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ECONOMIC CLASSIFICATIONS AT THE DAWN OF THE NEW MILENNIUM

Prologue

The world economic scene has changed rapidly in recent times. The formation of economic blocs has given the economy a new direction and altered its dynamics. In the case of the bloc formed in the northern part of the American continent, the signing of the Free Trade Agreement (FTA) by the United States, Canada and Mexico made it clear, among other things, that the countries of this free trade zone need to have strictly comparable statistical information for the development of studies of competitivity, productivity, external trade, employment, market penetration and the demand for goods and services, among other subjects. A necessary condition for this is to have coherent and congruent systems which uniformly classify the economic activities of the three countries as well as the products and services available in the marketplace.

At the same time, the dizzying changes that the economy has undergone in recent decades, and particularly in the past few years, being transformed from a predominance of goods-producing sectors to an ever-greater participation by the services-producing sectors, make necessary the constant revision of the systems for classification of economic activities and of products in order to keep them up to date.

Given these considerations, in 1994 the three North American countries initiated a joint project to develop a new classification of economic activities which would be used to generate all their economic statistics. This was the origin of the North American Industrial Classification System (NAICS). With this project, Mexico, Canada and the United States sought to provide a solution to the information needs resulting from the FTA, in addition to the need for up-to-date national classification systems which efficiently replaced their respective existing classifications. In summary, the revision of the Mexican, American and Canadian classifications was driven basically by two motivating factors, their obsolescence and the fact that in a free trade zone it is essential to have truly compatible economic classifications.

To this first project was added in 1998 that of creating a classification of products (goods and services) which would also be common to the three nations. This new classification, still under construction, has been named the North American Product Classification System (NAPCS).

Since that time the three countries have coordinated their efforts to carry out these two projects, through their respective statistical agencies: the Instituto Nacional de Estadística, Geografía e Informática (National Institute of Statistics, Geography and Informatics) of Mexico, the Office of Management and Budget of the United States, and Statistics Canada, of Canada.

In addition to regional requirements, last year the North American national statistical agencies began a new project, now along with the statistical office of the European Union, Eurostat, with the aim of achieving the greatest possible degree of convergence between NAICS and NACE (Nomenclature générale des activités économiques dans les Communautés Européennes).

The statistical office of the United Nations will be following this process very closely and its results will be an important input into the next revision of the International Standard Industrial Classification (ISIC)

developed by the U.N. Other countries of Asia and Oceania are also very interested in following this process and at the appropriate moment reviewing the agreements that are reached.

All these actions are directed towards achieving the integration of the economic statistics of the three North American countries in order to facilitate the analysis of their economy and, in future, comparison with the European economy.

A single principle for the construction of a classification system

Several years of debate within the statistical agencies of the United States and Canada made it clear that the construction of an economic classification system must be based on a single principle, which would prevent the classification from being constructed by way of empirical adjustments, traditional considerations or pressure from business organisations, as had occurred with the classifications used to date in those countries. A single principle allows the creation of groupings in a systematic fashion, always following the same logic, which would help to avoid controversy and errors of interpretation. This led to the proposal to create a classification of economic activities (and later one for products) which would not only be rigorously comparable between the countries, but would also respect the idiosyncrasies of each country and which would also above all have an explainable theoretical basis that could be utilised by all users and would serve to respond to any possible doubts and complaints in a systematic and logical manner.

Two possible alternative approaches were recognised for the development of economic classifcations: that of supply, based on the production function, and that of demand, based on the market. With the supply-based approach the classification categories would be structured according to the similarity of the production functions of the productive units, that is, those productive units having the same or very similar production functions would be grouped in the same class. On the other hand, with a demand-based approach, the classes would be constructed according to the product's use.

Nonetheless, many classification systems have mixed these two principles: they have grouped some activities together because their products are complementary or near substitutes, but have also grouped others because their productive processes are similar. Cases can be found in ISIC where the production approach was used, as well as others in which products that are substitutes for each other are grouped.

Although the utility of each of these approaches is recognised, the first is useful for a certain type of analysis and the second for other types of studies. It is also recognised that they have different uses: for example, a productivity analysis may be done with data grouped according to the supply approach because similar production processes are grouped together, but it cannot be done with data grouped according to a demand approach, because although the classes correspond to products that may substitute for each other, they may result from very different production processes, so much so that it is impossible to speak of "productivity" within the grouping. In similar fashion, a study of import competitivity in the domestic market may be done with data grouped according to a demand approach, but not that of supply.

