Summary

Pig production costs; An international comparison

The Ministry of Agriculture, Nature and Food Quality and the Product Boards for Livestock, Meat and Eggs (PVE) commissioned LEI to conduct research into pig production cost development. In the past, LEI had already studied the development of the production costs for pigs for the PVE and the same method and choice of countries formed the basis of this study.

Many developments affect production costs. Furthermore, these developments vary between farms and between countries. Insight is required into the consequences of all these developments for the competitive strength of the Dutch pig farming sector.

The study consists of three parts: a) an international production cost comparison based on the year 2007, b) an assessment of the cost increase per country until the year 2013 resulting from social societal demands on production, and c) insight into the differences in production costs between primary farms and causes for these variations. The calculated production costs exclude VAT and the costs of production rights.

In 2007, the calculated production costs of pig farming on the 'typical' Dutch farm amounted to € 1.40 per kg (hot) slaughter weight[1], 52% of which was feed costs. Moreover, for farms which regularly expand, a further € 0.05 per kg slaughter weight can be added for the costs of purchased production rights. Since 2007, there has been a clear increase in production costs due to a global rise in feed prices. The price of the average feed ration for a closed pig farm rose by 56% between July 2006 and June 2008. With the feed price level of summer 2008 (June - August), the production cost is € 0.18 higher than with average 2007 feed prices and is € 1.58.

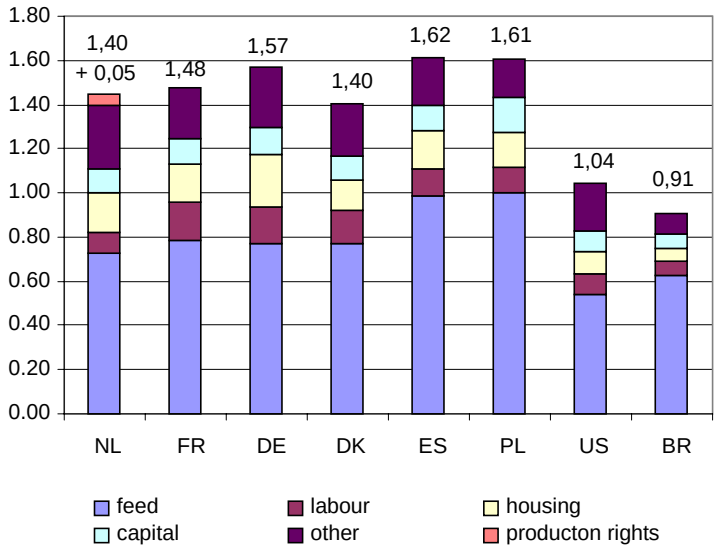
There is a considerable variation in production costs between farms in the Netherlands, caused by the factors labour productivity, production results, prices and farm size. With respect to sow farming, this mainly concerns labour productivity and production results. For fattening pig farming, besides labour productivity the main factors are prices (of feed and piglets) and production - results. Farm size seems to be of limited relevance in cost differences in sow farming, while insufficient data make it difficult to assess the relevance of this factor in fattening pig farming. There is therefore a close relationship between

[1] Including VAT, the production costs are € 1.47 per kg slaughter weight.

labour productivity and production costs in both sow farming and fattening pig farming. This implies that for some of the farms it is relevant to improve labour productivity in order to reduce the production costs.

Figure 1 shows the composition of the production costs of pigs in the countries reviewed in 2007.

Figure 1 **Composition of the production costs per country in 2007 (€/kg slaughter weight)**

