The process of updating the sample for the Swedish Producer and Import Price Indices

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Contents

1 Introduction

The price indices at the producer and import stages aim to show the average change in prices for different industries and product groups, i.e. in the first distribution stage when goods are delivered from Swedish producers or arrive into Sweden. Approximately 4 000 prices are collected monthly from around 1 500 companies.

It is essential that price data refers to an updated sample that is effectively allocated. It is also of interest that the respondents' burden is evenly distributed among the companies; therefore a systematic rotation of the sample is preferred. This will help to reduce the time needed for smaller companies to participate in the survey.

The method previously used for updating the sample consisted of completing the sample with price observations for product groups that have reached economic significance. For each such product group the largest market performer was selected to report prices. There has not been a corresponding elimination of unimportant product groups and companies other than in some rare cases. Observations were only cancelled when production or import had ceased. There is also a substantial sample actualization when detailed specifications are updated continuously during the year.

"The sample project - An evaluation of PPS sampling for the producer and import price index"[1] (2003) proposed PPS (Probabilities proportional to size) sampling for the Swedish Producer and Import Price Index. In 2003 PPS sampling was used for the first time for the 2004 sample for both the export and import markets. This, however, does not mean that the old sample was replaced by a probability sample – not even partially. The new sample was only used to fill out where coverage had been poor. The strata were constituted differently for import and export markets at that time.

During 2006 the PPI sample was drawn for all three markets (domestic, export and import) according to PPS methodology. In 2005 this was done for the first time, and with this a process was started where the full sample will be totally reviewed during the five year period 2005-2009.

Section 2 describes the sampling process. Section 3 describes the implementation of the sample. Finally, Section 4 includes a summary of the sampling process in 2005-2006 with suggestions on future work for 2007.

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[1] The sample project: An evaluation of pps sampling for the producer and import price index (2005). SCB, Bakgrundsfakta till ekonomisk statistik 2005:03.

2 Sampling technique

The objects in the survey are transactions and the population consists of all transactions where producing companies sell their products in Sweden or abroad and all imports of goods from all companies. The selection of objects for measurement is done in two steps:

1. Sampling of company (corporate identity number) and product group (CN8[2]).
2. Selection of a well specified transaction that is *typical* for the transactions that the sampled company produce or import within the chosen product group.

There are sampling frames available for the first step. Trade statistics data regarding values is available at the CN8 level both for exports and imports. Data is available for production from a survey on industrial production. No frames are available for the second stage of sampling. The choice of specification has to be made by the company.

This section concerns the first stage of sampling. The *sampling unit* in the first stage is the combination of corporate identity number and CN8[3]. The second stage is described in section 3.

In section 2.1 the basis of the frames with its limitations is described. In section 2.2 the stratified PPS sampling and its implementation in PPI is presented. Finally, an evaluation of the implementation with conclusions is presented in section 2.3

2.1 Sampling frames

2.1.1 Export and import markets

Statistics on foreign trade are based on Extrastat and Intrastat values for import and export of commodities according to corporate identity number and a CN8 code. Intrastat covers all EU trade while Extrastat covers trade with the rest of the world[4]. Intrastat includes only companies with export/import above a threshold[5]. Statistics Sweden assembles Intrastat monthly; corrections are made for under-coverage and non-response with help of information from VAT taxation.

Two tables are then created: The first includes total export/import for each CN8 to allocate the sample size corrected for under-coverage. It contains the imported value (CIF[6]) and the exported value (FOB[7]) for every CN8. The

[2] The first 8-digits of the Combined Nomenclature, used in foreign trade.
[3] This sampling unit is intermediate and should be seen as a step to reach the primary object (the transactions).
[4] 2005 the Extrastat trade made up 42 percent of the total exported value (41 percent in 2004). For imports the Intrastat made up 29 percent for 2005 (22 percent in 2004).
[5] The limit is based on the total value of export/import the last year. Based on the VAT register at Statistics Sweden. Only companies with a value of export exceeding 4.5 Million SEK are included. The limit for imports is set to 2.2 Million SEK (2004).
[6] Cost insurance freight
[7] Free on board

second table concerns the company and CN8, and is the frame for the sampling. The values are reported for every company and CN8. Only values corresponding to "true" buying or selling of goods are included. Hence, re-export is excluded. From Intrastat only transactions with transaction code 1, "true" buying/selling of goods are included. The procedure codes[8] are used to exclude the re-export in Extrastat.

