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REVISING AND IMPLEMENTING THE 1987 UNITED STATES
STANDARD INDUSTRIAL CLASSIFICATION SYSTEM

by

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on
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INTRODUCTION

The United States Standard Industrial Classification (SIC) system is an important tool which promotes comparability of statistics describing the status of the United States' economy.

I approach this paper from the perspective of one who has spent the majority of my career involved in and working on industry and commodity classification problems and issues. As a member of the Office of Management and Budget's Technical Committee on Industrial Classification (TCIC), I spent 10 years involved in a number of revisions to the U.S. SIC. Through this work, I have become keenly aware of the numerous detail problems that exist in the classification system. Many of these problems have resulted from the approach used in the development of the standards and the manner used in implementing and administering the system.

The purpose of this paper is to describe the revision process used in the 1987 revision; shortcomings in the revision process; the method used to implement the system; and ideas on the direction the SIC may take in the future.

In order to fully understand the U.S. SIC system, one has to have a historical perspective of the purpose and objective and the pitfalls inherent in developing classification systems.

HISTORICAL BACKGROUND

Standardization of the United States Government Industrial Classification originated in a recommendation at an interdepartmental conference on industrial classification held in 1934. This recommendation was transmitted to the Central Statistical Board to explore the problems of industrial classification of statistical data. In 1937, the Central Statistical Board established a committee on industrial classification, including a number of Federal agencies, to develop a plan of classification of various types of statistical data by industries. A major goal of the committee was to promote the general adoption of such classification as the standard for the United States Government. This committee, at its first meeting on June 22, 1937, established a technical committee to work on the preparation of the proposed standard classification of industries.

Standardization in the field of classification was an important objective, since various agencies collecting industrial data used their own classification. Thus, the classification of a unit in one government agency sometimes differed from that of a second government agency. Such a situation made the comparison of industrial data prepared by different agencies difficult and often misleading. For example, industrial production data collected by one government agency could not be compared on a sound basis with employment data collected by another, since neither conformed to a standard definition of the industry involved.
The initial project of the first technical committee was to classify "industry" in the broad terms which reflected all economic activity such as agriculture, forestry, and fishing; mining; construction; manufacturing; transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services.

The technical committee worked first on manufacturing and in June 1938, a list of industries was accepted by the interagency committee. At the same meeting, this committee discussed classification problems in the nonmanufacturing area. It was decided to establish subcommittees of experts in various nonmanufacturing areas to prepare proposed classifications. The technical committee coordinated the work of the various subcommittees in the nonmanufacturing area. The technical committee reviewed suggestions and criticisms on the drafts of the classification and submitted a final report to the Central Statistical Board. Finally, from 1938 to the present, the technical committee has periodically reviewed and revised the standards. The first revisions of the Standard Industrial Classification occurred for manufacturing and nonmanufacturing in 1945 and 1949, respectively. The manufacturing and nonmanufacturing were individual books until the 1957 revision, when both manufacturing and nonmanufacturing industries were combined into one book.

Since the 1957 revision, the Standard Industrial Classification has been revised a number of times--in 1967, 1972, 1977, 1982, and 1987. Generally, the Standard Industrial Classification is revised every 5 years prior to the economic censuses. However, the 1982 SIC revision was not implemented because of budgetary constraints, though much of the revision work had been completed.

Through each revision, the purpose of the U.S. System has remained the same:

- Promote comparability in the presentation of statistical data collected by the Federal and state governments, trade associations, and private research organizations;

- facilitate the collection and presentation of economic data; and

- cover the entire field of economic activity.

In addition to the purpose, the TCIC developed and followed a number of classification principles:

- The classification should conform to the existing structure of American industry;

- the establishment is the unit of observation;

- each establishment is to be classified according to its primary activity;
to be recognized as an industry, the group of establishments must be statistically significant in terms of the number of persons employed, the volume of business conducted, and other measures of economic activity; and

- the group of establishments should be homogeneous with respect to the type of activity in which they are engaged and should account for a significant portion of that activity.

The set of principles that governs the U.S. system has remained constant throughout the most recent revision. At the time of each revision, the TCIC has developed principles and procedures for the review and maintenance of the SIC system. These principles and procedures were used as the framework for the review and revision process. Now let us turn to principles and procedures used for the 1987 revision.

