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Revisited Sector Paper on:

ISIC 52.1

Warehousing and storage

Statistics Austria

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Contents

Introduction

Contributions concerning warehousing and storage services have already been agenda items of Voorburg Group meetings in 2010 (Vienna), 2013 (Tokyo), 2014 (Dublin) and 2021 (Helsiki virtual).

- 2010 Revisited Sector Paper (GER)
- 2013 Mini presentations (UK, F, NL, SE)
- 2014 Sector Paper (GER)
- 2021 Mini presentations (Croatia, US, Italy, Austria)

The respective papers and slides can be found on the permanet VBG homepage by following this link: https://www.voorburggroup.org/papers-archive-eng.htm.

Besides the VBG meetings, SPPIs for warehousing and storage services have been discussed several times during Eurostat task forces and new findings have been implemented in the Revised Methodological Guide for Developing Producer Price Indices for Services in 2015.

This revisited sector paper illustrates the current country practice regarding this service branch and summarises the experiences of Croatia, US, Italy and Austria. It tries to the show the actual state of play in the different countries and to highlite the changes and new developments in the warehousing and storage services branch.

The paper starts with a description of the warehousing and storage service branch in recent years. Subsequent to the comparison of the most common industry classification ISIC, NAICS, and NACE and the respective product classification CPC, NAPCS and CPA, the turnover- and price statistical relevant findings will be highlighted in the respective chapters of the document. The paper will end with a short summary about the actual state of affairs of the development work of the branch in the various countries, and a detailed comparison of the mentioned industry and product classifications.

The results of a survey amongst the VBG participating countries regarding the country practice, undertaken in the forefront of the 35th VBG meeting virtually hosted by Finland, will be implemented as soon as detailed results will be available.

1. Descriptions and characteristics of the industry

1.1 Definition of the industry

According to the definition of ISIC Rev.4 this group encompasses the operation of storage and warehouse facilities for all kind of goods such as the operation of grain silos, general merchandise warehouses, refrigerated warehouses, storage tanks etc. It also includes storage of goods in foreign trade zones and blast freezing.

Table 1: Industry classification systems

ISIC Rev.4	Title	NAICS 2017	Title	NACE Rev.2	Title
52.1	**Warehousing and storage**	**4931**	**Warehousing and storage**	**52.1**	**Warehousing and** storage
52.10	Warehousing and storage	493110	General warehousing and storage	52.10	Warehousing and storage
		493120	Refrigerated warehousing and storage		
		493130	Farm product warehousing and storage		
		493190	Other warehousing and storage		

The International Standard Industry Classification (ISIC) and its European equivalent NACE and the country specific versions are amongst the commongly used classification systems by NSIs. The North American Industry Classification System (NAICS) is used by Canada, Mexico and the US. Whereas ISIC and NACE are identical NAICS is more disaggregated and further distinctions are made on Industry level regarding the type of products.

Table 2: Product classification structures

CPC	Title	NAPCS	Title	CPA	Title
672	**Storage and warehousing services**	**641**	**Goods transportation services and related products**	**52.1**	**Warehousing and storage services**
67210	Refrigerated storage services	64102	Warehousing and storage services	52.10.11	Refrigerated storage services
67220	Bulk liquid or gas storage services	641020101	Warehousing and storage services	52.10.12	Bulk liquid or gas storage services
67290	Other storage and warehousing services	64102010101	Warehousing and storage services	52.10.13	Grain storage services
				52.10.19	Other warehousing and storage services

Compared to the industry claasification the product classifications look the other way round regarding the differentiation of details. CPC and CPA look quite similar and now there is a differentiation in the product code description according to the goods that are stored. The CPA is a little bit more detailed as is also includes the additional product code for “Grain storage services”. The trilateral NAPCS, contrary to the respective industry classification NAICS, on the other hand has no further disaggregation on product code level. For turnover collection purposes more detailed NAPCS collection codes exist in order to reallocate turnover correctly (see Chapter 2.1).

Detailed classification structures with all inclusions and exclusions could be found in Annex 1 of this paper.

1.2 Market conditions and constraints

Concentration within the industry

All countries reported that, compared to some other industries, the storage and warehousing branch is a rather small service branch. Nevertheless, a significant growth of turnover, as well as for number of enterprises can be observed in the most countries (Italy rather constant). Austria reported that one reason for a growing number of enterprises could be the fact, that there are no entry barriers for enterprises in some of the storage and warehousing fields of activity like in the area of general storage of goods.

