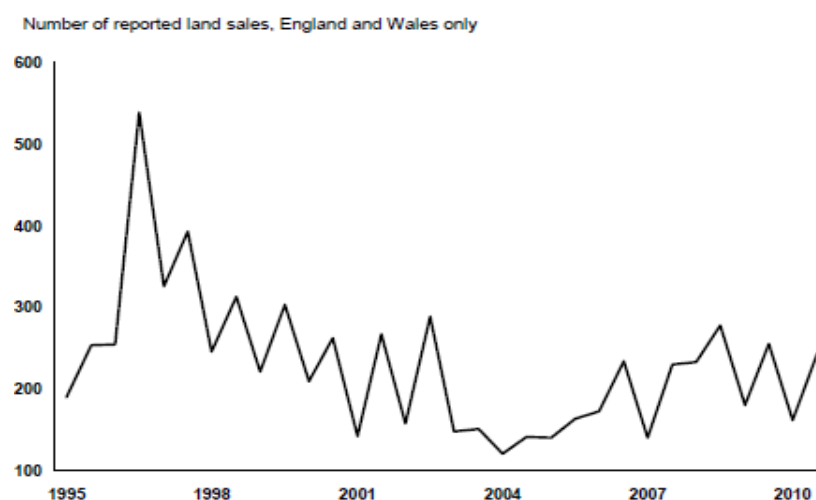
Also in Scotland, the transacted area has been decreasing over time and it appears to be very low in comparison to the area of pre-2000, despite the significant growth in land values since 2004 (Figure 7). Although the publicly marketed land does not account for all land traded in Scotland (there are many private sales), these figures are indicative of the prevailing market conditions and the total amount of land being sold.

*Figure 5. Average area of publicly marketed land and value in the UK*

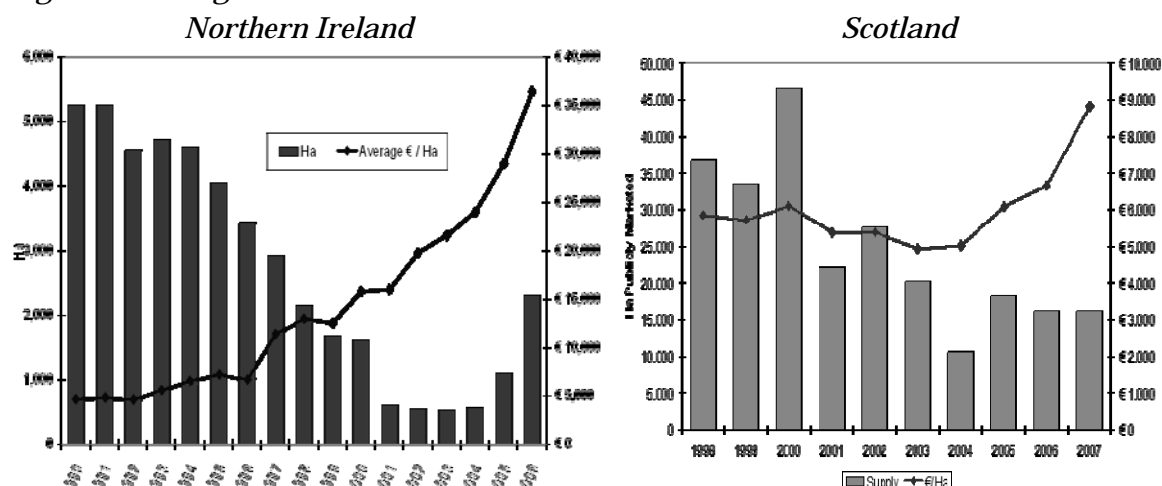


Source: Defra (2008) obtained from Ciaian et al. (2010).

*Figure 6. Number of transactions in sales market for agricultural land in the UK*



Source: RICS (2010).

*Figure 7. Average area of land sold and value in Northern Ireland and Scotland*

Source: National Statistics obtained from Ciaian et al. (2010).

In several NMS, there has been a substantial increase in the transacted area, although the overall share of the UAA that is transacted each year remains low.

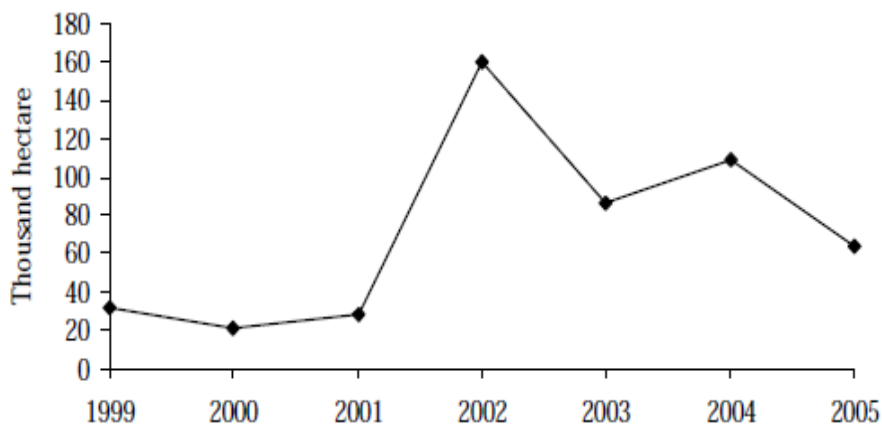
In Bulgaria, the overall size of the land sales market remains small. Land sales as a share of total agricultural land was less than 2.5% around the accession period, but the overall transacted area grew by 45% between 2006 and 2008. There is though variation observed between the different regions of this country (Table 2).

*Table 2. Agricultural area transacted in Bulgaria between 1999-2008 (hectares)*

	1999	2000	2001	2002	2003	2006	2007	2008
North West Region	4,064	1,602	1,875	3,077	2,117	16,942	22,610	16,432
North Central Region	4,106	2,541	6,670	73,278	8,510	21,436	31,719	36,090
North East Region	9,277	1,135	4,079	1,732	1,671	27,994	25,237	35,556
South East Region	1,442	1,442	4,294	3,351	4,016	15,522	15,725	16,200
South Central Region	1,775	1,817	4,939	3,280	2,714.1	11,030	15,591	25,600
South West Region	3,52	352	736	919	304	1,987	4,412	7,523
<b>Country - average</b>	<b>21,016</b>	<b>19,308</b>	<b>59,497</b>	<b>35,458</b>	<b>34,572</b>	<b>94,911</b>	<b>115,294</b>	<b>137,402</b>

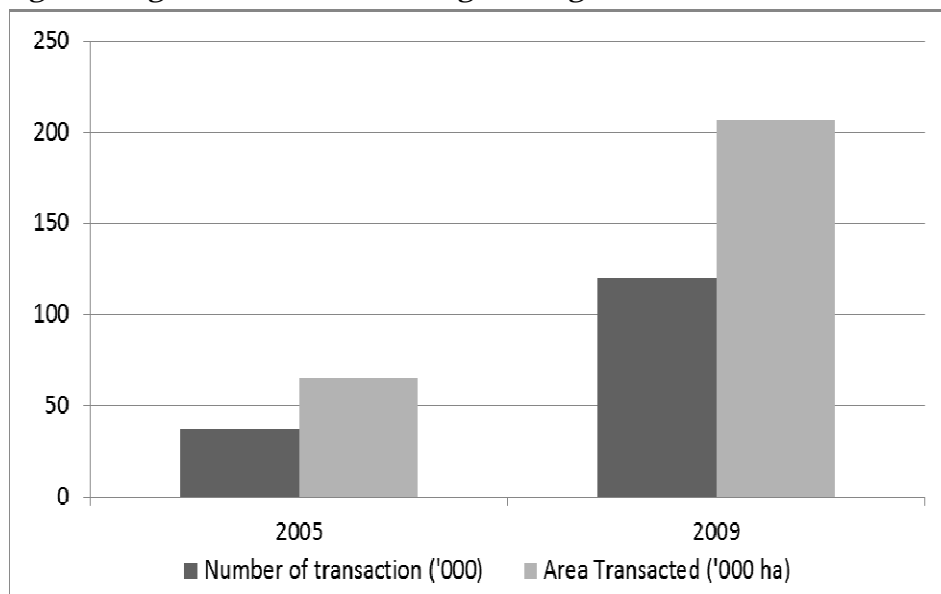
Source: Status and tendencies in development of land market in Bulgaria, SAPI. Various years 2000-08 obtained from Swinnen & Vranken (2010).

In Romania, the share of land sales as a percentage of total agricultural area was even smaller than in Bulgaria. Prior to accession, i.e. between 1999 and 2005, less than 1.5% of UAA was sold on average per year. Over the entire period, around 3.5% of total UAA has been exchanged through sales. The share of land sales as a percentage of total agricultural area seems though to grow over time albeit with some variations. In 2002, a peak in traded area could be observed. After 2002, the amount of land exchanged through land sales decreased but remained above the 2001 level (Figure 8).

*Figure 8. Amount of sales of agricultural land in Romania*

Source: NACLR – Romanian National Agency for Cadastre and Land Registration, 1999-2005 obtained from Swinnen & Vranken (2010).

After 2005, the transacted area of agricultural land increased and the number of sales transactions as well as the area sold more than tripled between 2005 and 2009 (Figure 9).

*Figure 9. Agricultural land exchange through sales, Romania, 2005 and 2009*

Source: NACLR - Romanian National Agency for Cadastre and Land Registration, 2005 and 2009 obtained from Swinnen & Vranken (2010).

However, substantial regional variation is observed between regions. For instance, in Buzau the transacted area doubled between 2006 and 2010, while the rate of growth was much more pronounced in Prahova, where the transacted area was almost ten-fold (Table 3).