The codes used in Intrastat and Extrastat cannot be used to fully eliminate re-export. From Statistics Sweden's Business Register (FDB) information of the company classification[9] is used to exclude companies in the services sector.[10] One problem when modifying the sample frame is the different contents of Extrastat and Intrastat.

2.1.2 Domestic market

The yearly survey Production of Commodities and Industrial Services (IVP) provides data on production in Swedish industry. IVP covers all industrial companies that exceed a certain size.[11] Corrections to the material are made using the standardized accounting summary (SRU) from the National Tax Board and the IVP survey.

In the same way as for the two export/import-tables, one table is for allocation and one is for sampling, and these are used for the production market. From these two together with the corresponding table for the export market, two new tables are created for the domestic market: The domestic market is equal to production minus export. However, many of the weights of domestic markets are negative for company and CN8. Even at stratum level there are negative values. For construction of stratum cf. Section 2.2. The reasons for these negative values are as follows:

- Difficulties to exclude re-export. Re-export is export which originates from import and not domestic production.
- Companies report production and import/export on different CN8 codes.
- For repairs the total value is entered in both export and import.
- Model estimates: For the under-coverage in IVP, administrative data is used for the total. Some CN8 codes are imputed.
- Margins of trade and transport are included in the export value but not in the production value.

One way to reduce the problem with re-export is to exclude the values of companies in the service sector. However, the domestic market is overestimated, since one company is reporting the production and another company, in the service sector, is reporting the export.

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[8] For export: 1000, 1041 and 1076. The first two digits 10 implies "Permanent export / sender". For import: 4000, 4045, 4053, 4071 and 4078.

[9] Swedish standard classification 2002.

[10] This will be the basis for the delimitation specified in the table regarding companies that trade goods but do not produce them.

[11] Industrial company refers to companies classified in SPIN 10-37. Industrial companies with 20 or more employees in services (in some cases 10) are also included. Companies with less than 5 employees are excluded.

All sampling units, see Section 2.2, with negative domestic values are excluded in the sample frame for the domestic market.

2.2 Sampling design

The sampling method, a stratified PPS sample, was first developed and used for import and export markets in 2004. From 2005 onwards it was also used for the domestic market. This chapter will briefly[12] describe the method.

The basis for the stratification is SPIN 2002[13]. A key between SPIN 2002 and CN8 is used.

The stratum structure was created in 2004-2005 as follows:
From the fixed sample size, the average value that a price specification represented was calculated ("represented value"). For a stratum to be of acceptable quality it was decided that it should contain at least 5 price specifications. Then ideally the stratum value should be at least 5 times the represented value. The strata are constructed by the values from all 2, 3, 4 and 5-digit SPIN 2002 together with the restriction of the stratum value. Consideration is also taken to the product group division that is used in the National Accounts and the distribution of production and import. Hence there are two strata, import and production. This is combined in the final stratum structure containing 110 strata. Some strata are too small to have 5 observations. For these strata are the minimum observations 2.

Each stratum yields its own allocation weight[14]. In 2004 and 2005 the allocation weights for import and export were calculated from frames for Foreign Trade. For the domestic market the weights are from the previous year PPI (the stratum weights in section 3.4). From 2006 this is also done for export and import.

Neyman allocation is used to minimize the variance for the total PPI for the three markets. Hence, the sample sizes, n, are proportional to the allocation weight and the standard deviation[15]. However, each stratum should have at least 5, sometimes 2, observations.

For each stratum a PPS sample (one step sampling) is drawn where the *sampling unit* is the combination of corporate identity number and CN8. This method was chosen since it is less complex compared to the two two-stage sampling methods:

1) First a PPS sample of *CN8* is chosen. In every *chosen CN8* a PPS sample of *companies* is drawn.
2) First a PPS sample of *companies* is chosen. In every chosen *company* a PPS sample of *CN8* is drawn.