Regarding the concentration **Italy** reportet that even though the industry is dominated by enterprises with less than 9 employees, it is very concentrated due to the fact that only 189 enterorises with more than 20 employees produces 74% of the total turnover of the branch.

The same situation could be observed in **Croatia**. The biggest share of turnover is produced by medium sized enterprises and the branch is dominated regarding the number of enterprises by small and micro enterprises.

In the **US** the degree on concentration varies amongst the 4 different fields of services. The highest degree of concentration, measured by how much revenue is covered by the 4 largest firms could be found in “Other Warehousing and storage, followed by “Refrigerated Warehousing and Storage”, “Genereal Warehousing and Storage” and the least concentrated Industry is “Farm Product Warehousing and Storage”.

Even if there is a high degree of confidentiality in the respective **Austrian** illustriation of the characteristics of the branch regarding turnover and employment characteristics, it could be assumed that the industry is highly concentrated. The whole branch ÖNACE 52.1 “Warehousing and storage” comprises only 144 enterprises and about 76,5 % of the total turnover is produced by 38 enterprisises which all have more than 9 employees.

Horizontal and vertical integration

In case of a horizontally integration, the company acquires or merges with other companies that are active moreless in the same area with the aim to eliminate direct competition. In the “normal world” a lot of mergers and aqusisitions between large companies can normaly be noticed in the last years to increase the negotiating power and to stengthen their market position in their branches due to the fact, that they are then able to to provide every single needed service in the respective service branch. In **Croatia** the contrary happened as one very large enterprise bought two business entities that worked unfortunately in another service branch (4690 Non specialized wholesale trade) and 5210 became the secondary activity of this enterprise. As a consequence, there was a massive decrease in turnover of the warehousing and storage service branch.

For a perfect vertical integration companies try to control every single component of their supply chain. It was mentioned in several papers that, due to the increase of diversity of client needs regarding the character of the service, the sharp boundaries between service branches get more and more blurred. Warehousing and storage enterprises are asked by their clients to provide a wide variety of services that also can be classified in logistics, transportation etc. (See also chapter 3.2 Third Party Logistics Provider (3PL) in the US).

If this trend continuous a claasification issue as well as an issue of horizontal and vertical integration of services and markets repectivly could arise.

Type of consumer of the services and import and export

Regarding the share on turnover the B2C part in this service branch can be assumed to be inexistent. **Croatia** reported that due to the fact that the main customers are manufacterurs, wholesale and retailers, the branch consist only of B2B services. This counts for **Austria** as well and in the respective Austria Industry classification the B2C operation of self storage facilities is classified not under 521 but under 6810.

Public regulations affecting the market situation

Several regulations could be found in provided country descriptions. In the **US** the Food and Drug Administration, the Occupational Safety and Health Administration and the Enviromantal Protection Agency provide regulations for the warehousing industry. These legal acts cover aspects of food and drug warehousing, the prevention of contamination for food, save working conditions as well as workplace safety and health standards, the preventation of the accidential releases of regulated substances and other things.

In **Austria** a regulation obliges companies that are involved in the warehousing and storage of engery (mineral oil and related products, biogenic raw and fuels) to store enough energy products for a consumption period of at least 90 days.

Croatian regulations in the warehousing and storage industry affect the storage of gas and frozen goods as well as the storage of cereals and industry plants. Due to the importance of gas the Croatian Energy Regulatory Agency “Hrvatska regulatorna energetska agencija - HERA“ is responsible for the regulation of specific energy activities.

1.3 Specific characteristics of the industry

Development of new products/services

This branch is rather not influenced by continuously changing storage goods but rather by the enlargement of services the storage and warehousing enterprises provide for their customers. The core services are receiving, storing and shipping different kind of goods. But all countries reported that besides the storage and handling, the value added services are of utmost importance in this service branch. Those value added services comprise services like loading/unloading, check and repair services, cargo handling, tracking and sorting.

Geographical location

Regarding the location of warehousing and storage facilities the majority of countries reported that warehouses are typically on the one hand located near to airports, railways, highways or seaports (Country crossing rivers in the case of Austria) but nevertheless close to the market on the other hand as well. This multimodal accessibility boosts the possibility to provide a wide variety of services in order to generate market power.

