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Mini-presentation on Turnover / Output

Turnover and Output for the Water Supply Sector in Sweden

Johan Åhman (johan.ahman@scb.se)
Jonas Färnstrand (jonas.farnstrand@scb.se)

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1. Definition of service being collected^{1 2}

The statistical classification of Water collection, treatment and supply (hereinafter referred to as Water supply) in the European Union (NACE Rev. 2) is belonging to section E (together with 37 *Sewerage*, 38 *Waste collection, treatment and disposal activities; materials recovery* and 39 *Remediation activities and other waste management services*) and is not further divided regarding groups and classes.

However, in the Swedish national classification NACE 36 is divided into two sub-classes:

- 36.001 Collection, treatment and supply of groundwater
- 36.002 Collection, treatment and supply of surface water

For more information on classification, see chapter 4.

2. Unit of measure being collected

The unit of measure being collected is turnover in local currency, Swedish krona (SEK). This measure of turnover is excluding VAT and other taxes and subsidies.

3. Market conditions and constraints

In 2010, there were 195 enterprises performing water supply activities, with 900 employed, a turnover of 3.3 SEK billion (≈ 0.3 € billion) and value-added of 1.3 SEK billion (≈ 0.1 € billion).

Table 1: Basic data on water supply 2010 (enterprise level)

Variable	36
No. of enterprises	195
No. of employed	878
Net turnover, SEK million	3 335
Value added, SEK million	1 275
Total assets, SEK million	13 690
Net investments, SEK million	1 317

NACE 36 is a relatively small division in the Swedish business sector (excluding financial services), contributing to only 0.05 percent of total turnover and 0.07 percent of value added.

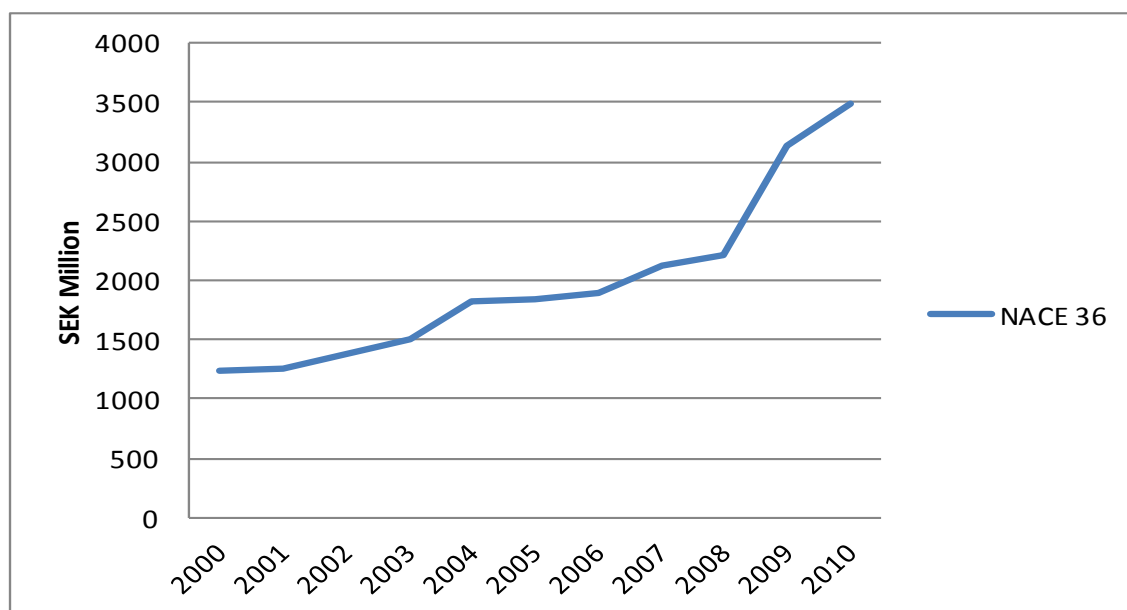
¹ NACE Rev. 2 Statistical classification of economic activities in the European Community

² SNI2007 Swedish Standard Industrial Classification 2007

Table 2: Basic data on water supply 2010 (enterprise level)**Size class by no. of employed**

Variable	0-9	10-49	50-249	250+	Total
No. of enterprises	184	5	5	1	195
No. of employed	27	122	398	331	878
Net turnover, SEK million	1 227	280	798	1 029	3 335
Value added, SEK million	298	99	272	605	1 275
Total assets, SEK million	4 010	567	2 122	6 990	13 690
Net investments, SEK million	490	51	204	571	1 317

As in most industries, a small number of large enterprises produce large part of turnover and value added as seen in table 2 above. Figure 1 below shows the development of turnover in SEK million over the last decade on kind-of-activity (KAU) level.

