

**Task Force on the implementation of
NACE Rev. 2**

**Implementation of NACE Rev. 2
in Business Registers**

Version 1.0

March 2006

Preface

Economic activity is a key variable for statistical business registers, forming the basis for stratifying samples and analysing outputs. Classifications of economic activity need to be revised periodically to ensure that they continue to reflect economic developments. Any change will require re-coding of at least some of the units held on the business register.

The system of economic activities is being revised, starting with the ISIC, followed by the NACE. Within the European Union, there will be a requirement to use the new version of NACE - NACE Rev. 2 - for statistical data describing year 2008 and later. For this reason NACE Rev. 2 will be introduced in statistical business registers in 2008, at the latest.

All EU countries use NACE, or a national version derived from NACE (called here NACE+). So if NACE changes, the national classifications will also change at the more detailed level, to reflect national requirements.

Eurostat felt that the conversion to NACE Rev. 2 should be guided by a Task Force on Implementation. From February 2005 onwards the Task Force has been developing guidance to help Member States to implement NACE Rev. 2 in their business registers and statistical outputs. The first step was to send a questionnaire to all national statistical institutes (NSI's), to be able to identify the issues that they faced in the implementation. The results showed consensus over the issues that the Task Force has to document. Eurostat agreed to promote and coordinate the publication of four handbooks that would include general advice and specific recommendations relating to business registers, sampling and back-casting.

This document focuses on statistical business registers and outlines best practices that are used in a range of countries, so that readers can judge which approach might be most appropriate to their countries.

This paper was drafted by Ton Bonn  (CBS-Netherlands), in close cooperation with John Perry and Steve Vale (ONS United Kingdom), Arto Luhtio (Eurostat), and advised by many others.

Available information: tools from Eurostat

The structure of NACE Rev. 2 was finalised by the NACE/CPA working group meeting in September 2005. It was approved by the Statistical Programme Committee and is currently submitted to the EU-Council and the European Parliament. It will be 'final' after publication in the Official Journal, which is expected by the end of 2006. It shall be applied from January 2008.

The explanatory notes as well as the correspondence tables are available on the "Operation 2007" website <http://forum.europa.eu.int/irc/dsis/nacecpacon/info/data/en/index.htm> and will be continuously improved.

Contents

1.	Preparation of the business register	Page 4
1.1	First step: developing an implementation plan	
1.2	Estimating changes and creating a research environment	
1.3	Likely timetable, critical time path	
1.4	Units in the business register	
1.5	Communication of changes	
2.	Sources	Page 6
2.1	External sources	
2.2	Internal sources	
2.3	Existing business activity descriptions (internal or external)	
2.4	Profiling	
3.	Tools for surveys	Page 7
3.1	Use of indexes	
3.2	Computer aided coding systems	
3.3	'Automatic Coding by Text Recognition' as example	
4.	Theoretical issues and practical rules	Page 9
4.1	Determination of the principal activity in theory and in practice	
4.2	Use of PRODCOM data for assigning the new codes	
4.3	Assigning new codes to units in the register	
4.4	Constructing probabilistic conversion matrixes	
5.	Realisation by surveys	Page 10
5.1	Preparing for survey	
5.2	Surveys	
5.3	Quality controls	
5.4	Priority rules	
5.5	Recoding the business register	
5.6	Treatment of corrections	
5.7	Dual coding	
6.	Follow up	Page 14

Acronyms

ACTR: Automatic Coding by Text Recognition

CPA: Classification of Products by Activity

ISIC: International Standard Industrial Classification

NACE: Nomenclature statistique des Activités économiques dans la Communauté Européenne

NACE Rev. 1.1: NACE version of 2003

NACE Rev. 2: NACE version of 2008

NACE+: National version of NACE

NSI: National Statistical Institute

1. Preparation of business registers

1.1 First step: developing an implementation plan

The implementation at the level of individual countries will be a wide-ranging project. Seven main elements can be distinguished.