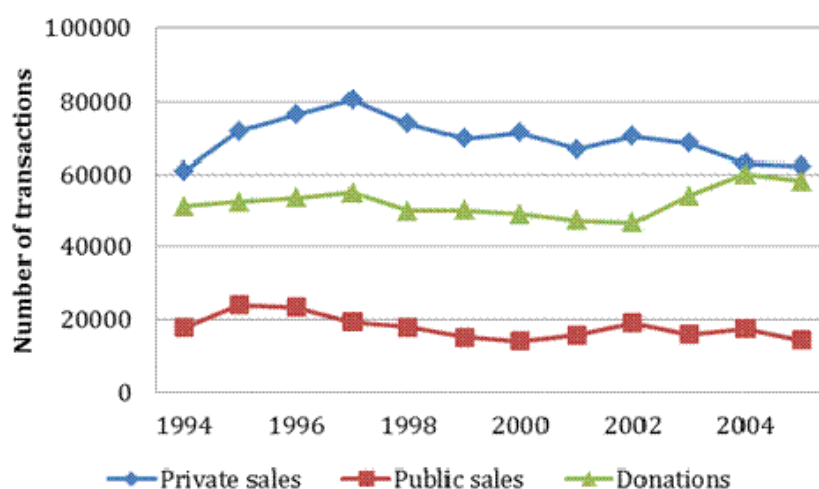
*Table 3. Agricultural area transacted in Romania in the period 2006-10 (hectares)*

	<b>2006*</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010*</b>
Buzau	7071	15,253	15,995	13,860	16,677
Constanta	12,093	47,863	62,142	65,871	55,908
Prahova	2,234	15,074	20,656	14,426	21,021
<b>Evolution of transacted area (2006=100)</b>					
Buzau	100	217	228	198	238
Constanta	100	396	514	545	462
Prahova	100	675	924	646	941

\* Data for 2006 and 2010 are based on the last and first months of the year.

Source: NACLRL - Romanian National Agency for Cadastre and Land Registration, 2006-2010, obtained from Swinnen & Vranken (2010)

In Poland, about half the area sold over the period 1994–2005 was through public sales, accounting for around 10% of the total agricultural area (1.7 million ha), and equivalent to an annual turnover of around 0.9% of agricultural land – a figure that is similar to the one of private sales. However, the number of public sales transactions has been rather constant over the period 1994–2004, while the number of private sales of agricultural land has decreased consistently since 1997, and the number of land sales transactions in 2005 was almost 25% less than in 1997 (Figure 10).

*Figure 10. The number of land sales transactions in Poland*

Sources: ANR and IERiGŻ obtained from Swinnen & Vranken (2010).

In the Czech Republic, there has been an increase in the number and volume of public and private sales in recent years. The rise in public sales has resulted from the privatisation of the remaining state land, which started in 2000. Especially since 2002, a large amount of state land has 'entered' the market (annually about 70,000 ha). The annual turnover of privately purchased land amounted to about 0.2–0.3% of the total agricultural area during the period 1993–2001. From 2002 to 2004, however, the annual turnover of private land increased to 1.5% and even to 3.3% in 2005. This surge in more recent years has stemmed from (among other things) the launch of mortgage loans supported by interest subsidies.

In Slovakia, the overall size of the land sales market remains small. Land sales as a share of the total agricultural land was less than 1.5% in the 1990s (Dale & Baldwin, 2000), but it seems to have grown since then, albeit with some marked variations. That is, sales of agricultural land decreased between 2001 and 2003 but increased again from 2004 onwards

(Table 4). Arable land sales were stable over the 2001–03 period, but grew robustly with accession – the number of hectares sold more than doubled over the 2003–05 period.

*Table 4. Number of hectares of land transacted through sales in six Slovakian regions*

	<b>Agricultural land</b>	<b>Arable land</b>
2001	2.110	822
2002	1.451	962
2003	912	874
2004	1.853	1.476
2005	2.754	1.899

*Source:* VUEPP obtained from Swinnen & Vranken (2010).

In Hungary, a bit less than 3% of the productive land changed owners in 2004. The majority of the exchanges of agricultural land involved persons exercising their pre-emption rights or transfers between co-owners. Only half of the land transfers, corresponding to 1.5% of the productive land (or slightly more than 100,000 hectares), occurred through sales without pre-emption or between partners who are not relatives or co-owners.

In Lithuania, the amount of land in private ownership has grown substantially over the past few years owing to the privatisation process, which is still ongoing. The area in private ownership increased by 60% (on average 8.5% per year) between 2000 and 2006. The number of sales of privately owned land was constant over the 2000–03 period, with around 3% of privately owned land being transferred through either sales or donations. There was a strong rise in 2004, the year of EU accession, with the share of private land being transferred being up to 5–7% (Table 5). The largest increase was in 2005, followed by a reduction.

*Table 5. Evolution of land sales in Lithuania*

	<b>Transacted agricultural area (1,000 ha)</b>	<b>Private agricultural land (1,000 ha)</b>	<b>Change in private agricultural land (2,000=100)</b>	<b>Percentage of private land that has been transferred</b>
2000	58	1,706	100	3
2001	58	1,930	113	3
2002	59	2,089	122	3
2003	59	2,269	133	3
2004	127	2,538	149	5
2005	169	2,605	153	7
2006	139	2,727	160	5

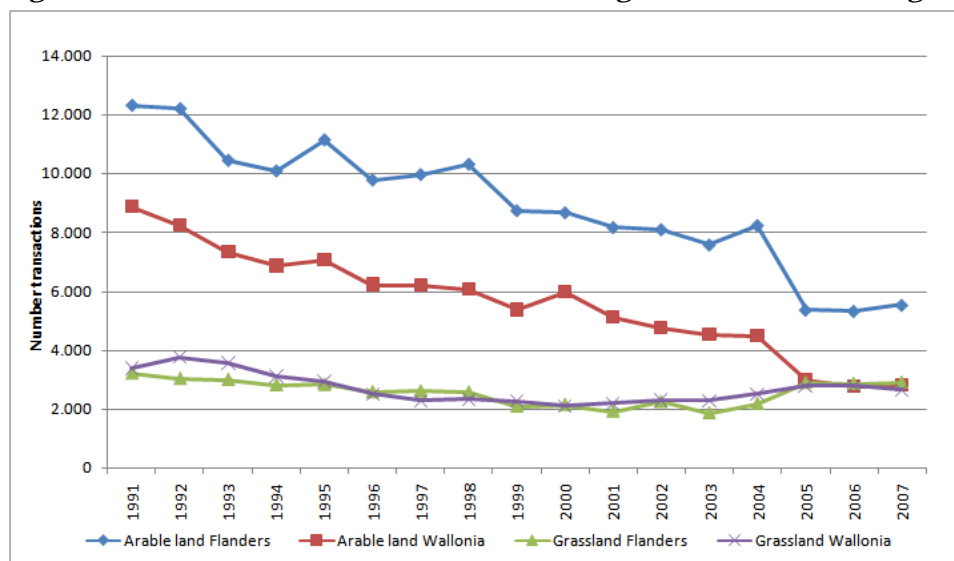
*Source:* State Enterprise Centre of Registers obtained Swinnen & Vranken (2010).

## **2.2 Countries with a stable share of sold agricultural land**

In most of the OMS, the share of sold agricultural land is relatively stable over time.

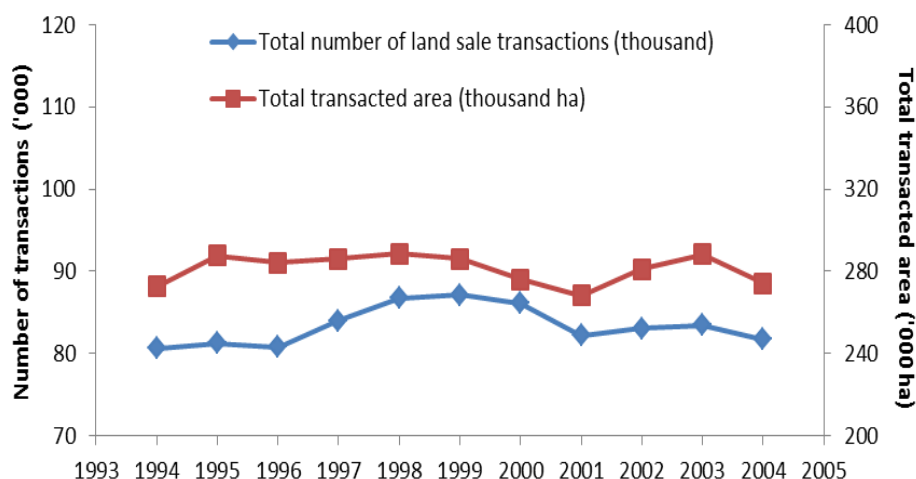
In Belgium, the number of sales transactions for arable land and permanent grassland seems to have stabilised since 2005, after a period of steady decline over the last 20 years (Figure 11). The decreasing number of land sales transactions could be explained by the increasing number of informal/illegal tenancy contracts and of 'seasonal tenancy contracts' between pensioners and young farmers. This implies that the retiring farmers, instead of selling their land, tend to rent the land out, so that the sales supply is reduced but the supply of informal/illegal tenancy contracts increases.



*Figure 11. Evolution of the number of sales of agricultural land in Belgium*

Source: Stadim obtained from Ciaian et al. (2010).

In France, the number of transactions has been relatively stable over the period 1994-2004, despite a small increase in the number of transactions in the period 1997-99 (Figure 12). In 2001, the number of transactions returned to the 1996 level and also the number of hectares transacted decreased. This decrease may be due to farmers' expectations regarding the implementation of the single payment scheme (SPS) on an historical basis. That means that sales were kept limited in order to retain a reference area as large as possible during the period 2000-02. The number of sales transactions is around 80,000 per year and the area transacted was 274,271 ha in 2004, which is equal to 0.93% of the total UAA.

*Figure 12. Evolution of the number of sales and transacted area in France*

Source: SAFER obtained from Ciaian et al. (2010).

In Germany, the sales market has remained relatively stable during the last five years. Despite the rapid structural changes in the agricultural sector, there are hardly any transactions on sales market for arable land or grass land. In 2006, only 0.6% of agricultural land were sold (57,000 hectares in East Germany and 40,000 hectares in West Germany) (Table 6). For 2006, the average share of sales adds up to 0.31% in West Germany and 0.94% in East Germany (Statistisches Bundesamt, 2006).

*Table 6. Land sales market in Germany in 2006*

	<b>Germany</b>	<b>West Germany</b>	<b>East Germany</b>
Average price for UAA (€/ha)	8,909	15,941	4,040
Total transacted area (1,000 ha)	98.63	39.79	57.48
Total number of sale transactions (1,000)	38.4	26.37	12.01
Average plot size transacted (ha)	2.53	1.51	4.79

*Source:* Statistisches Bundesamt (2008) obtained from Ciaian et al. (2010).