Given these two approaches and the decision that a single approach would be used as the basis for the classification system (in view of the above-mentioned advantages), it was agreed to create two complementary classification systems: one based on supply (the classification of economic activities) and the other on demand (for products).

North American Industrial Classification System (NAICS)

Thus, the three countries began to develop the first international classification of economic activities constructed explicitly according to a fundamental principle of aggregation: the *production function.*[1] Without this guiding economic concept, each country would have defended its own traditional way of grouping or classifying economic activities.

According to this theoretical principle, the economic units which have similar production processes are classified in the same activity class. This allows collection – at the same time and in a single producing unit – of information on inputs and products and consequently makes possible studies that require the information to be available all together: analyses of productivity, employment, unit labour costs, and so on. Hence the three countries agreed to create a classification system whose basis would be production-oriented (or supply-based), to ensure that the statistics generated with this system would be of maximum utility for the purposes that had been set.

It was agreed to pay special attention in the new classification to the development of classifications of activities related to: *a)* new and emerging economic activities; *b)* service activities in general, and *c)* activities dedicated to the production of advanced technologies.

Part of the agreement was to do everything possible so that the new system of classification of economic activities would be comparable with the second level of the current International Standard Industrial Classification (ISIC, revision 3), of the United Nations, considering that there is interest in establishing international comparisons. This means that, in most cases, each five-digit NAICS category is contained in a single ISIC-3 division. Therefore, for comparison purposes, the six-digit categories of the NAICS classifications of each country can be regrouped to provide information at the two-digit level of this U.N. classification.

Organisation of the project

Committees were set up in Mexico, the United States and Canada to develop NAICS. Representatives of the three countries established permanent communication and held periodic meetings; the project managers of each country met mainly to discuss the general outline of the work and to formalise agreements, whereas the meetings of the specialised working groups discussed the respective proposals for specific parts of the classification, continued the exchange of information and resolved questions.

The constant exchange of information and opinions allowed the gradual development of proposals which, once accepted by the three countries, were formalised by the signing of agreements.

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[1] The aggregations were made on the basis of the similarities among establishments with respect to their production function or production process, where this refers to the different combinations of factors, raw materials, techniques, production machinery and equipment, personnel with varying degrees of specialisation, facilities, etc., that are used in the economic units to generate a good or provide a service.

Unfolding of the project

The NAICS project, as a classification system that was to reflect all the economic activities of North America, needed from the beginning to build bridges between the classifications then in force in each country of the region. The first step consisted in the development of comparative tables[2] among the three classifications. For this work the countries took their respective national classifications as their starting point.

Having these tables as a supporting point, the stage of developing proposed categories for the new classification was begun. Each proposal was the result of an analysis of the information obtained in the tables, of in-depth research into the theme (bibliography, Internet, visits to establishments, interviews with experts in research centres, universities, association and business organisations, review of the results obtained in censuses and surveys) and of the evaluation of national information needs and the possibility of publishing information (care was taken, for example, that no confidentiality problems would arise in the future because the number of establishments was below that at which the law allowed publication of results). In Ottawa in December 1996, the statistical agencies of the three countries signed the 31 agreements which put into place the major part of the definitive structure of the three-country classification, although some definitions still needed to be clarified and the development of the fifth level, specific to each country, had not been finished.

With the structure corresponding to the three-country classification practically finished, the next step was to consolidate a more detailed structure, below the five-digit NAICS level, to meet national requirements and express the particularities of the countries participating in the work. A fifth level, of six digits, was added to the three-country classification for categories created independently by each country. The only restriction, established with the goal of ensuring full comparability among the countries, was that the additional detail could be regrouped at the fourth level of the new classification system. This final stage concluded at the end of 1997.

Results of the project

As may be seen, the design of the NAICS structure considered a common part among the three countries and a specific national part. In other words, it is an international classification with three national versions. The resulting national classifications received the names of NAICS Canada, NAICS United States y SCIAN México.