- Development of a national classification (in all but a few Member States)
- Implementation of CPA/PRODCOM (in some countries after the development of a national version)
- Contact with administrative source departments (sources) providing the business register with activity codes
- Revision and approval of legal acts
- Implementation in the business register
- Implementation in the statistical collections and outputs, including social surveys
- Communication with users

In this document, attention is focused mainly on implementation in the statistical business registers and the source registers.

1.2 Estimating changes and creating a research environment

When NACE Rev. 2 and NACE+ are finished and correspondence tables are made, the extent of the classification change can be seen. The impact of changes can be communicated within the NSI.

An assessment can be made concerning the numbers of units that can be coded automatically (1 to 1 and N to 1) and those that have to be checked (1 to N and M to N). This can be done by using coordinated figures or selection of target populations. The impact of the change and the methods to be used to implement the changes can be assessed.

Often it is a prerequisite to create a research environment. All information concerning recoding has to be stored because it can not be directly applied in the Register for technical reasons. It is necessary that a database with coordinated information exists as well as a processing tool to assign codes. Small enterprises, in particular, will need several methodologies to be combined in an optimal way. The database will therefore combine recoding from codes supplied by administrative sources, business activity descriptions, business profiling, statistical surveys and based on probabilistic models.

1.3 Likely timetable, critical time path

The key date for business registers is 1 January 2008, when all units on the register should be coded to the new version of the national classification. With this date, Structural Business Statistics for 2008 can be based on NACE Rev. 2 and September 2011 is guaranteed for national accounts. Some countries are able to switch to NACE Rev. 2 earlier, while others may require the Structural Business Statistics itself to complete the recoding to NACE Rev. 2.

There is no need to have the business register recoded (completely) at this specific deadline. The business register must be recoded before it is used as a basis for the preparation of the surveys for 2008 (mandatory).

Because of the necessity for coordination within NSI and with administrative departments, it is useful to go for a single date, January 1st 2008. The necessary work will therefore need to be timetabled

based on this date. The dates mentioned in the table below have to interpreted as ‘approximate’ depending on your own NSI-situation.

Activity	When
NACE finalised	September 2005
NACE implementation plan	December 2005
Initial estimate of the impact of the change in the register	April 2006
Structure of national version of NACE ready, followed by explanatory notes, indexes, coding tools, conversion schemes etc.	June 2006 (for some a little later)
National register implementation plan finalised, including internal and external sources to use, surveys required and use of probabilistic models.	July 2006 (for some a little later)
Start of gathering information	September 2006
Changes to the register database to allow dual coding	January 2007
Probabilistic methods to reclassify units without alternative source	July 2007
Information gathered to reclassify all units	Until October 2007
Units in Business register coded to both NACE Rev. 1.1 and Rev. 2	From January 2008
Dual coding in business register	From January 2008 to December 2010*

* The time to have dual coding depends on the timing of National Accounts. It will probably be three years.

1.4 Units in the business register

According to the new draft EU Regulation on business registers there will be three types of statistical units for which a classification is required, that is local units, enterprises and enterprise groups. Although not required for the legal unit, it may be necessary to recode these in order to permit the classification of the enterprise. In case of administrative sources, this information on legal units may be supplied as business activity descriptions or as codes from the existing NACE or other coding systems. All of these have to be coded to NACE Rev. 2.

In many countries (local) kind of activity units have to be recoded as well.

1.5 Communication of changes

The activity codes in the business register are of importance to many users. They have to be updated:

- For internal (NSI) users it is important to discuss the changes within statistical domains. In this way, changes in statistical outputs and samples can be analysed, quality targets set and knowledge exchanged.
- External users may be informed by web site, press briefing or a specific help desk. Mailing lists may be composed.

2. Sources

In many countries the administrative sources play an important role in updating the business register. They may also play an important role in implementing NACE Rev. 2.

