



**36th Voorburg Group
Meeting
USA, September
2021**

**Christian Puchter
Statistics Austria**

Warehousing and storage (ISIC 5210)

Turnover/Output



Josipa Kalcic Ivanic, Croatia



Michael Reich, United States

SPPI



Cristina Cecconi, Italy



Melanie Santiago, United States



Christian Stock, Austria

Discussant



Anthony Dawson, Ireland

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		

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

➤ ISIC 5210 Storage and Warehousing

This class 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 class also includes:

- storage of goods in foreign trade zones
- blast freezing

This class excludes:

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

Descriptions and characteristics of the industry: *Market conditions*

Concentration within the industry

- Rather concentrated in Croatia, Italy and Austria
- Concentration varies amongst service sub-aggregates in the US

Horizontal and vertical integration

- Classification issues due to mergers and acquisitions

Type of consumer of the services

- B2C part can be assumed as inexistent
- Self storage classified elsewhere (ISIC 6810)

Public regulations affecting the market situation

- Various legal acts concerning food, drug, mineral oil and gas products

Descriptions and characteristics of the industry: *Specific characteristics*

Development of new products

- Rather enlargement of services the storage and warehousing enterprises provide
- Importance of value added services

Geographical location

- Close to highways, airports, seaports
- But close to the markets as well

Automatisation

- Tendency in increasing the level of automatisisation

Turnover/output measurement: *General framework*

Turnover collection supported by legislation on EU level

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

Turnover measures in the United States

- Quarterly Services Survey (QSS)
- Service Annual Survey (SAS)
- Quinquennial Economic Census in years ending with “2” and “7”

Turnover/output measurement:

Measurement issues

Third party logistics provider (3PL)

- Observed in the US in “Refrigerated warehousing and storage”
- Completely dedicated to serve the needs of one special client
- Also cover transportation or transportation arrangement services for this single client

Classification

- Incorrect reported primary activity in the US
- Misclassified enterprises in Austria

Measurement of SPPI: *General framework (Europe)*

- Scope B2B vs. B2All
- Currently B2B
- But for deflation of total output a B2All is needed for NA
- Under EBS (former FRIBS Framework Regulation of Integrating Business Statistics) B2All is mandatory
- Extension of coverage as well
- New ISPs are mandatory which have to be deflated by SPPIs

Measurement of SPPI:

General framework

- Italy published the respective quarterly industry based chained Laspeyres index in 2014 for the first time.
- In the US 3 different sub-aggregate SPPIs (General warehousing, Refrigerated warehousing, Farm product warehousing) are produced quarterly.
- Since the first quarter 2007 Statistics Austria quarterly calculates and disseminates an fixed based Laspeyres SPPI on ÖNACE 521 (identical to NACE 3 - digit level)

Measurement of SPPI:

General framework

- Italy and Austria are producing industry SPPIs, but the index aggregation structure itself is based on different products of the service branch.
- Commonly used strategy by the most countries is to include the most important enterprises of the branch by a cut-off sampling method.
- The cut-off sampling strategy follows the assumption that big enterprises are the price setters for smaller enterprises.
- PPS sampling in the US
- For turnover/output Croatia samples the most important enterprises regarding size (employees) and annual turnover from the previous year (VAT) and two years ago.

Measurement of SPPI:

Pricing methods

	Italy	US	Austria
Direct u.o.p.o.r.services			X
Unit values		X	
Contract prices	X	X	
Model pricing			
Time based methods			
Percentage fees			
Commision rates			
Average prices		X	

Quality adjustment

- Rather “normal” quality adjustment strategies
- Quality adjustment in Italy is carried out by the overlap method.
- Austria is using the direct comparison, link-to-show-no- price-change and the overlap method.
- In the US quality adjustment in the case of single bundled transactions

ISPs

- The big task for the coming years will be the deflation needs of the Index of Services Production (ISP), introduced by the Framework Regulation in Business Statistics (FRIBS).

Evaluation of methods

- In Italy cooperation meetings led to the choice of the contract pricing method as the best method.
- Croatia decided after extensive analysis that the VAT database will still remain a good additional data source for output measures.
- The US NSI changed its pricing methodology from hypothetical and estimated prices to the average per occupied cubic foot model.

Future challenges and ways to meet them

- Updated service offerings are much broader than only the pure storage of goods in warehouses.
- Classification boundaries should be respected, but on the other hand the most important services of a branch should be reflected by turnover and price statistics.

*Please address queries to:
Christian Puchter*



Contact information:
Guglgasse 13, 1110 Vienna
phone: +43 (1) 71128-7647
fax: +43 (1) 718 07 18
christian.puchter@statistik.gv.at

Thank you!