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**Too Few Locally Produced Goods on the
Shelves of Latvian Shops: Reality or Myth?**

A BICEPS and SSE Riga Report*

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Too few locally produced goods on the shelves of Latvian shops: Reality or myth?

Morten Hansen and Alf Vanags

Abstract

This investigation addresses the issue of what truth there is behind the widespread belief that too few Latvian produced food products are available in Latvian shops. Using some simple concepts from economics we construct a number of empirical indicators that permit international comparisons to be made. These are indicators of revealed comparative advantage, of the extent to which home consumption of food products is covered by domestic production, indicators of the share of domestic production that is exported and imported, and indicators of productivity relative to the EU-27. We find that Latvia does not differ much in most respects from our Baltic neighbours. Both Latvia and Estonia are net importers of food products while Lithuania is marginally a net exporter. Perhaps surprisingly Latvia covers about 50% of its food products consumption from domestic production which is more than in Estonia or Lithuania. This 'self-sufficiency' indicator is highest in countries such as Poland and Romania, with self sufficiency ratios of around 80% and as high as 97% for some individual products. Low self sufficiency ratios are found in for example the Netherlands which covers only 15% of its food products consumption by local production. At the same time it turns out that the high self-sufficiency countries export very little of their food products whereas the Netherlands exports very nearly 90% of its food products output. We conclude that Latvia is about average in terms of the availability of local products and in fact local products are more available here than in Estonia and Lithuania. If there is a problem in Latvia it concerns low productivity levels in the food products sector. Thus in food products as a whole Latvian productivity is less than 50% of the average while in the most productive countries, such as Netherlands and Belgium it is more than three times higher. In fish products productivity is less than 30% of the EU average while in Belgium it is more than six times higher. It is here that attention should be focussed and we recommend the creation of both working groups and research to address the productivity issue.

1. Introduction

There is a persistent and widespread view in Latvia that ‘too few’ Latvian produced food products are available in Latvia and with this goes the implicit conclusion that ‘something should be done about it’. For example, there was a public outcry some years ago when airBaltic started to serve Estonian butter with its in-flight meals (they still do!) or more recently, in an article in *diena.lv* on 19.02.2009 it is reported in a shocked tone that apparently Latvian products such as pickled cucumbers are in fact prepared and pre-packed in India, Turkey or Hungary. Concerns about lack of availability of Latvian produced goods have also prompted proposals to reserve shelf space in supermarkets for local products.

The aim of this paper is to examine the Latvian and international evidence on this issue in order to determine whether there is truth behind this perception or whether it is just a myth. This at once raises the question of what evidence to use and how to decide whether the share of locally produced goods is too small or perhaps too big (a phenomenon that in practice never appears as a problem) or perhaps just right. A moment’s thought is enough establish that except in the case of complete autarky (i.e. no trade whatsoever) a country will always have some products for which consumption exceeds local production and where the balance is made up by imports.

What determines the pattern of international specialisation and hence the balance between production, consumption and imports? This question is addressed by the theory of comparative advantage and other theories of international trade. These theories are briefly presented in section 2 and give rise to an empirical measure of trade patterns known as Revealed Comparative Advantage (RCA) which permit inferences about a country’s relative competitiveness in a range of products and this concept is explained in section 3. Section 4 presents the empirical results of RCA calculations for the EU-27 which suggest that for food products as a whole Latvia has a revealed comparative disadvantage as does Estonia while Lithuania exhibits a small comparative advantage. In terms of individual product groups Latvia exhibits quite a strong revealed comparative advantage in processed meat and fish products and also in dairy products.

Another empirical approach to the issue is to compute and compare so-called self-sufficiency ratios. This measure shows the extent to which local consumption is covered by local production. It is precisely defined and empirical results are discussed in section 5. Here we find that Latvian production of food products covers about 50% of its consumption. Interestingly and perhaps surprisingly in both Estonia and Lithuania domestic supply covers less than 50% of consumption. The highest self-sufficiency ratios are found in Poland and Romania and large countries such as UK, Germany and Spain also have high levels of self-sufficiency. Self-sufficiency in this group of countries lies in a range between about 70% and 80%. On the other hand, the lowest levels of self-sufficiency are found in the Netherlands (15%) and Belgium (27%).¹ The level of Baltic

¹ For many countries production data are not available. See Box 1 for a discussion of this phenomenon.

self-sufficiency in the two sensitive products dairy and meat products represent two is much higher, falling in a range of about 70% to 90%. For example Latvian milk production covers 80% of Latvian consumption – hardly a lack of local supply!

None of the figures suggest that by international standards Latvia exhibits abnormally low self-sufficiency in food products as a whole. At the same time if we look at the share of production that is exported the Latvian performance is quite modest and lower than Lithuania and Estonia. Much the strongest export performance is in the Netherlands and Belgium. The Netherlands in fact exports 90% of its food products output and Belgium 76%. It is interesting that these are also the countries with the lowest levels of self-sufficiency. At the same time countries with the highest self-sufficiency such as Poland and Romania have the lowest export shares. This pattern is repeated for individual products with low self-sufficiency countries such as the Netherlands exporting the biggest shares of production and the high self-sufficiency countries having very low export shares, with the Baltic states somewhere in-between.

What does all this mean? Interpretation is helped by examining relative productivity which is done in section 6. For food products as a whole we see that productivity in all three Baltic states is around 50% of the EU-27 average, whereas for the strong exporters it is between 140% and 165% of the EU average. Similarly, for dairy products all three Baltic countries lie below 60% of the average while the strong exporters have productivity levels from 130% to 165% of the average. In other words there is some correlation between productivity and strong export performance and in turn also with revealed comparative advantage. The conclusion to be drawn from this evidence is that Latvia's food products problem – if indeed it has one – lies in the low productivity of local producers.

2. Theoretical background

Discussions of specialisation, competitiveness and international trade invariably end up referring to the principle of comparative advantage.

Thus, if we ask the question: 'which products should Latvia actually produce?', comparative advantage, together with the so-called Heckscher-Ohlin² theory provides an explanation. One of the major fallacies in the Latvian economic debate originates in the lack of use (and seemingly the lack of understanding) of the idea of comparative advantage. It is often stated that Latvia should produce more high-tech goods. But, in fact, Latvia does not hold a comparative advantage in producing such goods meaning "it is not good at producing such goods".

² Heckscher and Ohlin are two Swedish economists who proposed an explanation of the pattern of international specialisation based on relative factor endowments.