PRINCIPLES AND PROCEDURES

Purpose and Principles of Classification

The principles and procedures describe the purpose of the system, principles of classification underlying the system, the purpose and scope of the review, and guidelines for reviewing the proposed changes in the classification. As I stated earlier, the purpose of the system and the principles of classification have remained the same since the beginning; however, the purpose and scope of the review and the guidelines for reviewing the proposed changes have varied from revision to revision.

Purpose and Scope of Review

The SIC is reviewed and revised periodically to reflect the changing structure of the U.S. economy. The revisions are to take into account the technological changes and the growth and decline of individual industries. They may include changes in industry detail or coverage, improvement to industry definitions, the clarification of classification of individual activities, or even changes in structure. It is the changes in structure that occur less frequently.

Guidelines for Reviewing Proposed Changes

Structure of the Classification

The overall structure is a general purpose framework which can have its 4-digit detail rearranged for various analytical purposes. For the 1987 revision, the proposed changes had to be designed to fit within the current structure with the minimum disruption to the existing configuration.
For example, a change which consists of breaking one 4-digit industry into two or more industries within the same 3-digit industry group is easier and generally less expensive than a change which affects 3-digit groups, particularly if this in turn affected the 2-digit or divisional groupings. Although this guideline did not preclude changes to the basic structure, strong justification was required that reflects changes in the economy and not simply a different view of what the basic structure should be.

**Historical Continuity**

Maintaining the continuity of the U.S. major federal statistical series was another important consideration in evaluating proposed changes in the SIC. Changes that result in weakening principal economic indicators or that necessitate costly backward revisions of time series required very strong justification before being accepted.

**Economic Significance**

To be recognized as an industry, a group of establishments had to have economic significance measured in terms of the number of establishments, employment, payroll, value added, and volume of business (value of shipments or receipts).

Values for the "average" industry were calculated by division (manufacturing, construction, retail trade, etc.) for each of the five factors. These values were used in evaluating the economic significance of a proposed SIC industry by comparing the industry as illustrated in Attachment A. For each factor, a proposed industry was assigned points. The number of points was equal to the value of the factors for a proposed industry as a percentage of the value for the average industry.

The number of employees and the value added were considered more significant and reliable measures of industry importance and therefore were given double weight in calculating the final scope.

Attachment A presents calculations for a proposed potato chip and similar snack industry in manufacturing. The final scope for this industry is 59 (column E total divided by column D total).

In general, a score of at least 20 was needed to warrant recognition as a new SIC industry, while an existing SIC industry could be retained if it had a scope of at least 10. In some cases, industries with a score of less than 10 were retained if a strong justification could be made. This occurs primarily in mining. This 1987 review was based on 1982 Economic Censuses data. Value added was only available for manufacturing. In Finance, Insurance, and Real Estate, very little information was available, and only estimates were used.
Specialization and Coverage

In order that an industry properly reflects the activity being measured, the output of the establishments in the industry should:

- consist mainly of the goods or services defining the industry, and
- account for the bulk of the specified goods and services provided by all establishments.

For manufacturing industries, these factors were measured by the primary product specification ratio and the coverage ratio. This division was the only area for which these ratios could be calculated.

The primary product specifications ratio indicates how much the establishments in a given industry concentrate on the activities that define the industry. This ratio is calculated by dividing the value of the primary product shipments of the establishments classified in the industry by the value of all shipments (both primary and secondary) for the same establishments.

The coverage ratio indicates the volume of shipments of products which define the industries that are accounted for by establishments classified in the industry. The coverage ratio is the proportion of the products defining the industry shipped by establishments classified in the industry to total shipments of these products by all manufacturing establishments.

A 4-digit SIC industry had to have a minimum primary product specification of 80. The minimum for the coverage ratio is generally 70 for establishments producing for commercial sale. This could be reduced for some industries having significant interplant transfer or production for use within the same establishments (e.g., Gray Iron Foundries, Iron and Steel Forgings) or for industries producing the same final products as another industry but made from materials that are at a more advanced stage of processing (e.g., blended and prepared flour).

Other Statistical Considerations

In addition to the criteria mentioned above, special considerations were given for the following reasons:

- industries that fall slightly short of one of the criteria but were growing rapidly;
- industry changes that increase comparability of the U.S. SIC with the United Nations' International Standard Industrial Classification; and
- industrial classification that increases the capability for assessing the impact of
international trade on domestic industries such as the Harmonized System.