In East Germany, there is pressure on farms to buy land, which is caused mostly by i) the ongoing privatisation of land managed by the state trust holding BVVG (Bodenverwertungs- und Verwaltungs GmbH), and ii) the selling of land by owners or heirs who are not active farmers. Nevertheless, the total amount of land sold at market value has remained almost unchanged on an annual basis. During the same period, and according to the Compensation and Indemnity Act, the number of areas sold at reduced prices has dropped significantly, which has led to an overall decline in the areas transacted on sales market.

However, within West Germany, there are differences between regions. In the West German region of Bavaria, only 5,569 ha of the UAA were sold in 2006, which equates to 0.16% of the total UAA in Bavaria. This is the lowest share of sales for all federal states in West Germany and even Germany as a whole. Lower Saxony has the highest share of sales compared to all federal states in West Germany. In 2006, 14,783 ha of the UAA were sold, equating to 0.52% of the total UAA in Lower Saxony.

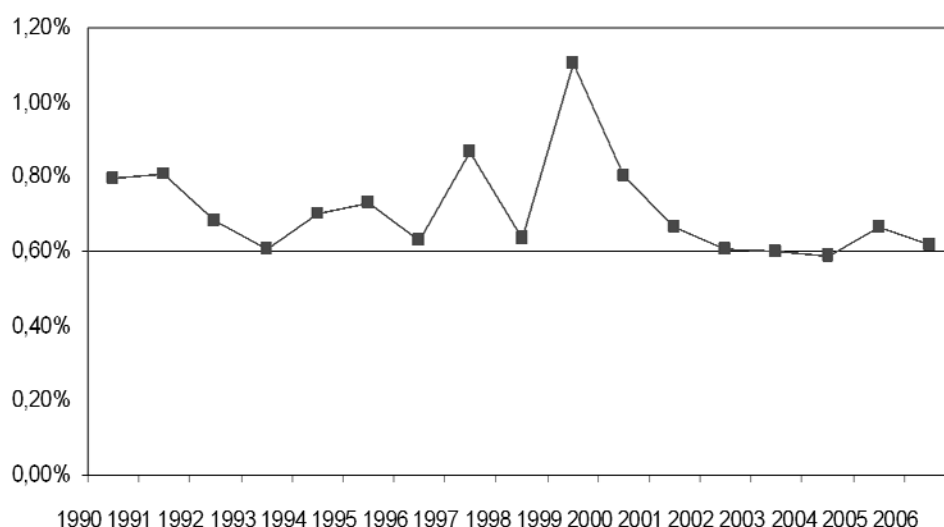
In Greece, the sales market for agricultural land is very thin and most transactions take place on the rental market. In general, residents of rural areas are not willing to sell their holdings apart from cases of potential economic problems, while landowners who live in towns choose not sell their property not only for sentimental reasons, but also because they plan to use their land when they retire and move back to rural areas. Most of the transactions in the land market take place in the region of Crete, owing to the usage of agricultural land for purposes other than horticultural crops, mainly tourism.

In Italy, land sale transactions each year concern about 1-2% of the total UAA, although precise information about sales market exchange is not available (Gallerani et al., 2004). Moreover, a large number of transactions related to agricultural land are actually driven by non-agricultural use, e.g. the prospect of building.

In Ireland, each year approximately 3% of the total UAA changes owner. Unlike elsewhere in the EU, rural dwellers in Ireland are not concentrated in towns and villages and there has been a strong demand for so-called 'one-off' houses (individual houses which are typically on plots up to 0.25 hectares). As a result, it is not uncommon that when farmers had access to public roadways, they sold several such plots over the last ten years.

In Spain, the sales market for agricultural land is very thin as only 0.6% of the total UAA is transacted each year. In 2007, this corresponds to 189,785 purchases/sales of agricultural land and 47,910 mortgages.

In Sweden, only a small part of the total UAA is being sold (Figure 13). The share does not seem to have changed much in recent years. In 1999, an exceptional large amount of land was sold compared to other years, although this change was mainly driven by a change in tax legislation. Since then, the share of sales has been stable at around 0.6% of the total UAA. Even though the overall agricultural area that has been sold decreased, the number of transactions has increased. In the beginning of the 1990s, the number of transactions was around 2,000 per year compared to about 2,500 in 2006.

*Figure 13. Share of agricultural land sales in total utilised area in Sweden*

*Sources:* Statistics Sweden (2008) and Swedish Board of Agriculture (2008) obtained from Ciaian et al. (2010).

### 3. Average size of transacted plots

This section describes the development of the average size of transacted area, which is a further indicator of the behaviour of land market participants.<sup>3</sup>

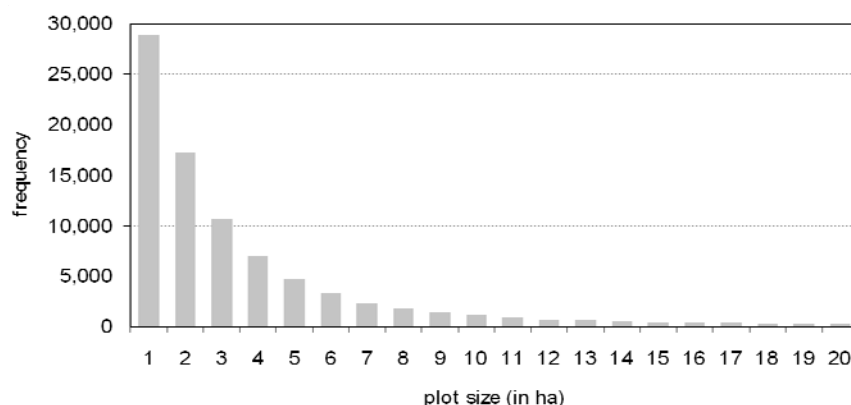
In Belgium the average size of a transacted area remains more or less stable over the years, at around 0.9-1.0 ha. This figure is bigger in the region of Wallonia than in Flanders, which could be explained by the fact that the average farm size in Wallonia is 2.4 times bigger than in Flanders and the region is less dense populated. Since plots are relatively small and urban pressure is high in Belgium (especially in Flanders), agricultural land prices are strongly affected by urban pressures.

In France as well, the average size of land sale transactions has been fairly stable over the last 15 years at around 3.3 ha. The relative stability in the observed pattern of the average size of farmland sales transactions is likely to be determined by the rigid sales market regulations.

In the Netherlands, the distribution of plot sizes of the transacted land is highly concentrated around small plots up to two hectares (Figure 14). On a national level, 50% of all areas sold are smaller than 2.7 ha. Again, large differences across regions prevail. The relatively young agricultural areas located in the IJsselmeer Polders in the province of Flevoland have plot sizes more than eight times the national average. The agricultural areas in the centre and south of the country are though composed of smaller plots due to their different topographic situation.

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<sup>3</sup> Due to data restrictions, we only provide information on the situation for some selected member states.

*Figure 14. Distribution of transacted plot sizes in the Netherlands (1993-2007)*

*Source:* Kadaster obtained from Ciaian et al. (2010).

In Germany, there are significant differences in the average size of transacted plots. Generally, in East Germany the average size of sold agricultural land is considerably higher than in West Germany. In the German region Lower Saxony, the average plot size of sold agricultural land fluctuated between 2.4 ha and 2.7 ha in the recent past.

In Sweden, the average plot size of transacted area has decreased. The average plot size sold was less than 8 hectares in 2006, which is a decrease from around 14 hectares in the beginning of the 1990s. Most of the registered transactions are small holdings. For example, in 2005, 85% of traded plots were smaller than 10 hectares, mostly bought to enlarge existing holdings. On a regional level, plots sold are smaller in northern Sweden and larger in the Stockholm area, the south east and the south.

#### **4. Sales prices**

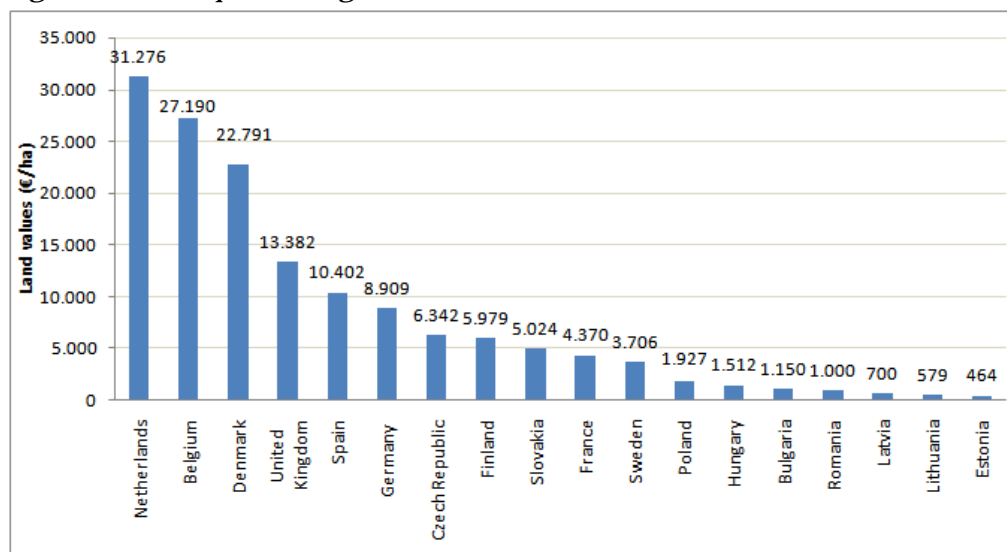
Most of the countries included in the present analysis do not impose price regulations in the sales market of agricultural land, unlike in the rental market. Nevertheless, restrictions exist in some countries, especially in the NMS and the candidate countries. For instance, restrictions on foreign ownership of agricultural land may affect sales prices (see Ciaian et al., 2012 for a detailed overview of the existing regulations on foreign direct investments in the NMS and the candidate countries).

This section illustrates the differences in sales prices between member states and the evolution of sales prices over the period 1995-2008 (for the OMS) and 2004-08 (for the NMS). Data on sales prices are obtained from Eurostat and are deflated using the EU25 GDP deflator.<sup>4</sup>

Overall, there are substantial differences in the agricultural sales prices in the member states. Figure 15 shows the average sales price for agricultural land in 2006 in the different member states based on data from Eurostat.<sup>5</sup> Figure 16 shows the differences in the evolution of agricultural land prices in the OMS.