Automatisation

Croatia reported a significant tendency in increasing the level of automatisation in the warehousing and storage services provided by the enterprises in ordner to reduce costs and to work as much efficient as possible. An enterprise for robotics and artificial intelligience called Gideon Brothers created special autonomic robotics which assist the humans work and increased the efficiency of the enterprises.

2. Turnover/output measurement

2.1 General framework

As a background for this paper turnover/output experiences have been provided by Croatia and USA during the 2020 meeting. Due to its membership to the European Union the country practice of Croatia is representative for all the other European countries. Tunover statistics are well developed in Europe according to the obligation to provide annual and quarterly turnover statistics to Eurostat.

Europe

The respective European statistics which are compiled using this turnover information are:

- STS Short-Term Statistics (Quarterly)
- SBS Structural Business Statistics (Annually)

Short-term statistics (STS) aim to describe the most recent developments of European economies and its indicators are published monthly as indices. Information about economic short-term developments is collected by the national statistical institutes with business surveys and in addition administrative data are used. STS statistics cover the following economic:

- Industry
- Construction
- Retail trade
- Other services (but not financial services).

Structural business statistics (SBS) describe performance, the structure and main characteristics of economic activities within the business economy in a detailed level of several hundred sectors. In structural business statistics, contrary to the STS the indicators are not presented as indices, but as monetary values (e.g. number of persons employed, number of enterprises)

SBS covers the 'business economy' which includes:

- Industry
- Construction, and
- Distributive trades and services

In general, an option to collect turnover data is the combination of survey instruments and the use of administrative data sources. Countries may for instance survey big enterprises (as census or sampling) and use social security data on employment and tax data for turnover in combination with statistical calculation methods for smaller enterprises. Such administrative data can be e.g. tax data, company reports to regulation authority or trade association statistics. They can be less precise in terms of the level of detail, turnover revenues may include bundled items and other revenues that do not relate to the service category under examination.

In many cases administrative data is not available sub-annually or can only be used to extrapolate annual values into other periods. Anyway it does not impose any additional burden on respondents and is normally much cheaper than any survey (although estimation procedures and data processing facilities have to be developed and put in place).

Unitet States

In the US, output data for this branch are collected by the Census Bureau via the Quarterly Services Survey (QSS), Service Annual Survey (SAS), and the quinquennial Economic Census. The QSS sample is a subsample of the SAS sample. It includes approximately 19.500 service businesses and has the same types of sampling units as the SAS frame. Subsequently those date are used by the US Bureau of Labour Statistics (BLS) for updating the SPPI weights on industry and product level. For national accounts purposes the U.S. Bureau of Economic Analysis (BEA) uses the collected revenue data for the compilation of national, regional as well as annual industry accounts.

As already pointed out in chapter 1.1, contrary to the respective industry classification NAICS, the US product classification NAPCS lists only one single product code at the deepest level of disaggregation that is called 64102010101 “Warehousing and storage services”. In order to reallocate the respective turnover shares to the NAICS categories the following NAPCS collection codes are surveyed during the Economic Census due to the fact that these codes are the important services in all four sectors.

NAPCS Collection Code	NAPCS Description
7011900000	Warehousing and storage services
7011975000	Handling services for goods
7012000000	Packing services for goods
7011925000	Freight transportation arrangement and customs brokering services
7014650000	Operations and supply chain management and implementation services

2.2 Measurement issues

Third party logistics provider (3PL)

See chapter 3.2 in the SPPI section.

Classification

The **US** encountered some classification issues in cases where enterprises reported their primary business activity incorrectly. If not corrected, this leads to the reporting of numbers to the wrong classification codes and a bias in the respective statistics.

In **Austria** this phenomenon could be observed in the SPPI survey during the revision process of the fix based Laspeyres index every five years and during enterprise replacements. Misclassified enterprises are reported to the classification unit which tries to start a reclassification process conjointly with the enterprise.