Administrative Considerations

In addition, TCIC review proposed changes in terms of cost and impact on government programs. The cost to the government, as well as cost and burden to businesses that furnish data to the government, was a major consideration in evaluating the proposed changes in the SIC. The ability of government agencies to classify, collect, and publish data on the proposed basis was also a major consideration. Finally, the proposed industry had to include a sufficient number of companies so that the industry data could be published without disclosing information about the operation of individual firms.

REVISION AND MAINTENANCE PROCESS

The principles and procedures were prepared and published in a Federal Register notice in early 1984 for proposed amendments to the 1972/77 edition of the SIC. All proposed changes were to be submitted to the TCIC no later than October 1, 1984. As a result of this notice, the TCIC received over 1,100 proposed changes to the SIC.

Each proposal had to contain a description of the proposed change and statistical evidence that proposed changes met the criteria set forth in the principles and procedures. Upon receipt of the proposals, the TCIC set up several subcommittees to review proposals in a given area, (for example, agriculture, mining, manufacturing, and so forth). In addition, the TCIC set up a Subcommittee on Coding and Interpretation whose responsibility it was to draft the language and index items, after the fall committee had approved the proposed changes.

After all changes had been made, the TCIC published the proposed changes in the Federal Register for comment. There was a 60-day public comment period and a public hearing at the end of that period.

At the same time, the various data collection Federal agencies were requested to assess the cost of implementing each one of the industry changes. This assessment was submitted to the OMB. Based on the public comment and the cost assessment from the Federal agencies, the OMB made the final decisions. The SIC revision process was involved and time consuming. The 1987 revision of the SIC took over 3 ½ years from the initial announcement of intent to revise the manual until the actual publication of the 1987 edition. (See Attachment B.)
HIGHLIGHTS OF THE 1987 SIC REVISION

The 1987 SIC revision has resulted in a net increase of 19 industries for Services (Division 1), eight for Wholesale Trade, and seven for Manufacturing, with a net decrease of 34 for other SIC divisions. Attachments C and D present the number of 2-digit, 3-digit, and 4-digit classes for both the 1972/77 and the 1987 SIC manuals.

Deleted industries were merged into other industries, and new industries were created by subdividing or restructuring existing industries. Various industries were also changed by transfers of individual activities, primarily to increase data classification accuracy, consistency, and usefulness, or by renumbering to change the existing 3-digit structure.

Most of the industries that were deleted no longer meet the economic significance criteria for continued recognition as a separate industry. However, a few industries were deleted because the number of companies represented by the establishments classified in the industry was so small as to cause disclosure problems in publishing data or because the distinction required caused difficulties in classification.

As a supplement to other proposals submitted, the revision process included a comprehensive review of Transportation (Major Groups 40-47), Communications (Major Group 48), and Finance (Major Groups 60-62 and 67) to identify revisions needed due to changes in technology and government regulations.

As indicated earlier, basic revisions occurred in Water Transportation (Major Group 44) and in the structure of Banking and Other Credit Agencies (Major Groups 60-61), in particular, to recognize changes in depository regulations. In addition the decisions include the recognition of new industries for cable and other pay television (from 4833 and 4899) and radio-telephone communications services (from 4811). The growth of computer-related activities has resulted in a number of new industries. Several new industries were recognized for computers and computer peripheral equipment in Manufacturing (from 3573). There were new industries for the sale of computers and computer peripheral equipment and software in Wholesale Trade (from 5081) and Retail Trade (from 5732). Computer establishments are classified in Wholesale Trade if they sell primarily for business or government use and in Retail Trade if they sell primarily for household use. Additional detail was also added for computer services within current group 737, including a separate industry for prepackaged computer software.

The 1987 revision places considerable emphasis on improved detail for Services (Division I). There is a new Major Group 87 for selected professional and technical services, comprising elements of the current Business Services (Major Group 73) and Miscellaneous Services (Major Group 89). Industry 7392--Management, Consulting, and Public Relations--was subdivided into five new industries; and 8911--Engineering, Architectural, and Surveying Services--was subdivided into three. A number of changes were incorporated for Major Group 80, Health Services, to improve detail and data accuracy for this area of rapid growth. Other changes include the recognition of industries for Physical Fitness Facilities (from 7299, 7997, and 7999), Tax Return Preparation Services (from 7299), and Video Tape Rental (from 7394).