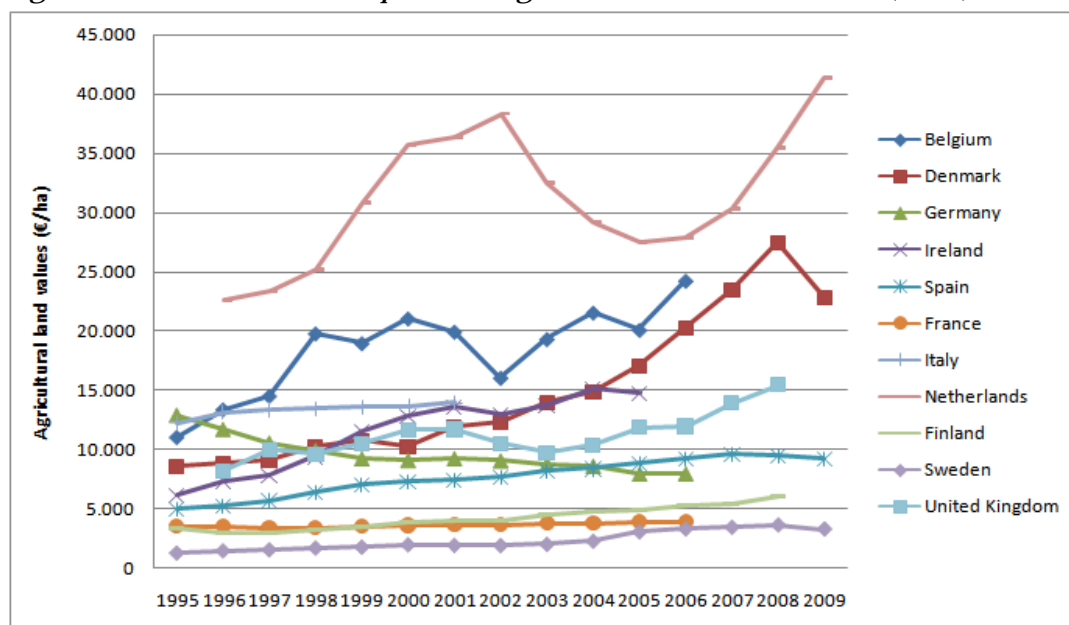
<sup>4</sup> Note that we did not include the candidate countries in the comparative figures below because the available data for these countries are only provided by national statistics and hence therefore are not necessarily comparable to the data for the OMS and the NMS. In addition, data availability is very limited for the candidate countries, such that we have no information on the evolution of sales prices, but only on their level.

<sup>5</sup> We opted to make the cross-country comparison based on data for 2006 since this is the latest year for which land value data are available for most of the countries.

*Figure 15. Sales price of agricultural land in 2006 (€/ha)*

*Note:* Data for France are sales prices of arable land. Data for the NMS are obtained from national statistics and described in Swinnen & Vranken (2009) for the Czech Republic, Slovakia, Hungary (data from 2007), Poland, Estonia, Latvia and Lithuania and in Swinnen & Vranken (2010) for Romania and Bulgaria.

*Sources:* NMS: Swinnen & Vranken (2009; 2010); OMS: Eurostat (2011).

*Figure 16. Evolution of sales prices of agricultural land in the OMS (€/ha)*

*Note:* Prices are deflated using the EU25 GDP deflator and are expressed in 2000 prices.

*Source:* Eurostat (2011).

It appears that there is a large discrepancy between sales prices in both the OMS and the NMS. For example, in Estonia, one hectare of agricultural land costs approximately €464, while in the Netherlands, a farmer pays on average €31,280 per hectare. These substantial differences relate to income differences between the OMS and NMS, but also to factors such as land productivity and farm structure.

Moreover, within the group of the OMS there is substantial variation in the rental price. For instance, in the Netherlands, sales prices are very high (€31,280/ha), and almost ten times

higher than in Sweden (€3,710/ha). This may reflect differences in land quality, but may also be the result of the interaction of land markets with policy regulations (e.g. increased demand for land to comply with the Nitrate Directive in countries where there is a manure surplus, such as the Netherlands or Denmark, may lead to higher sales prices).

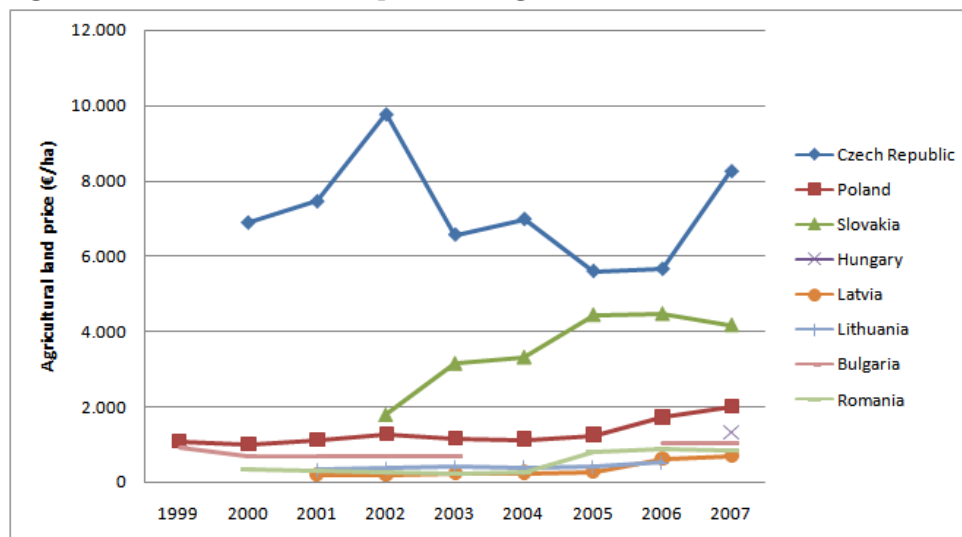
There can also be substantial variation in the sales prices of agricultural land within a country. For example, in the Netherlands, the average land values is around €24,790 per hectare in the regions of Waterland and Droogmakerijen, while farmers in Southwest Arable need to pay more than double (€60,681 per hectare).

In the candidate countries, data on sales prices of agricultural land are obtained from Bojnec (2011) (not shown in the figures, because of data paucity). In 2011, the agricultural land sales price in Croatia was between €5,000 and €7,000 per hectare. In FYROM, the average price for one hectare of arable land was approximately €2,500 per hectare. In Turkey, agricultural land sales price varies between 50,000 and 80,000 Turkish liras (TL) per hectare.

Overall, the evolution of sales prices is heterogeneous across the EU member states, especially in the OMS. In some countries, such as Germany, real agricultural land values slightly decreased over the period 1995-2009, while in other countries, such as France and Italy, land values were relatively stable over the same period. Finally, there are countries, such as the Netherlands, Denmark and Belgium, where land values have strongly increased.

The heterogeneity in the evolution of sales prices in the OMS contrasts sharply with the evolution of sales prices in the NMS, where agricultural land values have followed a similar trend, and sales prices have strongly increased over the period 1999-2008, as illustrated in Figure 17. However, there are differences in the speed and the magnitude of the sales price increase. For example, in Slovakia agricultural land values increased from €1,869/ha in 2002 to €4,822/ha in 2007, while in Poland, the increase in land sales prices was more moderate and the nominal sales prices increased from €1,323/ha in 2002 to €2,297/ha in 2007.

*Figure 17. Evolution of sales prices of agricultural land in the NMS (€/ha)*



*Note:* Prices are deflated using the EU25 GDP deflator and expressed in 2000 prices.

*Source:* Data obtained from Swinnen & Vranken (2009; 2010).

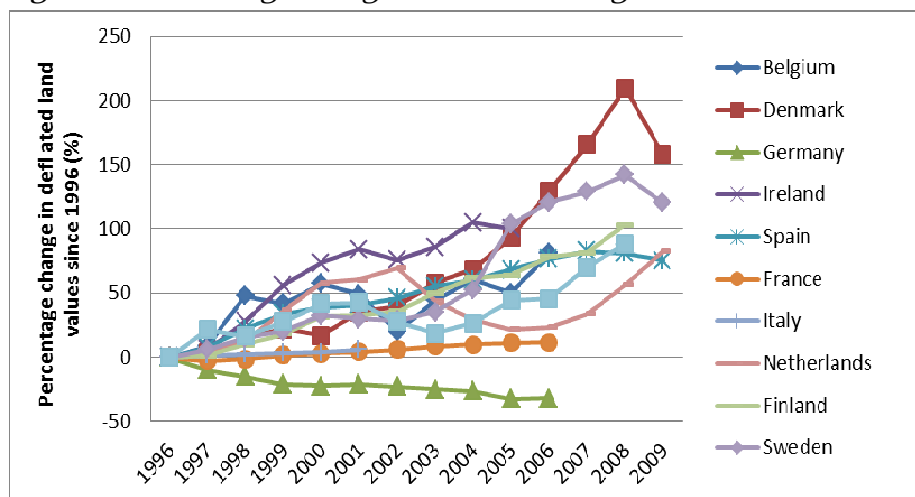
In general, we can distinguish between three distinct patterns of sales price development: i) countries where agricultural land prices have decreased over the period 1995-2008, such as Germany and Greece (based on Ciaian et al., 2010 data), ii) countries where the land values were relatively stable in the period 1995-2008, such as Italy and France and iii) countries where agricultural land prices have increased in the period 1995-2009 (for the OMS) and in the period 1999-2009 (for the NMS). For the latter case, Belgium, the Netherlands, Sweden, Finland, the UK and Spain are included from the OMS; whereas for the NMS, Slovakia,



Hungary, Poland, Latvia, the Czech Republic, Estonia, Lithuania, Romania and Bulgaria are included in our survey.

The percentage changes in land rental prices since the reference year (that is, 1996 for the OMS and 2004 for the NMS) are given in Figures 18 and 19 for the OMS and the NMS, respectively.

