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**ORGANISATION FOR ECONOMIC
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(OECD)**

**A POSSIBLE STRUCTURE FOR THE REVISED
INTERNATIONAL STANDARD INDUSTRIAL CLASSIFICATION
OF ALL ECONOMIC ACTIVITIES (ISIC)
REVISION 4**

Supporting paper submitted by the United Nations Statistics Department, New York

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I Introduction

1. The concepts paper on the ISIC and CPC revision for 2007 outlines the principles used within the new revised activity classification. While these principles provide guidance on how to classify an existing statistical unit in the classification, they do not completely determine the structure of the new classification. In fact the amount of variation that is still possible in drafting a new classification structure that is consistent with a set of established principles almost suggests a very loose relationship between structure and principles. However, the agreed principles also put restraints on the ways in which the structure can be created.
2. This paper shows a possible structure for a revised ISIC in 2007, which was discussed and drafted by the TSG. It presents one view for comment that is based on a variety of inputs to the Group. Because many of the suggestions conflict when developing a structure, a number alternative possibilities are also noted in the narrative description of each possible category.
3. The TSG used three criteria when discussing possible structure changes for ISIC at the tabulation category level. For each proposal or suggestion, the Group evaluated the impact on the relevance of the classification, the impact on comparability, and the impact on time series continuity. This section includes a brief summary of each tabulation category, a discussion of the impacts based on the three criteria, and notes major alternatives that could be considered. References to existing ISIC tabulation categories are approximate because many details in the ISIC Rev. 3.1 will need to be discussed prior to determining the final content of a higher-level structure. The titles used in this presentation are not presented as official or suggested titles. Appropriate titles will be developed upon resolution of the structure.
4. The structure presented is in most parts consistent with the concepts laid out in the concepts paper. However, as continuity has been of major concern to previous ISIC users, many parts of the classification that have not been identified as problem areas and where no indication for necessity of change was given by countries, have been left practically unchanged. In this sense, the changes applied to the existing classification have been limited.
5. In some cases, an additional level of breakdown has been suggested, based on continuity reasons or to recognize specific important elements in the listed categories that should be separately identified at a lower level.
6. The coding system applied to the structure in this paper is not envisaged as an option for the final classification. It serves only as a means to identify the different components in the structure during the current phase of discussion. Different options for the coding system, such as all numerical codes or limiting codes to four digits, have implications that may put additional constraints on the structure of the classification. A more detailed discussion of coding system options for the revised classification is contained in a separate document. The names of the different categories (sections, divisions, groups, classes) are being used for simplicity at this time.
7. The separate questionnaire paper lists a number of structure-related questions for which country input is being sought. Some of those may have a strong impact on the structure of ISIC, and have been addressed in the write-up in part III.

II A Possible High-level structure for a Revised ISIC

8. Following is a possible high-level structure for ISIC that has emerged from discussions, questionnaire responses and general request put forward for the new classification. A short discussion of major issues for these categories is included.

High-level categories	
1	Agriculture, hunting, forestry and fishing
2	Mining and quarrying
3	Manufacturing
4	Repair and maintenance
5	Utilities
6	Construction
7	Trade
8	Accommodation and food services
9	Transport and storage
10	Information and communication
11	Financial and insurance services
12	Real estate, rental and leasing activities
13	Professional, scientific and technical services
14	Administration and support services
15	Public administration and defence; compulsory social security
16	Water supply; sewage, waste management and remediation
17	Education
18	Health and social services
19	Arts, entertainment and recreation
20	Other services
21	Households
22	Extraterritorial organizations

9. **Agriculture, hunting, forestry and fishing** – is based on a combination of ISIC tabulation categories A and B. These tabulation categories were combined to limit the number of top-level categories as recommended by countries in their responses to the classifications questionnaire. This tabulation category has no comparability or relevance changes and does not impact time series data for users at the two-digit or more detailed levels. The Group also noted that in some instances in ISIC Rev. 3, the tabulation category, division, three-digit and four-digit industry all had identical content and this did not represent an efficient use of higher-level groupings.
10. **Mining and quarrying** – is based on ISIC tabulation category C. If this category remains, there will be little or no impact on the comparability, relevance, or time series for existing ISIC data. There is a second proposal for mining and quarrying that would do away with the tabulation category. Under this approach, relevant portions of mining and quarrying (roughly

divisions 10-12) would be moved to a new tabulation category for energy and the remaining portions of mining and quarrying would be included with manufacturing in a structure that identified the mining of metals and other nonmetallic minerals with the primary processing of those metals and minerals. This alternative approach may improve relevance in a demand setting but would decrease comparability with most major classifications used throughout the world. In addition, the elimination of a mining and quarrying group would have a major impact on time series for manufacturing as well as mining and quarrying.

11. **Manufacturing** – is based on ISIC tabulation category D. The coverage of a manufacturing tabulation category could range from content similar to ISIC Rev. 3.1 at one end to significantly different coverage at the other extreme. There are several major classification issues that must be resolved in a new tabulation category for manufacturing. These include the treatment of repair and maintenance activities, the treatment of publishing and other content industries currently included in ISIC tabulation category D, the treatment of ICT equipment manufacturing, and the treatment of installation of a variety of capital equipment by units that do not manufacture the equipment.
12. The tabulation categories listed in this paper include groupings for both information and repair and maintenance. These changes would require the separation of publishing and other content industries from manufacturing and inclusion in an Information tabulation category. In addition, separate facilities that are engaged in repair and maintenance activities will move from the individual manufacturing industries to a new tabulation category for Repair and maintenance. Both of these changes will have a negative impact on time series but are anticipated to improve the relevance of manufacturing data and improve comparability with other classifications. The Group noted the apparent conflict of repair and maintenance of capital equipment leading to manufacturing activity in geographic locations with no manufacturing plants. The TSG also noted the results of the WPIIS work and the existence of an information grouping in both NAICS and JSIC.
13. The presented set of possible tabulation categories does not include a movement of ICT manufacturing to a new section. At a minimum, the Group does support the separate identification of high tech manufacturing industries category for reasons of comparability and relevance regardless of whether they are grouped with other manufacturing industries or grouped with the content and telecommunications industries.
14. In summary, this presentation has three major changes in the content of a manufacturing tabulation category. The first is the creation of an information grouping that would remove publishing and similar content industries from existing division 22. The second is the creation of a tabulation category for Repair and maintenance that would impact a variety of industries within existing ISIC Rev. 3.1 tabulation category D. The third major change is the movement of the former division 37 to the new section for Water supply; sewage, waste management and remediation.
15. **Repair and maintenance** – is based on grouping facilities that are engaged in repair and maintenance of a variety of goods. The content of this tabulation category would be separate repair facilities that do not manufacture capital equipment or retail new versions of the goods that they repair. The tabulation category would reclassify units repairing capital equipment from manufacturing, units repairing and maintaining household goods from Division 52, and possibly include separate automobile repair facilities from Division 50. While there are major time series continuity issues with the creation of this tabulation category, the gains in both comparability and relevance are also significant.