Figure 1: Turnover in water supply 2000-2010 (KAU), SEK million**3.1 Turnover by product**

The service in NACE 36, water supply, is usually produced by municipalities or groups of municipalities. This is due to the legislation³ in place, requiring municipalities to provide water and sewerage services. The enterprises within the business sector and thus covered in the STS or SBS are usually owned by municipalities. Even if only 28 percent of the enterprises are owned by the municipalities, approximately 87 percent of the turnover within the industry is generated by such enterprises.

The industry is also closely linked to NACE 35 Electricity etc and NACE 37 Sewerage. Looking at turnover by product, 32 percent of water supply services (CPA 36) is produced in NACE 35 and 18 percent of water supply services is produced in NACE 37.

³ Lag (2006:412) om allmänna vattentjänster. *Swedish Code of Statutes*.

On the other hand 37 percent of the turnover in NACE 36 is classified as sewerage (CPA 37).

4. Standard classification structure and product details/levels

4.1 Industrial classification^{4 5 6}

The national industrial classification, *Standard för svensk näringsgrensindelning 2007 (SNI2007)*, is based on NACE Rev. 2 but has an additional hierarchical level, the five-digit level. For the water supply sector, SNI2007 is equal to the NACE Rev. 2 classification down to four-digit level but is then further divided into two subclasses; Water supply of groundwater and Water supply of surface water. The complete break-down of the water supply sector can be seen in table 3 below:

Table 3: Industrial classification of water supply

NACE Division	NACE Group	NACE Class	SNI 5-digit level	Name	ISIC Rev. 4
36	36.0	36.00	36.001	Water supply of groundwater	3600
			36.002	Water supply of surface water	3600

NACE Rev. 2 corresponds to ISIC Rev. 4 on all levels.

In line with NACE Rev. 2, the national industrial classification replaced the previous version (SNI2002/NACE Rev. 1.1) starting with reference year 2008. The Swedish Business Register contained both versions for reference years 2007 and 2008 and results were also published in both versions. Starting with reference year 2009 results will only be published in the new classification.

With backcasting, results for both short-term (STS) and structural business statistics (SBS) are available from 2000 in the new classification.

4.2 Product classification^{7 8 9}

The national product classification, *Standard för svensk produktindelning efter näringsgren 2007 (SPIN2007)*, is in most parts equal to the CPA 2008 classification. The code structure is slightly different (seven-digit code in national classification versus six-digit code in CPA) but most products have a one-to-one relationship. The difference within NACE 36 is that CPA consists of four codes, where these codes are further divided into eight codes within SPIN depending if the activity is related to groundwater or surface water. Turnover within the SBS survey is however not divided into different variables/product groups: there is only code for the entire CPA 36. The break-down on products can be seen in table 4 below. For a complete list of SPIN/CPA codes, see annex 1.

⁴ NACE Rev. 2

⁵ Swedish Standard Industrial Classification 2007 (SNI 2007)

⁶ ISIC Rev. 4

⁷ CPA 2008

⁸ Swedish Standard Classification of Products 2007

⁹ CPC Version 2

The structure of the European CPA classification differs quite a lot from the structure of the international CPC classification. The products within the water supply sector are not held together in the same way as in CPA and belongs in three different divisions in CPC Version 2; 18, 69 and 86.

Table 4: Classification of products for water supply

Variable	SPIN 2007	CPA 2008	Name
V1055	36	36	Incomes from water supply

Regarding the demands from National Accounts (NA) there is at the moment no plans to divide the CPA into more detailed products.

As with the industrial classification SPIN2007/CPA 2008 replaced the older version starting with reference year 2008. For NA purposes results for structural business statistics were delivered in both versions for reference years 2007 and 2008.

5. Evaluation of standard vs. definition and market conditions

A lot of enterprises have more than one activity within the sector and NACE 37 is strongly connected with NACE 35 Electricity etc. and NACE 37 Sewerage. Furthermore, a lot of the water supply activities are performed by municipalities themselves rather than enterprises working on behalf of the municipalities. Only enterprises belonging to the business sector is covered by the STS/SBS, while activities performed by municipalities are covered by summaries of accounts of local government activity.