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[12] For a more detailed description: The sample project: An evaluation of pps sampling for the producer and import price index (2005). *SCB, Bakgrundsfakta till ekonomisk statistik 2005:03.*
[13] Swedish standard classification by products 2002.
[14] Denoted allocation weight to separate it from the stratum weight in the PPI-system.
[15] The estimation of standard deviation is based on the previous year

The first two-stage method yields the most effective sample, since it chooses CN8 regardless how the value is distributed among companies. The second two-stage method is the most inefficient method regarding the variance. Its advantage is the lower cost to establish a price specification, since it would limit the contacts of companies. However, the single-stage method was chosen. The reason was that it gets easier to handle over-coverage in the frames.

In PPS sampling the sampling probabilities are proportional against its value: export, import, or domestic market value.

Sampling probabilities for the sampling unit i, $U_i = n \times$ value /stratum value, where n is the sample size. If the sample size is 10 for a stratum and a sampling unit is 10 percent or more of total value then sampling probabilities are greater than 1. Then the object (sampling unit) will be chosen with certainty and is withdrawn before the PPS sampling.

The objects chosen with certainty[16] represent only themselves. They are included in sub stratum, take all (TA). Sampling units chosen with PPS sampling, substratum (TU), both represent themselves and others not included in the sample. For objects chosen with certainty the number of price specifications is calculated as follows: add 1 to the square root of sampling probabilities and round downwards. This has no scientific foundation. It is based on the assumption that for a given CN8 the variance is less within a company than between companies.

2.3 Sampling 2005 and 2006 with conclusion

The total sample size is proportionally allocated to the different markets (domestic, export and import) according to the number of observations in the current PPI sample, with a small upward adjustment. The number of specifications for domestic, export and import are hence approximately 1 500, 1 200 and 1 500 respectively for both 2005 and 2006. Despite that re-export[17] is excluded there still are export values not emerging from production in Sweden. Therefore companies in the service sector are excluded apart from companies in IVP.

For every stratum the sample sizes are limited downwards. For most of strata the minimal sample size is 5 units, but 2 are also used. There is no upper limit. Neyman allocation is used where standard deviation is based on price measurements from the year before.

In 2005, 28 percent of the new sample matched that in the current PPI. In 2006, 53 percent of the new sample matched. This implies that many of the sample units chosen by certainty in 2005 had been initiated for the 2006 PPI survey.

[16] In practice a sampling unit with sampling probabilities greater than 0.9 is chosen with certainty.

[17] The delimitation for “true” buying/selling is not enough to clear the data from all re-export.

One lesson that was learnt during the process 2005 was the importance of the structure of the consolidated groups. One company in the group could be producing the products but another one would be exporting it. Group belonging was included in the frame beginning in 2006. A company in the service sector belonging to a consolidated group was not excluded from the frame for the export market without an investigation.

The sampling process has not been that problematic for the import market. This frame is more consistent than the frame for domestic and export. The domestic and export markets have had to overcome the largest obstacles. Improvements on the sample frame have been made regarding group belongings etc. There still is a lot of work to do to implement this fully and information for the sampling process needs to be included in a future PPI database. As it is now, the sampling process is treated separately.

The sampling process was automated in 2006, hence reducing the cost. An improvement of the program including corrections and more validating checks did make the process more secure, improving the quality of the sampling process. The documentation has also been improved during 2006, but there is still more to be done in this area.

In 2005 and 2006 the sample sizes for the three markets have been the same as 2004. An evaluation of the total sample size for each market is planned for 2007.

3 Implementation

3.1 Sample rotation

Statistics Sweden has found it appropriate to review the sample over a five-year rolling schedule. There are several reasons for not reviewing the full sample every year. Initiating new items demands significant resources at Statistics Sweden and for the respondents. Besides the fact that such a rotation more evenly distributes the response burden, it also gives Statistics Sweden an opportunity for a more in-depth analysis of different industries. Such industrial surveys, based on contacts with trade associations and companies, can be used for modifying the sample frame. They are also helpful in future contacts with the respondents and when choosing transactions for monthly re-pricing. This was done for one area of SPIN in 2006 and proved to be useful information in modifying the frames.

An annual review is undertaken of one fifth of the strata (TA+TU) together with all those observations that are chosen by certainty (TA) in the PPS sample, regardless of stratum allocation. A full sample is drawn every year but only a part is updated.