16. **Utilities (Electricity and gas)** – is based on current tabulation category E with a major change for water and sewage treatment. These activities would be moved from the current Electricity, gas, and water supply tabulation category to a new tabulation category for Sanitation. The Group discussed the processes involved with water and sewage treatment and noted that they are more closely related to other remediation activities than the production of electricity and gas. The Group saw this as a relevance enhancing change.
17. **Construction** – is based on current tabulation category F with some potential changes in the content of the grouping. The first possible content change would be the inclusion of units that specialize in the installation of machinery and other heavy equipment that do not also manufacture the equipment. These units could be moved from manufacturing to construction.
18. There is also an outstanding issue regarding the inclusion of general contractors or other units that undertake responsibility for a construction project but subcontract out the actual construction work to one or more construction subcontractors. If the treatment of jobbers in manufacturing remains as is, these general contractors could remain in construction following the same general concept.
19. **Trade** – A trade tabulation category in this presentation is based on the existing Tabulation category G for wholesale and retail trade. A major difference would be the exclusion of the repair and maintenance of automobiles and household goods performed by separate units that do not manufacture or retail new versions of the goods being repaired. The Group weighed the potential time series impacts of this against the comparability and relevance enhancing potential of a repair and maintenance tabulation category when listing this possible change. Lower level breakdowns at the division level are expected for wholesale trade, retail trade, and possibly for the combination of wholesale and retail of motor vehicles.
20. **Accommodation and food services** – is based on ISIC tabulation category H. There is little change anticipated in this grouping. The TSG did note that the current tabulation category is useful when meeting the needs of users such as the World Tourism Organization. Additional detailed changes in this area will be considered based on their needs as well as the other needs expressed in the questionnaires.
21. **Transport and storage** – is based on tabulation category I with a major change in the treatment of communications activities. The information tabulation group (noted next) would include the communications activities that are currently included in ISIC tabulation category I. The remainder of the group would remain in this possible structure. While this does impact time series at the tabulation category level, the TSG also considered the comparability and relevancy improvements that result from a grouping for transportation and storage. Detail below the tabulation category level could be broken out based first on mode of transportation (e.g., air, water, road) or by type of transportation services provided (e.g., passenger transportation or freight transportation) at the next level. Additional discussion is needed on this topic because of the variety of uses for data on transportation. The activities of travel agents and tour operators could be considered in this tabulation grouping or in a tabulation grouping for administrative and support services. The TSG discussed both possible options. The argument in favour of placing them under administrative and support services is that they provide services both to the users of transportation, as well as to the transportation providers themselves. Further, the reservations that they make and the tour and travel packages that they put together include not only transportation services, but also accommodation and food services and recreation and entertainment services. Classification of travel agents and tour

operators in a grouping for administrative and support services will leave a more homogeneous grouping of activities in the transportation and storage tabulation category. It was noted that NAICS includes travel agent and tour operator activities in the Administrative and Support Services subsector (NAICS 561) and a similar treatment by ISIC would increase comparability in that area.

22. **Information and communication** – is a completely new tabulation category for consideration. As noted previously, a major potential improvement in ISIC is the ability to group a variety of activities that are associated with the development of content and the dissemination of content in the information economy. While there is broad agreement that some type of grouping is needed, the specific content of an Information grouping could take several paths. There are three possibilities that were discussed in detail by the TSG. The first is an Information grouping that would follow the example presented in NAICS. This would group a variety of content production and content distribution industries in one tabulation category. This has the benefits of comparability and improvement of the relevancy of ISIC. A second possibility would be separate tabulation categories for the production of content and the provision of telecommunications services. The final major alternative for an information grouping would include certain high tech manufacturing activities with the content and telecommunications portions to create a grouping similar to or defined by the ICT grouping developed by the OECD. A grouping containing additional manufacturing activities (beyond publishing) would not match the information groupings that have been developed for use in NAICS or JSIC.
23. The relevance of the individual portions is understood and acknowledged. However, the implications of their inclusion in the ISIC structure do not make them equal options. Option (1) addresses issues of recently emerged industries and provides comparability with important classifications built on this new concept. Option (2) differs from (1) in that it creates more detail at the top level, separating two major industries. Given the close connection between those two, their combination at the top level and subsequent separation at the next more detailed level of the classification may be more appropriate. Option (3), moving manufacturing of certain products to this category, creates two major problems: a) incomparability with information groupings in NAICS and JSIC and b) altering the fundamental definition of manufacturing. The latter would constitute an unnecessary problem for analysis of manufacturing data and also contradict the fundamental principles underlying the classification. In light of this, the recommended treatment would be to implement option (1), with exact boundaries to be refined, and create an alternate aggregation based on the contents of the ICT definition.
24. **Financial and insurance services** – is based on ISIC tabulation category J. There is little change envisioned in the overall content of this tabulation category. The TSG did note that the current title of “Financial intermediation” should be reviewed based on the actual content of the category.
25. **Real estate, rental and leasing activities** – is a breakout of tabulation category K. The responses from the questionnaire circulated by UNSD indicated a need for additional breakdowns in the rapidly growing services portions of the classification. Relevance and comparability with other major classifications were the driving factors in this proposal to split Tabulation category K. The title of this possible tabulation group accurately describes the intended content. There is a second possibility that was discussed that would include the rental and leasing activities in an administrative and support services grouping rather than with real estate.
26. **Professional, scientific and technical services** – represents another breakout of tabulation category K. This grouping would include activities such as accounting, legal activities,

research and development, and other activities that are strongly based on the specific skills of the human capital used to produce the services. The TSG considered both the relevance of this category and the fact that it was comparable with other classifications when including it as a possibility. If a tabulation category is created for professional, scientific, and technical services, additional discussion of the exact content, particularly for activities currently included in division 74, will be needed.

27. **Administrative and support services** – is another possible breakdown of current tabulation category K. This possible grouping would include a variety of services that are used in the day-to-day operation of businesses. These could include cleaning and janitorial services, security services, employment services, facilities support services, and similar activities (including the travel agency and tour operator services described under transportation and storage). The TSG saw both relevance improvements and comparability improvements with the separation of support services from other professional and technical services. As noted under Real estate, rental, and leasing (above), one possible alternative would be to include rental and leasing services in this grouping as a support service.
28. **Public Administration and defence; compulsory social security** – is based on tabulation category L. This grouping would include the current content of Division 75 with some possible differences. The Group noted that there are different treatments of public administration in a variety of the classifications reviewed. In some cases, public administration is strictly limited to the administration of government programs and military activities. Under this treatment, police activities would not be included because they are beyond the administration of programs. In another case, public administration includes administration of public programs, the military, and public order and safety activities. ISIC currently includes those activities regardless of whether they are provided by government entities or the private sector. The boundary of public administration will require additional discussion if this tabulation category is included.
29. **Water supply; sewage, waste management and remediation** – is a new tabulation category that includes portions of division 90, Sewage and refuse disposal, sanitation, and similar activities, and portions of division 41, Collection, purification, and distribution of water. This grouping is considered based on increases in comparability and the rapid growth of interest in and expenditures on waste management and remediation activities. This area could also include part or all of division 37, Recycling.
30. **Education** – is based on ISIC tabulation category M. The details in this area were compared to ISCED as part of the ISIC Rev. 3.1 process and are reasonably up to date. If a tabulation category for education were included, the TSG would like to review the appropriateness of using an ISCED educational program classification for activities or units. Additional discussion is needed regarding what, if any, changes in the structure of lower level details will be needed for 2007. The treatment of educational support activities needs to be discussed.
31. **Health and social services** – is based on tabulation category N in ISIC. If this tabulation category is maintained, the boundary between health and social work will need to be thoroughly examined during the revision process for 2007. There is also a potential boundary issue for daycare and early childhood education programs between the healthcare and social assistance grouping and the education grouping.
32. **Arts, entertainment and recreation** – is a breakout from tabulation category O. For comparability and relevance purposes, a breakout for arts, entertainment and recreation would improve the classification but at the cost of time series above the four digit level. There are some scope issues related to the inclusion of current division 92 activities in the information tabulation category that will need to be addressed. In particular, the activities of libraries and