2.3 Description of methods for measurement

Turnover measures in Croatia

Turnover statistics in Croatia are highly developed. For the fulfillment of Eurostats statistical requirements Croatia uses the following surveys:

- Quarterly STS turnover survey
- Monthly Survey on Service Activities
- Monthly Survey on Service Activities data are used to calculate a quarterly Index of Service Production (ISP)
- SBS data are used to calculate structural weights

Besides thte regular European turnover Anforderungen Croatien additionally carries out a monthly ssurvey on Service Activities. Furthermore, the data of this monthly survey are used to calculate the Croatian ISP (Index of Service Production), wich is used in national accounts for GDP calculation purposes.

Turnover measures in the United States

- Quarterly Services Survey (QSS)
- Service Annual Survey (SAS)
- quinquennial Economic Census in years ending with “2” and “7”
- administrative data provided by other Federal agencies in their imputation models and during analyst review

The mandatory Service Annual Survey, including about 90.000 responding businesses is carried out to provide estimates of revenue and other measures for most traditional service industries. Data are used by the BEA as well as by the BLS as input for their national accounts measures, SPPI calculations and productivity measures. Furthermore, these data are used for estimation purposes in national health accounts by the The Centers for Medicare and Medicaid Services (CMS) as well as for analyzing industry trends, develop forecasts et.

The Quarterly Services Survey (QSS), in its function as a principal economic indicator provides quarterly estimates of total operating revenue and the percentage of revenue by class of customer (B2G, B2B, B2C) for selected service industries by collecting data from approximately 19.500 services businesses. Data are primarily used by the BEA for national accounts measures in the service sector. Like the SAS the data are also used by the above mentioned CMS as well as by the Federal Reserve Board (FRB) and Council of Economic Advisors (CEA)

A more detailed description of the above mentioned surveys and the different variables, sampling procedures as well as the coverage could be found in the respective papers written by Josipa Kalčić Ivanić (Croatia) and Melanie Santiago (US), Michael Reich (US) and Allison Ramage (US) for the 35th Meeting of the Voorburg Group on Service Statistics.

2.4 Evaluation of comparability of Output data with Price data

See chapter 3.4 in the SPPI section.

3. Measurement of SPPI

3.1 General framework

NACE 52.1 has already been part of the first tranche of service industries that have been identified as top priority service branches, and thereof the development and calculation of an SPPI for this branch has been mandatory for the European countries since 2007. With the enlargement of the coverage of service branches not only 52.1 but also the rest of NACE 52 has become mandatory and has to be calculated with base year 2021 (2021=100) and reported at least in Juni 2024 to Eurostat.

Italy

Regardind the country practises on which this paper is based, Italy published the respective quarterly industry based chained Laspeyres index in 2014 for the first time. The base year is 2010 and the main users of the index are National Accounts as well as analyst and general public users.

United States

In the US 3 different sub-aggregate SPPIs (General warehousing, Refrigerated warehousing, Farm product warehousing) are produced quarterly using a modified Laspeyers index formula, in order to calculate real output for the respective industy branche areas. Prices are collected monthly via a web based application and respondents usually remain in the SPPI sample for 7-8 years.

Austria

Since the first quarter 2007 Statsitics Austria quarterly calculates and disseminates an SPPI on ÖNACE 521 (identical to NACE) 3 -digit level with a base year 2006. The fixed base Laspeyres index is in principal an industry index but the aggregation structure is based on services on product level for warehousing and storage services. The initial index development has benefitted from the prior developments for this branch in Germany in the way that the German NSO has assisted the Austrian colleagues by developing a questionnaire for the Austrian market. Besides its function as an SPPI the Austrian index is used as a deflator by National Accouts, contract escalation and as an indicator for short and long term economics analyses.

3.2 Measurement issues

The countries are producing industry SPPIs (Italy, Austria), but the index aggregation stucture itself is based on different products of the service branch (i.e. different stored products)

Sampling

Regarding sampling a commongly used strategy by the most countries is to include the most important enterprises of the branch by a cutt-off sampling method over a certain treshold of turnover (**Italy, Austria**) share. The cut-off strategy follows the assumption that big enterprises are the price setters and smaller enterprises have to adapt their prices to stay competativ. For their turnover statistics, **Croatia** samples the most important enterprises regarding size (employees) and annual turnover from the previous year (VAT) and two years ago (Annual Financial report). The

United States use PPS sampling and the sample sources as well as the indicator for the probability (i.e. warehouse facility size in cubic volume for Refrigerated warehousing and storage) of the enterprise to be selected vary between the NAICS codes.