In 2006 PPS sampling was, for the first time, used for all markets (domestic, export, import) and within all strata. It is thus possible to choose the same strata for review in all three markets. The update led to 1 900 different sample units i.e. unique combinations of company (corporate identity number), CN code and market. The resulting size of the sample was larger than expected from the annual 1/5 sample size. This related to the fact that

(1) the same sample and stratum definitions for all markets were used for the first time, and (2) strata with the largest volume of production/import were chosen. In 2006 (year 2), the size was more reasonable, or 900 units. When updating the sample for the largest companies, the total sample for those companies is reviewed, regardless of strata belonging for the individual observations. This will probably not be needed when industrial surveys are fully implemented in the process. In 2005 the strata with the largest volumes of production/import were chosen. In 2006 the choice was rather to revise strata recognized as problem areas, e.g. poor coverage etc. In order for an industrial survey to be carried out before the sample is drawn, the decision of which strata/SPIN to focus on needs to be taken early on.

3.2 Preparing the sample

When preparing for the initiation process, correct contact information is merged by matching with FDB on corporate identity number[18]. Contact codes from previous years is also attached to units in the sample (see code list in appendix 1). Qualitative contact information will be timesaving both for the PPI staff and respondents. Lastly, information on matching sampling units that already exists in the current PPI data base is added.

The final sample includes all the variables in Table 1 below. All sample units are formed as a unique combination of corporate identity number, CN8 and market. Each sample unit that is drawn by certainty (TA) could correspond to one or more sampled observations. When a sample unit is drawn with certainty the company might be asked to provide more than one specification depending on the size of production/import.

Table 1 Variables

1	8 digit CN code
2	Corporate identity number
3	Stratum
4	SPIN (Swedish Standard Classification of Products by Activity [SPIN 2002]).
5	Market (domestic, export, import)
6	Number of specifications in sample
7	Number of specifications found in current database
8	Contact codes
9	Contact comments
10	Contact information (Name, address etc)
11	Group belonging
12	Respondent status
13	Actualization status
14	Sample status (chosen by certainty [TA] or by random [TU])

[18] The corporate identity number.

The sample units are divided into four categories according to respondent status:

I. New company (corporate identity number is not in the current PPI register)
II. Current company (corporate identity number is in the current PPI register but market and/or CN8 is not)
III. Current sample unit (sample unit is in the current PPI register, but the number of observations is less than optimal.)
IV. Current sample unit (sample unit already exists in current PPI register with the correct number of specifications or more i.e. sample units are identical to those in the current PPI register.)

The sample units are furthermore divided into three categories according to their actualization status

Yes	Actualization group is coded as "Yes" if the stratum is a review stratum in the present year.
No	The stratum has not yet been revised (exists only the first four years of the rotation scheme)
Year	The year for stratum review

Table 2 Combinations for implementation in sample update

Respondent status	Sample status	Actualization status
I-III	TA	Yes, No, Year
I-III	TU	Yes

[TA] chosen by certainty, [TU] at random

There are some large companies that need special attention due to the number of sampled units and to an often complex corporate organization. There is also a need to treat those with extra care due to the large impact they have on the final statistics.

3.3 Initiating new specifications

Three different standard letters are used when contacting respondents. All units are coded regarding type of respondents and the different coding implies that the respondents require different information.

2005 was the first time new companies (respondent status I) were approached in two steps. First a letter addressed to the CEO/Controller was sent with a request to supply a name of a person with product knowledge for further contacts. This worked out well and has been done routinely from 2005. It has proven to be an efficient and time-saving method for all involved.

Table 3 Respondent status

Respondent status	Respondent	Contents
I	1 CEO/Controller	• Letter one including general information about the survey and a table covering sampled CN number and its description.
	2 Contact name	• Initiation forms for specifying the sampled units for monthly re-pricing. • Information sheet
II	Current contact name, (first choice is the same market)	• Letter two • Initiation forms for specifying the sampled units for monthly re-pricing. • Listing of contact names • Information sheet
III	Current contact name	• Letter three • Initiation forms for specifying the sampled units for monthly re-pricing.

Table 4 Distribution of sample review in 2005 and 2006

Sample unit	*2005*	*Match*	*2006*	*Match*
TA	40%	48%	49%	85%
TU	60%	15%	51%	15%
Total	100%	28%	100%	53%

As table 4 shows, the distribution of specifications drawn by certainty match far better in 2006 than in 2005 as expected. There is approximately an equal amount of sample units that are chosen randomly (TU) and by certainty (TA). Since there is a large amount of TA that matches the current sample, most of the new observations in the final sample will come from the category TU.