This section tries to explain the concept of comparative advantage as well as that of productivity as simply as possible. Readers familiar with these concepts may well skip this section.

Textbooks invariably address the comparative advantage issue by assuming a very simple world of just two countries and two products being produced. Let us do the same, let the countries be Latvia and Sweden and let the products be food and textiles. The following small table explains how many hours it takes a worker in Sweden and in Latvia to make a unit of food (e.g. a steak) and a unit of textiles (e.g. a t-shirt).

	Food	Textiles
Sweden	1	1
Latvia	4	0.5

So, a worker in Sweden can spend one hour preparing a steak or making a t-shirt. In Latvia it takes four hours to make a steak but just half an hour making a t-shirt. Sweden has an absolute advantage making steaks while Latvia has an absolute advantage making t-shirts. Moreover, Sweden is more productive making steaks (production per hour is one; in Latvia it is only 1/4). This gave rise to Adam Smith's ideas that countries would specialize according to their absolute advantages. Here, Swedes should concentrate on making steaks and Latvians on making t-shirts. Swedes will export some steaks in exchange for t-shirts and the most important result is that total production from such specialization will grow – both countries grow richer; the so-called “gains from trade”.

David Ricardo showed that the gains from trade also prevail when a country does not have an absolute advantage. Assume the matrix from before now looks like this:

	Food	Textiles
Sweden	1	1
Latvia	4	2

Here Sweden has an absolute advantage producing both goods i.e. it is more productive producing both steaks and t-shirts. At first glance one may think that Latvia cannot “compete” but it can and this more than 200-year old insight still baffles many in the Latvian debate where it is often heard that “we cannot compete in any products”.

In the example Latvia holds a comparative advantage making t-shirts. It is not better than the Swedes in an absolute sense, indeed in an absolute sense it is less efficient, but in a relative sense it has an advantage. Assume that both countries have 1000 hours of work and that they split these hours equally between food and textiles. This would produce 625 steaks (500 + 125) and 750 t-shirts (500 + 250). Now, let a Swede move from textiles to food and four Latvians from food to textiles – this will overall leave steak production unchanged but it will increase total t-shirt production. Again, the world grows richer from specialization.

So what about the overall lower productivity in Latvia in this example? As Latvians produce fewer goods this is reflected in a lower real wage i.e. in order for Latvian made t-shirts to be able to compete with Swedish-made ones Latvian wages have to be half of Swedish wages, and this in turn implies an altogether lower GDP – Latvia will be poorer than Sweden.

But where does lower productivity come from? This is partly addressed by the economists Heckscher and Ohlin who look at the factors available to a country – land, labour, physical capital. A capital-abundant country will be relatively more productive in capital-intensive goods while a labour-intensive country will have a relative advantage in labour-intensive goods. This in turn will determine the pattern of trade.

A quick glance should indicate that Latvia is land-abundant – the country is large compared to the size of its population – and we should thus expect a relatively high degree of agricultural production and exports. But with some qualifications: As Latvia is not “warm weather abundant” one shall not expect a comparative advantage in wine production, of course. And some agricultural production can be done with relatively little space (pigs, chickens).

One can also use Heckscher and Ohlin to explain the fallacy mentioned at the beginning of this section as to why Latvia actually does not produce more high-tech goods. The country does not do so because it is not abundant in the relevant human skills. Better education and training must be introduced before Latvia can exhibit a comparative advantage in such goods.

3. Measuring competitiveness

Whereas a concept like comparative advantage works very well to explain patterns of international trade it is in practice hard to measure. It is obvious that Kuwait has a comparative advantage in the production of oil but it is perhaps not so obvious that Latvia should have a comparative advantage in producing milk.

Economists thus often turn to an applied version of the comparative advantage argument, Revealed Comparative Advantage (RCA). Assuming that firms will produce where it is most profitable i.e. where productivity is the highest compared to costs one should observe from trade patterns which goods reflect the comparative advantages of a country. If a country exports much more of a product group than it imports – say dairy products – one should believe that this is because it is “good” in terms of productivity versus costs at producing such products i.e. that it holds a comparative advantage in the production of dairy products.

Let EX measure exports and IM imports. Then the following ratio is a simple way of characterising revealed comparative advantage, in this example with respect to, say, food products:

$$RCA_{food} = \frac{EX_{food} - IM_{food}}{EX_{food} + IM_{food}}$$

The denominator measures total international trade of food for the particular country, say Latvia. The numerator and thus RCA is positive if exports exceed imports and by construction the ratio must always lie within minus 1 (zero exports) and plus 1 (zero imports). A strongly negative figure thus indicates that a country does not hold a comparative advantage in food production while a strongly positive number implies that it does.

In the next sub-section we have computed RCAs for twelve product groups for all 27 EU countries.

4. Revealed comparative advantage in food products across Europe

Using Eurostat data we present in Tables 1 – 3 (see below) calculated RCAs for twelve different product groups for the 27 EU countries for 2008³. In all tables in this report the countries are listed alphabetically according to the name of their country in their own language, the standard EU way.

For a reader being unfamiliar with RCA numbers and their interpretation it may be illuminating looking first at “Coffee, tea and spices” in Table 3. All numbers are negative indicating that no EU country holds a comparative advantage in producing coffee, tea and spices. This is not surprising, of course – Heckscher-Ohlin theory would tell us that such products require much warmer climates than exist in the EU.

In the same table we have chosen also to present the product group “Beverages, spirits and vinegar”. Not because it is of primary interest for this study but because it neatly portrays reasons for (lack of) comparative advantage. Countries with large positive numbers and thus with revealed comparative advantage in the production of beverages and spirits are France, Italy, Portugal, Austria and Spain. What they have in common, of course, is being major wine producing countries, again an advantage linked to climate. Such a grouping or clustering of countries is illuminating when addressing many of the other product groups and we shall briefly address each of these.

Start with Table 1, “Food and beverages”. Not surprisingly traditionally well-known food producing countries display a comparative advantage such as Denmark, France, Ireland and the Netherlands. This broad group does not include Latvia as a country with a comparative advantage in “Food and beverages”. Estonia is also not included and Lithuania has almost balanced trade.

³ We also made similar calculations for the years 2005, 2006 and 2007 but as the calculated RCAs differ very little from year to year these calculations are not reported here.

For “Meat” Latvia is revealed to be at a serious comparative disadvantage but so are the two other Baltics and indeed most of the EU. Here comparative advantage rests with countries like Denmark and Ireland (and Spain). It is tempting e.g. in the case of Denmark to attribute this to its long-standing tradition as a highly productive agricultural producer.