archives could be treated as information activities or as cultural activities in this tabulation category. With the inclusion of motion picture, radio, and television activities in a tabulation category for Information, this grouping would retain dramatic arts and similar entertainment, sporting activities, museums, botanical gardens, zoos, and other recreational activities. This split at the four-digit level of ISIC will cause considerable disruption to existing time series data but the resulting information grouping is thought to be highly valuable to a revised classification. The TSG noted that this might not be of appropriate size for a tabulation grouping if that is the only criterion used. If the grouping is viewed in terms of similar activities or units, or if considerations of national importance and relevance are reviewed, there is a greater justification for this tabulation category.

33. **Other services** – is based on the remainder of tabulation category O. This tabulation group includes a variety of services that are not in the information grouping or the arts, entertainment, and recreation grouping. Examples of this include personal services, laundry services, death care services, membership and similar organizations, as well as miscellaneous services. This grouping is a residual for services that do not fit any of the possible tabulation categories listed in this paper.
34. **Households** – is based on current tabulation category P. Although this is a case where the tabulation category, division, and four digit industries were the same in ISIC 3.0 (additional details for production by households was created for ISIC Rev. 3.1), the TSG felt that the households could not reasonably be grouped in any of the other tabulation category possibilities presented here and should therefore remain as a separate grouping.
35. **Extraterritorial organizations** – is based on current tabulation category Q. Although this is also a case where the tabulation category, division, and four-digit industry are the same, the TSG felt that extraterritorial bodies should also remain a separate grouping in a revised international classification.

II Tabulation categories

36. The above listed set of 22 high-level categories (“Sections”) is the equivalent to the 17 top-level categories (“Sections”) in ISIC Rev.3.1. The request for more high-level categories for services and the introduction of new concepts (e.g. Information), have led to the increase in the number of Sections.
37. For many purposes, such as presentation of data in the System of National Accounts or various analysis scenarios, a top structure with 22 categories would be too detailed. A high-level structure with 10 or less categories would much better serve these needs and options for such a structure have been discussed. To avoid confusion with the 22 high-level categories listed above, we refer to this new structure as “Tabulation categories”.
38. A review of existing high-level structures has shown that there is a variety of them in existence, each tailored to a specific purpose. It will therefore be impossible to create one single structure that would serve all possible analytical needs. What is intended here, is to show a possible set of tabulation categories that is relevant for the National Accounts. As ISIC and CPC are integral parts of the System of National Accounts (SNA), a set of Tabulation Categories that serves the SNA’s needs has to be developed.

39. While a recommendation for such a structure will accompany the classification, it will not necessarily be introduced as part of the regular structure of ISIC. Including it explicitly as part of the ISIC structure puts additional constraints on the coding system (see discussion of coding system options in separate paper). However, including it as part of the classification will make it a better tool for international comparison. Another issue that emerged as a factor in creating such a structure is the desire for a balanced distribution within the classification. Still, it was considered that the analytical usefulness and relevance and homogeneity of the items in a Tabulation Category level should be given preference. A set of Tabulation categories that serves the SNA may be the most likely candidate to be included in the actual structure of ISIC. The following is one option for such a structure, which shall be given here without discussion. The Inter-Secretariat Working Group on National Accounts will be asked to provide guidance in this case.

1	Agriculture, hunting, forestry, fishing
2	Mining and quarrying
3	Manufacturing, repair, electricity, gas and water; waste management
4	Construction
5	Transport, trade, accommodation and food services
6	Information and telecommunication
7	Services to business and financial intermediation
8	Services to persons
9	Public administration and defence; compulsory social security extraterritorial organizations

40. As the introduction of a Tabulation Category level, whether included in or supplementing the classification, is essentially adding a new fifth level to the classification, coding issues will have to be considered. Concerning the restraints imposed by codes attention was drawn to the possibility of starting with 0 thus having 10 items as opposed to starting with 1, which only permitted 9. To resolve the need for more room in the structure one possibility was to move to a 5-digit system for ISIC as opposed to the 4 digits presently used. Adding more digits may introduce major problems for computer programs and could potentially be extremely costly. Another possibility is to use tabulation categories outside the numerical system used for the structure itself. However, experience with the present ISIC had shown that the alpha tabulation categories were not well received by many. For more discussion on coding structure options, see the separate paper on this issue.

III Division level (2-digit) structure

41. The following is a summary of the proposed divisions of the new ISIC, based on the Section-level structure described above. This constitutes not a full proposal at this time, but a basis for discussion of further breakdown, definition problems, continuity and comparability issues as well as boundary questions that may help to draft a final structure proposal. The coding system used here is only for reference.
42. For each division in this structure, a description of its content and information on relevance (in case of changes) is given, supplemented by descriptions of its relationship to the previous

version of ISIC (continuity) and to NAICS (comparability). The latter two reflect two of the driving forces of the revision process. Also attached is a list of boundary questions for each category. These typically reflect individual activities that are interpreted in different ways in ISIC or NAICS, may have apparent conflicts between their current place in the classification and the concepts laid out in the concepts paper, or may otherwise serve as indicators for the content of these divisions. Comments on these boundary questions are encouraged.

43. The description below is based on the following structure:

- 1 Agriculture, Hunting, Forestry and Fishing
 - 1.1 Agriculture and related service activities
 - 1.2 Forestry, logging and related service activities
 - 1.3 Hunting, trapping and related services
 - 1.4 Fishing and related services
 - 1.5 Aquaculture
- 2 Mining and quarrying
 - 2.1 Mining of coal and lignite; extraction of peat
 - 2.2 Extraction of crude petroleum and natural gas
 - 2.3 Mining of metal ores
 - 2.4 Other mining and quarrying
 - 2.5 Mining support services
- 3 Manufacturing
 - 3.1 Manufacture of food products, beverages and tobacco products
 - 3.2 Manufacture of textiles, wearing apparel, fur, leather and related products
 - 3.3 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
 - 3.4 Manufacture of paper and paper products
 - 3.5 Printing and reproduction of recorded media
 - 3.6 Manufacture of coke, refined petroleum products and nuclear fuel
 - 3.7 Manufacture of chemicals and chemical products
 - 3.8 Manufacture of rubber and plastics products
 - 3.9 Manufacture of other non-metallic mineral products
 - 3.10 Manufacture of basic metals
 - 3.11 Manufacture of fabricated metal products, except machinery and equipment
 - 3.12 Manufacture of machinery and equipment n.e.c.
 - 3.13 Manufacture of computers, communications equipment and electronic components
 - 3.14 Manufacture of electrical equipment
 - 3.15 Manufacture of transport equipment
 - 3.16 Manufacture of furniture; manufacturing n.e.c.
- 4 Repair and maintenance
 - 4.1 Repair and maintenance of transport equipment
 - 4.2 Repair and maintenance of personal and household goods
 - 4.3 Repair and maintenance of machinery and equipment
- 5 Utilities
 - 5.1 Electric power generation, transmission and distribution
 - 5.2 Natural gas and other gas distribution
 - 5.3 Steam and air conditioning supply
- 6 Construction
 - 6.1 Construction of buildings
 - 6.2 Civil engineering
 - 6.3 Specialized transversal trades