Table 5 Outcome of sample review in 2005 and 2006, shares of sample

Description	*2005 %*	*2006 %*
Match[19]	28	53
Other source[20]	6	1
New specification	21	10
In progress	-	17
Over-coverage, wrong CN code	5	2
Over-coverage, wrong CN code, will receive special survey		6
Large companies left out	7	3
Large equipment	2	3
Foreign address	3	2
Non response	6	2
Unsolved	22	1
Total	100	100

The work with assembling new units to the PPI has a deadline when the weights have to be calculated, but new commodities can be included in the calculation even during the year. A deadline is set in January to conveniently provide information on which respondents will be staying in the survey and which ones that will be removed.

[19] Already in the sample (Status IV)

[20] Estimated by a non-standard method e.g ICT-products, model pricing, world market prices etc.

Table 6 Number of new specifications in PPI, 2002-2007

	Total	New specifications	Net change
2002	3 836	0	-15
2003	3 688	0	-148
2004	3 872	308	+184
2005	4 006	291	+134
2006	*3 784*	*508*	*-222*
2007[21]	-	*155*	-

3.4 Calculating the weights

The final step in the process is allocating the weights. This is done in two steps:

1) Calculate stratum weights for each market.
2) Calculate weights (for individual observations) within each stratum for each market

Statistics covering volume of foreign trade and industrial production are used as sources for import, export and the domestic market weights. For each stratum import, export and the domestic market weights are calculated. The weights for the domestic market are derived by subtracting the values on total production by values for export. The weights can be assigned directly for most strata. However, there are some problematic strata that end up with a negative value for the domestic market. The most common reason for this is that there is re-export and that the Intrastat survey does not adjust for this.

To adjust for these kinds of obviously erroneous weights and to determine what weight to assign to the domestic PPI, two different sources are used:

1) Input/output tables from National Accounts
2) STS[22] ”New orders and deliveries in industry” where deliveries are specified on domestic and export markets.

Both sources are used to estimate the proportion of the production that is exported and that is sold on the domestic market. If the STS and National Accounts yield the same result then that proportion is used. If they differ considerably, further analysis is required to determine what source should be considered most reliable. There are problems attached when using Input/Output tables as they are not available for the weight reference year[23].

The method for calculating the weights within a stratum depends on how the units were sampled.

a) PPS sampling
b) Cut-off sampling[24]
c) Partially updating[25]

[21] The final PPI sample and the number of new specifications are not known in December 2006.
[22] Short term statistics
[23] The actuality was 2000 in 2005 and 2003 in 2006
[24] The sampling procedure used before the new PPS-sampling method was implemented.
[25] It is a stratum that has been reviewed some year but not the current year.

For PPS sampling the weights from the PPS sample are used. For cut-off sampling a PPS-inspired weighting structure is used. A SAS program has been developed for these steps, thus limiting manual work. For partially updated stratum both weight calculations are applicable. The choice depends on how long ago the stratum was revised.

3.5 Evaluation of the process

3.5.1 Evaluation of the process during 2005 and 2006

The weights for 2006 were for the first time calculated using a SAS program. This saved approximately three weeks of work. The calculations can now be done in 2 to 3 days. This is an improvement that hopefully will result in that the weights for 2007 will be calculated before validation process starts on the January price data (as some of the validation checks rely on weight information)[26]. Previously when the calculations were done in Excel, the weights were validated in the process and some unreasonable results could be eliminated. This validation now needs to be done more explicitly, but now there is much more time for this.

An improvement that was partly implemented during 2006 was to conduct industrial surveys. These could be helpful for excluding companies from the frames, thereby improving the quality in the sampling process. Due to lack of time only one of four surveys were fully conducted. During 2007 more time will be set aside for these surveys.

During 2006 more tasks in both regarding the sampling procedure and the initiation process have been more automated than previous years and could thus be done in a shorter time. It is expected that the process for 2007 will be even more automated and less time-consuming.