There were subdivisions of some of the largest and fastest growing industries in Manufacturing, including Miscellaneous Plastics Products (3079), Radio and Television Communications Equipment (3662), and Electronic Components, NEC (3679). Recognition of a distinct operating technology was extended to fluid power that covered a number of 1977 industries and of a different fabrication technology to the distinction between die-casting and other casting. Existing problems in data were corrected by grouping together all relays (from 3613, 3622 and 3679) and by moving or combining instruments and instrumentation systems previously covered by 3662, 3811, 3829, and 3832.

Notable changes in other SIC divisions include the recognition of Animal Aquaculture (from 0279); the separation of surface and underground bituminous coal mining (from 1211); the separation of freight and passenger transport in Water Transportation (from Major Group 44); and the recognition of surface and air courier services (from 4211, 4213, 4511, and 4521); the recognition in Wholesale Trade of medical and hospital equipment and of ophthalmic goods (from 5086); and the separation in Retail Trade of Record and Prerecord Tape Stores (from 5733) and Opticians Stores (from 5999). Establishments selling used automobile parts at wholesale or retail are placed together in a new industry in Wholesale Trade, because of difficulties in determining whether individual units sell primarily to households or to businesses.

The use of the various principles and procedures in the 1987 revision had both a positive and negative impact on the revision process. A complete understanding of the U.S. SIC revision process would not be possible without discussing this impact.

THE IMPACT OF PRINCIPLES AND PROCEDURES

Structure

As indicated earlier, the structure of the SIC is virtually the same as when it was initially developed at the division level. There have been changes in some 2-digits in previous revisions. The 1987 revision required very strong justification to change the 2-digit and 3-digit structure.
which was done in several areas. It was very difficult to determine in many cases if the recommended change reflected changes in the economy or just simply a different view of the current structure. There was a great reluctance to make structural changes unless the TCIC had overwhelming evidence. In many cases, this evidence was not available and thus limited the number of structural changes.

**Economic Significance**

The size criterion was initially developed specifically for Manufacturing, after considerable study. It was extended to other areas at a later date, with somewhat less care and with arguable validity.

The criterion has been applied to individual current and proposed industries relative to the same SIC division in which they fall. The criterion thus recognizes relative change within an SIC division but not relative growth between one division and another. The criterion does not reflect relative change among SIC divisions, and this could favor divisions that are declining (such as Manufacturing) over those that are growing (such as Services).

In assessing size for proposed industries, the comparison has been with the average existing industry. Generally speaking, an existing SIC industry is considered as sizeable and will be retained if the weighted average of the factors represents 10 percent or more of the average industry in the same division. A new industry, however, must attain a score of 20 percent or more of the average industry.

In practice, this has been important only in Manufacturing and Mining, for both rejecting industries or deleting old ones. For other SIC divisions, it has resulted in deletion of some industries—usually quite small ones—but rarely in rejection of new industries, where other factors have been important.

There is a problem in the way in which economic significance is applied in the area of nonmanufacturing. There is no indication that the size criterion was meant to apply across divisions. There is an arbitrariness in the application of the relative size criterion to create a new industry. The impact is that it is easier to add more industries to divisions with larger numbers of industries. These divisions will have a lower "average" for the industry; therefore, new industries will meet the point score of 20 fairly easily.

Many issues impact the way the system operates, or does not operate, especially as it relates to creating industries. Increasing the value of economic significance for a new industry from the current required score of 20 percent of the average industry to 25 percent would reduce the number of industries that would be accepted; while reducing the economic significance criteria from 20 percent to 15 percent would allow more industries to be accepted. Strict application of the score might result in deletion of existing industries for which data are needed. This factor
should be considered when setting overall criteria for all divisions.

We used the point scores for the kind-of-business (KB) activity codes and the current criteria to evaluate changes that could occur with a change in the significance criterion regardless of classification difficulties. We found that we could have created new industries from the KB's in the following areas based on current values of between 15 and 20 percent. Examples are listed by division in descending score order.