Because of the degree of comparability achieved (see table of comparability among the Mexican, U.S. and Canadian NAICS classifications), NAICS is a major step in the development of the region's statistical systems, since it will allow more and better studies for this zone of the American continent. A high degree of comparability was reached in 15 of the 20 sectors. At the highest level of aggregation, all sectors can be

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[2] These were indispensable to specify the differences, points in common and points of difference between the three countries' classifications. The work of comparing activity classes made it possible to see in detail how the activities were carried out in each country, to determine their degree of importance, of diversification, which ones were exclusive to a single country, to have a clear vision of the organisation of their establishments and to quantify the impact the definition of each category of the new classification would have on the national classification.

compared among the three countries. At the next three levels, the comparability drops to 73%, 76% and 74% for subsector, industry group and industry, respectively, because in some sectors (22, Electricity, gas, water and gas distribution by pipeline to the final consumer; 93, Public Administration and International and Extra-territorial Organisations) the characteristics of the economies show substantial differences that it has not so far been possible to resolve. to varying degrees, lesser differences in other sectors prevented reaching total comparability. Time was also a factor in reaching the goal in the case of the two Trade sectors and in Construction, in which progress has continued, although agreement on the classification has only been reached for the highest aggregate level.

TABLE I. *Comparability between the Mexican, U.S. and Canadian classifications*

Code	Sector	Sector	Subsector	Industry Group	Industry
11	Agriculture, Forestry, Fishing and Hunting	100	100	100	100
21	Mining (and Oil and Gas Extraction)	100	100	100	100
22	Electricity, water and gas distribution by pipeline to the final consumer (Utilities)	100	0	0	0
23	Construction	100	0	0	0
31-33	Manufacturing	100	100	100	99
43	Wholesale Trade	100	0	0	0
46	Retail Trade	100	0	0	0
48-49	Transportation and Warehousing	100	100	100	100
51	Information and Cultural Industries	100	100	100	100
52	Finance and Insurance	100	100	60	8
53	Real Estate and Rental and Leasing	100	100	100	79
54	Professional, Scientific and Technical Services	100	100	100	100
55	Management of Companies and Enterprises	100	100	100	100
56	Administrative and Support, Waste Management and Remediation Services	100	100	89	96
61	Educational Services	100	100	100	58
62	Health Care and Social Assistance	100	100	100	100
71	Arts, Entertainment and Recreation	100	100	100	100
72	Accomodation and Food Services	100	100	100	100
81	Other Services (Except Public Admistration)	100	100	33	35
93	Public Administration and International and Extra-territorial Organisations	100	0	0	0

Note: The shading indicates the levels at which the structure is the same for those countries; the number within each level indicates the percentage of the categories which are comparable among the three countries.

The construction of NAICS was achieved in spite of the fact that the economies of the three countries have different structures, very different levels of development and different dynamics. Often an activity was not economically significant to the same degree in the three countries (one example: in Canada there are few establishments that manufacture batteries and this prevented the creation of separate classes for battery manufacturers and accumulator manufacturers. Another example: a broad NAICS class was created for manufacture of electronics components because any subdivision in this field meant that, for reasons of confidentiality, Canada and Mexico would not be able to publish results, although in the United States this industry is very developed and could easily be subdivided into several parts, as was done in the national NAICS categories for that country)

The unequal ways in which the Canadian, American and Mexican establishments are organised also constituted an impediment to further disaggregation. Concerning, for example, clothing manufacturing, the distinction could not be made by sex, as requested by the United States and Canada – which require separate statistics on the production of men's and women's clothing – because in Mexico the distinction among clothing manufacturers is basically according to those who make children's clothing and those making clothing for adults. Consequently, the activity classes were very few.

To resolve these differences, a practical principle was added to the theoretical principle of the production function: if one activity was distinguishable from others in terms of its production function but turned out to be too small in one of the countries – in terms of economic importance and frequency of appearance of the units – for data to be published on it, that activity would have to be grouped with others whose production function was similar; later, those countries which could publish information on that activity would open the resulting grouping within their national classification. Two exceptions to this principle arose when: *a)* an activity that was too small in one country had strong expectations of growth, and *b)* an activity simply did not exist in one country, nor have the possibility of existing, while it was important in another country. In those two cases a NAICS industry was opened.

The result in figures was a classification with five levels of disaggregation: sector, subsector, industry group, industry and activity class (national industry). Although it cannot be said that the changes made with respect to the previous national classifications are the same for the three countries, the 20 sectors which make up NAICS represent much greater detail than that which existed in the three national classifications used as the starting point of the project, particularly with reference to services. The NAICS structure contains 13 sectors dedicated to services, not including the two trade sectors. This greater division shows the economy's recent restructuring, the increase in the importance of certain activities and the disappearance of others; among other phenomena, it reflects the "tertiarisation" of the economy.