In the sample drawn for 2006, CN numbers on used products were unfortunately included, though they were never initiated in the survey. In preparations for the 2007 sample these CN numbers were excluded from the sample frame.

3.5.2 Future work

There are some areas of the process that still need improvement. For 2007 it is important to continue working on the registers that are used for the sampling process. A company that has been excluded one year should not be asked to join again just a few months later. Therefore the company should be excluded if possible for at least one year and substitutions should be taken from other companies. The database that PPI uses today does not at all support the sampling process and information is stored separately. The application and database will soon be evaluated and a new version needs to handle also many of these additional steps in the sampling process.

[26] This has not been possible prior years as the weights have not been available until the middle of February

More resources are needed for industrial surveys and for the initiation process. Four surveys were planned for 2006 but only one was carried out due to lack of time. This will be prioritized in the coming year. More efforts will be made for building up knowledge about large companies. Due to the complex nature of large international companies and large groups of companies, they are not easy to fit into the sampling process. So far two large companies have been excluded both years and the industrial study has not fully been put to practice.

Last year's data coded with wrong CN codes was updated by asking respondents if production/import occurs within a CN code with the same first 4-digit number. If so, the new CN code is checked if it lies in the same stratum and if so it replaces the previous (wrong) one. This should be done immediately when a wrong CN code has been identified but is currently left for the end of the process. Chosen units that are substituted with another CN code are saved in a separate table. It is necessary to know this for future sampling, and for the calculation of weights (see section 3.4). A new database should store this information on the sample unit. This should also be the case when another corporate identity number than the one in the sample reports on the sampled products. It is important that such information will be readily available. The database must also be supplemented with strata belonging and group belonging of the companies. Future databases and applications for the PPI survey needs to support the sampling process much better than today.

There are still a lot of problems to solve regarding the frames for the sample. It sometimes occurs that companies producing or importing a commodity have no knowledge about the prices and a different company has been handling all administrative tasks. When this is the case, only one of the companies will occur in the foreign trade statistics. Sometimes the producer does not own the product and they refer the price matter to the owner, which can be a foreign company. Addresses on foreign companies are not currently available and hence are forced to be excluded. Furthermore, there are currently no routines for identifying them. In some cases this information has been collected but it is a time-consuming task.

The number of units connected with foreign companies in the full sample has increased between years 2005 and 2006. By number it is most common for import commodities, but the largest increase between the years can be seen for export commodities. However, we still need to study what the effects are on the PPI to be able to know how to treat them in the future.

4 Summary

The Swedish Producer and Import Price Indices have improved in quality by developing a process for revising price specifications. Due to the efficiency in the allocation (price specifications) both companies and commodities can be excluded without decreasing PPIs' quality. Earlier it was rare that a company or commodity was excluded except when production/import was not reported or the company ceased to exist.

A process for updating the full PPI sample over a period of five years has been developed in 2005-2006. The entire process has improved over these two first years, although there is more to be done.

The weight calculations for PPI have been automated and thereby saving time.

Future work

An evaluation of the total sample size for each market is planned for 2007

Together with the new routines of updating PPIs' sample there is a need for storing more information about the sample in the database, e.g. stratum, group, room for more than one CN code and corporate identity number.