Intra enterprise services

It is mentioned in the **US** paper that warehouses, classified in "General warehousing and storage" (NAICS 493110) and "Refrigerated warehousing and storage" (NAICS 493120) which provide their services solely to their own parent establishment are unable to report the needed market transaction prices, and are therefore excluded from the sample.

Third party logistics provider

The **US** SPPI production team observes a certain trend especially in the branch "Refrigerated warehousing and storage" (NAICS 493120) as the involved warehouses see themselves more like a third party logistic provider (3PL). Some of them even run a single facility that is complete dedicated to served the needs of one special client. The services comprise on the one hand the typical warehousing and storage services, but on the other they also cover transportation or transportation arrangement services for this single client. The US colleagues investigated services in relationsships they call "Process, physical distribution, and logistics consulting" that are part of the set-up and delivery of the single client services

3.3 Description of pricing methods and criteria for choosing the method

Italy

Italys index is based on an online collection of quarterly business to business prices and annual turnover information for 8 different commodity groups, and the following three kind of services within each group.

Service 1: The storage of goods (for future reselling or treatments)
Service 2: The handling of goods (into, inside and out of the warehouse)
Service 3: Value added services (VAS; like assembling, packing, fitting etc.)

Each respondent has to provide contract prices for each of these services in the following commodity groups, for which turover informations for weighting purposes are also collected:

- Automotive
- Clothing
- Publishing
- Electronics/Telecommunication
- Pharmaceutical
- Mass-market products
- Industrial products
- Other

The enterprise sample is drawn by a cutoff method based on turnover information that are provided by the Italian business register.

Missing prices regarding the storage und handling services are carried forward, due to the fact that prices are not very volatile in this area.

United States

In the US indices are produced for NAICS 493110 “General warehousing and storage”, NAICS 493120 “Refrigerated warehousing and storage” and NAICS 493130 “Farm warehousing and storage” by asking prices for the following 4 different categories of services exemplarily illustrated by the NAICS category “General warehousing and storage”:

Index code	Index Titel
493110	General warehousing and storage
493110P	Prinary services
4931101	General warehousing and storage services
493110sm	Other receipts

Prices are collected by using average prices or contract rates. The average prices method used in the category “General warehousing and storage” askes for the average price per cubic foot, which are calculated by dividing the total revenues of the warehouse by the total occupied storage space in cubic foot. For “Farm product warehousing and storage” contract rates for single bundled services are collected. These bundled services consist, like already showed in the Austrian and Italian description, of the following 3 service categories:

Storage services: Price per cubic space /or hundredweight per month basis
Handling services: Price on a per hundredweight or box or pallet basis etc.
Value added services: Price on a per hundredweight or box, or pallet, or per count basis

Examples for both pricing methodologies can be found in the respective paper written by Melanie Santago (BLS), Michael Reich (Census) and Allison Ramage (BLS).

In the US price determining characteristics, such as the occupied storage volume and monthly revenue (for average pricing), the mix of services that are bundled (for contract pricing), the length of storage, the labour costs and costs for the real estate, the type of client and the geographica location of the facility have been identified.

Austria

The price index comprises price collection for different types of storage and warehousing services by using the “Direct use of prices of repeated services“ method. In cases where the service is not provided during the actual quarter, those repeated services can become model prices, where the respondent in all cases should be able to calculate the “virtual” price for the service.

Like Italy in Austria the following different types of service categories are surveyed:

Service Category 1: Repeated warehousing and storage services
(for containers, general cargo, liquid goods, gas, etc.)

Service Category 2: Additional services for warehousing and storage services
(entry/exit of goods in the warehouse)
Service Category 3: Other additional services for warehousing and storage services
(ancilliary services like order picking, exit of cartons, foiling and labeling etc.)

Price derermining characteristics like the unit of commodity (container, palette), duration of storage, storage requirements (eg. for dangerous goods) and additional services (handling, picking) are characterized in the questionnaire in order to keep the quality of the service comparable.

As for the turnover part, a more detailed description of the different country practices regarding the SPPI part could be found in the respective papers written by Cristina Cecconi (Italy), Melanie Santiago (US), Michael Reich (US) and Allison Ramage (US) and Christian Stock (AUT) for the 35th Meeting of the Voorburg Group on Service Statistics.