- 7 Trade
- 7.1 Wholesale trade
- 7.2 Retail trade
- 8 Accommodation and Food services
- 8.1 Accommodation
- 8.2 Food services
- 9 Transportation and storage
- 9.1 Land transport; transport via pipelines
- 9.2 Water transport
- 9.3 Air transport
- 9.4 Scenic Transportation
- 9.5 Supporting and auxiliary transport activities
- 9.6 Postal and courier activities
- 10 Information and communication
- 10.1 Publishing activities (except Internet)
- 10.2 Motion Picture and sound recording activities
- 10.3 Broadcasting (except Internet)
- 10.4 Internet publishing and broadcasting
- 10.5 Telecommunications
- 10.6 Internet service providers and web search portals
- 10.7 Other information services
- 11 Financial and insurance services
- 11.1 Financial intermediation, except insurance and pension funding
- 11.2 Insurance and pension funding, except compulsory social security
- 11.3 Other financial services
- 12 Real Estate, rental and leasing activities
- 12.1 Real estate
- 12.2 Rental and leasing
- 12.3 Leasing of intangible assets (except copyrighted works)
- 13 Professional, Scientific and Technical Services
- 13.1 Legal services
- 13.2 Accounting services
- 13.3 Architecture and Engineering services
- 13.4 Technical testing and analysis
- 13.5 Computer Services
- 13.6 Management and management consultancy services
- 13.7 Research and development
- 13.8 Advertising services
- 13.9 Other professional, scientific and technical services
- 14 Administration and support services
- 14.1 Office administrative services
- 14.2 Facilities support services
- 14.3 Employment services
- 14.4 Business support services
- 14.5 Travel agents, tour operators and other reservation services
- 14.6 Investigation and security services
- 14.7 Services to Buildings and Dwellings and Industrial Cleaning services
- 14.8 Other Support services
- 15 Public administration and defence; compulsory social security
- 15.0 Public administration and defence; compulsory social security
- 16 Water supply; sewage, waste management and remediation

- 16.1 Water collection and supply; sewage
- 16.2 Waste treatment and disposal
- 16.3 Remediation activities
- 17 Education
- 17.1 Education
- 17.2 Education support services
- 18 Health and Social Services
- 18.0 Health and Social Work
- 19 Arts, entertainment and recreation
- 19.1 Dramatic arts, music and other arts activities
- 19.2 Museums, historical sites, botanical and zoological gardens and nature reserves
- 19.3 Gambling and betting activities
- 19.4 Other entertainment and recreation activities
- 20 Other Services
- 20.1 Activities of membership organizations
- 20.2 Other service activities
- 21 Households
- 21.1 Activities of households as employers of domestic personnel
- 21.2 Undifferentiated goods-producing activities of private households for own use
- 21.3 Undifferentiated service-producing activities of private households for own use
- 22 Extraterritorial organizations
- 22.0 Extraterritorial organizations

III.1 Section 1 - Agriculture, Hunting, Forestry and Fishing

This section combines previous tabulation categories A and B. This takes into account the common primary function of the two tabulation categories, namely the taking of living things from nature, and also recognizes the limited use of the coding system in the past (Fishing remained just one category at the top three levels of the classification – or even at all levels in ISIC Rev.3).

This would cover the activities of growing crops, raising animals, exploiting fishery resources, harvesting timber, and harvesting other plants and animals from a farm or their natural habitats. Service activities related to the activities are included in this section and grouped with the activities that they support.

However, a general question as to whether “Services incidental to” or support services to agriculture should be placed with the relevant category or separately still has not been resolved.

Possible division structure:

- 1 Agriculture, Hunting, Forestry and Fishing
- 1.1 Agriculture and related service activities
- 1.2 Forestry, logging and related service activities
- 1.3 Hunting, trapping and related services
- 1.4 Fishing and related services
- 1.5 Aquaculture

Divisions:

1.1 Agriculture and related service activities

Content:

This division covers the managed exploitation of vegetal and animal natural resources. This includes two basic activities: the production of crop products and the managed production of animal products (except fishing). Also included are agricultural support services (services incidental to agriculture).

Exploitation of animal natural resources through hunting is excluded (see 1.3), landscaping is excluded (see 14.7).

The breakdowns in this division should consider the requests for more detail in this area.

At the present time, no consensus has emerged concerning the definition of “organic”. It is therefore not feasible to include organic farming as a category within ISIC.

Relevance:

The importance of the agricultural sector, in terms of value added in the whole economy, may be decreasing in many countries. However, it still covers the predominant portion of the primary sector.

Comparability:

This category corresponds to NAICS subsectors 111 (Crop Production), 112 (Animal Production), and NAICS industry groups 1151 (Support Activities for Crop Production) and 1152 (Support Activities for Animal Production).

However, a major difference between ISIC and NAICS is the fact that NAICS subsector 115 (Support Activities for Agriculture and Forestry) is located outside of the main activities, while in ISIC “related services activities” are part of the main activity.

Continuity:

Hunting has been moved to a new separate category at the division level, breaking it out from the old agriculture division. Therefore, this division corresponds to ISIC Rev.3.1 groups 011, 012, 013 and 014. Landscaping is excluded from former group 014. Growing of mushrooms stays in this division while gathering of mushrooms is transferred to division 1.2 (Forestry)

Boundary questions:

Clear separation of agriculture and forestry is necessary (e.g. for short-rotation trees – Christmas trees).

Beneficiating activities (e.g. cotton ginning) need to be clarified – should they be treated as manufacturing when not done in connection with farming?

Integrated activities (e.g. grape growing and wine production, olive growing and olive oil production) need to be clarified. Currently in ISIC, the case of wine is in agriculture, the case of olives is in manufacturing. The proposal is to classify all integrated activities that originate in agriculture to agriculture. This would also apply to integrated activities of raising chicken and production of chicken meat etc.

Classification of irrigation for agricultural purposes (agricultural service or business service or water supply) may depend on the actual activity carried out, i.e. the term “irrigation” may be too broad.

1.2 Forestry, logging and related service activities**Content:**

This division covers the production of standing timber as well as the extraction and gathering of wild growing forest materials (with exceptions, see below). It also includes the production of timber, forestry results in products that undergo little processing, such as wood for fuel or industrial use (e.g. pit-props, pulpwood, etc.).

Relevance:

This division identifies the exploitation of vegetal natural resources, usually with long life cycles, and unmanaged exploitation of vegetal natural resources.

Comparability:

This category corresponds to NAICS subsector 113 (Forestry and Logging) and NAICS industrial group 1153 (Support Activities for Forestry). This division includes the extraction and gathering of truffles, berries, etc. It also includes the growing of Christmas trees, which NAICS includes in the crop production subsector.

Continuity:

These activities correspond to ISIC 3.1 division 02. Gathering of mushrooms etc., which had been previously part of 1.1 (Agriculture), is included in this division.

Boundary questions:

Clear separation of agriculture and forestry is necessary (e.g. for short-rotation trees – Christmas trees).