“Fish” is quite easily explained. Countries with a revealed comparative advantage like Denmark, Ireland and Malta have easy access to the high seas and strongly negative numbers for land-locked countries like Austria and Hungary should not surprise either (but negative numbers for France and Italy should). Latvia and Lithuania are at a disadvantage – the Baltic Sea is not the best place for fishing?

When it comes to “Preparations of meat, fish, etc.” one should at first believe that countries with a comparative advantage in meat and/or fish would also have it here. This holds e.g. for Denmark and Ireland but Latvia (and Lithuania) has a seemingly strong comparative advantage in prepares meat and fish products although it does not for meat or fish as such. This is interesting as it indicates either good technology and/or strong preferences for Latvian processed meat and fish products (e.g. from Russia) that it makes economic sense to import meat and fish in order to process them here. Arguably, it is the latter factor that operates here with the persistence of a taste for Latvian produced preserved meat and fish surviving the break-up of the Soviet Union.

In Table 2, contrary to the perception of many, Latvia does hold a comparative advantage in “Dairy products” – but it is not as strong as for Estonia or Lithuania, which is an issue that one should address. It is less surprising that countries with a traditionally strong dairy tradition such as Austria, Denmark, France and Ireland hold a comparative advantage here. This may speak of good technology but just as much about tradition and the passing on of know-how and skills. Poland also holds a strong comparative advantage – this is not surprising either but is certainly not explained by technologically advanced production, rather a tradition of millions of small farmers. Here one should look into Latvia’s comparative advantage – it is not surprising given the relative abundance of land but is it technology-driven (Danish scenario) or more traditional (Polish scenario). We provide more insight later in the paper when discussing productivity.

Briefly on “Fruit”. Mainly climate-driven advantages (Spain, Greece and Italy). No advantage for Latvia but not for Estonia or Lithuania either though the latter has a much less negative RCA. This same pattern for Estonia, Latvia and Lithuania is repeated for “Vegetables” although we have no strong explanation for it.

Whereas prepared meat and fish was a comparative advantage product for Latvia, no such effect appears for “Preparation of vegetables and fruits” – but neither does it for Estonia and Lithuania.

In Table 3, all three Baltic countries display strong comparative advantage in “Cereals”. Again, this must be linked to climate and relative abundance of land for growing crops that could be used for making, say, breakfast cereals but here appears an interesting clue

to a potential problem. This advantage is not repeated in “Preparations of cereals”. Here, it is tempting to conclude that the Baltic countries have their advantages in the simpler production of cereal but because of a lack of technology or know-how not in the value-adding process of making the cereals into breakfast products (“The can grow corn but they can’t make corn flakes”). Higher income countries and thus more advanced economies like Denmark, Italy and the Netherlands have it exactly the other way round.

Summing up, the picture is not so dire for Latvia in terms of comparative advantage as much popular perception suggests. Nevertheless in a Baltic context Latvia tends to lag behind Lithuania which may be the top performer. It is positive factor that although Latvia does not hold a comparative advantage in the production meat or fish it nevertheless manages to perform strongly in the processing of such goods. The opposite result for cereals should be an area for concern, however.

Table 1: Revealed comparative advantage, various products, EU27, 2008

Country	Abb.	Food and beverages	Meat	Fish	Preparations of meat, fish, etc.
Belgium	BE	0.046	0.392	- 0.270	- 0.020
Bulgaria	BG	0.044	- 0.448	- 0.475	- 0.315
Czech Rep.	CZ	- 0.114	- 0.546	- 0.205	- 0.216
Denmark	DK	0.199	0.631	0.173	0.285
Germany	DE	- 0.112	0.086	- 0.471	0.055
Estonia	EE	- 0.184	- 0.382	0.078	0.032
Ireland	IE	0.210	0.613	0.521	0.257
Greece	EL	- 0.283	- 0.917	0.055	- 0.453
Spain	ES	0.068	0.443	- 0.406	0.079
France	FR	0.126	- 0.079	- 0.469	- 0.301
Italy	IT	- 0.056	- 0.477	- 0.764	- 0.325
Cyprus	CY	- 0.595	- 0.520	- 0.212	- 0.960
Latvia	LV	- 0.112	- 0.590	- 0.137	0.438
Lithuania	LT	0.014	- 0.222	- 0.301	0.377
Luxembourg	LU	- 0.378	- 0.553	- 0.641	- 0.720
Hungary	HU	0.243	0.420	- 0.758	0.070
Malta	MT	- 0.522	- 0.994	0.489	- 0.951
Netherlands	NL	0.163	0.372	0.139	0.015
Austria	AT	- 0.013	0.141	- 0.830	- 0.097
Poland	PL	0.093	0.276	- 0.202	0.617
Portugal	PT	- 0.356	- 0.770	- 0.505	0.014
Romania	RO	- 0.386	- 0.903	- 0.911	- 0.273
Slovenia	SI	- 0.310	- 0.423	- 0.722	0.089
Slovakia	SK	- 0.183	- 0.510	- 0.701	- 0.487
Finland	FI	- 0.396	- 0.055	- 0.692	- 0.810
Sweden	SE	- 0.289	- 0.685	- 0.162	- 0.362

UK

UK

- 0.402

- 0.553

- 0.218

- 0.737

Table 2: Revealed comparative advantage, various products, EU27, 2008

Country	Abb.	Dairy products	Fruit	Vegetables	Preparation of vegetables, fruits
Belgium	BE	- 0.011	- 0.087	0.166	0.265
Bulgaria	BG	0.040	- 0.248	- 0.248	- 0.067
Czech Rep.	CZ	0.189	- 0.661	- 0.631	- 0.485
Denmark	DK	0.545	- 0.861	- 0.592	- 0.226
Germany	DE	0.093	- 0.674	- 0.698	- 0.284
Estonia	EE	0.482	- 0.640	- 0.764	- 0.755
Ireland	IE	0.535	- 0.724	- 0.267	- 0.633
Greece	EL	- 0.505	0.264	- 0.257	0.484
Spain	ES	- 0.321	0.537	0.619	0.391
France	FR	0.350	- 0.388	- 0.135	- 0.361
Italy	IT	- 0.337	0.194	- 0.042	0.436
Cyprus	CY	- 0.201	- 0.187	0.407	- 0.441
Latvia	LV	0.254	- 0.622	- 0.774	- 0.430
Lithuania	LT	0.548	- 0.116	- 0.010	- 0.305
Luxembourg	LU	- 0.034	- 0.622	- 0.742	0.006
Hungary	HU	- 0.055	- 0.299	0.202	0.475
Malta	MT	- 0.981	- 0.966	- 0.858	- 0.952
Netherlands	NL	0.377	- 0.047	0.502	0.307
Austria	AT	0.219	- 0.427	- 0.478	- 0.004
Poland	PL	0.643	- 0.179	0.326	0.355
Portugal	PT	- 0.325	- 0.443	- 0.243	0.044
Romania	RO	- 0.661	- 0.774	- 0.582	- 0.824
Slovenia	SI	0.060	- 0.279	- 0.418	- 0.636
Slovakia	SK	0.160	- 0.485	- 0.532	- 0.516
Finland	FI	0.226	- 0.853	- 0.893	- 0.835
Sweden	SE	- 0.282	- 0.766	- 0.781	- 0.660
UK	UK	- 0.443	- 0.913	- 0.811	- 0.722