The new classification of economic activities represents an advance in the theory. This development is expressly based on a single aggregation principle and recognises that there are activities which do not fit into the traditional classification (activities which are usually classified in goods production or services production) and therefore require a new treatment. It is through this new approach that the Information sector arose, covering the activities of those establishments which mainly create and disseminate products protected by copyright. From this novel point of view, the characteristics of the products of these activities cause a transformation of the traditional forms of distribution of the products. Information products are not always associated with single or tangible forms: for example, *software* may be contained on a diskette, included within a computer or available on-line. The intangibility of these products makes it possible to change the traditional order in which the product first takes physical form and is then

distributed. With information products this order may be inverted. Also, these products are easily reproducible and do not require direct contact between producer and consumer. These and other characteristics led to the extraction of activities related to information from the other sectors, bringing them together in a specific sector with an unconventional treatment.

As previously mentioned, the most important changes occurred in the service area. In services there was considerable disaggregation, beginning with the increase in the number of sectors. At the most detailed level classes were opened for activities such as cellular telephony, studio recording, services of advertising time and space resale agencies, distribution of advertising material, translation and interpretation services, temporary employment services, supply of permanent staff, collection of hazardous waste, document preparation, packaging and labelling, organisation of conventions and trade and industrial fairs, services of family planning centres, ambulance services, services of organ and blood banks, services of day-care and assistance centres for the elderly and the handicapped, community food services, dance company services, services of professional and semiprofessional sports performers, services of hotels with other integrated services, casino services, and many more.

The changes in the remaining sectors are less important than those made in the services area. For example, manufacturing underwent changes associated with the relocation of activities such as publishing, which had traditionally been classified here and which has now passed to the Information and Cultural Industries sector. Newly created manufacturing classes are fabrication and reproduction of magnetic and optical media, manufacturing of electrical conducting cables, manufacturing of machinery and equipment for the rubber and plastics industries, manufacturing of buses and trucks, among others.

NAICS has already been put into practice in the three countries. It was used by Canada in its annual economic statistics surveys for the reference year 1997, and in Mexico and the United States in their economic censuses for reference years 1998 and 1999, respectively. The implementation of the classification has repercussions on the time series of the various national surveys, but in exchange, comparability will have been achieved for the countries of North America, as well as greater detail in the classifications and the certainty of reflecting the current structure of the economy.

There is a determination among the three countries to release an updated version of NAICS every five years. This update will be the result of an ongoing revision of NAICS, which has been made possible by the research work and interchange among the three countries. The first updated national versions of NAICS will be published in 2002 and will contain the changes made to sectors 23, Construction and 51, Information and Cultural Industries.

North American Product Classification System (NAPCS)

Overview

In the initial phase of NAICS development, there was considerable discussion of the economic concept that was to form the foundation of the industry classification system. In a series of issues papers and reports, the partners in NAICS discussed the merits of both the production function based and demand based classification criteria. It was widely recognized that both conceptual criteria had significant usefulness though for differing purposes. NAICS settled on the production function approach for the industry classification, but recognized the need for a demand-based classification covering the products or transactions that occur in our economies. In 1994, the announcement of the NAICS initiative also contained a commitment to improve the detail available for market oriented analysis.

This commitment developed into the North American Product Classification System (NAPCS) initiative. The goal of NAPCS is to create a complete product classification system that is: 1) not industry of origin based; 2) can be linked to the NAICS structure; 3) is consistent across the three North American countries; and 4) promotes the identification and classification of service products while taking into account existing systems, such as the Central Product Classification (CPC) of the United Nations. In many respects, this is a more significant and labor intensive undertaking than the development of NAICS. While there are various product classifications, such as the CPC, NAPCS is an attempt to start from scratch, focusing initial efforts in service industries without detailed data for quantitative analysis. Products are much more detailed than the broader industry classifications. Each country, while possessing rather extensive industry expertise, needed to develop new or additional product expertise.

The development of NAPCS began at a kickoff conference in February 1999 and is structured around three phases. Phase I was designed to study the practicality of creating a product classification and to develop and test the working procedures for the three countries. Because of the relative lack of detail in services data as opposed to manufacturing data, Phase I selected four NAICS Sectors outside of manufacturing for study. These Sectors were: 1) Sector 51, Information; 2) Sector 52, Finance and Insurance [although Insurance was not included]; 3) Sector 54, Professional, Scientific, and Technical Services; and 4) Sector 56, Administrative Services and Waste Management and Remediation. Each of these sectors was newly created in NAICS and did not have a counterpart in prior industry classifications.