2.1 External sources

Because of existing dependencies on external registers (for example, business registration by tax, social security, Chambers of Commerce) or because of restricted capacity, it may be necessary to use and adapt these external sources to statistical needs. This process includes:

- Early warning to enable sources to implement changes at a convenient time
- Provision of instruments like explanatory notes, indexes, correspondence tables to the external sources
- Assistance with the adaptation of computer systems and coding tools
- Dissemination of information to the employees of the external source who operate the system, assign codes or audit (presentations, guides, training). This should be well-timed

This may help to prevent external sources retaining their existing classification codes and systems.

The ideal situation would be to have the administrative sources convert to the new classification **at exactly the same time** as the statistical business registers of NSI's. In this case these sources can help to determine the correct new code for a business. As far as legally possible internal NSI-codes and additional NSI-information should be handed over to the sources. In this way double work can be avoided and cooperation can be optimized.

External sources that may be important as a source of information:

- Chambers of Commerce, taxes (VAT, wages etc.), social security. (activity, existence)
- Trade associations, Yellow Pages, telephone directories

External sources are especially important for information on medium sized enterprises.

2.2 Internal sources

Like external sources, internal sources can be important to prevent unnecessary approaches to businesses. Of course internal sources should be co-ordinated in implementing and using NACE Rev. 2. So all of the available information should be investigated:

- Existing information from statistics.
- Information from profiling of the large and complex enterprises.
- Information from branch specialists of NSI within the own competence fields
- The existing (5th digit) NACE+-codes based on the old NACE may suffice to classify to NACE Rev. 2.

2.3 Existing business activity descriptions (internal or external)

Descriptions of business activities are useful for changing the classification of register units. They may offer sufficient information to make a split following NACE Rev. 2. These may be registered by external sources (e.g. Tax-office, Chambers of Commerce) or the statistical agencies themselves.

The sort of description may vary in quality, depending on the way the information is collected. For instance a combination of free text and closed boxes gives good results.

The quality of the activity description decreases after some time. Therefore it is helpful to store dates with descriptions as a quality indicator or confidence rating. Low confidence means that the entity should be contacted again.

When business activity descriptions are not directly linked to a coding system they may be held only on paper. But even then there may be a considerable saving possible in terms of response burden for businesses.

Attention should be paid to business activity descriptions of non-statistical sources. They have to contain real activity information instead of legal or statutory descriptions.

2.4 Profiling

One method for determining the correct new code for key businesses is profiling, which is defined as:

‘a method to analyse the legal, operational and accounting structure of an enterprise group in order to establish the statistical units within that group, their links and the most efficient structure for the collection of data’.

Profiling can be carried out in three ways:

- Face to face meetings: expensive but essential for the larger and more complex groups
- Other contact, by telephone, fax, e-mail or post, with details gathered to determine structures
- Using existing information for relative simple groups, where information available from administrative sources, surveys or even web-sites may suffice. Annual accounts may be helpful as well.

The number of units which can be coded by information from profiling is not high. The relative importance however is much higher because the information concerns larger units. Information from profiling could be exchanged with regular sources, if this is legally allowed.

3. Tools for surveys

Several tools can be helpful to the recoding process. Some are mentioned here.

3.1 Use of indexes

Generally speaking, using structural standardized information permits the construction and use of indexes. Indexes are alphabetical or code related digital lists and may contain both activities and/or products in a structurally presented way. The assigning of codes by using indexes is much easier. A list of activity descriptions also helps assigning codes. So when interpreting existing information on activities or evaluating that information from inquiries, indexes may be of great help to all countries.

Indexes have to be developed by the Member States themselves at NACE+-level. This means that several countries have to do some of the same tasks, especially if they share the same language. Coordination between Member States organised by Eurostat may help.

A search engine may be operated to consult indexes.

3.2 Computer aided coding systems

As was evident from the questionnaire sent to the Member States not many countries use computer aided coding, or even more advanced systems.