Table 3: Revealed comparative advantage, various products, EU27, 2008

Country	Abb.	Cereals	Preparations of cereals	Coffee, tea, spices	Beverages, spirits, vinegar
Belgium	BE	- 0.436	0.266	- 0.045	- 0.095
Bulgaria	BG	0.707	0.262	- 0.286	- 0.048
Czech Rep.	CZ	0.513	- 0.215	- 0.430	0.027
Denmark	DK	- 0.249	0.198	- 0.535	- 0.146
Germany	DE	0.113	0.254	- 0.269	- 0.115
Estonia	EE	0.392	- 0.395	- 0.302	- 0.256
Ireland	IE	- 0.697	0.299	- 0.751	0.077
Greece	EL	- 0.466	- 0.353	- 0.855	- 0.436
Spain	ES	- 0.690	- 0.085	- 0.493	0.219
France	FR	0.787	0.030	- 0.630	0.621
Italy	IT	- 0.516	0.533	- 0.210	0.565
Cyprus	CY	- 0.979	- 0.915	- 0.893	- 0.882
Latvia	LV	0.541	- 0.301	- 0.575	0.053
Lithuania	LT	0.624	- 0.103	- 0.539	- 0.315
Luxembourg	LU	- 0.304	- 0.373	- 0.489	- 0.544
Hungary	HU	0.837	- 0.290	- 0.359	- 0.008
Malta	MT	- 0.523	- 0.649	- 0.925	- 0.927
Netherlands	NL	- 0.621	0.229	- 0.066	0.119
Austria	AT	0.204	- 0.055	- 0.261	0.366
Poland	PL	- 0.639	0.355	- 0.363	- 0.159
Portugal	PT	- 0.918	- 0.371	- 0.624	0.376
Romania	RO	0.362	- 0.619	- 0.895	- 0.448
Slovenia	SI	- 0.600	- 0.499	- 0.669	- 0.130
Slovakia	SK	0.019	- 0.348	- 0.296	- 0.330
Finland	FI	0.404	- 0.571	- 0.691	- 0.521
Sweden	SE	0.372	- 0.029	- 0.530	- 0.106
UK	UK	- 0.247	- 0.259	- 0.436	0.018

5. Self-sufficiency

An alternative approach to measuring the performance of Latvian produced products in the home market is through so-called self-sufficiency indices.

A self-sufficiency index measures how large a share of consumption of some product is domestically produced. For e.g. food products it would be defined in the following way while the latter part of the formula explains how it has been calculated given data available (total consumption of food must equal total domestic production plus imports less exports).

$$SS_{food} = \frac{\text{production of food for domestic consumption}}{\text{total consumption of food}}$$
$$= \frac{\text{domestic production of food} - EX_{food}}{\text{domestic production of food} + IM_{food} - EX_{food}}$$

As can be seen a self-sufficiency index must range between zero (where the good is 100% imported) and one (where none is imported). The higher the ratio, the more a country relies on its own production in consumption. A couple of extreme examples in Latvia might be for oil or cars ($SS = 0$ as no domestic production exists).

We have calculated for the EU-27 countries self-sufficiency ratios for a range of products. The most recent data in this case is from 2006⁴. It will be seen from the tables (4 – 6, see below) that there are missing values for some countries in some cases. This is due to confidentiality issues which are explained in more detail in Box 1.

Table 4 provides self-sufficiency ratios for four product categories while tables 5 and 6 provide exports and imports as a share of production of these goods.

Belgium and the Netherlands are two countries that stand out – they have relatively low self-sufficiency ratios for all four categories and they have very high export and import ratios. We attribute this to their status as very open economies as well as (and linked to that) their geographical position with close proximity to many large foreign markets. At the other end a country like Poland (and to a lesser extent Romania and Bulgaria) stand out with very high self-sufficiency ratios and low export and import ratios. Belgium and the Netherlands are two of the richest countries in the EU in terms of per capita income while Poland, Romania and Bulgaria are in fact the three poorest and one should thus certainly not automatically interpret self-sufficiency as something “good”. Rather one should expect that Poland, Romania and Bulgaria have high self-sufficiency ratios partly

⁴ We also have data from 2005 but it does not vary substantially from the 2006 data and is thus not reported here except in a few cases where 2006 data were not available. In a very few cases 2007 data was available but for the sake of uniformity we chose to stick to 2006.

because of a lack of ability to export their goods – be that due to poorly developed export incentives or simply products of inferior quality.

The Baltic self-sufficiency ratios are not as high as the ones for Poland et al but certainly much higher than for Belgium and the Netherlands. Moreover, the Baltic figures are not all that different. Latvia has higher self-sufficiency than the two others with respect to “Food and beverages” and “Food”. For “Milk, cream and cheese” it is lower than for the two other Baltic countries which is an interesting observation but it is still at almost 80%. For “Meat” it is between the other two.

It is the import-export statistics that are of more interest as Latvia seems to underperform its Baltic neighbours in terms of exports – in all four cases the Latvian export ratio is the lowest⁵ and one is surprised to see a paltry 6.3% export ratio for meat for Latvia while it is 11.8% for Estonia and 20.3% for Lithuania (here Denmark appears as the export machine it is with respect to meat with no less than 66.4% of production exported).

The dairy sector in Latvia is often discussed in terms of lack of competitiveness and self-sufficiency and it is a truth albeit with modifications. Latvia may have a lower export share than its Baltic brethren and its import share is significantly higher (20.4% against 15.6% for Lithuania and just 8.5% for Estonia) but with an export share of 33.9% net exports are still positive and this was also reflected in Table 2 which indicates a positive RCA.

