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REGIONAL DIFFERENCES IN LAND PRICES IN FINLAND*

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Abstract. The purpose of this study is to describe regional differences in land prices and in land price changes in Finland. Prices were highest in the best agricultural areas in southern and south-western parts of Finland. Land quality and agricultural viability probably explain most of the price differences. Sales prices decreased tremendously at the beginning of the 1990s and then increased greatly at the end of the 1990s. However, the changes have differed considerably among regions. The greatest changes took place in high price areas, whereas in low price areas the changes were much more modest. Lease price differences between regions were very similar to those for sales prices. However, in contrast to sales prices, lease prices have been very stable over time and their changes have not differed between regions. Variability in structural changes may be one reason for the differences between regions in sales price changes. The demand for additional land has been highest in Southern and Western Finland due to the greater investment activity. There are also differences in production structure between volatile and non-volatile areas. A further reason for rising land prices can be found in the capitalization process. The literature provides some evidence that area-based support capitalizes into land prices more easily than market-based returns. However, based on graphical analysis and the regional differences, the impacts of the capitalization process do not seem to be dominant under Finnish conditions. There are probably several reasons for the regional differences in land prices and land price changes. However, in order to better evaluate factors such as policy effects, further research is needed in this area. Thus, this preliminary study will continue by modelling the policy effects econometrically.

Keywords: land price, structural change, regional differences.

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Tiivistelmä: Tutkimuksessa on tarkasteltu lisäpellon kauppa- ja vuokrahintoja ja niiden alueellisia eroja viimeisen kymmenen vuoden aikana. Selvityksen aluksi on tehty lyhyt katsaus Suomen peltomaamarkkinoihin. Sekä kauppahintojen että vuokrahintojen tasoissa on selvät erot maan eri osien välillä siten, että parhaimmilla viljelyalueilla hinnat ovat selvästi korkeammat. Hintakehityksessä on sen sijaan eroja sekä vuokra- ja kauppahintojen välillä että maan eri osien välillä. Viime vuosikymmenen alussa pellon kauppahinnat suorastaan romahtivat parhaimmilla viljelyalueilla Etelä- ja Länsi-Suomessa. Itä- ja Pohjois-Suomessa muutos oli selvästi pienempi. Keskeinen syy hintojen putoamiseen oli maatalouden epävarmat tulevaisuudennäkymät. EU-jäsenyyden jälkeen hinnat lähtivät taasen kohoamaan erityisesti niillä alueilla, joilla pudotus oli ollut suuri 1990-luvun alussa. Näyttää siis siltä, että korkean hintatason alueilla muutokset ovat suurempia. Vuokrahinnoissa ei ollut kuitenkaan vastaavia muutoksia, vaan vuokrahinnat ovat pysyneet suhteellisen vakaina kaikilla alueilla. Vuokraus on luonteeltaan erilaista kuin kauppa, ja ilmeisesti muutkin kuin rahalliset arvot näyttelevät merkittävää roolia hallinnan siirrossa. Hintakehityksen eroihin lienee monta syytä. Keskeisimpiä syitä lienevät rakennekehitys ja sen erot eri alueilla. Alueiden väliset erot hintamuutoksissa eivät sen sijaan tue käsitystä siitä, että EU-jäsenyyden myötä kasvaneet suorat tuet olivat pääomittuneet herkemmin maan hintoihin kuin aikaisempi hintatuki. Monitahoisuutensa vuoksi asia vaatii kuitenkin lisätutkimusta.

Asiasanat: lisäpelto, kauppahinta, vuokrahinta, rakennekehitys

INDEX

1. INTRODUCTION

Since joining the EU in 1995, the structural change in Finnish agriculture has been quite rapid. The number of farms has decreased from 96 000 in 1995 to 75 000 in 2001, and it is expected to fall below 50 000 by the year 2010 (e.g. Pyykkönen 2001a).

Regional differences in the structural change have been examined in earlier papers from this research project (Pyykkönen 2001a and 2001b). The changes have been quite considerable in recent years, and the rapid change is expected to continue in the near future.

Regional differences and growth pressures at the farm level have certainly affected land prices, causing the problem of increasing land prices at least in those areas where there are many growth-oriented farmers. In addition, the dramatic change in agricultural policy due to EU membership and the continuing pressure to change the policy even further makes the question of policy effects on land prices more and more interesting.

This paper aims to clarify the regional differences in land prices and their changes in the last ten years. The purpose of this preliminary study is to provide an overview of the situation, while in-depth analysis will be performed in a subsequent larger project.

In addition to this short introduction, this paper consists of five chapters. The data is summarised in the second chapter, the Finnish land market is described in the third chapter, sales and lease prices are briefly analysed in the fourth and fifth chapters, respectively, and conclusions are made in the sixth chapter.

2. DATA

2.1 Sales price data

The data were collected from the price statistics of the National Land Survey (NLS). They are published at the regional level twice a year, but for this study we were able to obtain the original data for each land transfer.

The data consists of representative transfers of arable land lots during 1991-2000. Data from earlier years could not be included for statistical reasons. The properties of a representative transfer are as follows:

- the transfer is a sale (not a gift, an exchange, or some other arrangement)
- the transfer is not between relatives
- the lot is sold without buildings or other property
- the lot covers more than 2 ha, of which at least 95% should be arable land
- the lot is located in an agricultural area (not in an area under or planned for development)
- the transfer is made without restricting conditions
- the lot is bought for agricultural use
- the lot is sold as a whole (not some proportion of it)

The data includes the following information:

- lot size
- sales price
- location (the municipality code)
- seller (identification code)
- buyer (identification code)
- whether the lot is bordered by lake, river, or sea

A problem with this data is that it covers only a small proportion of the transfers of arable land in Finland. A considerable proportion of land transfers take place in generation changes. Another reason for the small coverage is that transfers often include forests or buildings. Nevertheless, the data set is quite large, as can be seen in Table 2.1.

Table 2.1. The number of representative sales and the amount of transferred land in different years.

	Number of sales	Total area, ha	Average size of the sale, ha
1991	446	2 526	5.66
1992	604	4 125	6.83
1993	407	2 643	6.49
1994	409	2 445	5.98
1995	440	2 544	5.78
1996	437	2 741	6.27
1997	463	3 164	6.83
1998	650	3 897	6.00
1999	626	4 133	6.60
2000	517	3 181	6.15

In order to obtain an accurate picture of the coverage of the data, we enlarged the data to cover all transfers that included arable land in the year 1999. This enlarged data does not include the price information divided into different property parts. Thus, it cannot be used in the analysis.

In 1999 there were 4 175 sales that included arable land, comprising a total arable area of more than 40 000 ha. Thus, representative sales cover about 15% of the total number of sales but only about 10% of the total arable area involved. This is mainly due to generation transfers, which are much bigger than the sales of additional land. Thus, the data only includes those transfers that can be handled as pure additional land.

2.2 Lease price data

The data for lease prices were collected from the taxation statistics of Statistics Finland. This is very limited data and can only give a rough picture of the situation.

