OECD SHORT-TERM ECONOMIC STATISTICS WORKING PARTY
(STESWP)

Development of import prices indices in Slovenia

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Introduction

The Short-term Statistics Regulation (EC) No 1165/98 requires short-term statistics on import prices (variable 340). Until 2006 Slovenia had only information about import and export of goods in Slovenia and no data source contained information about prices of import products.

To fulfil requirements from the STS Regulation, in 2006 we started with the collection of import prices and the development of the methodology for import price indices. In January 2007 Slovenia introduced the Euro. That consequently also brought the obligation to distinguish the data on import prices to Euro and non-Euro area. This document briefly presents work done in the last two years in the field of import price indices.

Development of the methodology

Sampling

Collection of import prices started in August 2006 and since then import prices have been regularly monthly collected, controlled and validated at a micro level.

The sample of reporting units was prepared on the basis of data from the Intrastat register. Reporting units are from the different fields of the Statistical Classification of Products by Activity (CPA), while the products coverage is limited the CPA C, D and E products.

The sampling frame was defined by three criteria:

- Selection of products with relative high import values
- Selection of enterprises importing these selected products
- Selection of representative items in co-operation with the reporting units

At the beginning the sample included around 800 reporting units. According to the methodology of short-term business statistics, the sample did not include imports by households, government units and non-profit institutions. The universal questionnaire was sent to those units.

The questionnaire contained columns in which reporting units fulfil data for the representative import product. For each chosen product we receive:

- appropriate number from the Combined Nomenclature
- detailed specification of product
- all prices from January 2006 to August 2006
- information about the country from where the product was imported

After we have received a complete questionnaire for each reporting unit, the individual questionnaires were prepared. At the moment the sample covers 400 Slovene import enterprises and 1,531 import products.

Data collection

Import means all transactions from non-residents to residents (the Republic of Slovenia).

Import prices are collected according to the Combined Nomenclature (CN). Units were asked to select and price representative products which are imported in the largest quantities. In this context units were also instructed primarily to select those products which are at the same time imported from Euro and non-Euro area.

Every month reporting units fill in the questionnaire with data on the price for the past and current month and also give us information on the county from which the product was imported. They report prices for the transactions done during the period of one month. They have to return the questionnaire to the Statistical Office of the Republic of Slovenia by the 5th of the next month (data for January 2007 should be sent by 5th February 2007).

At the end of each year units are invited to give us new proposals for representative products. On the basis of these proposals and suggestions current questionnaires are revised and prepared for next year, so that every year prices for the most representative products are collected.

For each product the reporting unit at the beginning of the year also defines from which country the representative product is going to be imported. If possible, the chosen country remains the same through all year. Countries are presented and coded according to the ISO 3166 code lists. Distinction of data between Euro and non-Euro area was done on the basis of the situation in 2007. To calculate import price indices for Euro area we took all prices for products which were imported from a country in which the national currency in 2007 is Euro.

Euro area consists of countries that use Euro as their national currency and all other countries are non-Euro area countries. Import prices from Euro area cover all products imported in Slovenia from Euro area countries, while import price indices of non-Euro area cover all products imported in Slovenia from countries outside the Euro area.

The weighting system was designed on the basis of external trade data about import values for each reporting unit and selected products. In the first step the weights ware distributed among the units and then on the products.

Data for 2005

As already mentioned, in 2006 the first sample of reporting units was made, because the data for import prices for all year 2005 were missing. For the chosen unit an additional questionnaire was prepared, on the basis of which we collected prices for representative products for each month of 2005.

With the help of these questionnaires we successfully collected all prices and data about the country from which products were imported in 2005. Data for 2005 were also collected with the purpose to assure base year 2005.

Considering that the questionnaire for collecting import prices has already contained a column in which the reporting unit enters the name of the import country, the distinction between the Euro area and non-Euro area was much easier to draw.

Index calculation

Import price indices measure changes in prices of imported goods. Import prices are c.i.f. prices at the national border excluding all duties and taxes on imports. They are actual transaction prices.