1.3 Hunting, trapping and related activities**Content:**

This division covers the exploitation of animal natural resources. Unlike division 1.1, these activities depend on a continued supply of natural resources. Management is restricted to conservation measures and habitat maintenance, but does not include the active regeneration of the resource as in 1.1.

Relevance:

This division identifies the exploitation of (unmanaged) animal natural resources.

Comparability:

This category corresponds to NAICS industrial group 1142 (Hunting and trapping). Related service activities are included in this NAICS category as well.

While separately identifiable, this is at a lower level than in ISIC now.

Continuity:

These activities correspond to ISIC 3.1 group 015.

Boundary questions:

Hunting of marine mammals is included, except for whales. Distinction is according to usual location of hunting (land vs. sea).

1.4 Fishing and related services

Content:

This division includes the exploitation of fishery resources from marine or freshwater environments, covering the capturing or gathering of fish, crustaceans, mollusks and other marine products (e.g. pearls, sponges, etc.). These activities depend on a continued supply of natural resources and do not include the active regeneration of the resource as in 1.5. The activities of factory ships that also fish are included here. (This follows the intended treatment of integrated activities as described in 1.1.)

Aquaculture is excluded (see 1.5).

Relevance:

This division covers the (unmanaged) exploitation of fishery resources,

Comparability:

This category corresponds to NAICS industry group 1141 (Fishing). While separately identifiable, this is at a lower level than in ISIC now. See also boundary question below.

Continuity:

All these activities were considered under Section B in ISIC 3.1

Boundary issues:

Whale hunting is here, while hunting of other sea mammals is in 1.3 (see above) (NAICS includes seal hunting in Fishing). Gathering and processing of sea food in factory ships is considered under NAICS subsector 311 (Food manufacturing), while in ISIC it is included in Fishing for factory ships that also fish, and in Food manufacturing otherwise.

Fish stock management is in NAICS sector 54 (Professional, Scientific, and Technical Services), while in ISIC is included in this division (and was in division 05 (Fishing) of ISIC Rev.3.1).

1.5 Aquaculture

Content:

This division includes fish farming in sea and fresh water including farming of ornamental fish; cultivation of oysters, operation of fish hatcheries, and the service activities incidental to the operation of fish hatcheries and fish farms. This division also includes the production of oyster spat, mussel, lobsterlings, shrimp post-larvae, fish fry and fingerlings; the growing of laver and other edible seaweeds.

Relevance:

Its identification at this level and separation from other fishing activities reflect the widely growing importance of this activity.

Comparability:

It corresponds to NAICS industry group 1125 (Animal aquaculture), although ISIC also includes non-animal aquaculture such as the growing of laver and other edible seaweeds.

Continuity:

This category has been moved from Fishing. It corresponds to ISIC 3.1 class 0502.

Boundary issues:

None

III.2 Section 2 – Mining and quarrying

This draft follows closely the concept of ISIC 3.1, containing the extraction of minerals occurring naturally as solids, liquids or gases (extraction can be by underground or surface mining or well operation) and supplementary activities aimed at preparing the crude materials for marketing (mostly performed by the same unit that performs mining, at the mining site or nearby). It excludes water collection, purification, distribution and bottling as well as further manufacturing of the raw material (e.g. crushing, grinding not connected to the mining process).

Except for merging “Mining of uranium and thorium (ISIC 12)” with “Mining of metal ores (ISIC 13)” the structure remains as in ISIC 3.1:

Mining and quarrying

- 2.1 Mining of coal and lignite; extraction of peat
- 2.2 Extraction of crude petroleum and natural gas; service activities incidental to oil and gas extraction, excluding surveying
- 2.3 Mining of metal ores
- 2.4 Other mining and quarrying
- 2.5 Mining support services

Comparability and boundary questions – relevant to all the Divisions of the tabulating category – arise when it comes to Mining Support Services. NAICS provides a separated Mining Support Services category (NAICS 213), comprising services related to all of the different Mining activities, while ISIC generally groups the services together with the main mining activity.

Some related services, like exploration services on a fee basis [ISIC 7421, Engineering activity], Site preparation for mining, overburden removal, test drilling on a fee basis [ISIC 4510, Construction] are outside Mining and Quarrying in ISIC, while some of these activities are still included in the Mining Support Services in NAICS 213.

A decision on how to treat service activities incidental to mining, either as i) one central Division (2.5 Mining Support Services) as realized in NAICS/ANZSIC, ii) as separate Groups for each Mining Division or iii) in the way currently handled, has to be found.

The previous treatment of aggregating service activities with the main mining activity has two major advantages:

- Vertically integrated mining activities can be handled easier, since value-added calculations for minor service activities are quite often cumbersome
- Preserving the activity-product link would be less troublesome

At the same time outsourcing and specialization in the Section can't be tracked by maintaining the status quo. The implementation of the proposed Division 2.5 is a question of country responses to this issue.

At this point it has to be mentioned that especially in the area of mining the definition of a marketable product depends on various issues like geographical location, ore content, etc. A mine remote from markets will probably come up with a different product than a mine in close neighbourhood to an industrial area for being competitive (saving transportation costs).

2.1 Mining of coal and lignite; extraction of peat

Content:

This division includes the mining of (mainly) solid energy sources, such as coal, lignite and peat. It also includes operations leading to a marketable product (grading, cleaning, briquetting), but excludes coking, which remains a manufacturing activity.

Relevance:

No changes

Continuity:

No changes to ISIC 10.

Comparability:

See introduction to this Category (site preparation, support services); the extraction of peat is classified as nonmetallic mineral extraction (2.4) in NAICS 2123

Boundary questions:

No changes to ISIC 10; see also Comparability issues; mining of liquefied coal (liquefaction done at the mining site, underground, before actually mining the resource) has similarities to the mining process of crude petroleum or natural gas

2.2 Extraction of crude petroleum and natural gas

Content:

This division includes the extraction of fluid and gaseous energy sources. Also included are the activities of operating and/or developing oil and gas field properties, excluding surveying. This division includes activities such as drilling, completing, and equipping wells; operating separators, emulsion breakers, desilting equipment, and field gathering lines for crude petroleum; and all other activities in the preparation of oil and gas up to the point of shipment from the producing property.

Continuity:

If Section 2.5 (Mining support services) is accepted, the corresponding portion of this former ISIC division, i.e. ISIC 1120 will move to 2.5.

Comparability:

See introduction to this Category (site preparation, support services); in NAICS, mining support services are not classified with the mining activity itself (NAICS subsectors 211, 212), but treated as a separate category

Boundary questions:

See also Comparability issues; liquefaction and regasification of natural gas for transport purposes (ISIC 1110) is considered as a transport support activity according to NAICS (488 – Support Activities for Transportation). An alternative approach could be a split by location where the liquefaction is done (at mining site as mining activity, somewhere else as transport activity).

2.3 Mining of metal ores

Content:

This division includes underground and open-cast extraction of metal ores and native metals. This includes ferrous and non-ferrous metals. Also included is the preparation of ores, like crushing

and grinding of ores, washing of ores, concentrating of ores by magnetic or gravimetric separation or flotation, screening, grading, drying, calcination and roasting of ores.

Mining, quarrying of uranium and thorium, including concentrating the ores and the manufacture of yellowcake is also included here.