This data includes the average size of the leased area and the average lease price, and is therefore far less precise than the data for sales prices. Unfortunately, the data could only be collected starting from the year 1994. Moreover, the regional level that could be used was very rough, namely support regions. Data for the province level was only available after the year 1997. Thus, it was not possible to construct a complete time series.

3. LAND TRANSFERS IN FINLAND

The land market can be divided into two main categories: whole farm transfers and transfers of additional land. Both of these categories can be further divided into two sub categories: sales and leasing contracts. Whole farm transfers can also be divided into sub categories depending on whether the farm is kept as an independent unit or as additional land for some other farm. The former cases are usually generation transfers. Unfortunately, the databases restrict the division to quite a rough level.

By using different data sources, we can divide land transfers into sub categories for the year 1999. According to the National Land Survey (see chapter 2), the total arable land area transferred in sales was about 40 000 ha. At the same time, the leased area on Finnish farms grew by 39 000 ha (calculated from the IACS register). Thus, the areas transferred in sales and new leasing contracts are almost identical. As a proportion of the total arable land area in Finland (about 2.2 million ha), both are a little less than 2%, and the total transferred area is 3.7%. The relationship between sales and leasing has changed in recent years. The leased area has risen rapidly whereas the sales area has decreased, especially due to a decline in generation transfers (see Pyykkönen 2001b).

In Finland, the proportion of leased arable land has traditionally been very low. This has roots in our peculiar agricultural history with, for instance, a change in the tenant farmer's position in the 1920s and the settlement policy after the Second World War. Compared to other EU countries, the proportion of the leased arable land has been one of the lowest, and still is. However, the situation has changed tremendously in recent years (Figure 3.1).

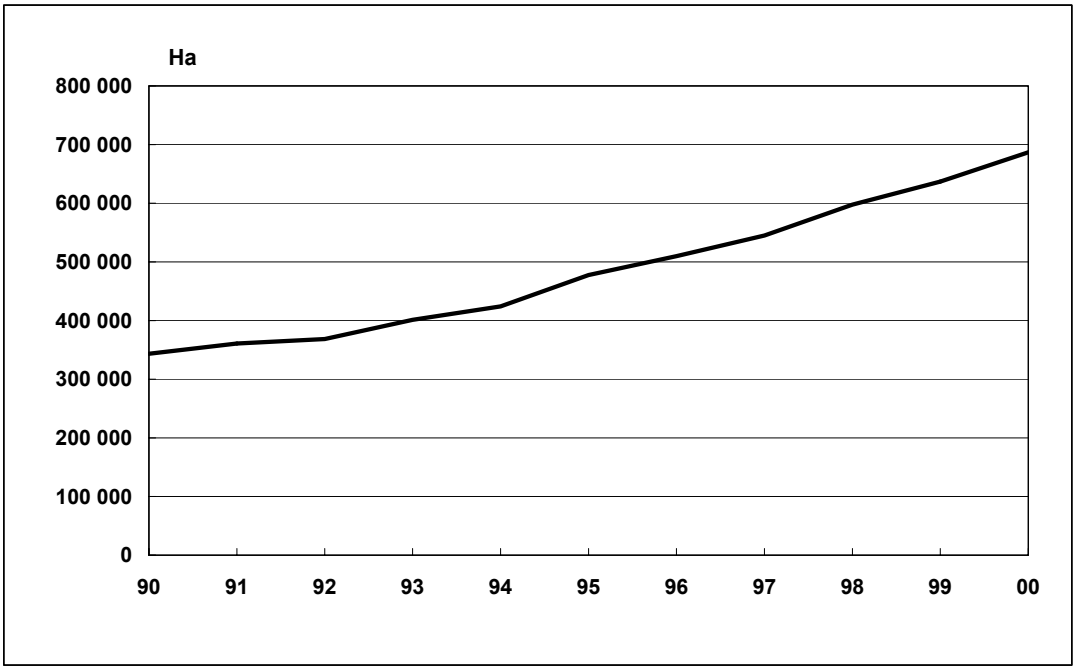

Figure 3.1. The area of leased arable land in Finland from 1990 to 2000.

At the beginning of the 1990s, leased areas only accounted for about 15% of the total arable area in Finland, but by 2000 the proportion had already exceeded 30%. Thus, the leased arable area has doubled in only ten years, and all indications are that it will continue to grow.

Almost all of the leased arable area has traditionally comprised so-called additional land, because the leasing of the whole farm as independent unit has been very rare. In recent years the situation has slightly changed, since some generation transfers have been made as leasing contracts. Still, the proportion of whole farm leasing is quite small, although unfortunately no exact data is available.

As mentioned in the second chapter, representative sales account for about 10% of the total sales area. Of the remaining 90% (36 000 ha) of the sales area, a significant proportion is also in the form of additional land. Again, due to data problems we can only roughly estimate this amount. Taking into account that about 900 generation transfers took place in 1999 (see Pyykkönen 2001b), and the average arable land area (owned) in these transfers was about 25 ha[1], the estimated generation transfer area was about 23 000 ha. Therefore,

[1] The proportion of those generation transfers (by sale) in which the successors have received young farmers aid is estimated to be 50-60%. Based on Pyykkönen's (2001b) study, their average own arable area is about 30 ha. Since the rest of the generation transfers have taken place on smaller farms (let us assume that the average farm size has been about 20 ha), it can be estimated that the average area has been about 25 ha.

the remaining 13 000 ha was also additional land. Thus, we can construct a table of the Finnish land market as follows:

Additional land transfers:		56 000 ha
of which:	*leased*	*39 000 ha*
	sales	*17 000 ha*
Whole farm sales:		23 000 ha
Transfers total:		79 000 ha

Although this division is very approximate, it provides a general picture of the Finnish land market. More data from further years would be needed to improve the accuracy, since 1999 may not have been very representative, especially in terms of the number of generation transfers.

The situation also differs somewhat between regions. Differences in the relationship between leasing and sales (on average almost 50/50 as mentioned earlier) were generally small. Although there were a couple of exceptions[2], the relationship was quite close to the Finnish average.

By contrast, the proportion of generation transfers has varied between regions (Pyykkönen 2001b), although it cannot be precisely calculated. There were also differences in the relative proportion of representative sales. However, these were not very systematic when looking at the structural change that took place in Finland, since the highest proportions of representative sales were in Lapland (22%) and Central Ostrobothnia (17%), whereas the lowest proportions were in Kainuu and Uusimaa (4%). Both of these pairs represent almost the opposite ends of the spectrum of structural change and investment activity. In order to be sure of the results of these comparisons, more years would be need to be examined.

[2] Uusimaa, and Itä-Uusimaa, where the proportion of leasing was much lower (24-36%), and Åland Islands, South Carelia, and South Savo, where the leasing proportion was much higher (64-78%).