Imputations and quality adjustment

Quality adjustment in **Italy** is carried out by the overlap method in cases where the Warehousing and storage contract characteristics are changed, or the original contract is replaced.

In **Austria** the change in the service characteristics is quality adjusted by using the direct comparision, link-to-show-no- price-change and the overlap method. Missing prices in Austria are usually imputed by the price development of corresponding products in the same hommogenious group of service products.

In the case of using the average price method no quality adjustment is carried out in the **US,** whereas in the case of single bundled transactions the service products are subtitutet when changes in the service occour. Missing prices are imputed by the price development of the respective detailed index subaggregate to which the missing service belongs.

3.4 Evaluation of comparability of Price data with Output data

The comparability of price data with output data in order to deflate the output in national accounts seems to be well established in the reporting countries.

The big task for the comming years will be the deflation needs of the Index of Services Production (ISP), introduced by the Framework Regulation in Business Statistics (FRIBS). These ISPs also use SPPIs for deflation purposes, but due to the quarterly production of SPPIs a timliness issue arises for the monthly deflation of the ISPs.

4. Evaluation of measurement

Evaluation of methods

In order to develop an adequate SPPI measurement instrument **Italy** started close cooperations with company associations and big enterprises in the initial development process. These meetings led to the choice of the contract pricing method as the best method to represent the pricing mechanism in this industry. It was reported that those contracts could be easily repriced by the responding enterprises.

Regarding turnover, **Croatia** mentioned the possibility that some records in the value added tax database may possibly differ from the turnover definition used in statistical surveys. Du to extensive analysis it was decided that the VAT database will still remain a good additional data source. Furthermore, Croatia also mentioned the classification problem of some enterprises where the real "primary services" of the enterprise are provided in e.g. transport services. These enterprises should not be calssified in H 5210.

After discussions with respondents for NAICS 493110 regarding the accuracy of the used pricing method, the **US** changed their pricing methodology from hypothetical and estimated prices to the average per occupied cubic foot model for NAICS 493110 and NAICS 493120 in order to better reflect the inflation development. For refrigerated warehousing this method was already implemented in 2017. Using this method enabels the US colleagues to better incorporate price changes associated with global/regional threats, shifts in the growing season, transportation cost etc. For farm product warehousing the pricing method of contract– or transaction prices remains unchanged because of the limited variation of the services.

Future challenges and ways to meet them

As Austria, and the other involved countries for this paper, reported the technological change in the warehousing and storage service sector as well as in the whole logistics industry is a challenging task for statisticians. New services emerge on the market. Such updated service offerings are much broader than only the pure storage of goods in warehouses. In all papers the growing demands of warehousing and storage enterprises, as well as the demands for integrated services for their clients, such as mergers of warehousing and storage services with other services located in the transportation and logistic branches were mentioned.

Where this leads the statistical survey process is not clear at the moment. On the one hand classification boundaries should be repected, but on the other hand the most important services of a branch should be reflected by turnover and price statistics. Maybe first discussions during the next industry and product classification revisions are an initial step to overcome this tricky issue.

5. International progress

Detailed status reports

The following table will be compleded as soon as detailed results will be available and summarises the results of the detailed country status reports, collected on behalf of the Voorburg Group by Dragos Ifrim in the forefront of the 35th VBG meeting in 2020.

Table 4: Results of the detailed status reports regarding ISIC 52.1 “Warehousing and storage”

ISIC 52.1 Warehousing and storage	
PPI details >= CPC	7
PPI details >= CPC soon	0
Turnover details >= CPC	2
Turnover details >= CPC soon	0
Industry prices calculated	17
Industry turnover collected	19
Detailed turnover and prices well aligned	1
Detailed turnover and prices well aligned soon	0
Industry level turnover and prices aligned	16
Industry level turnover and prices aligned soon	0
Other - no industry coverage for prices and/or turnover, etc.	1

Compared to some other service branches, statistics for ISIC 52.1 seem to be well developed. At least in Europe, the good coverage could be attributed to several EU-wide regulations where countries are obliged to produce price and turnover statistics (SBS, STS, SPPIs).