<table>
<thead>
<tr>
<th>KB Code</th>
<th>Current Criteria Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wholesale Trade</td>
<td></td>
</tr>
<tr>
<td>508710 - Beauty and Barber Shop Equipment and Supplies 17.65</td>
<td></td>
</tr>
<tr>
<td>509312 - Iron and Steel Scrap Dealers 17.28</td>
<td></td>
</tr>
<tr>
<td>502320 - Linens, Domestics, Draperies, and Curtains 16.58</td>
<td></td>
</tr>
<tr>
<td>505210 - Coal 16.18</td>
<td></td>
</tr>
<tr>
<td>509930 - Forest Products (Ex. Lumber) 15.37</td>
<td></td>
</tr>
<tr>
<td>Retail Trade</td>
<td></td>
</tr>
<tr>
<td>553120 - Home and Auto Supply Stores 19.26</td>
<td></td>
</tr>
<tr>
<td>581220 - Social Caterers 16.62</td>
<td></td>
</tr>
<tr>
<td>Services</td>
<td></td>
</tr>
<tr>
<td>738950 - Packaging and Labeling Services 19.96</td>
<td></td>
</tr>
<tr>
<td>738120 - Armored Car Services 19.44</td>
<td></td>
</tr>
<tr>
<td>701120 - Hotels, less than 25 Guest Rooms 18.30</td>
<td></td>
</tr>
<tr>
<td>733610 - Commercial Art 17.57</td>
<td></td>
</tr>
<tr>
<td>738940 - Water Softening and Conditioning Services 17.31</td>
<td></td>
</tr>
<tr>
<td>791120 - Dance School 16.71</td>
<td></td>
</tr>
<tr>
<td>738920 - Interior Designing 15.72</td>
<td></td>
</tr>
<tr>
<td>753920 - Radiator Repair 15.05</td>
<td></td>
</tr>
</tbody>
</table>

**Specialization and Coverage**

Specialization and coverage have been most important as reasons for rejecting new industries in Manufacturing, if only because that has been the only area where data are available. However, they are not very important for dropping Manufacturing industries. Often there is an overlap with several industries for Services even though we cannot measure them precisely (e.g., changes for finance for 1987).
In Canada, specialization and coverage criteria are applied to all levels of the classification, unlike the United States which uses these criteria largely for questions of detail and then only within Manufacturing. As a consequence, some systems group industries providing products and services related to one another. In particular, they group industries primarily engaged in Retail Sales with other industries primarily engaged in providing Services. Two examples are the retail sale of and services to motor vehicles, and restaurants and drinking places with hotels.

**Disclosure**

Each agency determines its own disclosure requirements. Industries could be retained even if there are disclosures at any level. However, proposals to delete industries because these disclosures in one agency have generally been accepted.

In the United States SIC, industries are required to have a sufficient number of companies so that industry data can be published without disclosing information about the operation of individual firms before acceptance. In other countries, this factor is taken into consideration at the time of data release.

**Costs**

The TCIC made every reasonable attempt to balance the benefits and costs that must be considered in determining the appropriate scope of a revision. The benefits of a revision are the improvements in statistical data that result. It is always difficult to assign dollar valuations to benefits. Moreover, individual agencies view benefits differently. For example, agencies that have been involved in the efforts to improve comparability between output and trade data viewed improvements to accuracy of the Manufacturing data as important for 1987. Other agencies saw these improvements as of little benefit. Most data user agencies may also be more likely to estimate high benefits from a given change than are the agencies involved in data collection.

Classification revision in the United States makes a point of assessing the merits of proposed changes against the cost to Government as well as the cost and burden to the business community that supplies data to the Government. For businesses and other suppliers of data, there are questions of burden in terms of time, and money. Individual businesses, particularly small ones, may vary considerably in how readily requested data are already in available records. Data that are not readily available from company records may be costly to provide and of questionable accuracy. For the Government, there are costs in the implementation year for revised data collection to obtain additional detail, processing, and publication. There are also substantial costs for the conversion of data series for earlier years. Proposals also differ greatly in their continuing costs for subsequent years. In other countries, all of these factors are taken into account through survey methodology.
The principal costs of a revision are the costs of implementing a revised SIC and the disruptions to users from breaks in the continuity of some data series.

Costs are usually not a visible factor because they are built into the criteria and operated to reduce changes. However, costs were especially important for the 1987 revision, particularly outside of Manufacturing where classification difficulties were often greater.