4. SALES PRICES IN 1991-2000

The median price of additional land has been reported to be much higher than the price of land in whole farm sales (see e.g. Ylätalo 1991; also Peltola 1997). Although this study concentrates on additional land, for comparison it can be estimated that the same difference is also very clear in this data. In 1999, the average price of additional land was about 3 500 €/ha. The average price in all sales cannot be calculated exactly from the available data, but by assuming the forest land value to be 50% of the value of arable land, it can be estimated that the land price in other sales has been about 2 700 €/ha. Taking into account the fact that the other sales included not only land but very often also other property (e.g. buildings), we can estimate that the land price in these other sales has not been more than 50-60% of the price in representative additional land sales. The annual price variation has, however, been considerable in the last ten years (Figure 4.1).

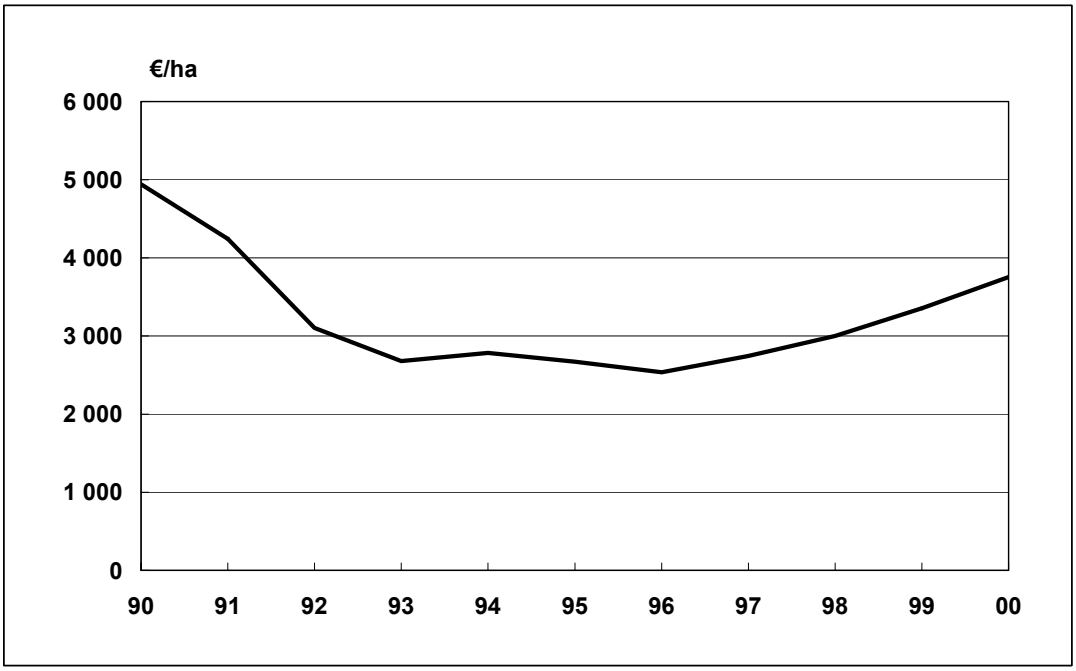

Figure 4.1. The median prices of additional land in 1990-2000.

At the beginning of the 1990s, prices were at very high level since they had risen almost throughout the 1980s. Prices then dropped very dramatically at the beginning of the 1990s. The reasons for these changes can be partly found in the general boom and depression of the Finnish economy, and especially in the discussions that started the process leading to

Finland's membership of the EU in 1995. Farmers were afraid of the future, and they were uncertain about their ability to produce at least as profitably as before.

Then, after joining the EU, land prices started to rise again. The reasons for this are not very clear. There has been much discussion about the capitalization of the direct support in the land prices. There are probably several other reasons for this behaviour. This becomes especially clear when we look at the differences in price levels and price changes between regions. We will start by looking at the differences in price levels (Figure 4.2 and map in Appendix 1).

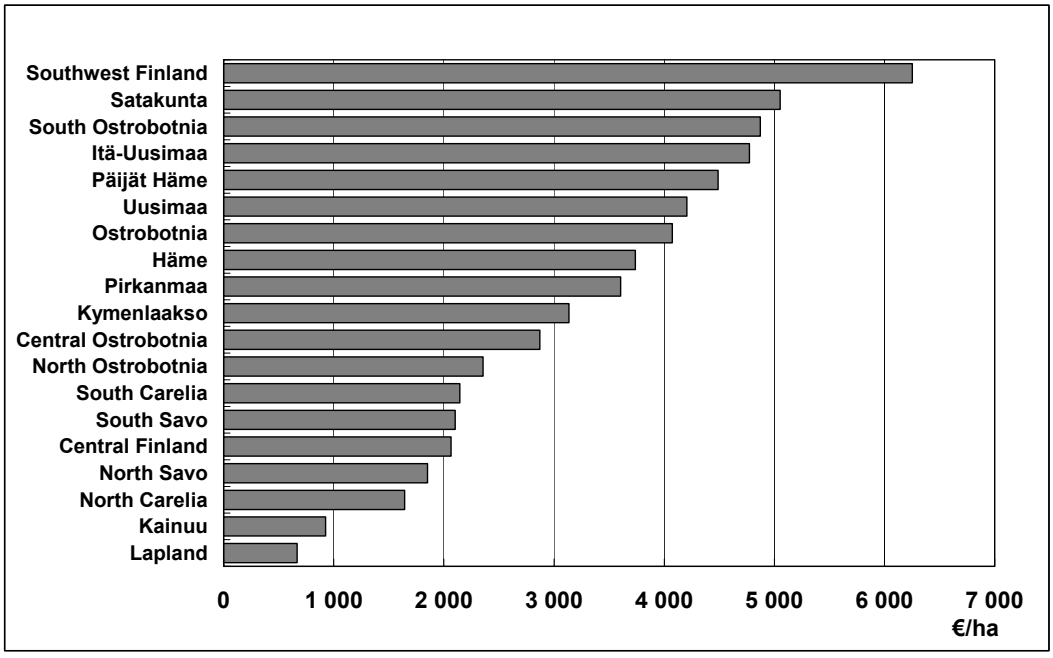

Figure 4.2. The median price of additional land in different regions of Finland in 2000.

The reason for these differences may lie in the differences in arable land quality and also in agricultural viability (Pyykkönen 2001a). One way to describe the viability and the importance of agriculture at the same time is to relate the amount of arable land to the total land area (see Appendix 2).

The maps in Appendices 1-2 are almost identical. However, quality differences do not necessarily explain the differences in price changes. The changes over time have been much greater in the high price areas, at least in absolute terms (Figure 4.3).