Although indexes with connected search systems are sometimes described as a coding tool, there are basically two types of more advanced systems:

First there are systems based on *linguistic engineering*. In this case text descriptions are related, recognising words which may be in a different order etc. This approach is highly language dependent, so with 20 languages not suitable for a common Eurostat purpose.

Secondly there are systems which use string matching. These work by storing descriptions and codes. If a description scores more than a preset value the match is accepted and the code is used. It is possible to set score levels to give different trade-offs between quality of codes and quantity of descriptions. These systems will work in all languages as long as the index is translated.

All coding tools require comprehensive metadata to build index entries. Obviously it takes much time to implement a new classification into a coding system before the results meet the required quality standards.

3.3 ‘Automatic Coding by Text Recognition’ as example

ACTR is an example of a string matching system. The system comes from Statistics Canada. It is a generalized system independent of the used classification and language. For these reasons ACTR can be adopted by different countries and utilised for several classifications (economic activities, products, professions, etc.).

To give good results ACTR has to be fed with a lot of material:

- All the headings and explanatory notes of the considered classification
- All the descriptions of the connected classifications (e.g. PRODCOM)
- Additional text from business surveys

ACTR assigns codes to descriptions and requires descriptions of activities that are as correct as possible. To be able to code, a parsing strategy is operated. Parsing means that rough input text from the respondent is adapted to text in the ACTR database in order to be able to match and to assign codes. The larger the database, the more possibilities are available to ACTR. A *transformation file* to code and recode and sufficient *disk space* are also required. It is also possible to set score levels between the quality of coding and the quantity of descriptions coded.

Conclusions about ACTR

- ACTR needs a lot of databases. This need can only be met when a register with descriptions is already operated (either by the NSI or at the sources) or all units are surveyed by questionnaires with open questions.
- For the matching, it is necessary that the database is fed with full explanatory notes of the country's own SIC, PRODCOM etc.
- ACTR can be used for other classifications if suitable indexes are created;

Although ACTR may be an excellent instrument to code units, from our point of view it is not useful to oblige countries to use such a system. Some countries will not be able to meet the standards (elaborating the database causes a lot of work), while others will already use indexes or a coding tool that do not exactly meet the standards of ACTR. Besides, emphasis should be on introducing new codes, not on the development of new instruments.

4. Theoretical issues and practical rules

4.1 Determination of the principal activity in theory and in practice

As stated in the NACE introduction, the principal activity of statistical units should be determined according to value added, where possible. If this is not possible, a proxy can be used. Several proxies are discussed in this document. There are no clear priority rules for the use of different proxies. The use of a certain proxy depends on several factors, such as the information available for the statistical unit concerned, cost-benefit considerations and the country practices. The principal activity, and secondary activities where applicable, data of all statistical units recorded in the business registers need to be coded according to NACE Rev. 2 from January 1st 2008 onwards. Although the basic situation is the same, practice varies considerably.

Value added can be used most often for enterprise groups, possibly for enterprises, but hardly ever for local units.

4.2 Use of PRODCOM data for assigning the new codes

The central problem of the implementation of a new classification is the efficient and reliable recoding of the activities of the statistical units. There is a variety of methods available, a mix of which will be used depending on the specific circumstances in the different domains. Since information for recoding the principal activity is limited but recoding has to be done before new statistical information becomes available, all available sources of information have to be used efficiently.

A possible source of information is data based on PRODCOM or a national version of it. Of course this source of information can only be used for units in the PRODCOM-survey, i.e. NACE Rev. 1.1., section C to E.

If the new CPA is implemented in the PRODCOM survey, the production values of the new NACE Rev. 2 classes can easily be aggregated. If not, the production values first have to be converted to the new coding system. Therefore it is very important that the 2007 PRODCOM list is already double coded according to the old and the new classification.

4.3 Assigning new codes to units in the register

It is a major operation to have the register populated completely with NACE Rev. 2 by January 2008. Not only enterprises have to be recoded but also local units, enterprise groups, and perhaps (Local) Kind of Activity Units (KAU/LKAU), if these are recorded separately in the registers. This recoding can be done individually, but also by estimation for groups of units.