In short, for Latvia, there is no hard evidence to suggest a lack of self-sufficiency with respect to the products surveyed when compared with its Baltic neighbours. Rather, Latvia displays a disappointing export performance when compared with Estonia and Lithuania and that is perhaps an issue that one should address.

⁵ For dairy products though the same as for Estonia.

Box 1: Why so much secrecy?

In economic research one often encounters a lack of data and this study has somewhat surprisingly proved no exception. Self-sufficiency ratios for a number of categories such as food and beverages, for food and for milk products could not be calculated for otherwise transparent countries like Denmark, Finland and Sweden. In the Eurostat databases these categories are classified as ‘confidential’. Why so?

It appears that industry data may be classified as confidential in the following cases⁶:

1. When there are three or fewer enterprises in a particular sector.
2. When the market share of the largest enterprise exceeds 80%.
3. When the market share of the two largest enterprises exceed 90%.

Apparently this is to protect individual firms from being identified but such confidentiality certainly came as a big surprise and has meant that certain important producing countries could not be included in the empirical analysis.

⁶ The actual numbers and percentages may differ slightly from country to country but the criteria are very similar for the EU countries.

Table 4: Self-sufficiency ratios, various products, EU27, 2006

Country	Abb.	Food and beverages	Food	Milk, cream and cheese	Meat and edible meat offal
Belgium	BE	31.4	26.8	46.1	70.9
Bulgaria	BG	71.4	65.6	86.3	79.8
Czech Rep.	CZ	n.a.	n.a.	79.3	84.6
Denmark	DK	n.a.	n.a.	n.a.	70.4
Germany	DE	69.4	68.3	78.5	88.3
Estonia	EE	43.6	43.4	91.5	71.9
Ireland	IE	n.a.	n.a.	84.9	n.a.
Greece	EL	61.3	57.3	70.9	41.1
Spain	ES	76.0	72.9	85.7	93.2
France	FR	n.a.	n.a.	90.2	89.3
Italy	IT	n.a.	n.a.	81.9	79.0
Cyprus	CY	65.5*	n.a.	76.8	90.9
Latvia	LV	51.2	50.1	79.6	76.8
Lithuania	LT	47.5	41.7	84.4	79.1
Luxembourg	LU	n.a.	n.a.	n.a.	37.8
Hungary	HU	73.3*	69.1*	81.6	86.9
Malta	MT	n.a.	n.a.	n.a.	n.a.
Netherlands	NL	16.9	14.9	59.8	49.8
Austria	AT	51.7*	51.9*	70.8	78.5
Poland	PL	83.0	80.5	96.5	94.6
Portugal	PT	59.0	56.0	78.4	69.1
Romania	RO	77.9	72.4	93.8	74.0
Slovenia	SI	54.0	51.5	68.3	78.9
Slovakia	SK	n.a.	n.a.	64.7	71.1
Finland	FI	n.a.	n.a.	89.3	94.8
Sweden	SE	n.a.	n.a.	84.2	83.0
UK	UK	70.0	69.3	76.6	81.0

* 2005 data

Source: Eurostat, external trade detailed data, product dissemination according to the Standard International Trade Classification (SITC) and data on industrial production by sector by sectors (Eurostat, Structural Business Statistics (SBS)).

Table 5: Exports and imports as a share of production, various products, EU27, 2006

Country	Abb.	Food and beverages		Food	
		Exports	Imports	Exports	Imports
Belgium	BE	71.5	68.6	76.4	73.2
Bulgaria	BG	32.0	28.6	37.1	34.4
Czech Rep.	CZ	n.a.	n.a.	n.a.	n.a.
Denmark	DK	n.a.	n.a.	n.a.	n.a.
Germany	DE	24.9	30.6	25.8	31.7
Estonia	EE	49.2	56.4	47.8	56.6
Ireland	IE	n.a.	n.a.	n.a.	n.a.
Greece	EL	28.1	38.7	32.5	42.7
Spain	ES	26.9	24.0	29.9	27.1
France	FR	n.a.	n.a.	n.a.	n.a.
Italy	IT	n.a.	n.a.	n.a.	n.a.
Cyprus	CY	n.a.	n.a.	n.a.	n.a.
Latvia	LV	39.5	48.8	40.0	49.9
Lithuania	LT	52.3	52.5	59.6	58.3
Luxembourg	LU	n.a.	n.a.	n.a.	n.a.
Hungary	HU	34.6*	26.7*	40.5*	30.9*
Malta	MT	n.a.	n.a.	n.a.	n.a.
Netherlands	NL	87.9	83.1	89.4	85.1
Austria	AT	48.2*	48.3*	42.6*	48.1*
Poland	PL	22.3	17.0	25.5	19.5
Portugal	PT	23.7	41.0	20.9	44.0
Romania	RO	8.8	22.1	11.4	27.6
Slovenia	SI	29.7	46.0	30.3	48.5
Slovakia	SK	n.a.	n.a.	n.a.	n.a.
Finland	FI	n.a.	n.a.	n.a.	n.a.
Sweden	SE	n.a.	n.a.	n.a.	n.a.
UK	UK	15.3	30.0	12.5	30.7

* 2005 data

Table 6: Exports and imports as a share of production, various products, EU27, 2006

Country	Abb.	Milk, cream and cheese		Meat and edible meat offal	
		Exports	Imports	Exports	Imports
Belgium	BE	51.1	53.9	48.9	29.1
Bulgaria	BG	15.8	13.7	14.8	20.2
Czech Rep.	CZ	28.9	20.7	4.4	15.4
Denmark	DK	n.a.	n.a.	66.4	n.a.
Germany	DE	26.4	21.5	12.3	11.7
Estonia	EE	33.9	8.5	11.8	28.1
Ireland	IE	37.4	15.1	n.a.	n.a.
Greece	EL	11.8	29.1	2.7	58.9
Spain	ES	6.8	14.3	12.6	6.8
France	FR	18.2	9.8	9.1	10.7
Italy	IT	9.5	18.1	7.3	21.0
Cyprus	CY	18.2	23.2	1.0	9.1
Latvia	LV	33.9	20.4	6.3	23.2
Lithuania	LT	47.2	15.6	20.3	20.9
Luxembourg	LU	n.a.	n.a.	31.3	62.2
Hungary	HU	10.3	18.4	26.6	13.1
Malta	MT	n.a.	n.a.	n.a.	n.a.
Netherlands	NL	55.3	40.2	69.9	50.2
Austria	AT	42.5	29.2	26.1	21.5
Poland	PL	19.5	3.5	15.8	5.4
Portugal	PT	11.5	21.6	1.9	30.9
Romania	RO	2.3	6.2	1.1	26.0
Slovenia	SI	36.8	31.6	8.9	21.1
Slovakia	SK	43.9	35.3	14.4	28.9
Finland	FI	17.5	10.7	4.8	5.2
Sweden	SE	10.0	1.8	4.8	17.0
UK	UK	10.8	23.4	4.8	19.0