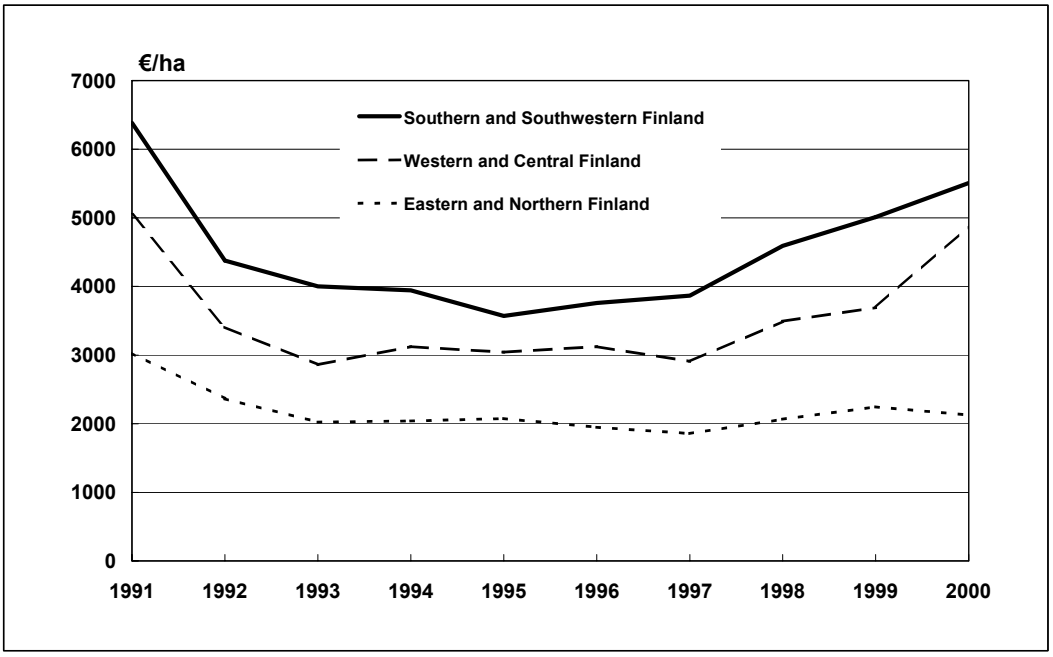

Figure 4.3. Price changes in different regions.

The variation is very large in every region and in every year (see Appendix 3). Even excluding the highest and lowest prices (5% from both ends) from the analysis, the highest prices are from three to six times higher than the lowest prices. Variation also seems to grow with prices.

As already mentioned, quality differences cannot explain the price change differences, but they may somehow affect price changes. Perhaps expectations fell the most in the best regions before EU membership, but after joining the EU they also grew the most when farmers noticed that the prospects for farming were not as bad as they had expected. These changes become more obvious when we look at the price changes in more detail (Figure 4.4 and maps in Appendix 4).

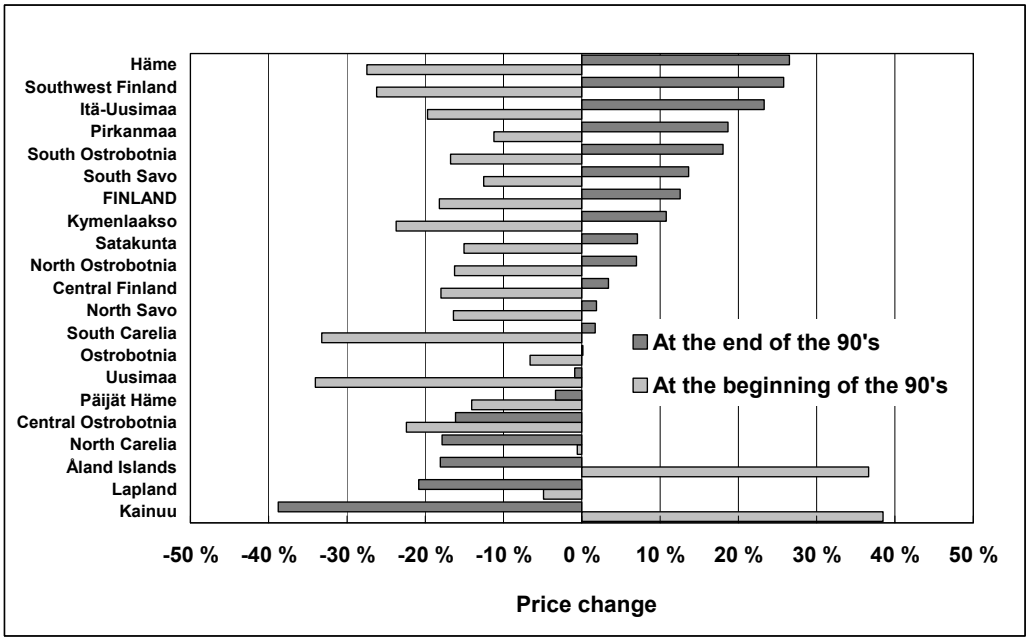

Figure 4.4. The price changes of additional land in 1991-1995 and in 1995-1999 in different regions.

The figures and maps are almost mirror images. In general, the changes also seem to have been greatest in the strongest agricultural areas in relative terms.[3] Price rises may have been due to the structural change and quite rapid farm growth in certain areas in Finland. The connection between husbandry investments (see Pyykkönen 2001a) and land prices seems to be especially clear.

A further reason for price rises may also be found in the altered support system. The increase in area-based support is suspected to capitalize into land prices and increase them. Some studies (mainly North American) have analysed the effects of different support programmes on land prices. The capitalization effect seems to depend on the nature of the programme (e.g. ad hoc or more stabilized in nature) (see e.g. Weersink et. al. 1999; Vukina and Vossink 2000). Further research is needed, especially in Finland where the level of the support is much greater than elsewhere in the EU. This graphic analysis does not make the capitalization effect clear, since the prices have not increased in every region although the support has increased in the same manner.

[3] The relative changes also seem to have been great in the most difficult agricultural areas (Lapland, Kainuu), but this may be due to the very small number of data observations in these areas.

5. LEASE PRICES IN 1994-1999

The lease price differences between regions are quite similar to the sales price differences described in previous chapter. The prices are highest in the best agricultural areas in south-western parts of Finland (Figure 5.1, cf. Figure 4.2 in chapter 4).