Large statistical units are more often made to measure than small ones for instance by survey or account management. These statistical units are constructed e.g. by profiling (see C4). This personal contact and a high level of updating make it possible to assign codes on actual information of activities. From our point of view, introduction at the level of the individual unit should have first priority. It is clear though that in most countries not all units can have this VIP treatment; time and capacity are limited. So for the “1 to n” and “n to m”- cases an evaluation should be made to see if these units are important enough to spend much effort on to get the perfect main activity-code on individual level.

For units that are not statistically important, it makes sense to assign new codes on a group basis. It is possible to make an estimate based on existing expertise, information from large entities, sample surveys or probabilistic models (see E4).

A disadvantage of these methods is that it is impossible to assign accurate codes to individual units. Therefore a margin of uncertainty remains and will grow if this method is used too often. So these models should be used carefully and only in statistically less relevant areas or for small units.

This means that at the individual level, many of these (small) units may have the wrong codes, but at aggregated level codes may be of an acceptable quality.

Perhaps it makes sense to recode small units (or units in less important areas) in case of splits on the class-level by using specific correspondence tables, which only include the most probable correspondence. The decision on the most probable correspondence must be made by statistical experts, perhaps assisted by professional experts. The correct code can be verified later.

A lot of extra work would be needed for recoding secondary and tertiary activities of units. As far as recorded in the register a practical solution seems inevitable

4.4 Constructing probabilistic conversion matrixes

Because of a lack of information or resource constraints it may be necessary to use probabilistic recoding based on conversion matrixes. Probabilistic coding may give accurate register data at the aggregate level, even though individual units will not be classified correctly.

To set up conversion matrixes the following steps should be made:

1. Recode all units for which the information needed is available with a certain accuracy
2. Cross-tabulate these units by old and new code
3. Remove invalid combinations (as determined by the look-up table supplied by classification experts)
4. Calculate percentages based on the remaining data (taking care when counts are particularly low)
5. Take into account any other relevant data, e.g. if the conversion affected by the size, or some other attribute of the units
6. Create a conversion matrix based on the above, which can be a simple matrix, or a more complex one based on multiple variables.

The matrix should be tested to ensure that the results seem reasonable. It should be remembered that the conversion probabilities are likely to change over time. Therefore, it is recommended that conversion probabilities are checked and revised just before the new classification will be effective in the business register and that the units affected are recoded based on the latest possible information.

5. Realisation by surveys

5.1 Preparing for survey

As a first and very important step, a dynamic population should be made including new entries and ignoring closed units (although 'historical' units may be of importance). To prevent any unnecessary approach to units, it is helpful if all statistical departments - so not only BR - check their units.

Questionnaires have to be developed. A general questionnaire with open questions applicable to all activities may demand a lot from both the respondent and the NSI. On the other hand, a coding tool may be operated to determine the code based on this information.

A questionnaire with closed categories makes the collection of information much easier but may not necessarily result into the optimal answer. Therefore the questionnaires should be tested by laboratory research. In this way, possible answers should be foreseen, so that the “other” category will not be used frequently. In this case, instead of a coding tool an optical reading system could be effective.

The possibility to use open and/or closed questions is also dependent on the medium. By using an interactive tool like the internet, an open question can be used to determine the sector and specific questions to determine the precise activity at the required level. Sometimes both are needed to code a description.

When paper questionnaires are used, the mailing can be differentiated according to what sector is assumed for units. In this case, closed questions are used to identify precise activities, while open questions are used for unexpected or unknown activities within the sector or classifications.

Because NACE+ requires implementation in the BR, not updating the register, questions should be directed to the activities, services, products in the areas that are foreseen. This can be translated in closed questions, whereas the open parts are partly needed for corrections. TFI may coordinate the preparation of closed questions especially between countries with the same language or NACE+ structure. It may be discussed whether an ‘activity’ (part of) questionnaire could be applicable in several countries.