Relevance:

The separate identification of energy bearing minerals as uranium and thorium was decided to be merged with metal ores. The size of this category is too small in most countries. A split on a lower level according to ISIC 12 and 13 would still be possible, allowing for allocation of energy-related mining products.

Continuity:

No changes to the combined content of ISIC 12 and 13.

Comparability:

See introduction to this Category (site preparation, support services); NAICS has always included uranium, radium and vanadium mining (thorium not mentioned explicitly) under metal ores; collapsing ISIC 12 and 13 therefore results in enhanced comparability.

Boundary questions:

No changes to ISIC 13; see also Comparability issues.

2.4 Other mining and quarrying

Content:

This division covers extraction from a quarry, but also dredging of alluvial deposits, rock crushing and the use of salt marshes, e.g. sands, stones, clay, gypsum, calcium, etc.

This division does not include processing (except crushing, grinding, cutting, cleaning, drying, sorting and mixing) of the minerals extracted. Vertically integrated units which are processing self-extracted mineral materials are classified under manufacturing (e.g. cement plants or brick making plants)

Relevance:

No changes to ISIC 14

Continuity:

No changes

Comparability:

See introduction to this Category (site preparation, support services)

Boundary questions:

No changes to ISIC 14; see also Comparability issues; manufacturing of table salt (currently a mining activity ISIC 1422) could also be considered as Food Manufacturing as realized in NAICS (311942 - Spice and Extract Manufacturing)

2.5 Mining support services

Content:

This division includes the provision of support services, on a fee or contract basis, required for the mining and quarrying of minerals and for the extraction of oil and gas. Included is the exploration (except geophysical surveying and mapping) for minerals on a contract or fee basis. Exploration includes traditional prospecting methods, such as taking core samples and making geological observations at prospective sites.

The activities performed on a fee or contract basis are also often performed in-house by mining operators. These activities include: taking core samples, making geological observations at prospective sites, and such oil and gas operations as spudding in, drilling in, redrilling, directional drilling, excavating slush pits and cellars; grading and building foundations at well locations; well surveying; running, cutting, and pulling casings, tubes and rods; cementing wells; shooting wells; perforating well casings; acidizing and chemically treating wells; and cleaning out, bailing, and swabbing wells.

The further breakdown could follow

2.51 Services incidental to 2.1 (Mining of coal etc.)

2.52 Services incidental to 2.2 (Mining of crude petroleum etc.)

2.53 Services incidental to 2.3 (Mining of metal ores)

2.54 Services incidental to 2.4 (Other mining and quarrying)

Relevance:

Separation of incidental services to mining would make the changes within the section more visible (outsourcing, specialization) and therefore be more relevant for analysis. The usefulness of this Division should be seen in the context of the conceptual integrity with other Sectors that would require a similar treatment of “incidental services” (e.g. agriculture, transportation, education, finance/insurance).

Continuity:

Identifying support services separately would break out significant parts of former ISIC Divisions 10-14, having a major negative impact on time series comparability. However, as the breakdown is organized as proposed under ‘Content’, a reaggregation according to ISIC 3.1 is possible.

Comparability:

See introduction to this Category (site preparation, support services). As this Division follows the NAICS definition, comparability to the North American classifications would be improved.

Boundary questions:

None.

III.3 Section 3 – Manufacturing

The Manufacturing section contains activities of physical, or chemical transformation of materials, substances, or components into new products. The materials, substances, or components transformed are raw materials that are products of agriculture, forestry, fishing, mining, or quarrying as well as products of other manufacturing activities (intermediate production). The processing of waste and scrap to prepare them as inputs into other processes, is excluded (see Section 16).

In the past, installation and assembly of manufacturing equipment has been classified with manufacturing, if performed as a specialized activity, and with the main activity if it has been performed as a service to a wholesale, retail or manufacturing activity. Whether the allocation of these cases should change in respect of the newly created Repair/Maintenance category or not, is again open. In this context, the NAICS treatment of classifying installation of heavy machinery in construction, due to the similarity of the process with other construction work, should be considered.

Compared to ISIC 3.1 the overall content of manufacturing will become somewhat smaller due to moving out certain activities described below and due to the fact that there are no new inclusions at all. Besides that the inner composition of the Section remains stable for the majority of Divisions, except for a few structural changes without any impact on time-series considerations.

The key changes in Manufacturing are that repair/maintenance activities will be explicitly excluded from Manufacturing and classified in a newly established Repair/Maintenance Section. Furthermore following some proposals of the NAICS-NACE convergence project, the whole Manufacturing Section will be condensed.

Aggregations will be made for:

- Divisions 15 and 16, Manufacturing of food, beverages and tobacco products
- Divisions 17 till 19, Manufacture of textiles, wearing apparel, fur, leather, luggage, handbags, saddlery, harness and footwear
- Divisions 34 and 35, Manufacture of motor vehicles and other transportation equipment
- Optional: Division 21 (Manufacture of paper and paper products) and Group 222 (Printing and service activities related to printing)

These changes involve little effort, shorten the list of 2-digit items and increase the clarity of the classification structure, without further impacts on comparability issues, as the previous breakdown will be identifiable on a lower level.

Furthermore it has been decided to exclude two specific parts from Manufacturing, namely

- Group 221: Publishing (which was by definition never a manufacturing activity), which will move to the newly established Information section
- Move Division 37 (former Recycling, now: Processing of waste and scrap) to a new section including waste treatment

For technical components (former Divisions 30-33) a regrouping will become necessary, reflecting size and importance of these industries.

The number of boundary questions will decrease, because of the separate treatment of repair and maintenance and the transfer of publishing to the Information. The only slightly problematic issue is the new breakdown for electronic/electric products or high-tech/low-tech products, which will require a clear definition.

Outsourcing:

The current treatment of ISIC sees outsourced activities (activities on a fee or contract basis) still as part of the main unit, i.e. as if the outsourcing unit itself performed these activities. In extreme cases, when a unit performs no manufacturing at all, but organizes the processes and sales the treatment as a manufacturer becomes misleading. In case of outsourcing processes involving the crossing of a border the treatment becomes even more complicated: is the manufacturer a wholesaler if the goods are exported and re-imported afterwards?

Composite products:

There are certain products which consist of more than one material and/or can be produced by one or more industry, e.g. aluminium foil on a paper could be classified as a paper product if one considers paper to be the more important part, or aluminium in the other case. Other examples are coated beverage boxes of cardboard.

A decision on how to handle such cases has to be found: split the products into its components and classify by major material content (by weight), a ranking of materials, production process or technology involved etc.

Material substitution:

There are numerous examples of products that can be made of different input materials, like plastic or wooden window shields, produced in the same industry. Such manufacturing activities could also be classified according to a product ranking, the typical material used, etc.

All this results in the following division structure:

- 3 Manufacturing
- 3.1 Manufacture of food products, beverages and tobacco products
- 3.2 Manufacture of textiles, wearing apparel, fur, leather and related products
- 3.3 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
- 3.4 Manufacture of paper and paper products (***)
- 3.5 Printing and reproduction of recorded media (***)
- 3.6 Manufacture of coke, refined petroleum products and nuclear fuel
- 3.7 Manufacture of chemicals and chemical products
- 3.8 Manufacture of rubber and plastics products
- 3.9 Manufacture of other non-metallic mineral products
- 3.10 Manufacture of basic metals
- 3.11 Manufacture of fabricated metal products, except machinery and equipment
- 3.12 Manufacture of machinery and equipment n.e.c.
- 3.13 Manufacture of computers, communications equipment, electronic components
- 3.14 Manufacture of electrical equipment
- 3.15 Manufacture of transport equipment
- 3.16 Manufacture of furniture; manufacturing n.e.c.