The costs of creating, deleting, or changing industries are not consistent for all agencies. Cost considerations had a major impact on such decisions. For example, cost was a major factor that kept the TCIC from creating one industry for courier services versus two industries-combining SIC 4512 for air couriers with parts of each SIC 4212 and 4213 for surface couriers. To create one industry would have required refiling all affected industries. The cost to the Bureau of Labor Statistics to refile both industries would have been substantial.

**Historical Continuity**

The need for historical continuity has set limits on the scope of some revisions; for example, not allowing changes crossing 3-digit lines. Serious disruptions to continuity are caused by moves of complete industries and moves of individual activities.

Historical continuity was stressed in the early revisions because the changes adopted were relatively minor and thus offered small benefits for the large cost involved. These changes will be more acceptable if they come all at once and result in a useful structure and detail. However, in the 1987 revision process, several agencies constantly used historical continuity as the only justification for rejecting a proposal. The various agencies have competing views in terms of historical continuity. For example, the Census Bureau does not maintain substantial historical data series; therefore, maintenance of historical continuity is not as significant for the Census Bureau as it would be for the Bureau of Labor Statistics or the Bureau of Economic Analysis.

**Implementation**

The ability of Government agencies to classify, collect, and publish data on the proposed basis is taken into account; and changes are made that can be applied by agencies within their normal processing operations. The inability to collect data by the Social Security Administration and the Bureau of Labor Statistics resulted in not including some industries that would actually meet the criterion of economic significance. For example, the ability to collect and classify data precluded the TCIC from creating separate industries from 5812, Eating Places, although we had a proposal to do so.
The ability of a specific agency to implement a given proposal depends on its data collection program, which varies from agency to agency. In addition, the timing of the implementation of the revision is different for each agency, resulting in longer implementation periods.

**FUTURE OF THE U.S. SIC**

We have discussed the history of the SIC, its principles and procedures, the 1987 SIC revision process, highlights of major changes, and the impact principles and procedures had on the 1987 revision. Some criticisms were quieted by the 1987 revision, while others were raised.

The following are a number of criticisms heard most often:

- the current system does not provide for the addition of emerging industries;
- the system does not provide sufficient detail or flexibility;
- the establishment as the basis for classification is no longer appropriate for all divisions;
- structure of the SIC no longer reflects the American economy;
- SIC should provide for classification of secondary activities; and
- the SIC system should have a single concept.

These are some of the major criticisms, but by no means all of the criticisms. As a result of these mounting criticisms, the Bureau of the Census hosted an International Conference on Classification of Economic Activities, November 6-8, 1991 in Williamsburg, Virginia.

The Conference focused on the need to examine all aspects of the United States system for classifying economic activity, the SIC system. U.S. industry and government analysts, private researchers, the international statistical community, and academia spent 2 ½ days discussing the type of classification system(s) needed to measure the U.S. economy of the 21st century.

The U.S. has moved from an economy dominated by the manufacturing sector to a more service-oriented economy. There also have been rapid technological changes and increased globalization of the economy. Many believe the Current SIC system is too inflexible, and data generated from the system no longer accurately measure the activities of today's service-oriented, global economy. Many participants urged a "clean sheet" approach to developing a new classification system, based on a conceptual framework. Conference participants also supported the development of a commodity classification system for the United States.
The uses of SIC-based data are numerous and varied and range from production and productivity analysis to market share analysis to regulatory purposes. Each of the uses may demand a different aggregation if the resulting data are to be meaningful and useful to the user. While some advocated the "let a thousand flowers bloom" approach of providing detailed data and letting the user aggregate any way at any time, most supported the development of an "official" economic classification system based on a conceptual framework. The problem, of course, recognized by the participants, is which conceptual framework to use. Do we satisfy those users who need to do production-related analysis, or do we opt for a demand-based aggregation? What about the nonstatistical users of the SIC? Do we consider their needs in the development of a conceptual framework? While there was extensive discussion, no general agreement was reached. The participants did, however, agree that continued discussion is needed and that research needs to begin immediately on the conceptual framework question.

The need for comparable product detail across all Government agencies was evident from the discussions. There also was general agreement that we need to collect as much detail as possible, while taking into consideration the cost and burden to the respondent of providing the information. Data users could then, within the bounds of confidentiality restrictions, aggregate data to suit their analytical purposes. The development of a commodity classification system was a high priority in the minds of the SIC Conference attendees.