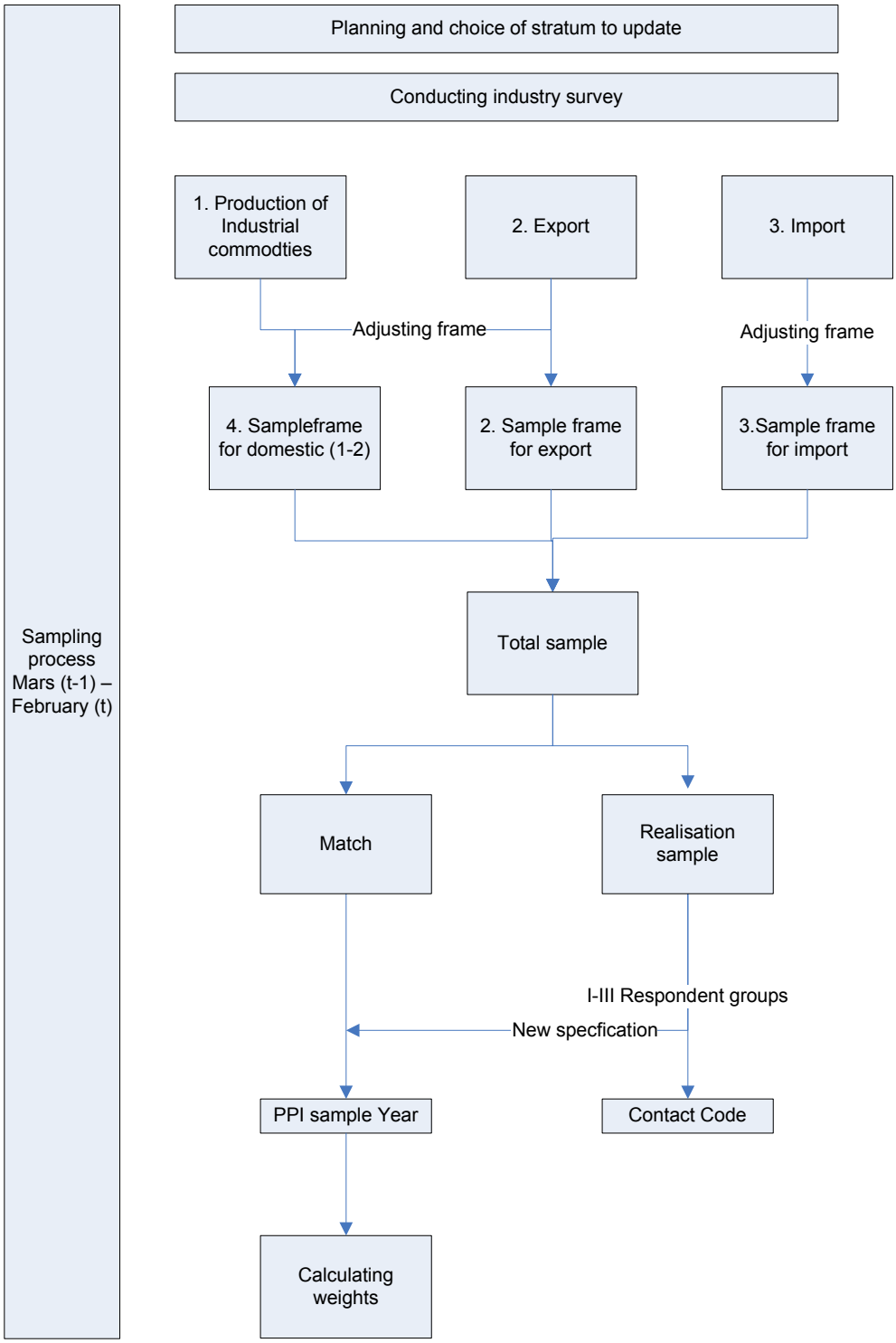
A system is also needed that allows new companies and commodities to be included in the calculations during the present year.

For 2007 more resources are assigned for finalizing the revision of PPIs' sample as planned and for carrying out the industrial surveys.

Appendix 1 Code list

Description	Code
New specification	1
In progress	2
Not relevant with more specification on specific company/CN-code	5
Large equipment	7
Over-coverage, wrong CN code	8
Over-coverage, bankruptcy, etc.	9
Over-coverage, wrong SPIN	30
Unsolved, more effort needed, could result in new specification	40
Stand-in company/CN code/index covers sample unit	50
Update large companies, handled separately, in progress	60

Appendix 2 Process schedule



Appendix 3 Stratum in PPI

Table 7 Stratum in PPI

STRATUM		
0112	2540	33o
0113	252o	342
01o	261	343
02	26o	351
05	271	352
10	272	353
111	2732	35o
12	273o	3611
13	27420	3614
14	27440	361o
151	27450	36o
152	274o	40
153	281	41
154	282-3	
155	286	
156	2875	
157	287o	
158	2911	
159	2912	
16	2913	
175	2914	
17o	2921	
182	2922	
18o	29230	
19	29240	
201	293	
203	294	
20o	2952	
2111	2953	
21121	2955	
21122	2956	
21123	295o	
21129	296	
212	297	
22	3001	
232	3002	
23o	311	
24130	312	
24140	313	
24160	314	
242	315	
243	3161	
244	3162	
245	321	
246	322	
24o	323	
251	331	
25210	332	