* 2005 data

6. Productivity

As demonstrated in previous sections Latvia is not special in terms of lack of comparative advantage or lack of self-sufficiency in food products. This in turn means that the evidence does not support the view there are ‘too few’ Latvian goods in the shops. If one nevertheless persists that ‘too few’ are available one must go a step back which is what we do in this section where the focus is on productivity in various sectors of interest.

For those not so familiar with productivity we allow ourselves a rather thorough description. Tables 7 – 11 present labour productivity for the EU27 countries⁷ for various sectors of the economy. Labour productivity is the value added per person employed. If e.g. a factory with 1000 employees produce 100,000 chairs worth 50 EUR each, labour productivity will be $50 \times 100,000 / 1000 = 5000$ EUR. To compare productivity for different countries one must take into account that prices of individual goods tend to differ⁸. Assume for instance that some other country has a factory also with 1000 employees and also producing 100,000 chairs but that value added per chair is only 30 EUR. If only measured as value added productivity in the second country would look lower than in the first even though they make equally many chairs per person employed. This effect is removed from our data⁹ which thus represent volume per person employed. The data has been normalized by setting labour productivity for EU27 at 100.

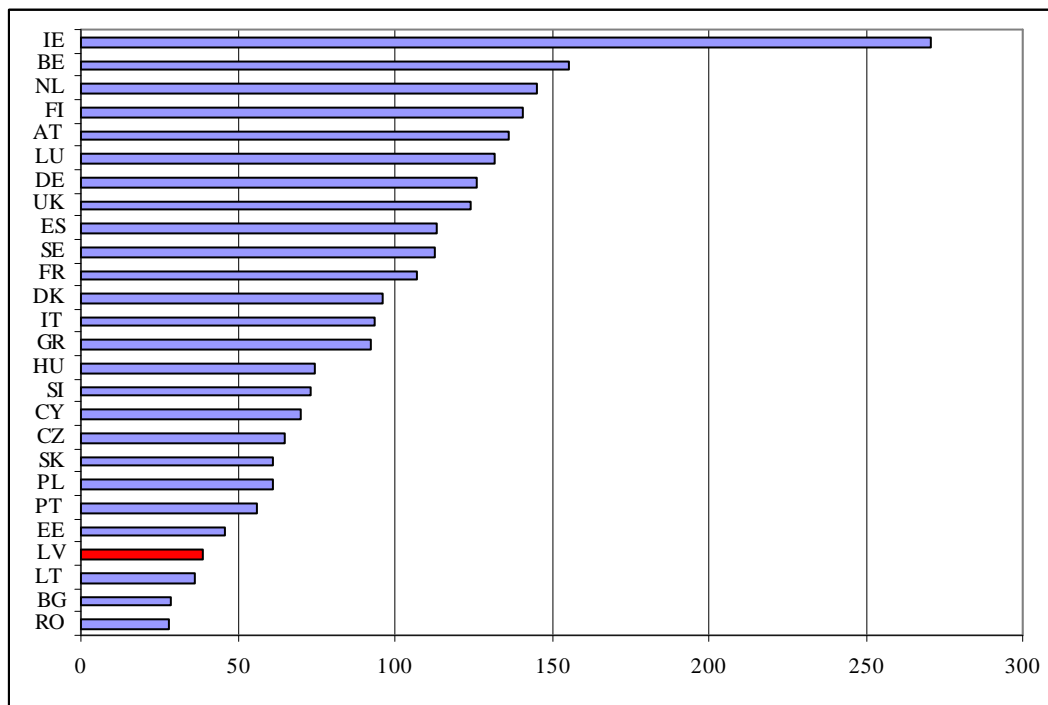
A very illuminating example is presented in Table 7. As with “Coffee, tea and spices” from Table 3, “Manufacturing” is not an area of concern for this study but it is just a very good example of why differences in labour productivity appear.

⁷ Also here some countries will be missing due to confidentiality issues, see Box 1.

⁸ They are typically cheaper in poorer countries, an example of the so-called Balassa-Samuelson effect.

⁹ Technically, one divides the value added numbers by the relative price level of the country.

Table 7: Labour productivity by sectors (EU27=100), Manufacturing, 2006



As can be seen productivity in Latvia is one of the lowest in EU27 and is below 50% of the EU average. Ireland is way ahead and its productivity is around seven times higher than Latvia's – in the chair example this would imply that when a Latvian makes one chair an Irishman makes seven. Why such a massive difference? The explanation is that manufacturing in Ireland to a very large extent is of a sophisticated high-tech nature that uses a lot of physical capital as well as highly skilled people of which Ireland is abundant. In the late 1980s substantial investment flows from USA came to Ireland to take advantage of its highly skilled labour force to produce high-tech goods for the European Union's Single Market. We must thus conclude that such an availability of similarly high-skilled labour is just not available in Latvia. This is why such high-tech production is not common here and thus why productivity remains relatively low.

It should also be noted that this translates into the macro-economy: Latvia is a relatively poor country in the EU (in terms of GDP per capita it is only ahead of Poland, Romania and Bulgaria). But as GDP is the same as value added, low GDP per capita is the same as low productivity. Latvia is poor (in an EU sense) because its labour productivity in significant parts of the economy is low which again is due to some combination of a low level of skills, unsophisticated physical capital, outdated technology and lack of efficiency. There can be several sectors with high productivity but Latvia's low ranking in terms of GDP per capita is synonymous with an overwhelming number of low productivity sectors in the economy.

As can be seen from the tables we have chosen to provide this lack of labour productivity is a general problem. Below (Table 8) is productivity in food and beverages where Latvia

is below its Baltic neighbours and only ahead of Bulgaria and Romania while productivity in the Netherlands is almost four times higher.