Phase II, scheduled to begin this year, will address four additional service groupings: 1) NAICS Sector 48-49, Transportation and Warehousing; 2) Sector 61, Health Care and Social Assistance; 3) Sector 62, Education; and 4) Sector 71, Arts, Entertainment and Recreation combined with Sector 72, Accommodation and Food Services. Phase II will build on the experiences of Phase I and is scheduled to be completed by mid-2003. Phase III will then begin, covering the balance of service industries and also explore the feasibility of creating NAPCS products for manufactured goods. Phase III is scheduled to be completed in mid-2005.

Process

As a new undertaking for Canada, Mexico, and the United States, the development of a comprehensive product classification system required exhaustive research regarding the demand based concept to be used, development of basic guidance regarding the definition of a product, proposed work processes, organization, and scheduling.

The objectives of the NAPCS project, as described in a Federal Register notice in the United States:

The aim of the product classification process should be to identify, define, and classify the final products produced and transacted by the reporting units within each industry. The final products of reporting units in an industry are those that are created and transacted (sold or transacted) by the reporting units to economic entities outside of the individual reporting units.

To correctly define the product(s) of a service industry it is essential to specify exactly what the producer agrees to sell and what the customer agrees to buy. That is, a determination must be made of what is implicitly or explicitly "contracted for" when a transaction takes place. Further

it is important to distinguish between the output the industry produces and the activities carried out by the industry to produce the output.[3]

By defining products as the final output of reporting units, it became clear that the NAICS structure would be a logical way to organize the study of products. While the structure of NAICS is being used to organize the work, it must be restated that the NAPCS system will not be industry of origin based.

Canada, Mexico and the United States each created four subject subcommittees using a process similar to the successful subcommittee structure that was used in NAICS. The subcommittees were charged with identifying and listing out products for the industry area assigned. In addition to representatives of the various statistical agencies, NAPCS subcommittees aggressively sought out the advice and assistance of industry experts and advisors from the private sector. The industry advisors were instrumental in explaining how companies and establishments in various industries produced services products, and perhaps more importantly, how financial records are kept. These lists were developed in each of the countries with the aid of industry advisors and then discussed jointly in a series of meetings from 1999 through 2000.

The idea of a demand-based concept is easy to grasp on the surface, but when applied in a comprehensive manner a number of problems or inconsistencies arise. Demand can be strictly defined as substitutes in consumption or possibly compliments. Neither substitutes nor compliments apply across the board. To facilitate the process, each of the subcommittees used a logical or natural grouping structure to create separations within the large lists of products. Below the higher level groupings applied to the lists of products, the subcommittees developed lower level groupings or products that were identified as trilateral products (comparable across all three countries). In addition, each country generated national detail that addressed particular needs below the trilateral level.

Results and Testing

The preliminary results from Phase I of the NAPCS initiative are very encouraging. To date, 80 NAICS industries have been studied and over 800 trilateral products have been identified. This represents a 10-fold increase over the detail that is available in the industry classification. Almost 60 percent of the 1400 groupings and products identified are comparable for the three countries. While this may not prove to be reflective of the overall results in the future, the potential for better understanding our economies through more detailed service statistics within our individual economies and across our national boarders represents a major advancement in economic statistics.

To realize the potential of the work, data must be collected using the results that have been generated from NAPCS. In its 2002 Economic Census, the United States Census Bureau is going to test the collectability and publishability of the NAPCS products. In addition to the test in the Census, the Services Annual Survey of the US Census Bureau is going to include questions regarding information and computer services products in their 2001 survey.

The input from industry advisors regarding record keeping practices and appropriate terminology for products should provide a sound basis for a successful test of the products. The resulting qualitative and quantitative data will allow further development of products and a product system using proven practices.

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[3] See Federal Register notice, April 16, 1999

In addition to the testing in the US Economic Census, results from NAPCS have been forwarded to the United Nations as proposals for change in several areas of the CPC. The United Nations will soon consider recommended changes to the telecommunications products in the CPC based, in a large part, on the results of NAPCS.

Improved service data for the NAPCS partners can also be parlayed into better data worldwide.

