

SERVICES PRODUCER PRICE INDICES

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In Estonia, the development of services producer price indices (SPPIs) started in 2005. Therefore, these indices have a relatively short history. The so-called big brother of the SPPIs – the producer price index of industrial output – has been calculated for about ten years more than that. In some big countries in the world, the history of the SPPIs extends back to the 1980s and the producer price indices of industrial output have been produced for decades before that.

The services producer price indices are primarily needed in national accounts. With the help of price indices, it is possible to show the output value of production without price changes – that is, to compare the volume change of production over time. These indices are used by public authorities, enterprises and organisations in Estonia and abroad, in order to monitor price changes and make economic decisions. In several countries, including Estonia, the share of service activities in the total economy has increased and these now account for over 50% of the gross domestic product (GDP).

The services producer price index expresses the change in the prices of services sold by Estonian service suppliers to legal entities. The index includes services sold both on the domestic market and the non-domestic market.

The development of the SPPIs was based on the experience of calculating the producer price indices of industrial output and consumer price indices. Since it was not possible to develop indices for all service activities at once, Statistics Estonia mostly selected those economic activities where it had previous experience of calculating the services indices for external customers. This means that Statistics Estonia relied on the information available about the relevant legal acts and business processes and pricing of those activities. The selection of economic activities was based on the Estonian Classification of Economic Activities (EMTAK 2008), which in turn is based on the Statistical Classification of Economic Activities in the European Community (NACE Rev. 2).

The first economic activities where Statistics Estonia started to measure price changes were legal activities (EMTAK 691) and accounting and auditing activities (EMTAK 692). These were followed by cleaning activities (EMTAK 812), other postal and courier activities (EMTAK 532), air transport (EMTAK 51) and the sea and coastal water transport of passengers and freight (EMTAK 501+502). By now, there are services producer price indices also for security activities (EMTAK 80), warehousing and storage activities (EMTAK 521) and architectural and engineering activities (EMTAK 71).

The Methodological Guide for Developing Producer Price Indices for Services (2005, produced jointly by the OECD and Eurostat) and the International Monetary Fund's (IMF) Producer Price Index Manual (2004) were used as guidelines in the development and production of the SPPIs. Additionally, Statistics Estonia relied on the experience of other countries in the calculation of SPPIs, shared at international work meetings and online.

The sampling frame consists of enterprises active in Estonia at the end of each year as listed in the Statistical Profile of Statistics Estonia. The price indices are calculated separately for each economic activity and therefore the enterprise samples are also taken separately for each activity. The appropriate sampling method is chosen depending on the nature of the business and turnover of the enterprises in a given economic activity. Probability sampling proportional to size or expert choice is used.

For price registration and index calculation, Statistics Estonia uses the same methods that are used for the calculation of producer price indices of industrial output. The Laspeyres formula is used. Separate questionnaires are prepared for each economic activity. The data are asked from about 250 enterprises. Prices are registered monthly for services described in detail. At first, the

enterprises select the services that contribute the most to their turnover (3–5 services, for example) and for which they can provide price data over the reporting period. The enterprises are asked to describe these services in as much detail as possible, so that the prices reported in the following month would refer to the exact same service. The most important conditions affecting the price are specified by enterprises. If the price or description of a service differs significantly from that provided in the previous month, the enterprise is required to give the reason. The prices are shown without VAT and costs reported separately (e.g. insurance, transportation). In some cases, the average price or list price is used. There are activities where it is only possible to measure the price of the working hour of an employee. Caution should also be exercised in case of combination services, where the service bundle offered consists of the services of several different economic activities (e.g. warehousing and logistics). As each activity and the enterprises operating in that field are unique in some way, Statistics Estonia has cooperated with professional associations and consulted enterprises in order to find the optimal solutions for price index calculation. So as not to unduly burden the enterprises, the price lists published online are also used. Data submission is facilitated by the possibility of electronic data transmission – most of the enterprises reported the data through the electronic environment on Statistics Estonia's website.

Next, the article will review the year-over-year change of various services producer price indices. Table 1 (p. 103) shows how the SPPIs have changed compared to the previous year, starting from the first period available. In several economic activities, prices started to fall in 2009. The decline continued in 2010, but index values started to slowly recover from the end of 2010. The recovery continued in 2011.

In case of the three indices with the longest time series, we can see a clear decrease in 2009 and 2010. The decrease in and recovery of the prices in legal and accounting services (Figure 1, p. 104) has been smoother than in water transport and cleaning services. The prices of water transport services have reacted quickly to the changes, but it was only in the 2nd quarter of 2012 that the prices rose back to the level of 2006 (Figure 2, p. 104). The prices of cleaning services reached the level of 2007 at the end of 2010, and have continued to increase (Figure 3, p. 104).

In case of courier, security and warehousing services, the data for Estonia, Latvia, Lithuania, Finland and Sweden have been presented herein. The data on other countries have been taken from the Eurostat database where the base year is 2006. To allow a comparison of the data, the indices for other countries have been recalculated to the base period used for Estonian indices.

The producer price index of courier services in Estonia has remained on a level similar to Finland and Sweden, but a significant increase can be noticed in the 1st quarter of 2012. In Latvia and Lithuania, the prices of courier services have not yet reached the level of 2008 (Figure 4, p. 105).

The time series of the Estonian producer price index of security activities is relatively short, but shows a steady decline in prices from 2009 until the 2nd quarter of 2012. A downward trend can also be seen in Lithuania, while Finland and Sweden have experienced a slow growth in prices in the first quarter of each year (Figure 5, p. 105).

The time series of the Estonian producer price index of warehousing services is also relatively short and shows an increase in prices from 2009 until the 2nd quarter of 2012. For comparison purposes, Figure 6 (p. 106) also shows the producer price indices of warehousing services in nearby countries. This index has been relatively stable in Finland, Sweden and Lithuania.

The index for architectural and engineering activities, technical testing and analysis services is the most recent SPPI developed by Statistics Estonia. It shows a rise in prices since the beginning of 2011 (Figure 7, p. 106).

Statistics Estonia's long-term goal is to calculate the total producer price index of all services. At the moment, it cannot be calculated, because the SPPIs have not been developed yet for a number of economic activities (freight transport by road, advertising etc.). Development of producer price indices for telecommunication and employment services is in progress. The producer price index of air transport services cannot be published due to confidentiality.

The services producer price indices are published quarterly, 45 days after the end of the reference quarter.