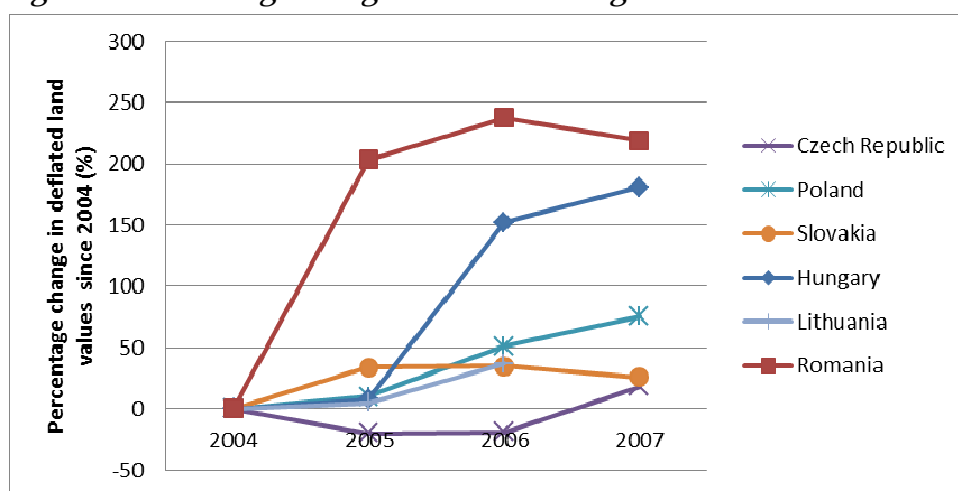
*Figure 18. Percentage change in the deflated agricultural land values in the OMS (%)*



*Note:* Prices are deflated using the EU25 GDP deflator and expressed in 2000 prices.

*Source:* Eurostat (2011).

*Figure 19. Percentage change in the deflated agricultural land values in the NMS (%)*



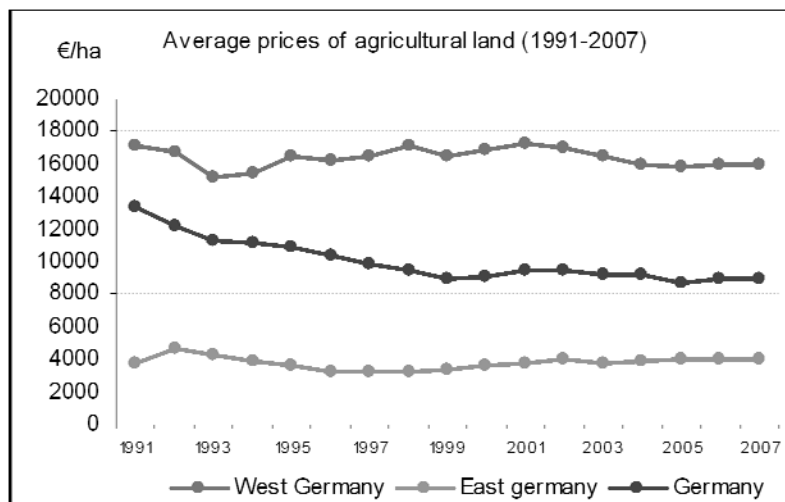
*Note:* Prices are deflated using the EU25 GDP deflator and expressed in 2000 prices.

*Source:* Swinnen & Vranken (2010).

#### **4.1 Countries with decreasing sales prices for agricultural land**

As already mentioned, the real sales prices for agricultural land have been decreasing only in two countries: Germany and Greece. However, the causes for the decline have been rather different in the two countries.

In Germany, the real sales prices for agricultural land have decreased significantly since 1996. The nominal land sales market has remained relatively stable over the last five years. Although land prices have been relatively constant on the aggregate level, in East Germany they increased slightly, while in the Western regions they have edged down (Figure 20).

*Figure 20. Average prices of agricultural land in Germany*

*Source:* Statistisches Bundesamt (2007) and estimated values obtained from Ciaian et al. (2010).

Land prices in the sales market, however, are affected not only by location and soil quality but also by the purpose of use. As a result, the highest prices were realised in Bavaria (especially in Upper Bavaria) and in North Rhine-Westphalia (particularly in the Düsseldorf district), owing mainly to the high demand for agricultural land for urban or industrial usage. In Bavaria, a farmer paid on average €24,294 per hectare in 2006.

In Greece, the nominal sales prices for agricultural land have been decreasing less than in Germany and have stabilised since 2005. The average sales price varies between €4,500 and €18,000 per hectare. In the region of Crete, for example, the sales prices vary considerably across communities, as a significant share of agricultural land is located in mountainous areas, whereas the remaining share is close to coastal tourist areas. As a result, land selling prices are much higher in coastal areas, where land is not used only for agricultural production.

## **4.2 Countries with stable sales prices for agricultural land**

The real sales prices for agricultural land have stayed relatively stable (changes were less than 10%) in two large EU countries – France and Italy. In France, the relative price stickiness is caused by rigid land market institutions, whereas in Italy, the relatively small price decline for agricultural land is mainly driven by demand factors.

In France, the real price for agricultural land has been relatively stable since 1995. However, it seems that prices have started increasing more strongly after 1996, but there is no shock over the examined period, as a rather upward price trend is in general observed in this country. A reason that may explain such an increase is the introduction of a new way to calculate land rentals in 1995. Prior to 1995, rentals were based on theoretical land production potentials (in quintals per hectare). These (rather low) potentials did not actually reflect the evolution of the market. Therefore, an index-based rentals calculation was introduced in 1995. This has effectively led to an increase of rental prices, and may have potentially resulted in higher land sales prices.

Further, substantial variation in land prices is observed within the country. First, there is variation depending on the agricultural production on the plot. For example, vineyards are in general more expensive than arable land or pasture (Table 7). Second, there is regional variation in agricultural land prices and the highest prices in France are found in the regions of Corsica and ‘Provence-Alpes-Côte-d’Azur’ (extreme south-east of France), suggesting a pressure from urbanisation and tourism. The Southern areas in France are also highly expensive due to demographic pressure, while the Parisian area is expensive due to sugar

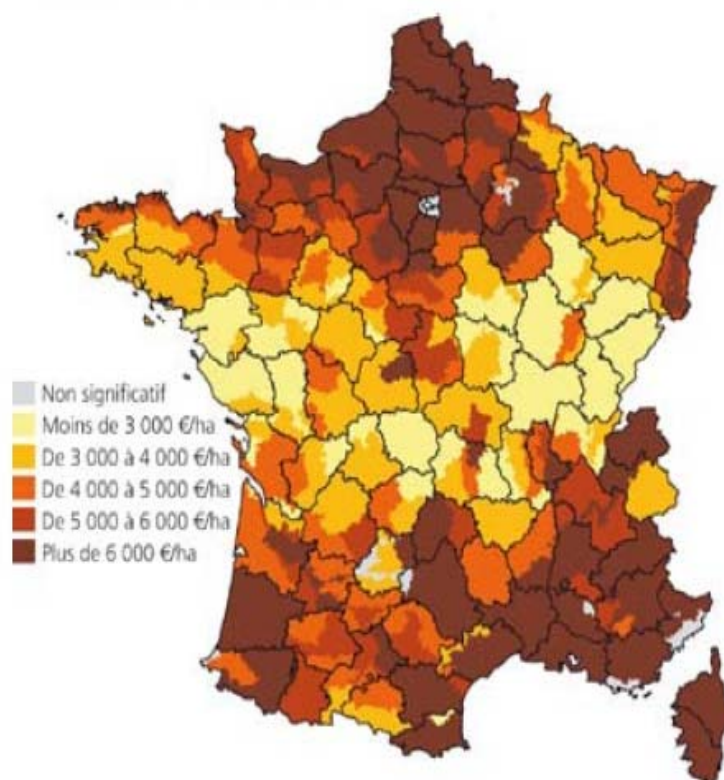
beet production and the Champagne vineyards. Figure 21 shows a map of France with the regional distribution of sales prices for agricultural land.

*Table 7. Sales prices of agricultural land in France in 2010 (€/ha)*

Arable land and pastures: in ownership	5,230
Arable land and pastures: in tenancy	3,620
Quality label wine	95,200
Label liqueur	27,700
Other wine	10,600

*Source:* Terres d'Europe-SCAFR.

*Figure 21. Regional distribution of sales prices for agricultural land in France, 2010 (€/ha)*



*Sources:* SAFER and SSP.

In Italy, the real sales prices for agricultural land have been relatively stable over the last 15 years. In 2010, the average national price of land was €18,000/ha (Table 8). Higher prices are reported in the North, while the lowest prices are reported for the South and the Isles. The variation in sales prices captures a wide average of very heterogeneous categories. Among the reported values based on the land use type, extremes range from €7.387/ha for pasture land to up to €28,765/ha for vineyards (Table 9).

In the long run, it seems that the land value tends follow the national inflation. However, shorter-term trends can be also recognised. Sales prices are also found to be affected by the major policy reforms (implemented in 1992 and 2005). In general, policy reforms have caused uncertainty for farmers and this is translated in a reduction of the number of transactions and real price stability.

*Table 8. Prices of agricultural land in Italy by location in 2009 (€'000/ha)*

	<b>Inland mountain</b>	<b>Coastal mountain</b>	<b>Inland hills</b>	<b>Coastal hills</b>	<b>Plain</b>	<b>Total</b>
North-western	5.0	25.6	20.9	75.5	34.2	23.9
North-eastern	18.2	-	37.4	28.9	42.5	35.6
Centre	7.5	10.2	11.4	16.9	20.1	12.4
Southern	6.7	10.0	10.6	16.5	14.1	11.4
Isles	5.9	8.8	7.7	10.6	15.0	9.3
Total	8.8	9.8	13.4	15.3	30.3	18.0

Source: Povellato et al. (2010).

*Table 9. Prices of agricultural land by location in Italy in 2009 (€/ha)*

<b>Production</b>	<b>Average</b>
Fruit	24,513
Olive oil plantation	17,870
Grassland and pasture	7,387
Arable crops	22,634
Vineyards	28,765

Source: INEA (2010).

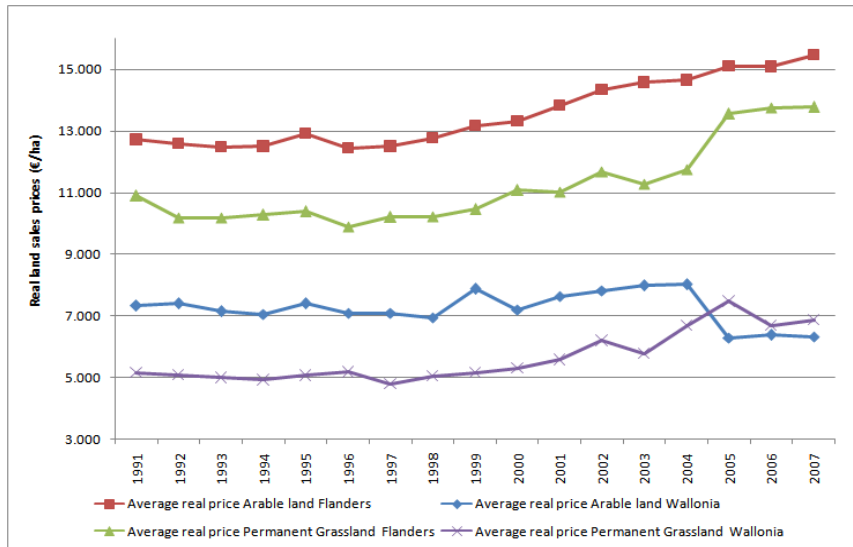
### **4.3 Countries with increasing sales prices for agricultural land**

In the rest of the OMS– Belgium, Finland, Ireland, the Netherlands, Spain, Sweden and the UK – and in the NMS under consideration, the real prices for agricultural land have been increasing over the past decade.