*** 3.4 and 3.5 could eventually be merged (if only printing on paper remains in 3.5)

3.1 Manufacture of food products, beverages and tobacco products**Content:**

Processing of agricultural products, products of animal husbandry and fishing into food and beverages for humans or animals (including intermediate production, independent of kind of product), including tobacco products (aggregation of ISIC 3.1, Divisions 15 and 16).

Relevance:

Although treated separately in previous ISIC versions, statistics on food manufacturing mostly included beverages and tobacco and for reasons of streamlining the classification, tobacco (a single class) was included in food manufacturing – still identifiable on a lower level without any impacts on time series continuity.

Continuity:

No changes to ISIC 15 and 16, only merging of Divisions

Comparability:

The convergence project is in favour of combining classes, while currently NAICS and NACE have food products, beverages and tobacco in different Divisions.

Boundary questions:

NAICS classifies fish/seafood processing on fishing boats under manufacturing (NAICS 311711), while ISIC treats it as fishing (1.4 / ISIC 0501) when actual fishing is involved and as manufacturing (3.1 / ISIC 1512) otherwise.

3.2 Manufacture of textiles, wearing apparel, fur, leather and related products**Content:**

This Division is an aggregation of ISIC 3.1, Divisions 17-19. It includes preparation of textile fibres, weaving, finishing of textiles and wearing apparel, manufacture of knitted and crocheted fabrics and articles (except synthetic fibres). The clothing industry covers all tailoring (ready-to-wear or made-to-measure), in all materials (e.g. leather, fabric, knitted and crocheted fabrics, etc.), of all items of clothing including fur. This division includes the transformation of hides into leather by tanning or curing and fabricating the leather into products for final consumption. It also includes the manufacture of similar products from other materials (imitation leathers or leather substitutes), such as rubber footwear, textile luggage etc.

Relevance:

The aggregation of ISIC 3.1, Divisions 17-19 accommodates the vertical integration of the garment industry as well as the similarity of input products, manufacturing processes and use of the products.

Continuity:

No changes to former Divisions 17-19; structure will remain identifiable.

Comparability:

See boundary questions

Boundary questions:

Certain products (non-textile material) like plastics and rubber apparel (raingear, shower curtains, bathing caps, aprons,...) could still be part of Wearing Apparel, as in NAICS 3159 (Other Apparel Manufacturing), while they are “Plastic and Rubber Products” in ISIC (2519) as ISIC 3.1 classifies first by activity (e.g. sewing of different materials) and second by input material (textile, plastic).

There are further cases where the production process is identical for different materials (diving wet suits of rubber and plastic similar to textile manufacturing) or where the material processed leads to different products (horse whips and riding crops in leather manufacturing; powder puffs

and mitts with other textiles). Borderlines occur mainly to the residual category 3.16 (see also 3.16).

3.3 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials

Content:

Manufacture of wood products, such as lumber, plywood, veneers, wood containers, wood flooring, wood trusses, and prefabricated wood buildings. The production processes include sawing, planing, shaping, laminating, and assembling of wood products.

Relevance:

No changes

Continuity:

No changes to ISIC 20

Comparability:

See boundary questions

Boundary questions:

The corresponding NAICS Subsector (321 Wood Product Manufacturing) also includes handles for umbrellas and canes, blocks for smoking pipes which are currently under ISIC 3699 (Manufacturing n.e.c) or plastic shoe lasts (ISIC 2520)

3.4 Manufacture of paper and paper products

Content:

Includes manufacture of pulp, paper, or converted paper products

Relevance:

No changes

Continuity:

No changes to ISIC 21

Comparability:

The corresponding NAICS subsector (322 - Paper Manufacturing) includes all kinds of coated and impregnated papers, while ISIC only does if coating or impregnating is not the main ingredient. NAICS includes paper products in conjunction with foils (plastic, rubber, aluminum, self-adhesive paper tapes as in ISIC 2520 and 2720) or substitutes of paper, like plastic wall paper (ISIC 2520).

Boundary questions:

There's also the possibility that Division 3.5 (Printing etc.) and 3.4 are merged.

3.5 Printing and reproduction of recorded media

Content:

This Division will include printing on paper (like newspapers, books, periodicals, business forms, greeting cards, etc.) and other materials and related support activities such as bookbinding, platemaking services, and data imaging (resulting in non-paper products like a printing plate or a computer file).

Printing includes a variety of methods used to transfer an image from a plate, screen, or computer file (at least, see boundary questions) to paper, e.g. transfer the image from a plate or screen to the medium (lithographic, gravure, screen, and flexographic printing) and new technologies such as digital or nonimpact printing. Printing is independent on the material printed on, therefore includes printing on other material like textiles, plastics, wood, metals, etc.

Publishing can now be found in the newly created Information Section. Combined publishing and printing are treated analogue to NAICS as Information activity.

Relevance:

The changes described above are highly relevant to reach systematic consistency within manufacturing. Division 3.5 is made up of ISIC groups 222.

Continuity:

Publishing, which by definition was not a manufacturing activity, will be moved to the newly created information section, but will still remain identifiable.

Comparability:

NAICS 323 (Printing and Related Support Activities) includes printing on textiles, “quick printing” as offered in copyshops, printing on (purchased) labels and tags if printing is the primary specialized activity. NAICS acknowledges that printing is performed in different fields as minor activities and that only specialized printing is part of 3.5. Integrated activities of Printing and Publishing are always found in NAICS 511 (Publishing in the Information Sector). The ISIC treatment will yield similar results.

NAICS has Reproduction of recorded media (ISIC group 223) under Computers, Communications Equipment.

Boundary questions:

Number of boundary problems with business services will decrease due to moving publishing to the Information Section. Mass reproduction of software, video-tapes, CD’s, - currently ISIC 223 Reproduction of recorded media – is put under Computers, Communications Equipment, Electronic Components in the Convergence Scenario and NAICS.

This Division could be merged with Division 3.4 (Manufacture of paper and paper products).

3.6 Manufacture of coke, refined petroleum products and nuclear fuel

Content:

Processing of energy bearing materials from Mining (2.) into different usable products

Relevance:

No changes to ISIC 23

Continuity:

No changes to ISIC 23

Comparability:

In NAICS the identification of manufacturing of nuclear fuel is split, enriching uranium can be found under “All Other Basic Inorganic Chemical Manufacturing” (325188) while smelting and refining of uranium is a “Primary Metal Manufacturing Activity” (331). In ISIC these activities are grouped together (ISIC 2330). As the processes are different in both cases, a similar split should be considered in ISIC.

ISIC differs in regard to Manufacturing of lignite/coal fuel briquettes that are classified as Mining activities (ISIC 1010), and asphalt paving mixtures as a side product of petroleum manufacturing

in “Non-metallic mineral Product” (ISIC 2320). NAICS includes these items in “Petroleum and Coal Products Manufacturing” (324). Radioactive waste treatment (ISIC 2330) is in NAICS “Waste Management Services” (NAICS 562) and could in future also go under the broader Sanitation (and Environment) Division.