Future Plans

The medium term goals for the NAPCS initiative are to develop a conceptual consistent demand based aggregation structure to unify the results of the individual subcommittee efforts. By mid-2005, our goal is better coverage of all service products and a preliminary evaluation of the feasibility of also including manufactured products in the system.

While the task of developing a demand-based structure is daunting, the participants in the project are moving forward with the effort. The structure will be developed with the understanding that no single aggregation system is "right" and that no single aggregation system is going to meet the needs of all users. The detailed trilateral products and resulting data will allow data users to aggregate micro-product data using any structure that meets their particular needs. The formal structure of NAPCS will attempt to group products in ways that are determined to have broad application.

Convergence of industrial classification between NACE and NAICS

The heads of the statistical agencies of Canada, the European Union and the United States have signed an agreement concerning a project on the convergence of NAICS and NACE. Under the terms of reference of this project, a working group has been tasked to:

1. Assess the technical and resource implications of bringing about convergence
2. Examine what changes would be required to the detail of NACE/ISIC to be able to produce data equivalent to the proposed NAICS 2002 definition of the Information Sector and assess the possibility of making those changes.
3. Agree on the areas and extent of change to both NAICS 2002 and NACE considered necessary for 2007 and outline possible approaches/scenarios to bring about convergence.

The officials have now met three times, in Luxembourg in May 2000, in Ottawa in September 2000 and in Washington in November 2000. A further meeting is planned in Mexico is February 2001.

To launch the process, certain basic agreements were reached. First, it was ascertained that there were no fundamental conceptual differences standing in the way of convergence. If agreement had not been reached on these basic principles, convergence could not be achieved and there would be little point in pursuing more detailed examination of differences. Secondly, agreement was reached on what is meant by convergence. While all can agree that convergence means making both classifications more similar to each other than they currently are, there can be differences in degree in the expectations of what this particular convergence project can be expected to achieve. Finally, agreement was also reached on the level of the two classifications at which convergence would be sought.

This paper presents the working group's consensus on each of these three fundamental questions. It will describe the conceptual differences between NACE and NAICS and justify the conclusion that these are not insurmountable. It will provide a working definition of convergence for the purposes of this project and it will propose the level of detail at which this convergence should be sought.

Conceptual differences:

A number of conceptual differences between NACE and NAICS were identified. The first of these is the supply-side conceptual basis of NAICS, which establishes the production process as the main determinant for grouping economic activities. This principle is one of the hallmarks of NAICS and there would be no room for compromise on its application in the convergence project. Even though it was recognized that there was no single principle underlying NACE, and that this was a difference with NAICS, in practical terms, the classification structures of NAICS and NACE are quite similar and, where they are different, a pragmatic approach could be adopted to make them converge. The adoption of the production process principle provides a firm basis for making classification rulings and more rigorous guidance for the ongoing development and maintenance of the classification. As such, having such a principle is a desirable feature of a classification and its application will be considered in the convergence project.

A second difference between NAICS and NACE is the frequency of revisions. The NAICS partners are committed to a 5-year revision cycle, in recognition of the rapid evolution of economic activities in the North American economies. Tying the two classifications together would imply harmonizing the periodicity of their revisions. Consensus was reached that given the pace of changes in the economy, there was a requirement for evolutionary changes to selected sectors in both classifications at reasonably frequent intervals.

Major areas of differences in the classifications were identified: the NAICS Information Sector, the treatment of repair and maintenance, of wholesale and retail trade, of ancillary units, and of units engaged in more than one activity. In the case of the Information sector, there was already a commitment on the part of Eurostat to accept the NAICS Information Sector as an alternative aggregation. Changes required to the detail of NACE/ISIC to be able to produce data equivalent to the proposed NAICS 2002 definition of the Information Sector have been identified and assessed. Proposed changes have been presented to the UN for adoption in the 2002 update of ISIC Rev 3. None of the other issues present insurmountable obstacles to convergence.

Convergence options

Two categories of needs can addressed by convergence: those of analysts interested in transnational studies and comparisons, and those of organizations, enterprises or institutions, which code their constituent units, clients and/or suppliers according to industry. While the former could be satisfied by better concordances between the two classifications, the latter would be better served by the adoption of a common structure and coding for both classifications.

These two fundamental forms of convergence, the adoption of the same structure or an improvement over existing concordances between NACE and NAICS, form the basis of the analysis conducted by the working group. The objective of the better concordance form of convergence would be the establishment of 1 to 1 links between NAICS and NACE, with minimal "noise", at an agreed target level of the classifications.