Table 5: Turnover by product and industry 2010, SEK million

Industry	35	36	37	38	39	Other	Total
Product							
35	252 337	26	240	1 802	3	3 771	258 179
36	1 363	1 647	778	280	11	166	4 245
37	89	1 288	1 784	212	10	20	3 403
38	2 463	325	600	28 537	221	462	32 608
39	0	0	0	542	15	19	576
Other	16 861	196	101	1 464	4	-	-
Total	273 113	3 482	3 503	32 837	264	-	-

6. National Accounts Concepts and measurement issues related to GDP measurement¹⁰

NA has previously published results in the old industrial classification (SNI2002/NACE Rev. 1.1) but has now started to use the new classification. In the Swedish NA system, the water supply sector belonged to classification 41+90.01 which corresponds to 36-37 in the new classification. The reason for presenting the NACE 36 and 37 together is that these industries are extensively integrated.

¹⁰ ESA95 GNI Inventory, Sweden, Reference Year 2005, Revision 5, October 2009

Since 1997, the main source for annual output calculations has been the SBS, although other sources are used when appropriate. SBS contains detailed information on both income and intermediate consumption. For quarterly GDP, the value is calculated either by extrapolating the value in the NA system using an indicator, using data directly from a source or by using a model. For the water supply sector the STS is used to extrapolate the value in the NA system. CPI is mostly used for deflation.

6.1 NACE 37 (and NACE 36)

As mentioned earlier, water supply (NACE 36) are many times integrated with sewerage (NACE 37). It is very difficult to obtain data shown separately for sewerage in respect of several aspects, e.g. income, costs and employment. The industry used in the Swedish NA system is thus a combination of both industries. As NA up to now have used the old industrial classification (SNI2002/NACE Rev. 1.1) the industries used is 41 and part of 90.

Apart from principal production, i.e. water supply including sewerage, the industry's secondary activities, such as construction, real estate management and architectural and technical consultancy services, are recorded separately. Data on the output of water supply and sewerage within the business sector is obtained from the SBS and within the public (municipal) sector from the summaries of accounts of local government activity. Primary output consists of water and sewerage and secondary production includes district heating and waste. The output value attributable institutionally to the local government sector is calculated in the summaries of accounts for local government activity and added to the output value from the SBS. The industry's intermediate consumption is also provided by the SBS and by the summaries of accounts of local government activity. Balancing and plausibility assessment are performed in the supply and use tables. Value added is obtained residually as the difference between output and intermediate consumption.

7. Turnover data methods and criteria for choosing different output methods

Two EU-regulated surveys collect information on turnover in the business part of the water supply sector (as mentioned municipality production of these services are collected via the summaries of accounts of local government activity, which will not be covered here). Short-Term Statistics collect industry-level turnover monthly/quarterly and Structural Business Statistics collect turnover on industry-level as well as product-level annually.

7.1 Short-Term Statistics

Turnover in the service sector is published quarterly in accordance with Council Regulation of Short Term Statistics, EG 1165/98 and amended by the regulation (EC) No. 1158/2005. Turnover in the service sector. The water supply sector is not actually covered by the regulation. They are covered by the survey for National Accounts (NA) purposes.

The statistical unit as well as the unit of collection is enterprise. Results are only presented as development indices and not as absolute values.

The short-term statistics is a sample survey, with a certain number of large enterprises surveyed monthly, while the remaining enterprises of the sample surveyed quarterly (but with turnover divided into months). The monthly data is used for the service production index. The total number of enterprises surveyed in the service sector is approximately 10 100. The un-weighted response rate is approximately 80 percent while the weighted response rate is approximately 90 percent.

Results are published 35 days after the end of the time period in question. The results are mainly used by the NA in their calculations of private consumption and Gross Domestic Product (GDP). In theory, NA would need the turnover divided into product groups, but due to the response burden only total turnover is collected. This turnover is then divided into product groups with various keys to meet the requirements of short-term NA calculations.

Administrative data is not used as input in the calculations at present. Work is however in progress with the use of VAT data, mainly to reduce response burden.

7.2 Structural Business Statistics

Structural Business Statistics is a survey carried out annually in accordance with “Regulation (EC) No. 295/2008 [...] concerning structural business statistics” (the regulation consists of a number of annexes and the description below is valid for annexes I-IV and VIII, or NACE 05-82 (excluding 64-66) and 95). Furthermore, detailed results (much more detailed than demanded in the above mentioned regulation) of the survey are delivered to National Accounts. In its current format, the SBS has been produced since 2003.