In Belgium, sales prices for agricultural land have been increasing steadily since the mid-1990s. However, according to national statistics, the development of sales prices for agricultural land is highly different between regions (Figure 22). In Flanders, the average real price of arable land and permanent grassland was relatively stable in the beginning of the 1990s; however since 1996, the price of all plots increased each year by an average of 2-3%. The real price of permanent grassland of all plots in Wallonia also increased annually by 3% on average. In contrast, the average real prices of arable land in Wallonia show a different evolution. From 1996 until 2004, the prices of all plots increased; in 2006 and 2007, prices were stable, but recent data are not available.<sup>6</sup>

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<sup>6</sup> Note that all prices reported are official prices and may underestimate the real purchase price since it is still common in Belgium that the buyer makes an additional black payment to the seller to avoid high administrative costs at the time of the purchase (estimated at approximately 20% of the purchase price).

*Figure 22. Regional distribution of sales prices for agricultural land in Belgium (€/ha)*

*Source:* Stadim (2008) obtained from Ciaian et al. (2010).

In Ireland, the sales price of agricultural land has grown very strongly since 1995. The rate of increase was at its fastest between 1996 and 2000, with the strongest annual increase occurring in 1999 (24%). In the last 5 years for which annual data are available (2001-2005), the price of agricultural land increased by almost 17%. The factors behind the strong growth in land prices are largely unrelated to the agricultural market and/or the agricultural policy developments. The main drivers behind the spectacular increase are demand factors. First, there are the living habits of the Irish population: rural dwellers are not concentrated in towns and villages and there is a strong desire to build so-called 'one-off' houses in the countryside. The growth of the Irish economy strongly stimulated the demand for such housing facilities. Second, there was strong population growth, largely due to returning immigrants who had been based in other English-speaking countries (e.g. the UK and Australia) but also in other EU member states. This has created pressures for housing and other facilities, contributing also to increases in land prices (Ciaian et al., 2010).

In Spain, there is a strong increase in land prices since the beginning of the 1990s, after a period of declining land prices in the 1980s. Part of the rapid increase in land prices can be attributed to the introduction of the Common Agricultural Policy in this period, since aid payments were linked to productivity and hence, at least partially, capitalised in land prices. Later in the period 2005-06, land prices increased even more strongly due to urban pressures and the spectacular increase of housing prices in this country.

The highest price corresponds to the Canaries region, for banana plantations, followed by the Valencian Community, for orange groves and due to the influence of tourism, as well as by the Balearics and Andalusia regions, where values of the agricultural land in the year 2006 were of €73,902, €31,635, €20,736 and €20,536/ha, respectively. The lowest prices were observed in Aragon, Extremadura and Castille-Leon regions (€3,786, €4,419 and €4,554/ha, respectively).

From 1990 until 2006, the average annual increase in current values has been 5.47%. Particularly for the period 1997-1999, the average increase of land prices was about 14%. However, this increase has neither been homogenous across regions nor for the different land uses.

An increase of 10.3% was noted in the Canaries region followed by the Basque Country with a 9% increase and Andalusia with 8%, given their more relevant crops. These are banana plantations in the Canaries and olive groves in Andalusia. Conversely, in the regions of Cantabria, Galicia, Asturias and Aragon, land prices increased by only 1.7%, 2.1%, 2.3% and 3.2%, respectively, in the period 1990-2006. The price increased the most for non-irrigated

land used for growing olives for processing, with an average of 9.4% in the period 1990-2006, whereas the price for meadow lands registered an increase of only 1.7%.

In the Netherlands, the land price dynamics for the last 15 years are characterised by three major developments. First, prices display a strong upward trend in combination with pronounced cycles. Second, huge price differences related to the location can be observed. Third, the liquidity of potential buyers is very volatile over time.

During the 1990s, prices for agricultural land almost doubled, shooting up from €20,600/ha in 1996 to €40,150/ha in 2001 on a national level. The average price growth rate in these years was about 12% annually. From 2001 to 2005, prices decreased sharply before recovering pronouncedly over the period 2005-09. Currently, the highest land prices can be found in the South of the Netherlands (e.g. in the Southwest region arable land costs €59,770 per hectare), while prices in the North are substantially lower (e.g. in Northern region the price for pasture land is €34,169 per hectare) (Table 10).

*Table 10. Land values by region in the Netherlands (€/hectare, 2010)*

	<b>Jan-June</b>	<b>July-Dec</b>	<b>Total</b>
Bouwhoek & Hogeland	47,129	42,277	44,667
Veenkoloniën & Oldambt	35,412	35,946	35,633
Northern Pasture	34,534	33,530	34,169
Eastern Livestock	43,634	47,580	45,626
Central Livestock	57,897	51,919	55,100
Ijsselmeer Polders	58,966	68,450	63,909
Western Holland	48,610	45,181	46,998
Waterland & Droogmakerijen	24,790	34,582	27,248
Holland/Utrecht Pasture	40,842	42,440	41,753
River area	50,060	51,012	50,542
Southwest Arable	60,681	58,916	59,770
Southwest-Brabant	53,263	53,338	53,284
Southern Livestock	53,765	54,890	54,366
South-Limburg	51,651	48,775	50,278
<b>Total</b>	<b>46,172</b>	<b>48,850</b>	<b>47,433</b>

*Source:* DLG, calculations, LEI.

In general, prices for arable land exceed prices for grassland, but the deviations are never large enough to allow for large gains from arbitrage. In the period 1993-2000, the difference was on average €1,400/ha. In the years 2001 through 2007, the gap between the indices widens to an average of €3,200/ha. Since grassland was converted on a large scale into arable land during the entire period, the rising price difference indicates that either the cost of converting grassland into arable land has increased or that the quality of grassland on the market has declined. Probably, also meadows were bought at favourable farming locations and ploughed up first, decreasing the average quality of the remaining plots.

The location is one of the key determinants of inter-regional differences in land prices in the Netherlands. In Table 11, we observe very heterogeneous land prices across regions, and distinct regional price dynamics. The region of Ijsselmeer Polders, for instance, with its very fertile soil, large plot sizes and highly specialised agricultural production had the largest increase of all regions, especially in the last years. However, there were relatively few but extremely large transactions, complicating its comparison to the other regions. On the other hand, land in the specialised livestock production region of Zuidelijk Veehouderijgebied had a higher price initially, but experienced only half of the price growth in the subsequent years.



A general trend of regional price catch-up can be observed in this country. Prices in regions with relatively low land prices in 1993 grew more than those with high initial prices. Anecdotal evidence suggests a trickle-down explanation for this phenomenon. Farmers from areas with high prices sell their land and move to larger farms in less pricy regions, driving prices up at their destinations.

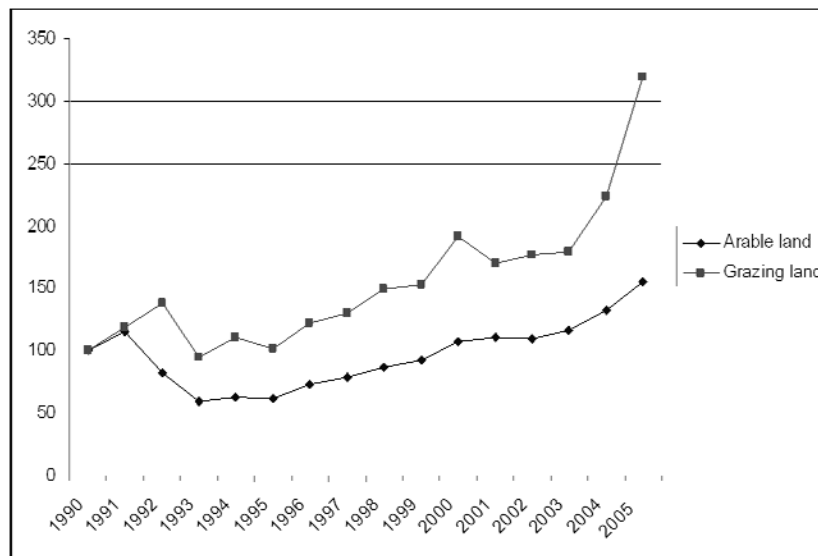
*Table 11. Regional distribution of land prices per group of agricultural areas in the Netherlands, 1993-2007*

Region	Median price for agricultural land				
	1993	2000	2003	2007	Change 1993-2007
IJsselmeer Polders	1.58	2.48	4.9	4.45	182%
Westelijk Holland	1.94	4.14	5.0	5.41	179%
Zuidwestelijk Akkerbouwgebied	1.27	3.25	3.17	3.45	172%
Centraal Veehouderijgebied	1.95	3.85	4.07	4.47	129%
Rivierengebied	1.93	4.57	4.44	4.38	127%
Veenkoloniën en Oldambt	1.01	2.54	2.3	2.25	123%
Bouwhoek en Hogeland	1.25	3.37	2.26	2.72	118%
Waterland en Droogmakerijen	1.24	3.05	2.1	2.61	110%
Noordelijk Weidegebied	1.25	2.93	2.33	2.54	103%
Zuidwest-Brabant	2.04	4.49	4.0	4.0	96%
Hollands/Utrechts Weidegebied	1.81	3.75	3.36	3.5	93%
Zuidelijk Veehouderijgebied	2.31	4.08	3.86	4.14	79%
Zuid-Limburg	2.07	3.84	3.8	3.61	74%
Oostelijk Veehouderijgebied	2.21	3.74	3.4	3.4	54%

*Source:* Kadaster obtained from Ciaian et al. (2010).