5.2 Surveys

A lot of surveys can contribute to the recoding process:

- Register surveys: most countries run specific surveys for the purposes of maintaining and quality assurance of their statistical business registers. These surveys are often used to check classification details. In addition to regular surveys, extra questionnaires can be sent to businesses at the time of a change of classification system.
- Product based surveys (the PRODCOM survey run for larger businesses in production industries): Information has to be treated carefully because it is based on value added
- Special surveys: In some countries other or additional surveys are held to determine the main activity of units
- Not only surveys of NSI, but also of sources (in cooperation with NSI) can attribute to the recoding process

Instead of paper questionnaires, the internet can be of great importance in surveying. Some arguments are:

- It is less expensive;
- It lowers the administrative burden;
- Codes for unexpected activities can be gathered more specifically without additional effort;
- It is easier to process the information.

Of course the result may differ because it is dependent on the levels of penetration of the internet in the economies of the Member States. This especially counts for small enterprises. Nevertheless respondents could be informed about a NSI-website where information about NACE+ 2008 can be found. Perhaps it could also contain a link to answer the questionnaire.

The simplest request would be for businesses to provide a detailed business activity description.

A strategy should be chosen to deal with non-respondents. This includes decisions on the number of reminders, the medium used (mail, telephone, e-mail) etc. Units which can not be reached or refusals can be classified by probability based models. To prevent non-response a motivating letter should be added strengthening the importance for the respondent.

How careful the approach by NSI may be, there will inevitably be some non-response (address unknown, forget to respond, meaning of questionnaire unclear).

When reminding has passed, it may be sufficient to have non-respondents phoned by a helpdesk or call centre that is instructed by the project team. This may clear misunderstandings and through personal contact the importance of the questions can be stressed.

5.3 Quality controls

Information from the surveys should be complete and correct to enable successful recoding. Especially where respondents have to specify the information it is necessary to check that this is the information needed. On the other hand it is necessary to control the codes that are assigned manually. For both reasons a specialist should check a sample of the survey population in order to establish its quality. This should be done as a regular audit. Previous to the control it is necessary to train the coding teams. Based on pilot surveys and real questionnaires, a period could be needed for detecting problems and giving coordinated and standard solutions.

Quality of coding is a major issue for the statistical departments that use the new codes for compiling statistics. Quality should be guaranteed.

5.4 Priority rules

In some situations different sources may disagree about the correct new code. It is usually dealt with by allocating priorities to the different sources depending on their perceived reliability. It is difficult to give any recommendations here. It is important to have a good understanding of the nature and limitations of each source.

Generally information from the NSI is given higher priority because it is based on own special-purpose surveys and treatment by specialists from the institute.

5.5 Recoding the business register

After having dealt with all units to be transformed, old information about these units in the register has to be adapted. Some facts to note:

- In the business register, the new coding system should be introduced in time and accepted in all programming.
- In the business register, both NACE-versions should be operational for several years. The business register and all its programming should manage this dual coding and processing of data. Dual coding is a requirement for statistical follow up and successful implementation.
- Because of the time needed to recode (one and a half years for many NSI's), some units may have ended their activities during the checking period and, more importantly, some new ones may have been registered. In the survey population this should be taken into account.
- Reference dates should be added. Changes in activity after the initial recoding can then be identified and updated. During the dual coding period it may be necessary to update both old and new codes
- Given that a lot of different procedures can be adopted, the NACE Rev. 2 code should be complemented with an auxiliary variable that shows where it comes from. In case of probabilistic imputation, the degree of reliability could be known based on the probabilistic correspondence matrix.
- It is feasible that the register can signal errors in existing codes. This may be because of mismatches between units, mistakes in coding or differences due to time-lag.

- Units that are registered after closing the surveys have to be contacted or should be dealt with theoretically. Without information a code should be given based on experience or models. Margins of quality should be taken into account. It is important to register which units were not approached but dealt with theoretically.