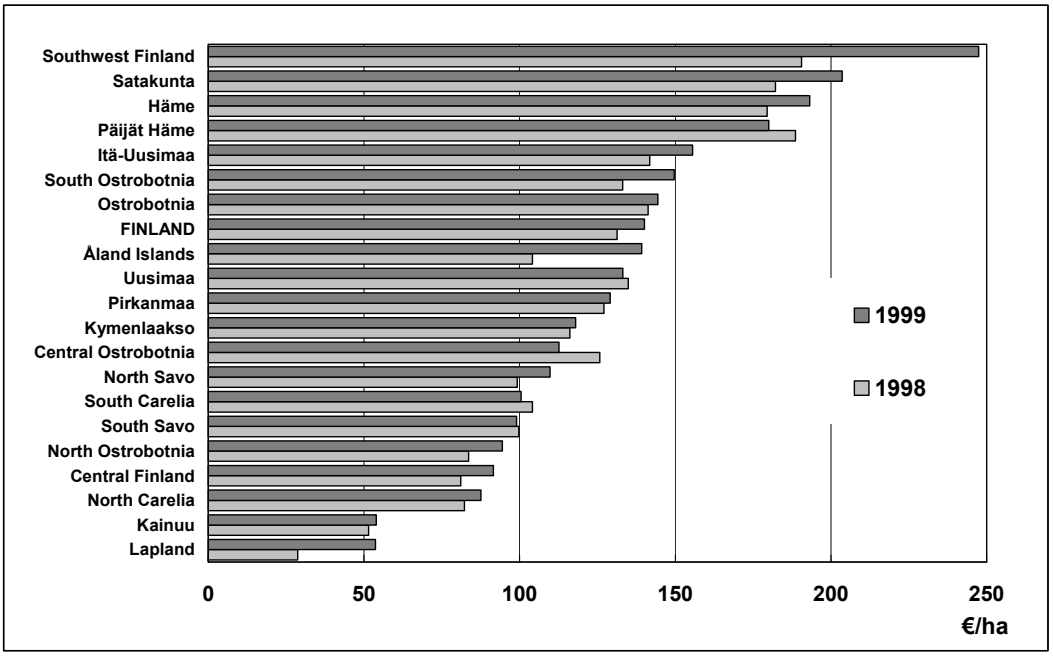

Figure 5.1. The average lease price in different regions of Finland in 1998-1999.

There has been considerable variance in both sales and lease prices (see e.g. Ylätalo and Pyykkönen 1991),[4] but the two have not changed in the same way. Lease price changes in the 1990s have been much more stable than those in sales prices (Figures 5.2 and 5.3.).

[4] Unfortunately, in this study the variance cannot be analyzed due to the lack of appropriate data.

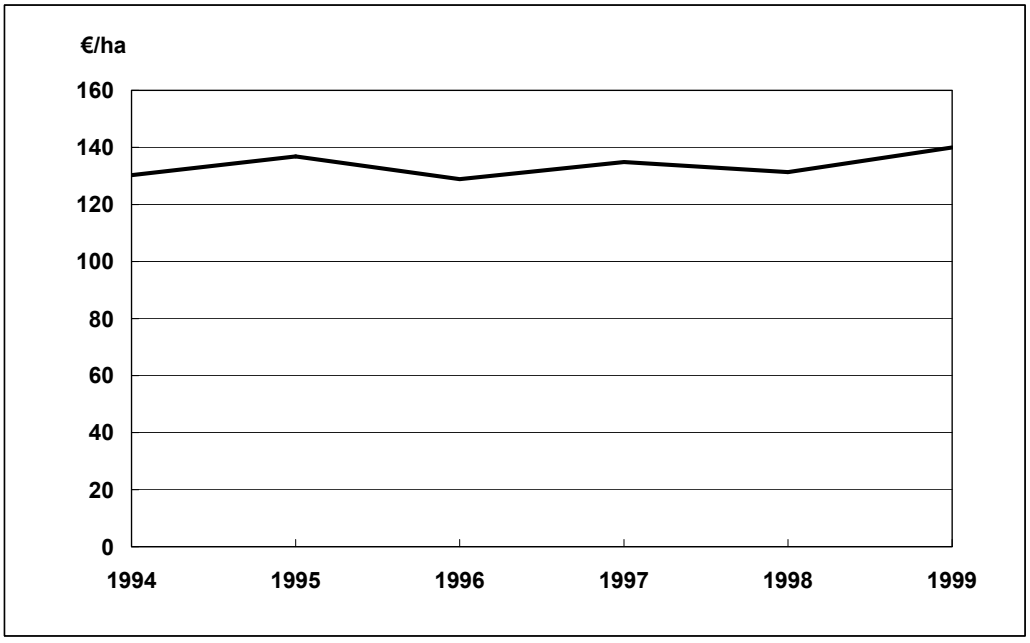

Figure 5.2. The average lease price in Finland in 1994-1999.

In contrast to sales prices, there has been no difference between regions in price changes (Figure 5.3).

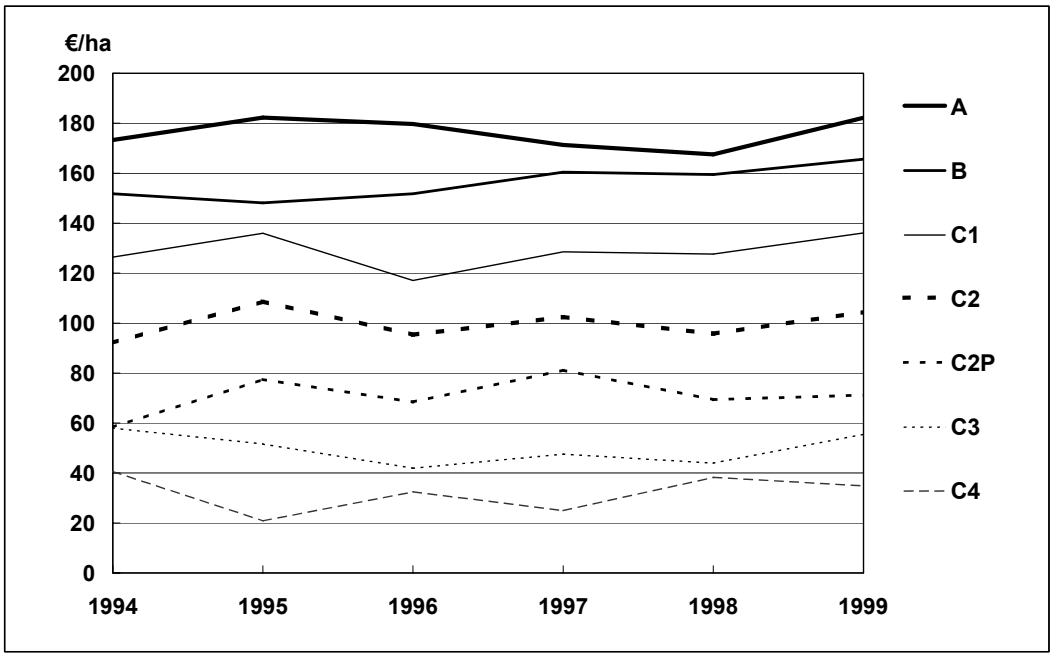

Figure 5.3. The average lease price in different support regions in Finland in 1994-1999.

This comparison between sales prices and lease prices may be somewhat misleading, since lease price statistics include all contracts and not only new ones, as for the sales price data. If there were an increasing (or decreasing) trend in the prices, the prices of new contracts could be estimated.[5]

However, there is no such trend, meaning that new contracts have not been comparatively more expensive than the old ones. This result is a little surprising, since the general opinion is very different, and lease prices are thought to have behaved very similarly to sales prices. However, these preliminary results do not support this hypothesis.

One reason for this may lie in the inaccuracies of the taxation data. Taxation records are based on cash transactions and this may cause some problems when payment of lease takes place in the year following the actual leasing period.