Reporting units give the price in the currency in which the transaction was conducted. For calculating the index, the price is converted into the national currency on the basis of the reference exchange rate of the European Central Bank on the 15th (or 16th) day of the month.

The calculation of individual price indices

For each current month compared to the base month (i.e. December of the previous year), individual indices of particular representative goods are calculated directly from data on prices, using the following formula:

$$I_{t/d} = \frac{p_t}{p_d} \text{ x } 100$$

p_t = price for a certain product in the current period t
p_d = price for a certain product in the base period d

The calculation of aggregate indices at higher levels

From individual indices we calculate with the weighted arithmetic mean *aggregate* indices, i.e. *class and group indices, division, subsection and section indices, main industrial group indices and the total index* according to the following *formula*:

$$I_{t/d} = \frac{\sum_{i=1}^{n} \frac{p_{ti}}{p_{di}} * w_{di}}{\sum_{i=1}^{n} w_{di}} \text{ x } 100$$

Whereby:
$\mathbf{I_{t/d}}$ ... index of classes, groups, etc., or the total index
$\mathbf{p_{ti}}$ ... price of product i in the current month
$\mathbf{p_{di}}$ ... price of product i in December
$\mathbf{w_{di}}$ ... weight for an individual product in December
n ... number of products

Each aggregate index (December of the previous year = 100) calculated in this way and all other indices derived from this index and calculated with weights of the weight base period and with the same coverage of products are *Laspeyres' indices of fixed type*.

All indices are calculated through the 2005 average in the following ways:

- $I_{\text{FEB 07 / Ø 05}} = I_{\text{FEB 07/DEC 06}} \times I_{\text{DEC 06/Ø 05}} \div 100$

- $I_{\text{FEB 07 / JAN 07}} = I_{\text{FEB 07/Ø 05}} \div I_{\text{JAN 07/Ø 05}} \times 100$

- $I_{\text{FEB 07 / DEC 06}} = I_{\text{FEB 07/Ø 05}} \div I_{\text{DEC 06/Ø 05}} \times 100$

- $I_{\text{FEB 07 / FEB 06}} = I_{\text{FEB 07/Ø 05}} \div I_{\text{FEB 06/Ø 05}} \times 100$

- $I_{\text{Ø (JAN-FEB 07) / Ø (JAN-FEB 06)}} =$
  $I_{\text{(JAN 07 + FEB 07)/Ø 05}} \div I_{\text{(JAN 06 + FEB 06)/Ø 05}} \times 100$

- $I_{\text{(JAN-FEB 07) / XII 06}} = (I_{\text{JAN 07/XII 06}} + I_{\text{FEB 07/XII 06}}) \div 2$

Publication of the results

Import prices are processed and will be published on the basis of the Classification of Products by Activity (CPA).

Goods are classified into individual CPA activities from the field of products (classes, groups, divisions, subsections and sections). Indices will be published at three levels of the CPA breakdown, i.e. by divisions, subsections and sections.

This is an example of the breakdown and labelling of activities:

D	MANUFACTURED PRODUCTS	section
DJ	BASIC METALS AND FABRICATED METAL PRODUCTS	subsection
27	BASIC METALS	division

Additionally, we will publish price indices for special groups of activities showing the dynamics of prices by end-use of products from individual activities at CPA class level. Activities are classified by end-use of products into three groups and four subgroups:

(A)	Intermediate goods industries
(AE)	Energy related industries
(AI)	Intermediate goods industries except energy
(B)	Capital goods industries
(C)	Consumption goods industries
(CD)	Durable consumer goods industries
(CN)	Non-durable goods industries

Within import price indices two additional indices will be calculated depending on the area of import, i.e. Euro and non-Euro area. We are planning to publish first indices in the beginning of September 2007.

Example of the questionnaire for collecting import prices in Slovenia

No. of product	CN number	Price code	Product specification	Unit of measure	Import price		Currency	Import country
					past month	current month		
1	2	3	4	5	6	7	8	9
1	20081913	01	Almond packed in plastic bag	1 kg				
2	20081913	02	Pistachio packed in plastic bag	2 kg				