SPPI GUIDE

Country descriptions from earlier years can be found in the second edition Eurostat-OECD Methodological Guide for Developing Producer Price Indices for Services. The whole Guide and the included respective chapter regarding warehousing and storage can be found by following this link:

https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-04-14-661

References

International Standard Industrial Classification of All Economic Activities Rev.4, (ISIC)
https://unstats.un.org/unsd/classifications/Econ

North American Industry Classification System (NAICS 2017)
https://www.census.gov/eos/www/naics/

Statistical Classification of Economic Activities in the European Community Rev.2 (NACE)
https://ec.europa.eu/eurostat/ramon/index.cfm?TargetUrl=DSP_PUB_WELC

Central Product Classification Version 2.1 (CPC)
https://unstats.un.org/unsd/classifications/Econ

North American Product Classification System (NAPCS)

https://www.census.gov/naics/napcs/

Statistical Classification of Products by Activity in the European Union, Version 2.1 (CPA)
https://ec.europa.eu/eurostat/ramon/index.cfm?TargetUrl=DSP_PUB_WELC

Eurostat-OECD Methodological Guide for Developing Producer Price Indices for Services: Second Edition; (OECD/Eurostat 2014)
http://dx.doi.org/10.1787/9789264220676-en

Mini-Presentation on Turnover & SPPI for Warehousing and Storage [Melanie Santago (BLS), Michael Reich (Census) and Allison Ramage (BLS); US]; 35th Voorburg Group Meeting
https://www.voorburggroup.org/papers-archive-eng.htm
Mini-Presentation on Turnover for Warehousing and Storage [Josipa Kalčić Ivanić, (Croatian Bureau of Statistics)]; 35th Voorburg Group Meeting
https://www.voorburggroup.org/papers-archive-eng.htm
Mini-Presentation on SPPI for Warehousing and Storage [Cristina Cecconi, (Istat; Italy)]; 35th Voorburg Group Meeting
https://www.voorburggroup.org/papers-archive-eng.htm
Mini-presentation on on SPPI for Warehousing and Storage [Christian Stock, (Statistics Austria)]; 35th Voorburg Group Meeting

Appendix 1: Overview of International Classifications

ISIC Rev. 4

52 Warehousing and support activities for transportation

This division includes warehousing and support activities for transportation, such as operating of transport infrastructure (e.g. airports, harbours, tunnels, bridges, etc.), the activities of transport agencies and cargo handling

5210 Warehousing and storage

This item includes:

- operation of storage and warehouse facilities for all kind of goods:

    * operation of grain silos, general merchandise warehouses, refrigerated warehouses, storage tanks etc

This item also includes:

- storage of goods in foreign trade zones
- blast freezing

This item excludes:

- parking facilities for motor vehicles, see 5221
- operation of self storage facilities, see 6810
- renting of vacant space, see 6810

NAICS 2017

2017 NAICS Definition

T = Canadian, Mexican, and United States industries are comparable.

493 Warehousing and Storage[T]

Industries in the Warehousing and Storage subsector are primarily engaged in operating warehousing and storage facilities for general merchandise, refrigerated goods, and other warehouse products. These establishments provide facilities to store goods. They do not sell the goods they handle. These establishments take responsibility for storing the goods and keeping them secure. They may also provide a range of services, often referred to as logistics services, related to the distribution of goods. Logistics services can include labeling, breaking bulk, inventory control and management, light assembly, order entry and fulfillment, packaging, pick and pack, price marking and ticketing, and transportation arrangement. However, establishments in this industry group always provide warehousing or storage services in addition to any logistic services. Furthermore, the warehousing or storage of goods must be more than incidental to the performance of services, such as price marking.

Bonded warehousing and storage services and warehouses located in free trade zones are included in the industries of this subsector.

493110 General Warehousing and Storage

This industry comprises establishments primarily engaged in operating merchandise warehousing and storage facilities. These establishments generally handle goods in containers, such as boxes, barrels, and/or drums, using equipment, such as forklifts, pallets, and racks. They are not specialized in handling bulk products of any particular type, size, or quantity of goods or products.

Cross-References. Establishments primarily engaged in:

- Renting or leasing space for self-storage--are classified in Industry 531130, Lessors of Miniwarehouses and Self-Storage Units; and
- Selling in combination with handling and/or distributing goods to other wholesale or retail establishments--are classified in Sector 42, Wholesale Trade.

493120 Refrigerated Warehousing and Storage

This industry comprises establishments primarily engaged in operating refrigerated warehousing and storage facilities. Establishments primarily engaged in the storage of furs for the trade are included in this industry. The services provided by these establishments include blast freezing, tempering, and modified atmosphere storage services.