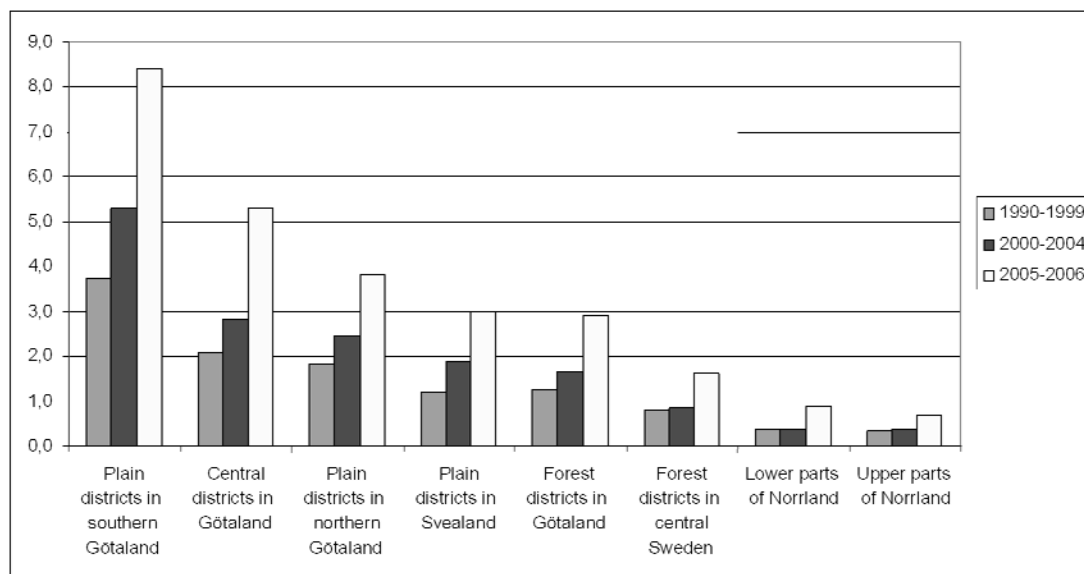
In Finland, the real land sales prices have been steadily increasing since 1995, such that 15 years later real land prices have almost doubled in all Finnish administrative regions (Ciaian et al., 2010).

In Sweden, the prices for agricultural land have been increasing as well. The price of agricultural land was on average €7,000 per hectare in 2009. Figure 23 plots the development of land sales prices of arable and grazing land since 1990. It clearly shows that prices of grassland have increased at a faster rate than prices of arable land. This trend is particularly strong during the last couple of years.

*Figure 23. The development of land sales prices in Sweden, 1990-2005(1990=100)*

*Sources:* Statistics Sweden (2008) and the Swedish Board of Agriculture (2008) obtained Ciaian et al. (2010).

It is also interesting to look at the regional variations of land sales prices in Sweden since the quality of land varies between the different parts of the country. Figure 24 plots land prices in different regions during three time periods: 1990-99, 2000-04 and 2005-06.

*Figure 24. Regional differences in land sales prices in Sweden (€1,000/Ha)*

*Sources:* Statistics Sweden (2008) and the Swedish Board of Agriculture (2008) obtained Ciaian et al. (2010).

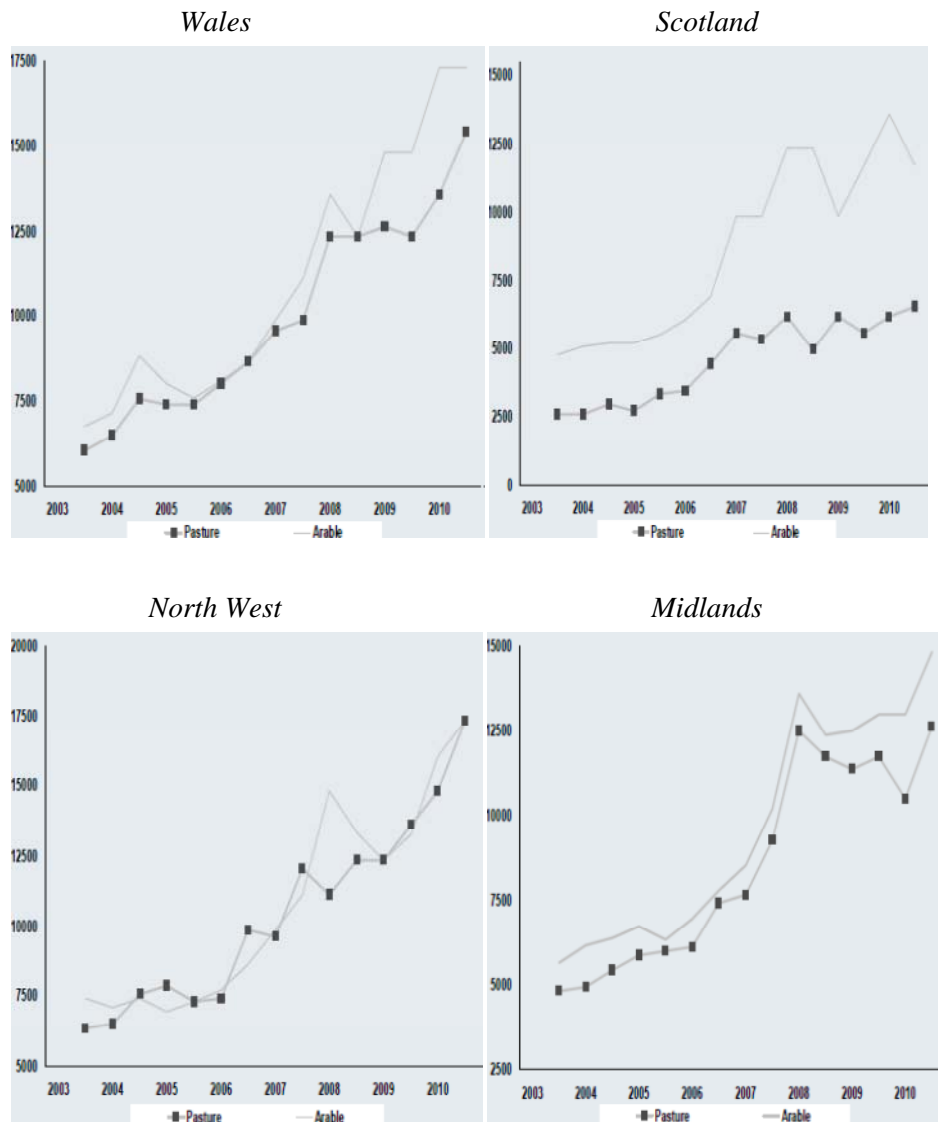
The increases in land prices seem to go in the same direction across the country. The plain districts in Svealand and in southern Götaland, however, have the highest increases in prices. In these two areas, land price increases have been above the national average during the period 1990-2005. Also the central and forest districts of Götaland, in the south, have had substantial increases of land prices. However, in the forest districts further north, in central Sweden and in Norrland, prices have not increased at the same rate as in other parts of the country. Moreover, the most fertile land in southern Götaland is sold at much higher prices than land in the northern part of the country or land in the forest districts. For example,

prices in the plain districts in southern Götaland were 12 times higher than in the upper parts of Norrland in 2005-06.

In the UK, there has been a considerable increase in land values in recent years and according to Eurostat, nominal land values increased from €7,444 per hectare in 1996 to €17,773 per hectare in 2008.

However, the increase was not uniform across all regions and land uses. For example, in Scotland, the increase in agricultural land prices was more moderated than in other regions (Figure 25) and especially in recent years, the increase in the sales prices of pasture land slowed down. This is in contrast to the situation in Wales and the North West region, where the increase in sales prices of pasture land (and also arable land) even accelerated in the recent years.

*Figure 25. Regional differences in land sales prices in the UK (£/Ha)*

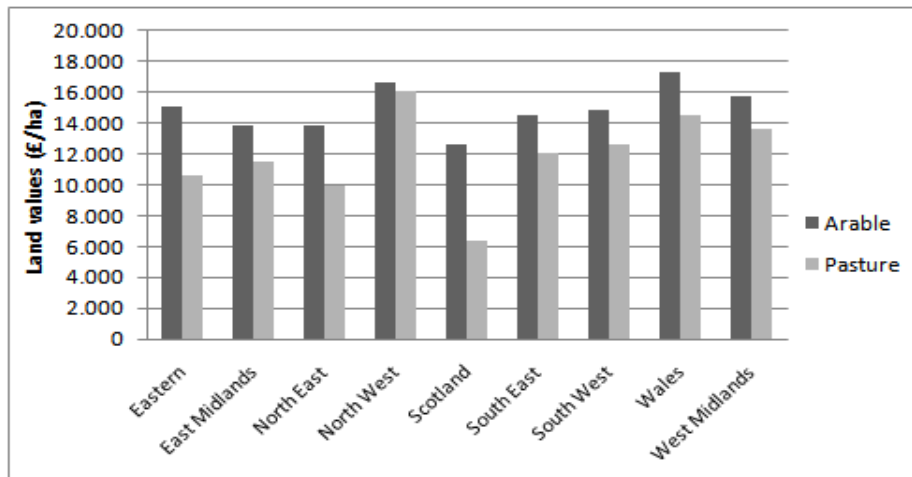


Source: RICS (2010).

Up until the 1990s, there existed a strong link between land values and farm profitability but that appears to have diluted, with the emergence of buyers who purchase farmland for wealth and lifestyle reasons. The emergence of these buyers has been highly significant in stimulating demand and Savills Research suggests that in recent years around 40% of all buyers have been 'lifestyle purchasers'.

In 2010, the highest land values for arable land and pasture land can be found in Wales (arable land: £17,298/ha) and the North West region (pasture land: £16,063/ha), while in Scotland, prices for both arable land and pasture land are the lowest in the UK (£13,665/ha and £6,363/ha, respectively) (Figure 26).