Another reason for this can be found from the differences between the databases. The sales price data only includes representative transfers, whereas the lease price data comprises all transfers, thus including contracts between relatives.

However, it is also possible, perhaps even probable, that leasing differs essentially from selling. The lessor's aims may be somewhat different from seller's aims. Fetching a high price means more to the seller than the lessor. For the lessor, there may be other factors that are more important than the price, such as good relations with the lessee, security of knowing that the land is being well taken care of, the possibility of leasing the farm as a whole unit, and the possibility of providing some services. These factors make up the social capital that has proved to be an important factor affecting land prices (Perry and Robison 1999, Robison et al. 1999).

[5] The estimate could be calculated by assuming the contracts of one year to be made at the same price in the next year, which would allow the lease prices of the new contracts to be estimated. This would be a very rough procedure and might be inaccurate, since the contracts can be rewritten or they might include price changes. On the other hand, the support system has encouraged farmers to make longer contracts than before.

6. SUMMARY

The purpose of the study was to describe the land market and land price changes in Finland during the last ten years. Both sales prices and lease prices were examined.

There was a significant change in transfer types during the 1990s. Leasing increased whereas generation changes decreased. About half of all transfers were made as leasing contracts. In additional land transfers, the leasing proportion (70%) is much greater since generation transfers are mainly in the form of sales (almost 90% according to Pyykkönen (2001b)). An obvious reason for the small number of generation changes is the increased uncertainty over future prospects for profitable production. Leasing has increased partly for the same reason.

Sales and lease price differences between regions were found to be very similar. The highest prices were in the best agricultural areas in southern and southwestern parts of Finland. Land quality and agricultural viability probably explain most of the differences in prices.

However, changes in sales and lease prices have differed from each other. Sales prices decreased tremendously at the beginning of the 1990s, and increased greatly at the end of the 1990s. The changes have also differed considerably between regions. By contrast, lease prices have been quite stable in every region.

One reason for the differences between sales and lease price changes can be found in the data. The sales price data consisted of representative sales whereas the lease price data comprised all leasing contracts (including transfers between relatives). In addition, distinguishing old and new contracts was impossible, as also was distinguishing contracts only involving arable land and those including additional property.

Leasing as a transfer also differs in other ways from sales. Furthermore, lease prices might somehow be more related to the production capacity of the lot than sales prices. Ownership of the land is also connected to values other than productive capacity. One might expect the land value to grow for some reason in the future, and so it might already be worth a higher price today. This same effect does not hold for lease prices. There may also be differences in thinking and valuation of the land between sellers and lessors. The seller is probably more interested in obtaining the highest possible price, but the lessor might be more interested in having the best or the most suitable lessee. Thus, factors associated with social capital might have a more important role in the transfer than the price level.

Differences between regions in sales price changes may also reflect the different structural changes. The demand for additional land has been higher in some areas than in others, while the availability has been exactly the opposite. Investment activity and the need for additional land have been much greater in the Southern and Western Finland.

There are also differences in production structure between volatile and non-volatile areas. In volatile areas, the production possibilities are more versatile. In the non-volatile areas in Eastern and Northern Finland, however, the structure of agriculture is much more homogeneous, since milk production is almost the only possible form of production. This may also have had some effect on the price changes.

A further reason for rising land prices in recent years might also be found in the capitalization process. The literature provides some evidence that area-based support capitalizes more easily into land prices than market-based returns. Based on graphical analysis and the regional differences, the impacts of the capitalization process do not seem to be dominant under Finnish conditions.

Thus, there are many possible reasons for regional differences in land prices and land price changes. However, further research is needed in this area in order to better evaluate factors such as policy effects.