Each of these approaches could be applied at various levels of detail of the classifications: at the top level only; at the most detailed level (defined for this purpose as the level at which the 3-country NAICS is harmonized, representing 478 classes) or at some middle level.

Together, these dimensions form a 2x3 matrix, yielding 6 possible options.

Same structure	Better concordance
Top level	Top level
Mid-level	Mid-level
Detailed level	Detailed level

The group agreed to define two variants of the middle level. Both would be constrained at the bottom by the 3-country NAICS level, as foreseen for 2007. For example, if it were foreseen that the lowest level of NAICS harmonization in Public Administration will be at the 2-digit level, then NACE-NAICS convergence would also go to this level only. The first middle level variant would be at the NAICS sub-sector – NACE division level, representing approximately 100 classes. NACE rev.1 only has 72 divisions currently but Eurostat has expressed a desire to increase this number. The other mid-level would be at the NAICS industry group – NACE group level, for approximately 300 classes. This also represents the level at which a relationship would be established with ISIC rev. 4 and proposals will be made to the United Nations in this respect. Finally, a hybrid level combining the mid-level and the detailed level for, at minimum, the Information sector, and other sectors as identified, was defined. Each middle level option includes the higher levels of the subject classifications. For example, the same structure-middle level 100 class option implies that the top level is harmonized.

The pros and cons of each option were assessed and the approach to convergence that is considered most feasible is a hybrid one in which the aim would be to achieve the same structure at a top level as well as at a mid-level of about 300 classes. At the lowest or most detailed level composed of the 478 classes at which 3-country NAICS is harmonised, an effort would be made to improve the concordance. To attempt to adopt the same classes at the most detailed level would require an unacceptable amount of change. For some sectors, such as Information, similarity would be achieved down to the lowest level, whereas for others such as Public Administration, harmonisation would remain at the highest level, as is the case in NAICS.

Representatives of Mexico and the United Nations have now joined the Working Group, which at its November meeting established a detailed work process for the analysis of the technical and cost implications of the convergence scenario outlined above. The results of this analysis will be presented in October 2001. A period of consultation and negotiation will follow, with each party's constituencies, and between the parties. Agreements on accepted changes will be reached by 2005, for incorporation in the 2007 versions of ISIC, NACE and NAICS.

Conclusions

Our world is becoming smaller as the reach of telecommunications increases. This progress opens our economies to new commercial possibilities. Telecommunications, computer technology and other technological advances are universal as they are developed in such a way as to be compatible between nations, and beyond regional boundaries. If, for example, each country developed its own telephone system, there would be no guarantee that the national systems could communicate with each other.

Historically, our efforts to develop economic statistics and classification systems have been appropriate. We developed systems that satisfied our individual requirements and that corresponded to the specific nature of our economies. The recent initiatives regarding NAICS, NAPCS and the convergence with ISIC and NACE represent a new step in the development of international standards for economic classification. Throughout the world, all nations now recognize not only their differences but also the need for comparability. In the last six years, Canada, Mexico and the United States have worked together to develop classification systems that meet the needs of each nation and that also provide the comparability that is required.

NAICS and NAPCS represent an advance in the development of the statistical system of each of the three countries and at the same time a step towards the study of economic integration in the region. Even in the face of large and evident differences in the economies of Mexico, Canada and the United States, a new classification system for economic activities was developed in a short lapse of time. This system recognized national differences at the detailed level of the classification while maintaining comparability at a higher level in accordance with a prior agreement. This flexibility - accepting that in certain areas comparability would be at the five digit level while in others it would be at higher levels of aggregation – and the adoption of common rules allowed the construction of a uniform regional classification, at a considerable level of detail, of great value as regards the objectives that each participant in the project had set for itself.

The NAPCS initiative, which builds upon the experience gained in NAICS, will greatly increase our understanding of the changes in our national economies and will establish the accepted standard that will allow comparisons beyond our borders.

The improved comparability with Europe and the rest of the world achieved through our efforts will benefit our national statistics, maximize the effectiveness of our resources and establish the basis for the type of global standard that will promote better understanding and communications regarding our economies.

The progress achieved in the northern zone of the continent constitutes an incentive for seeking convergence in other regions. Now, we are working towards convergence with Europe. Would it not be the time to seek greater convergence within all of Latin America?