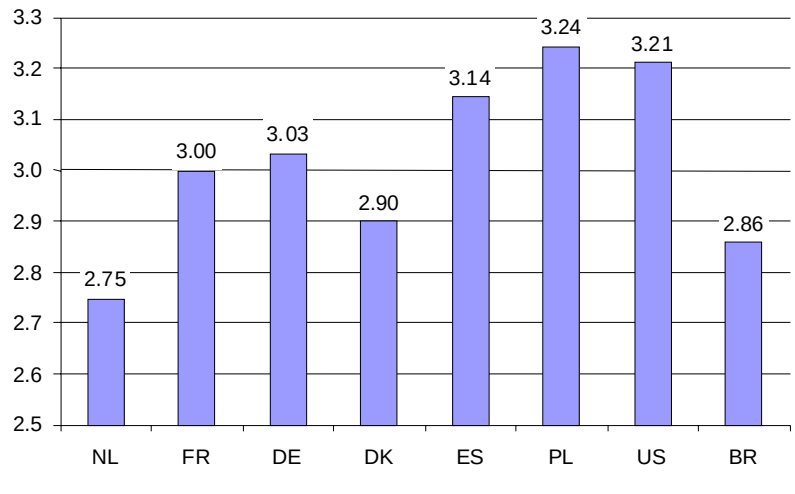


The cost comparison shows that, within Europe, the Netherlands and Denmark were the cheapest pig producers in 2007. After adding the costs of production rights, however, the Netherlands is at a cost disadvantage compared with Denmark. France is in a good third position while Germany, Poland and Spain are clearly down the list from the first two countries with around € 0.20 higher production costs. The production costs in the US and Brazil are considerably lower.

The production costs of the separate piglet production are € 46 per piglet in the Netherlands and € 44 per piglet in Denmark (corrected to 25 kg). Thus, the Netherlands comes second after its Danish competitor by 2 euros per piglet. Compared with Germany, our main sales market, the Dutch production

costs per piglet on similar farms are 5 euros less. In comparison with the 'typical farm', many German farms are smaller and less efficient in practice and the difference in production costs is clearly greater. Both Poland and the US have relatively unfavourable production costs in piglet production compared with the costs in fattening pig farming.

Figure 2 **Farm feed conversion of pig production per country in 2007**



Between 2006 and summer 2008, the effect of increased feed prices led to a cost rise of € 0.31/kg in the Netherlands, or around 25% compared with 2006. In other countries, the rise in production costs caused by the increased feed price was generally higher than in the Netherlands. The Netherlands has the best feed efficiency of the countries reviewed and this significantly contributes to the sustainability of its pig production. Figure 2 shows the farm feed conversion[1] of the different countries.

Production cost differences between countries are partly related to differences in regulations. Within the EU, there is an unequal base situation with respect to existing government measures. The costs for pig farming of a number of government measures were compared between countries. The future rise in these

[1] The farm conversion is calculated by dividing the total feed use of sows, piglets and fattening pigs on a closed pig farm by the (live) delivery weight of the slaughter pigs.

costs until the year 2013 was also studied. Costs are derived in the field of the environment, animal welfare, animal health, public health and spatial planning.

In 2007, the total costs of government policy in the field of the *environment* in the Netherlands were around € 0.11 per kg slaughter weight, of which € 0.08 was for manure disposal. In 2013, these costs will be € 0.02 higher as a result of the ammonia emission reduction policy. In the other countries, the costs in 2007 were between zero and € 0.05 per kg but these will also increase in France, Germany and Denmark by € 0.02-€ 0.03 to a level of € 0.05-€ 0.06 per kg. Besides these environmental costs, the costs for production rights were nearly € 0.05 per kg.

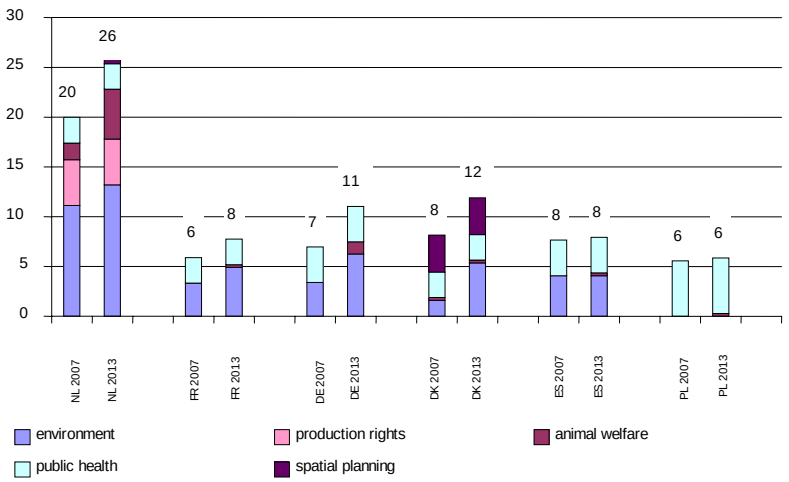
In 2007, the costs of *animal welfare* measures in the Netherlands were € 0.02 per kg slaughter weight and this will increase to € 0.05 per kg in 2013, mainly on account of the surface area requirement for fattening pigs of 1.0 m^2 per animal. In Germany, these costs will rise to € 0.01 per kg. In other countries, the additional costs for welfare measures in 2007 and 2013 are almost nil.