5.6 Treatment of corrections

Although the number of units to be surveyed should be minimised, it will always lead to correction of wrong codes next to changes of codes due to the new NACE.

Because changes in NACE take place in areas that possibly could not be described in an optimal way before, it is to be expected that a relatively large number of questionnaires will cause corrections to existing codes. These may either be a reflection of real economic changes or a correction of long existing mistakes. Because only a part of the register is surveyed, bias is created.

There are three ways to treat corrections.

As discussed it is important for statistics and National accounts to be able to back-cast and make time-series. Therefore there could be arguments to ignore corrections. They could be given a code, knowing it is not the correct one, and have statistics adapt them in time. So no extreme effect occurs.

The more optimal way is to implement all corrections. In this case, not only transition schemes from the old to new NACE should be made but, from the point of coordination, also *input-output schemes of corrections* should be constructed to alert statisticians. The importance of each correction can then be assessed taking into account the size and importance of the unit. Of course it might have (extensive) consequences for the statistical domains. On the other hand, these corrections may need to be implemented later on anyhow.

A third solution is to include all corrections in the register and leave the implementation in statistics to the statisticians involved.

If we allow quality improvements in “1 to n” and “n to m” conversions, we introduce bias in the register (units will only move out of 1 to n and n to m classes and not into these classes). The option to re-code all units would be preferable from a statistical point of view. Constraints in capacity or resources may prevent this.

It is feasible that a correct code at 5th digit or end level of the NACE+ is not always required for statistical purposes. In this case the level of statistics may suffice.

Whatever procedure is chosen, it is important to stress the relevance of transition schemes and correction tables. This separation makes it possible to evaluate the quality changes in NACE-codes per country and for the Euro-zone. When business descriptions are used to introduce NACE+ a quality statement should be provided as well.

5.7 Dual coding

It would be ideal to switch the business register at a single point in time. However this would cause a lot of problems for many register users, so a period of dual coding, with two versions of the classification simultaneously, is inevitable. The length of this period depends amongst other things on the wishes of short-term statistics and national accounts. At the moment, at least two years seem likely.

Dual coding will require extra resources. All new units and changes will have to go through a standard automatic or clerical process to assign both the old and new codes. Because of limitations on resources the use of one transition code should be preferred for the whole period of dual coding. In this case, the decision to what system the resources should be awarded does not have to be taken.

To avoid having to separately determine two codes for the same unit, the NACE Rev. 1.1 and NACE Rev. 2 codes should be integrated into a temporary transition code (sometimes referred to as a bridging code). This transition code contains the smallest building blocks from the old and the new NACE+

For example:

Life insurance 6601 old	TC Life insurance 66011	Life insurance 6511
	TC Life reinsurance 66012	Reinsurance 6520
Non-life insurance 6603 old	TC Non-life insurance 66031	Non-life insurance 6512
	TC Non-life reinsurance 66032	Reinsurance 6520

The advantages are clear. The activity has to be surveyed, coded, processed and registered only one time to get the possibility to derive two codes. But the advantage not only concerns coding to NACE as such, it may be possible to collect variables at the level of the transition code, thus making the transition easier for surveys based on the register.

The investment is a coding system consisting of the structure, explanatory notes, index, correspondence tables to old and new NACE and perhaps lookup tables for computer assisted coding. Cooperation between Member States can be very worthwhile, because the base (NACE Rev. 1.1 and NACE Rev. 2 is the same for all countries). The NACE Implementation Task Force can be used as a platform to exchange expertise and coordinate work.

6. Follow-up

As follow up the next activities are necessary:

- Plausibility-checks on the new codes in the business register;
- Possibly: improvement of transition and correction schemes
- Investigation whether the sources of the business register provide correct information;
- Adaptation of statistical domains and samples;
- Tools for computer assisted coding may be adapted again;
- Registers using the NACE+ should be informed about all these new changes;
- Evaluation, information on the results of the surveys, should be made