In the current industry classification system, the establishment (physical location) is the primary unit for which data are collected. Most participants supported the continued use of the establishment where possible, although there was general recognition that this was not the appropriate unit for all sectors of the economy (e.g., banks, utilities, and so forth). There was a proposal made to change the unit of observation to the DDS (division, department, or subsidiary structure within each firm that reflects its way of doing business). The major argument for adopting this unit was that it will permit better matching of input data with output data.

The importance and problems associated with international comparability of both industry and product data generated considerable discussion. Session 4 of the second day of the conference focused entirely on the international perspective on economic classification schemes and included representatives from EUROSTAT, Statistics Canada, and the United Nations Statistical Office.

One paper concluded that "globalization will be the force driving the direction of demand for economic data. That direction will be toward data that more fully reflect the standard of living and performance of nations and facilitate the ability to compare such performance across nations." Another speaker pointed out that the international system for classifying economic activity, the ISIC, may not adequately or accurately reflect the domestic industrial structure. The author also cautions that "the current need for comparability, however pressing, should not prompt the world statistical community to accept a patchwork job based on existing classification systems." The consensus was, however, that serious consideration must be given to international comparability.
issues in the restructuring process.

Another important issue discussed at the conference was whether or not a restructured classification system should be organized into a hierarchy. The present system is hierarchical in that each level of the system provides a meaningful and useful aggregation of detail at the next lower level. It was pointed out that hierarchies provide different levels of detail needed by different agencies for their statistical work. Not all agencies need or can collect information on 4-digit industries and thus use the 2- or 3-digit groupings for their purposes. If a hierarchical structure did not exist, each agency would group according to its own purposes. This could be both an advantage and a disadvantage and certainly warrants further study.

The conference was characterized as a "watershed event in the history of U.S. industrial statistics." Discussions on the direction of a new classification system for economic activity were stimulating and at times controversial. Numerous and opposing ideas were presented, many were discussed in detail, and further research was recommended for most. The conference underscored the urgency for restructuring the classification system of the United States and the need for creating a commodity classification. It energized the statistical community to move forward to develop a classification system that will answer data needs in the 21st century.

As a result of the Williamsburg Conference, the OMB established an Economic Classification Policy Committee (ECPC) chaired by the Bureau of Economic Analysis, with representatives from the Bureau of Labor Statistics, the Bureau of the Census, and ex officio, the OMB.

The policy committee is charged with a "fresh slate" examination of economic classifications for statistical purposes, including industrial classifications, product codes, and product code groupings. This is a large undertaking with basic implications for the accuracy and utility of all establishment-based or product-oriented economic data. The committee's charge includes:

- identifying the essential statistical user of the economic classifications;
- identifying and developing, if needed, economic concepts, new structures, and statistical methodologies that address such statistical uses;
- developing classification systems based on those concepts;
- planning the implementation of the new classification systems; and
- ensuring that there is ample opportunity for widespread public participation in the entire process.

The ECPC is currently developing a work plan and a time schedule for revising the U.S. SIC that
would be implemented for 1997. Included in this work plan will be a list of research projects designed to address most, if not all, of the issues revised earlier.

The answer to real or perceived shortcomings of the current SIC hopefully will come from this work. At least this effort should provide a more keen understanding of the purpose, scope, and usefulness of the current system.
### Example of Calculation for Economic Significance

<table>
<thead>
<tr>
<th>Factor</th>
<th>Proposed Industry (A)</th>
<th>Average Industry (B)</th>
<th>Number of points (A as % of B) (C)</th>
<th>Weights (D)</th>
<th>Weighted Points (CxD) (E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of establishments</td>
<td>230</td>
<td>796</td>
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OMB establishes advisory committees (e.g., TCIC) 2/83

TCIC recommends general guidelines, criteria, and procedures for the review.

OMB publishes notice of revision, with final general guidelines, criteria, and procedures, and invites proposals. 2/22/84

Proposals are submitted to OMB. 10/1/84

TCIC reviews proposals received and makes recommendations to OMB for action; OMB publishes TCIC recommendations for comment. 2/14/86

Comments are submitted to OMB. 4/15/86

OMB makes and publishes final decisions. 10/1/86

OMB publishes manual. 9/87
## Standard Industrial Classification
### 1977 Number of Industries

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