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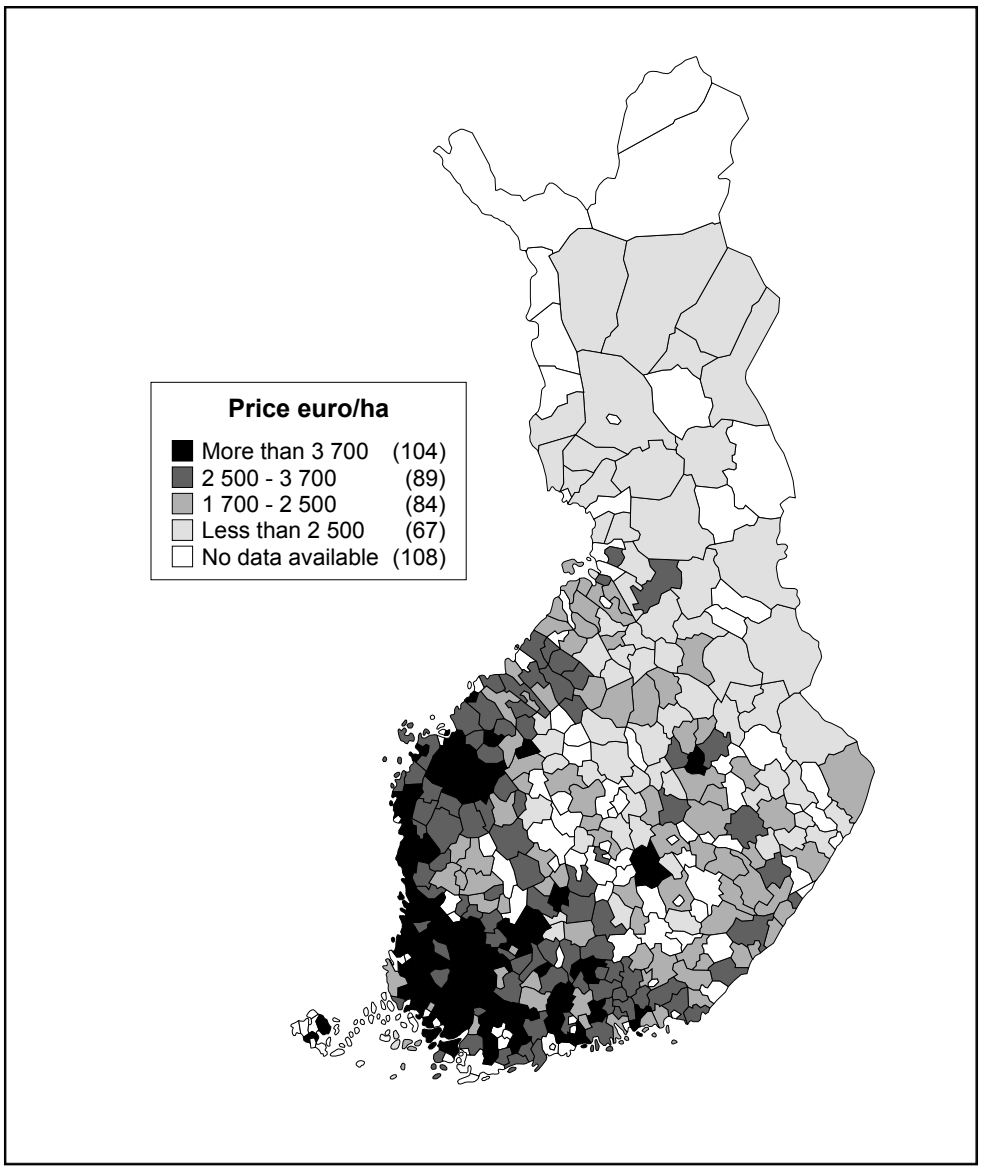
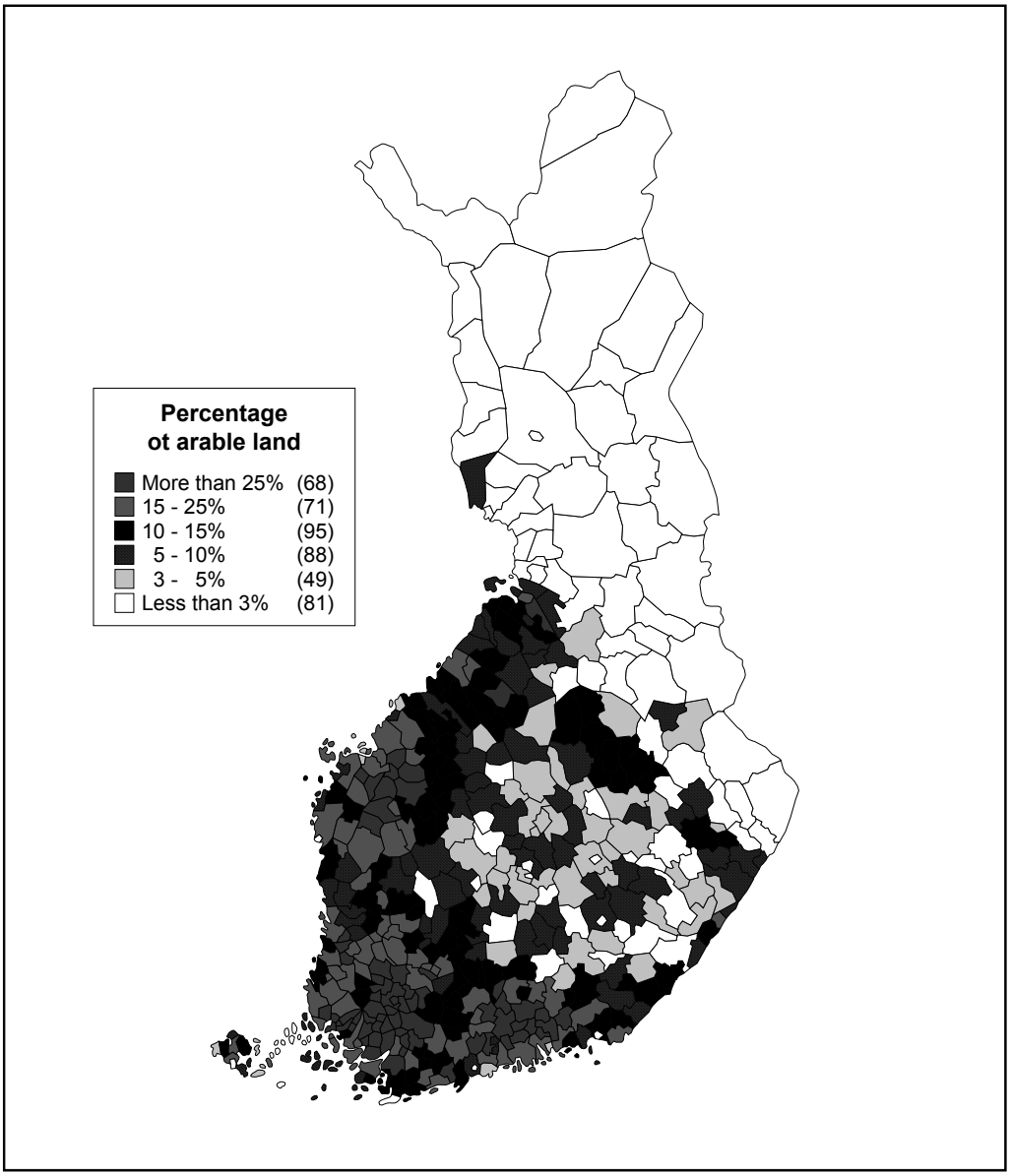
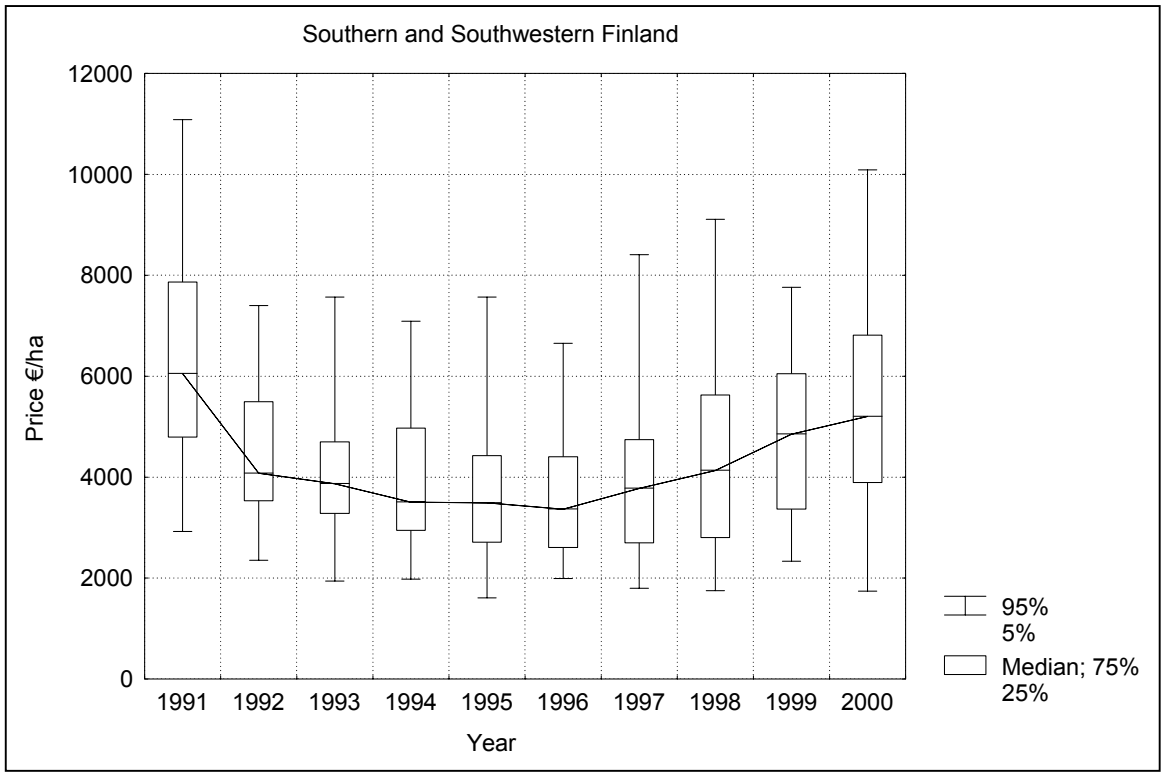
Appendix 1. The price of additional land in Finland in 2000.