Cross-References. Establishments primarily engaged in:

- Storing furs (except for the trade) and garments are classified in Industry 812320, Drycleaning and Laundry Services (except Coin-Operated).

493130 Farm Product Warehousing and Storage

This industry comprises establishments primarily engaged in operating bulk farm product warehousing and storage facilities (except refrigerated). Grain elevators primarily engaged in storage are included in this industry.

Cross-References. Establishments primarily engaged in:

- Operating refrigerated warehousing and storage facilities--are classified in Industry 493120, Refrigerated Warehousing and Storage; and
- Storing grains and field beans (i.e., grain elevators) as an incidental activity to sales--are classified in Industry 424510, Grain and Field Bean Merchant Wholesalers.

493190 Other Warehousing and Storage

This industry comprises establishments primarily engaged in operating warehousing and storage facilities (except general merchandise, refrigerated, and farm product warehousing and storage).

Illustrative Examples:

Bulk petroleum storage
Lumber storage terminals
Document storage and warehousing
Whiskey warehousing

Cross-References. Establishments primarily engaged in:

- Renting or leasing space for self-storage--are classified in Industry 531130, Lessors of Miniwarehouses and Self-Storage Units;
- Storing hazardous materials for treatment and disposal--are classified in U.S. Industry 562211, Hazardous Waste Treatment and Disposal;
- Operating general warehousing and storage facilities--are classified in Industry 493110, General Warehousing and Storage;
- Wholesaling crude petroleum and petroleum products from bulk liquid storage facilities--are classified in Industry 424710, Petroleum Bulk Stations and Terminals;
- Operating refrigerated warehousing and storage facilities--are classified in Industry 493120, Refrigerated Warehousing and Storage; and
- Operating farm product warehousing and storage facilities--are classified in Industry 493130, Farm Product Warehousing and Storage.

52.10 Warehousing and storage

This class includes:

- operation of storage and warehouse facilities for all kinds of goods:

    • operation of grain silos, general merchandise warehouses, refrigerated warehouses, storage tanks etc

This item also includes:

- storage of goods in foreign trade zones
- blast freezing

This class excludes:

- parking facilities for motor vehicles, see 52.21
- operation of self storage facilities, see 68.20
- rental of vacant space, see 68.20

Product Classifications

CPC

672 Storage and warehousing services

6721 Refrigerated storage services

67210 Refrigerated storage services

This subclass includes:

- storage and warehousing services for frozen or refrigerated goods, including perishable food products
- blast freezing services, associated with storage and warehousing

This subclass does not include:

- specialized freezing of food on a fee or contract basis, cf. corresponding subclass in group 881, based on type of good to be frozen

6722 Bulk liquid or gas storage services

67220 Bulk liquid or gas storage services

This subclass includes:

- bulk storage and warehousing services for liquids and gases, including oil and oil products, wine and the like

6729 Other storage and warehousing services

67290 Other storage and warehousing services

This subclass includes:

- storage services of grains
- other storage or warehousing services

NAPCS

641 Goods transportation services and related products

64102 Warehousing and storage services

6410201 Warehousing and storage services

641020101 Warehousing and storage services

CPA

52.10 Warehousing and storage services

Description: Warehousing and storage services

This item also includes: This category also includes:

- storage services of goods in foreign trade zones

52.10.11 Refrigerated storage services

Description: Refrigerated storage services

This item includes: This subcategory includes:

- storage and warehousing services for frozen or refrigerated goods, including perishable food products

This item excludes: This subcategory excludes:

- freezing of food on a fee or contract basis, see sub-contracted operations as part of manufacturing in division 10

52.10.12 Bulk liquid or gas storage services

Description: Bulk liquid or gas storage services

This item includes: This subcategory includes

- bulk storage and warehousing services for liquids and gases, including oil and oil products, wine and the like

52.10.13 Grain storage services

Description: This subcategory includes:

This item includes: This subcategory includes:

- storage services of grains

- operation services of grain silos

52.10.19 Other warehousing and storage services

Description: Other warehousing and storage services

This item excludes: This subcategory excludes:

- parking facilities for motor vehicles, see 52.21.24

- self-storage facility services, see 68.20.12

- rental services of vacant space, see 68.20.12