Information is collected on enterprise level or in some cases KAU level. The statistical unit for NA purposes is KAU. Results are published on enterprise (institutional) level as well as KAU (functional) level and for some variables local KAU (regional) level. The regional information is produced via a model-based approach.

The survey is based on administrative data, more precisely on income and balance sheet statements from the Swedish Tax Agency (Skatteverket). Three separate sample surveys (specification of income sheet, specification of investments and specification of shares) are carried out to provide more detailed information. In addition to this, the 600 largest enterprises in the business sector are surveyed separately.

The administrative data is, at least in theory, available for the entire population of around 1 000 000 enterprises. Non-response in administrative data (15-20 percent un-weighted, 3 percent weighted) are dealt with through mean value imputations based on industry and size class. This material is used for what is called the common variables within the income and balance sheet statements, such as turnover, other operating incomes, depreciation costs, personnel costs and total assets. Tax material was used for 195 enterprises in the water supply sector in 2010. Non-response was 17 percent un-weighted and 6 percent weighted.

The 600 largest enterprises in the business sector are surveyed independently of the tax data. This is due to their importance to the business sector (roughly one-third of value

added) and their often complex organisations. These enterprises are asked to complete a questionnaire consisting of a detailed income statement (including turnover by product but also for example more detailed cost statements), a balance sheet statement, a specification of investments and a specification of shares. The response rate for these enterprises have been 100 percent in recent years. Only one enterprise within the water supply sector was surveyed this way 2010.

The specification of income statement is used to get more detailed information, e.g. turnover by product, for the remaining enterprises. A sample of some 16 000 enterprises is used for this part of the survey, allocated in 300 strata based on the demands of NA. 13 enterprises in one stratum were sampled in the water supply sector 2010. The sample method used is πps , i.e. probability proportional to size. The response in this survey is usually around 80-85 percent un-weighted and 88-90 percent weighted. The response rate in the water supply sector was 100 percent un-weighted and 100 percent weighted for reference year 2010.

Besides being an important input in the NA calculations, the collection of turnover by product is also an important input in the Business Register. The detailed information makes it possible to detect any change in activity within the enterprises, and thus keep the Business Register as updated and correct as possible.

The surveys regarding specification of investments and specification of shares are similar to the specification of the income statement. They are however less detailed and thus demand lower sample sizes.

Results are compared with STS and other short-term indicators for consistency. Preliminary results are transmitted to Eurostat 10 months and definitive results 18 months after the end of the reference period. Definitive detailed results are transmitted to NA 15 months after the end of the reference period. Preliminary and definitive results are also published in on-line databases, 12 months and 17 months after the end of the reference period respectively.

8. Evaluation of comparability of turnover data with price index practices¹¹

The product groups within the water supply sector covered by producer price indices at present are section E, division 36. There are no further breakdown within NACE 36.

The measurement of prices in this industry tends to be very difficult. The main problem is to get comparable prices over time. Producer price indices are calculated according to a Laspeyres formula.

9. Summary

The water supply sector is a small part of the Swedish economy, contributing only 0.05 percent of total turnover and 0.07 percent of total value added in the business sector. A large part of the production within the sector is generated by municipalities or enterprises

¹¹ Prisindex i producent- och importled 2010

owned by municipalities. The total production of above mentioned industries should be relatively stable over time, however the distribution between the business sector and the public sector could vary.

STS are used for quarterly GDP calculations while SBS along with summaries of accounts of local government activity are used for the more detailed annual accounts.

Regarding turnover by product, CPA 36 are not divided into more detailed variables at present.

Annex 1

Variable	SPIN 2007*	CPA 2008	Name	
v1055	{	36.001.01	36.00.11	Drinking water
		36.001.02	36.00.12	Non-drinking water
		36.001.03	36.00.20	Treatment and distribution services of water through mains
		36.001.04	36.00.30	Trade services of water through mains
	{	36.002.01	36.00.11	Drinking water
		36.002.02	36.00.12	Non-drinking water
		36.002.03	36.00.20	Treatment and distribution services of water through mains
		36.002.04	36.00.30	Trade services of water through mains

* The SPIN 2007 classification divides the CPA 2008 codes depending whether it is groundwater or surface water