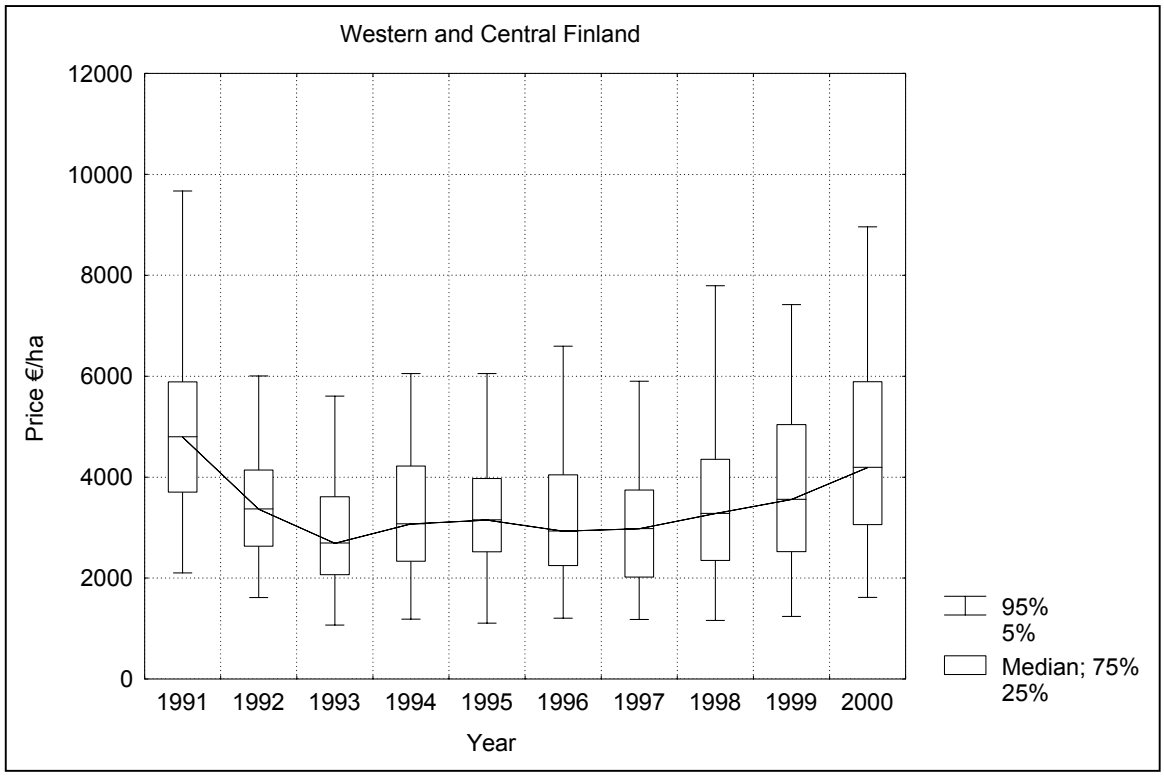


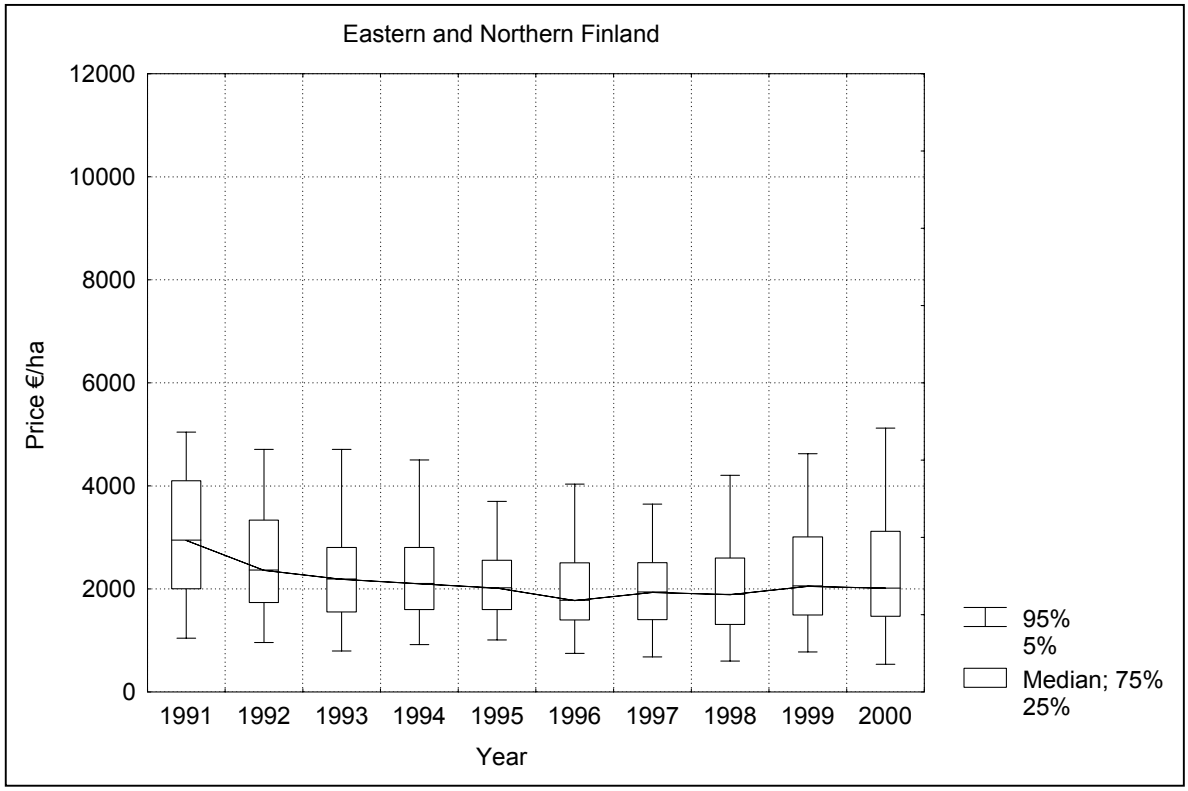
Appendix 2. The amount of arable land as a proportion of the total land area.



Appendix 3. Land prices and their variation in different regions in Finland.




Western and Central Finland
12000
10000
8000
6000
4000
2000
0
Price €/ha
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
Year
95%
5%
Median; 75%
25%


Eastern and Northern Finland
12000
10000
8000
6000
4000
2000
0
Price €/ha
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
Year
95%
5%
Median; 75%
25%

Appendix 4. The price changes of additional land in 1991-1995 and in 1995-1999 in different municipalities.