In 2007, the costs of measures relating to *public health* in the Netherlands were € 0.03 per kg slaughter weight. In other EU countries, the present costs vary between € 0.03 and € 0.06 per kg. Due to a lack of information, the costs for 2013 were assumed to be the same as for 2007. A further rise in the costs due to the asynchronous licensing system for new GM ingredients was not included here. If GM ingredients and meat-and-bone meal in pig feed were authorised, the costs would decline.

For *spatial planning,* in 2013 a cost item is expected of € 0.01 per kg in the Netherlands. Land in Denmark is already expensive, costing € 0.04 per kg slaughter weight.

Figure 3 shows the calculated additional costs of policy measures in the different countries in 2007 and 2013.

Figure 3 **Additional costs due to policy measures in 2007 and 2013 per country (euro cents/kg slaughter weight) a) b)**



a) The costs for GM are kept the same in 2013 as those in 2007; b) For the sake of clarity, the costs of production rights have been shown separately from the other environmental costs.

In 2007, the total additional costs of pig farming caused by the described policy measures in the Netherlands are € 0.20. This is more than in the other countries. In 2007, policy measures cost € 0.08 in Denmark and Spain, around € 0.07 in Germany and around € 0.06 in France and Poland.

The costs of policy measures in Europe will further increase in the coming years. In net terms, the cost of policy measures in the Netherlands until 2013 will rise by € 0.06 compared with 2007 (emission reduction € 0.02, living surface area over € 0.03 and spatial planning nearly € 0.01) and will total € 0.26 per kg slaughter weight[1]. This is more than in the other countries.

In Germany and Denmark, the costs will rise by around € 0.04 to € 0.12 per kg; in France costs will rise by € 0.02 to € 0.08 per kg. The Netherlands therefore not only has the highest costs in 2007, but these will rise the most in the coming years.

In 2013, the production costs (including costs of production rights and increased costs resulting from policy measures) will be € 1.51 per kg in the

[1] Including VAT, the additional costs of policy measures in the Netherlands are € 0.21 per kg in 2007 and € 0.28 per kg slaughter weight in 2013.

Netherlands, so, higher than in Denmark and France (with respectively € 1.44 and € 1.49 per kg). Although some of our EU competitors will also face rising costs caused by policy measures, it must be concluded that the relative production cost position of the Netherlands will deteriorate.

For a good competitive position within the EU, common regulations and similar interpretation and implementation of regulations is important. In particular, the high manure disposal costs, ammonia emission regulations, the production rights and the more stringent requirements on living space for fattening pigs in the Dutch Pig Decree will have a negative impact on the production cost development in the Dutch pig farming sector towards 2013. Some of the extra costs are related to the high regional density in the Netherlands, which also has advantages in terms of sector structure and logistics.

The current EU policy regarding GMOs and meat-and-bone meal and the lack of Non Trade Concerns in the context of the WTO negotiations negatively affect the production cost development and competitiveness of the European pig sector compared with third countries.

In Brazil and the US, there tend to be few limiting measures with regard to animal welfare and the environment. At state level and among private parties there is increasing interest in animal welfare. The environment does play a role in the US but few or no cost rises have resulted.

In 2007, the Dutch production costs were € 0.41 higher than in the US. As mentioned above, in 2007 the Dutch pig farming sector faced costs amounting to € 0.20 as a result of the described policy measures. The other € 0.21 is the result of much higher investments, wages and feed prices in Western Europe on the one hand, and the high efficiency of pig production in Western Europe and particularly in the Netherlands and Denmark on the other hand. Compared with Brazil, the production cost difference after deducting costs for policy measures is € 0.34.

In terms of production costs and environmental impact, a further shift within the Netherlands to more piglet production and less fattening pig farming is a possibility. Such a development makes the sector more susceptible to border closures (for example during outbreaks of animal disease). A high animal health status and sufficient buffer capacity on sow farms are therefore important limiting conditions for social support.

It can be concluded that the production cost position of the Netherlands in the coming years will become less favourable as a result of further rising costs resulting from policy measures. However, the pig farming sector in the Netherlands does have other advantages, for example in the field of skilled staff, enterpreneurship, production size, knowledge and information exchange, service provision, availability of capital and a professional, export-oriented meat industry.