**Table 8: Labour productivity by sectors (EU27=100),
Manufacture of food products and beverages, 2006**

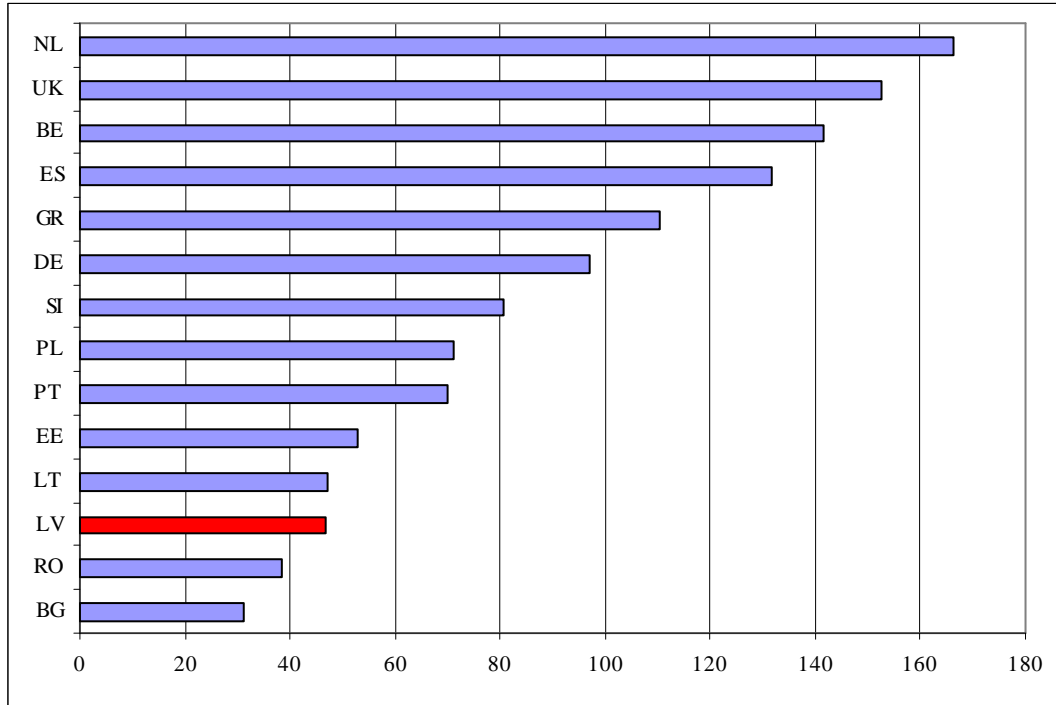
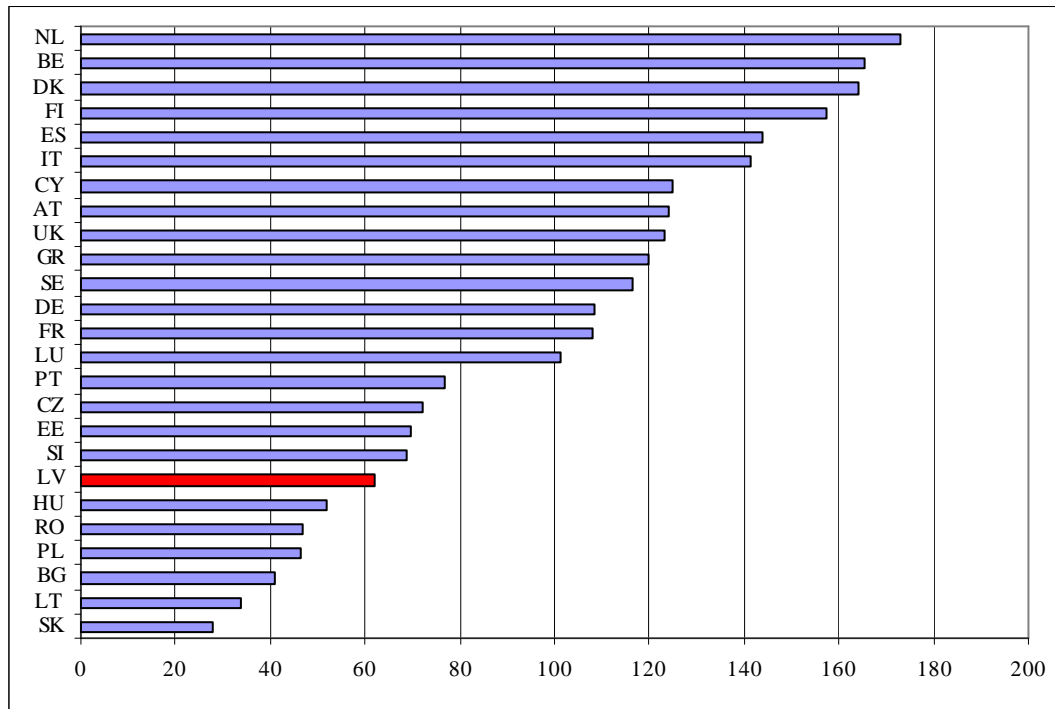


Table 1 showed that Latvia holds a comparative advantage in processed meat and fish products. Table 9 shows that productivity in the processed meat sector, though far behind the leading countries, is higher than in most other places (e.g. higher than in Hungary and substantially higher than in Lithuania). We suggest that one should investigate in more detail how this relative success story has materialized.