*Figure 26. Regional differences in land values in the UK (£/ha; 2010)*

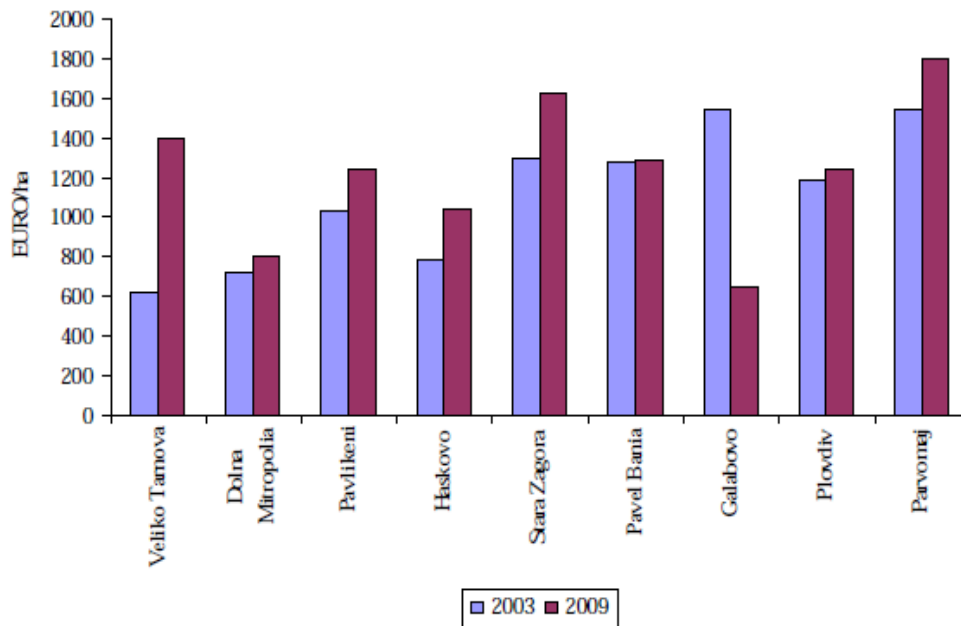


Source: RICS (2010).

In the NMS, land values strongly increased over the last years and similar to land rental values, the increase in land prices was exceptionally strong around the time of EU accession.

Between 2004 and 2007, sales prices of agricultural land increased in real terms by around 34% in Poland, 36% in Hungary, 50% in the Czech Republic and more than 200% in Romania. In general, prices are the lowest in the Baltic States, while they are much higher in the Czech Republic and Slovakia.

In addition, there is substantial variation in prices between regions. For example, in Bulgaria, land sales prices have increased in almost all Bulgarian regions, except for Galabovo. While the increase is modest in some counties like Dolna Mitropolia, the price more than doubled in Veliko Tarnovo (Figure 27). In general, small plots located near the capital, mountainous areas (ski resorts) and the Black Sea are considerably more expensive than plots in other areas. In 2008, the price for agricultural land in South West Bulgaria, the region in which the capital (Sofia) is located, was more than 35 times higher than in North West Bulgaria (the region with the lowest average prices), and ten times higher than the country average. The price for agricultural land in South East Bulgaria, which holds a district border with the Black Sea, is 20 times higher than the price in North West Bulgaria and five times higher than the country average.

*Figure 27. Regional differences in land values in Bulgaria (€/ha; 2003 and 2009)*

*Source:* Surveys conducted in 2003 and 2009 in North and South Central Regions – University of National and World Economy (UNWE) obtained from Swinnen & Vranken (2010).

Also in Romania, there is regional variation in the prices of agricultural land. In the North East (Botosani), a farmer paid on average €120 per hectare, while in West Romania (Timis), one hectare of agricultural land costs €1,750 (Table 12).

*Table 12. Regional differences in land values in Romania 2005 and 2008 (€/ha)*

County	Region	Effective average agricultural price in 2005	Average arable land price in 2008
Bihor	NW	226	450
Timiș	W	1.054	1.750
Ialomita	S	327	825
Olt	SW	207	475
Constanta	SE	298	1.500
Botosani	NE	232	120
Brasov	Center	2.387	1.500

*Sources:* Evaluation studies on the real estate circulation value, UNNPR for 2008 and MARD for 2005 prices obtained from Swinnen & Vranken (2010).

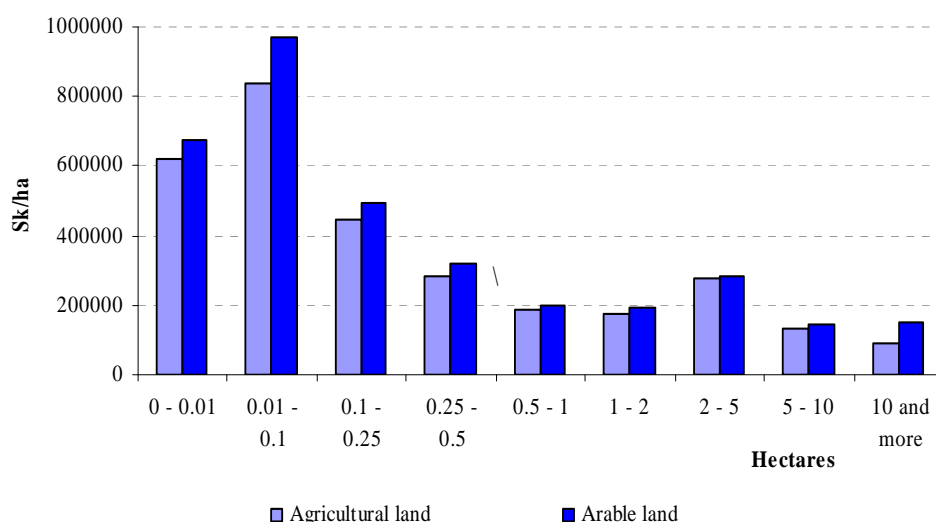
Furthermore, prices may vary within regions depending on specific conditions, such as plot size. In general, smaller plots are more expensive than larger plots. For example, in the Czech Republic, the average prices of parcels smaller than one hectare have increased almost four-fold compared with 10 years ago and their price is currently 10 times higher than the price of a parcel between one and five hectares, and 30 times higher than the price of a parcel of five hectares or more, for which the price has hardly risen in the past 10 years (Table 13).

**Table 13. Land sales prices by plot size in the Czech Republic (CZK/ha – real prices)**

	< 1 ha	1 to 5 ha	over 5 ha	Total
1993	275000	129600	36800	134800
1994	305908	142416	33422	145238
1995	435556	112750	37290	156842
1996	322987	110637	26916	132474
1997	836184	97981	43703	187462
1998	614089	104939	24698	191805
1999	465573	56255	38500	148960
2000	531956	78517	24248	156573
2001	598689	109798	30655	191803
2002	520064	69063	18203	113714
2003	619105	70198	18942	126813
2004	534394	69875	19225	100430
2005	484555	48517	18226	93826

Source: VUZE obtained from Swinnen & Vranken (2009).

In Slovakia, the average price of a parcel smaller than one hectare is more than 60,000 SKK/ha, while the price of a parcel between 1 and 5 hectares fluctuates between 40,000 SKK/ha and 20,000 SKK/ha. The largest parcels (of 5 ha or more) are by far the cheapest, as the average price is 10,000 SKK/ha or less (Figure 28).

**Figure 28. Land sales prices by size of parcel in Slovakia, 2005 (SKK/ha)**

Source: VUEPP obtained from Swinnen & Vranken (2009).

Several agricultural specialists argue that land fragmentation in the NMS is a major impediment to the development of the agricultural sector in general and especially the efficient allocation of land. Therefore, one would expect that larger plots are more in demand and that this would push up the purchase price. If we look at the data, however, we can assume that the demand for small parcels is considerably higher, for several reasons.

First, the purpose of the purchase is an important factor. Small parcels of agricultural real estate are often purchased to convert the land for other purposes, notably for more lucrative non-agricultural use, and this is incorporated in the price. For example, Buday (2006) stresses the non-agricultural use of small parcels as a factor behind their higher demand and



hence the higher price. Bandlerova (2006) also notes that agricultural land sales are often driven by non-agricultural demand, usually by foreign investors.<sup>7</sup>

Second, the high demand for small parcels and the resulting high price might stem from capital market imperfections. Small family farms in particular still have limited access to capital and credit markets. These credit constraints restrict their demand to smaller plot sizes. As a consequence, the demand for small parcels may be considerably higher.

Finally, the land market in transition countries is characterised by substantial transaction costs. These costs rise especially when a landowner wants to withdraw a parcel from large-scale farming enterprises, which are typically the direct successor organisation of the former collective and state farms and which continue to use the majority of land in several new member states. Many plots are located in (the middle of) large consolidated fields, such that costs may incur because of problems with the physical identification and physical access to the plot. Furthermore, numerous plots are owned by more than one owner, which raises the costs of changing the allocation and/or physically identifying the plot. Since many of these costs are fixed, it is logical that they have a higher impact on the absolute price per hectare of the smaller plots.

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<sup>7</sup> This may also explain why Eurostat shows much lower agricultural land prices in Slovakia than VUEPP does. Eurostat reports prices of around 37,447 SKK/ha (€877/ha) in 2002 and 37,905 SKK/ha (€982/ha) in 2005, which is respectively four and five times less than that reported by VUEPP. This difference may result from the fact that the land sales prices of VUEPP do not distinguish the purpose for which the land is used after the purchase.

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## Comparative Analysis of Factor Markets for Agriculture across the Member States

245123-FP7-KBBE-2009-3

### The Factor Markets project in a nutshell

<b>Title</b>	Comparative Analysis of Factor Markets for Agriculture across the Member States
<b>Funding scheme</b>	Collaborative Project (CP) / Small or medium scale focused research project
<b>Coordinator</b>	CEPS, Prof. Johan F.M. Swinnen
<b>Duration</b>	01/09/2010 – 31/08/2013 (36 months)
<b>Short description</b>	<p>Well functioning factor markets are a crucial condition for the competitiveness and growth of agriculture and for rural development. At the same time, the functioning of the factor markets themselves are influenced by changes in agriculture and the rural economy, and in EU policies. Member state regulations and institutions affecting land, labour, and capital markets may cause important heterogeneity in the factor markets, which may have important effects on the functioning of the factor markets and on the interactions between factor markets and EU policies.</p> <p>The general objective of the FACTOR MARKETS project is to analyse the functioning of factor markets for agriculture in the EU-27, including the Candidate Countries. The FACTOR MARKETS project will compare the different markets, their institutional framework and their impact on agricultural development and structural change, as well as their impact on rural economies, for the Member States, Candidate Countries and the EU as a whole. The FACTOR MARKETS project will focus on capital, labour and land markets. The results of this study will contribute to a better understanding of the fundamental economic factors affecting EU agriculture, thus allowing better targeting of policies to improve the competitiveness of the sector.</p>
<b>Contact e-mail</b>	info@factormarkets.eu
<b>Website</b>	www.factormarkets.eu
<b>Partners</b>	17 (13 countries)
<b>EU funding</b>	1,979,023 €
<b>EC Scientific officer</b>	Dr. Hans-Jörg Lutzeyer