**Table 9: Labour productivity by sectors (EU27=100),
Production, processing, preserving of meat, meat products, 2006**

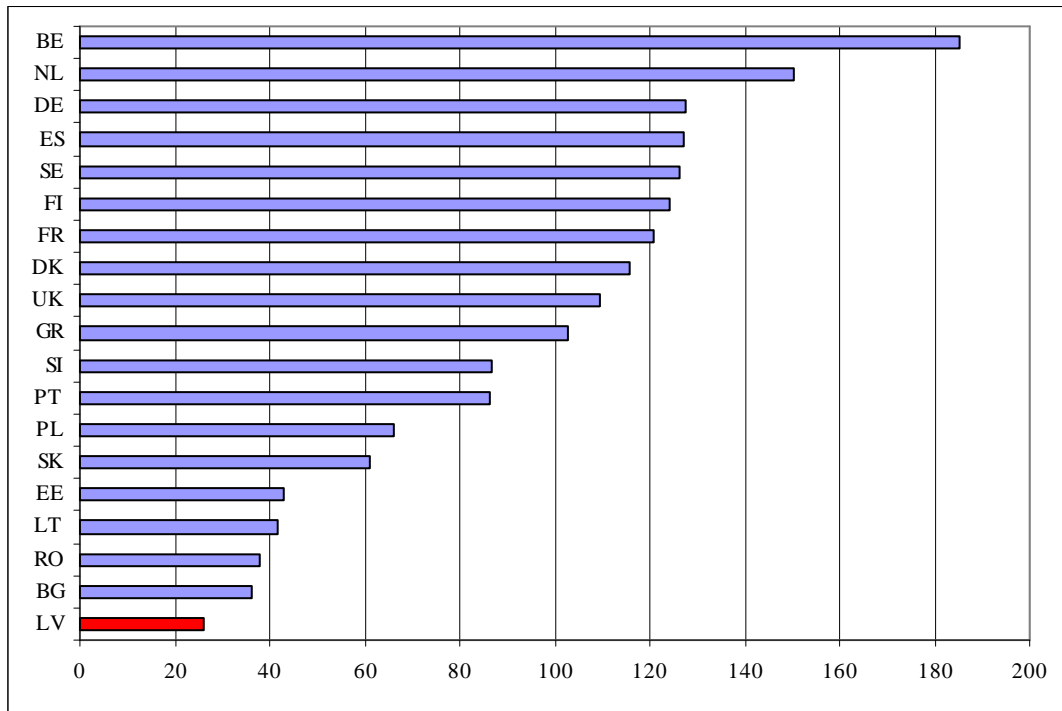


And just as interesting as a closer look at the processed meat sector because of its relatively high productivity, is a closer look at the sector for processed fish (Table 10 – but for the opposite reason – here Latvia fares dismally with the lowest productivity among all surveyed countries, even below Romania and Bulgaria and with a productivity which is only around a seventh of what it is in Belgium. One may wonder what makes this sector so distinctly unproductive.

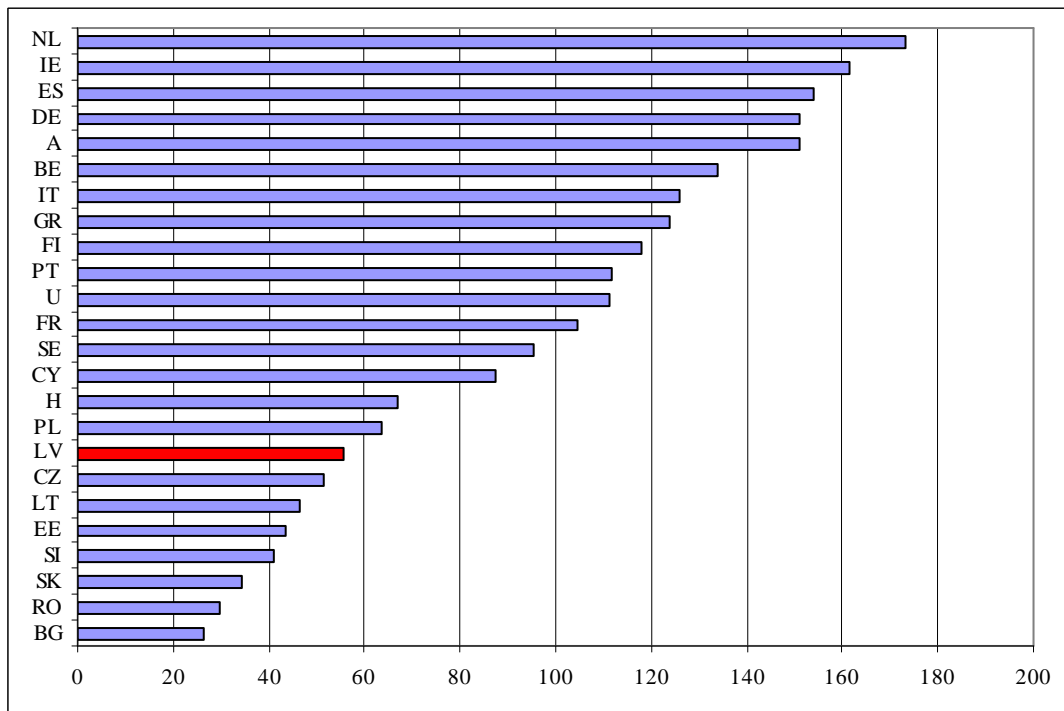
Lastly, Table 11 displays the situation in the dairy sector. Also here Latvian productivity is far below the EU average but, interestingly, it fares better than in both Estonia and Lithuania.

Summing up, we have demonstrated that Latvia suffers from low productivity in all surveyed sectors, albeit with some individual differences. A common feature of these productivity problems is some combination of low skills and unsophisticated technology and capital. And this is surely where attention and action should be directed if one is concerned to promote locally produced food products in Latvia.

**Table 10: Labour productivity by sectors (EU27=100),
Processing and preserving of fish and fish products, 2006**



**Table 11: Labour productivity by sectors (EU27=100),
Manufacture of dairy products, 2005**



7. Conclusions and suggestions

Our empirical analysis suggests that Latvia does not suffer in particular from lack of revealed comparative advantage, or from lack of self-sufficiency so proposals like special shelves for Latvian products are actually irrelevant. If one is concerned about promoting Latvian produced food products it is at the producer level action has to be taken. Moreover, the basic problem that needs to be addressed is low productivity

We would suggest that a working group or groups could be created that would explore the issue of low productivity. A first task would be to investigate e.g. the Dutch and Danish markets in order to identify their success factors in terms of productivity. What are the origins of these high levels of productivity? One should look at education, at the use of technology but also at how know-how is 'inherited' – Denmark and the Netherlands have been highly productive for a long time; it is not a new phenomenon there. What is the role of entrepreneurship and innovation?

We would suggest a comparative study of productivity in meat processing versus processed fish. Both have low productivity in the EU27 context but meat looks relatively fine while fish is abysmal. Why so?

We would look at the dairy industry – as with processed meat productivity is low in an EU context but not really in a more narrow Eastern European context. What is behind this apparent success story? But what keeps productivity still way behind some Western European players?

And we would examine the export and import situation, in particular with dairies. Why are imports into Latvia so much higher as a share of production than they are in Lithuania and in particular Estonia?

We would favour a rigorous approach to such investigations and some of these issues could be addressed thorough a survey instrument on the lines of the Survey of Innovative Businesses in Latvia (SIBiL) that is already undertaken by BICEPS.

In principle, resources are available from the Structural Funds to finance such research and it is to be hoped that now that national co-financing requirements for the funds may be lifted, the Ministry of Agriculture will resume a research programme that includes at least some investigations on the lines proposed.