Boundary questions:

See above

3.7 Manufacture of chemicals and chemical products

Content:

Based on the transformation of organic and inorganic raw materials by a chemical process and the formulation of products and comprises intermediate chemical products as well as end products.

Relevance:

No changes to ISIC 24

Continuity:

Since the content will remain identical to ISIC 3.1 except for some eventual changes mentioned in the ‘boundary questions’, continuity could be ensured, unless a decision similar to the convergence project – favouring the NAICS breakdown on the 3rd and 4th level – is going to be implemented.

Comparability:

See boundary questions

Boundary questions:

As a result of the change in Manufacturing of Electric/Electrical products, a decision on the treatment of blank media or toner cartridges has to be found:

in NAICS the production of blank CD’s, DVD’s, VC’s is in 3346 (Manufacturing and Reproducing Magnetic and Optical Media, subclass of “Computer and Electronic Product Manufacturing”).

Toner cartridges are also in NAICS 325 (Chemical Manufacturing - 32599), while ISIC differentiates between the manufacture of the toner (chemical process: ISIC 2429) and the cartridge (office machinery: ISIC 3000). The manufacture of the cartridge could now become part of 3.13 (Computers, etc.).

Re-manufacturing and refilling of the cartridges, both for laser and inkjet printers could be in the same division.

Manufacture of inkjet cartridges is as well under NAICS 325 (32591), but refilling is in NAICS 8112 (Repair/maintenance).

Further products are matches (ISIC 3699-Other manufacturing) and cellophane film (ISIC 2520 - plastic product) that are also treated as “Chemical Manufacturing” according to NAICS.

3.8 Manufacture of rubber and plastics products

Content:

Manufacture of rubber and plastics products is primarily based on the material used as input: rubber and plastics.

Relevance:

No changes

Continuity:

No changes to ISIC 25

Comparability:

NAICS 326 includes Linoleum and other hard surface floor coverings, combs, hair curlers, currently under ISIC 3699 (“Other Manufacturing”) as well as plastic parts of footwear, plastic boots (ISIC 1920), plastic/rubber boats and life rafts (currently under ISIC 3511/3512, Manufacture of transport equipment).

Boundary questions:

Plastics and rubber apparel is classified under textiles, apparel production etc.

3.9 Manufacture of other non-metallic mineral products**Content:**

Includes areas which are all related to a single substance of mineral origin (glass and glass products, ceramic products, tiles and baked clay products, and cement and plaster, from raw materials to finished articles, stone and other mineral products

Relevance:

No changes

Continuity:

No changes to ISIC 26

Comparability:

NAICS 327 includes Manufacturing of precious and semiprecious stones for jewellery use (in ISIC 3691 - Other Manufacturing)

Boundary questions:

See comparability issues.

3.10 Manufacture of basic metals**Content:**

Includes smelting, refining ferrous and nonferrous metals, production of alloys, which are then processed to sheet, strip, bar, rod, or wire, and in molten form to make castings and other basic metal products

Relevance:

No changes

Continuity:

Currently no changes to ISIC 27; see also comparability issues; the adoption of the production process principle would change ISIC and the activity-product link.

Comparability:

The corresponding NAICS Section (331) includes metal products that are manufactured in wire-drawing plants (e.g. shopping carts (ISIC 3599), steel chairs, aluminum and copper wires (ISIC 2899), insulated aluminum/steel cables, used as conductors (ISIC 3130)) as well as uranium smelting (ISIC 2330). The basic criterion in ISIC is to differentiate by processes, which means

that processes leading to a final product from an “own” intermediate basic metal product is included, while manufacturing from purchased metals is not.

Boundary questions:

Classifying the items mentioned in the comparability issues above leads to the broader question how to deal with such vertically integrated activities: go by the final product or the basic production activity.

See also introduction to Manufacturing.

3.11 Manufacture of fabricated metal products, except machinery and equipment

Content:

"Pure" metal products (such as parts, containers and structures), usually with a static, immovable function.

Relevance:

No changes

Continuity:

No changes to ISIC 28

Comparability:

The corresponding NAICS Subsector (332) includes the following items which are not part of this ISIC Division: air cargo containers (ISIC 3420), non-powered lawn mowers (ISIC 2921), manufacturing of sieves (ISIC 3699), magnets, umbrella handles, metal badges (ISIC 3190), etc.

Boundary questions:

No changes.

3.12 Manufacture of machinery and equipment n.e.c.

Content:

Covers the manufacture of machinery and equipment which independently acts on materials either mechanically or thermally or perform operations on materials (such as handling, spraying, weighing or packing) and includes fixed and mobile or hand-held devices, regardless of whether they are for industrial, building and civil engineering, agricultural, military or home use. The electric (domestic) appliances of ISIC 2930 (refrigerators, vacuum cleaners, etc.) move to 3.14, Electrical Equipment.

Relevance:

In respect of the necessity of changing the breakdown of former Divisions 30-33, it's a highly relevant adaptation to sustain consistency.

Continuity:

Parts, not necessarily complete classes, will be moved from former Division 29 to Electrical Equipment (see 3.13), while some other items will be incorporated in here (e.g. mechanical office machinery from former Division 30); the composition of this Division is no longer comparable with previous versions

Comparability:

The corresponding NAICS subsector (333) includes dozens of items from different divisions, e.g. automotive, aircraft, motorcycle engines, hand trucks, different types of fittings, fire hydrants, etc.

Boundary questions:

The newly established Division for Electrical Equipment would include Household Appliances, which move out of former Division 29; a clear distinction of Special Purpose Machinery and Transportation equipment would also be desirable, since there are overlaps in case of agricultural machinery (e.g. mowers) or special mining trucks and other (offroad) dump trucks.

On the other hand this Division would have to account for non-electrical office machinery of former Division 30 (e.g. mechanical typewriters, certain cash registers). Installations of building systems remain in Construction (Section 4).

3.13 Manufacture of computers, communications equipment, electronic components

Content:

This division groups the activities of manufacturing computers, computer peripherals, communications equipment, and similar electronic products, and components for such products. The design and use of integrated circuits and the application of highly specialized miniaturization technologies are common elements in the production technologies of the computer and electronic Division. Digitalisation of sound recording, for example, causes both the medium (the compact disc) and the equipment to resemble the technologies for recording, storing, transmitting, and manipulating data. Communications technology and equipment have been converging with computer technology.

Manufacture of computer equipment (e.g. computers, word processors and peripherals), Communications Equipment (e.g. telephones, fax machines, wireless phones), Consumer Electronics (e.g. (audio-)visual equipment), electronic components for these devices and general electronic office machinery (e.g. photocopiers, cash registers, etc.). Furthermore including electronic measuring, testing, control equipment, electro-medical equipment, electro-optical instruments. Consists of the majority of Divisions 30-32 and parts of selected classes of Division 33 (e.g. 3312, 3313, 3330)

Relevance:

Highly relevant, since the ISIC 3.1 breakdown does not represent the current industrial production pattern. By putting technologically-related components in the same section, it makes it easier to adjust the classification for future changes, without needing to redefine its basic structure. The creation of the Computer and Electronic Product Manufacturing Division will assist in delineating new and emerging industries because the activities that will serve as the probable sources of new industries, such as computer manufacturing and communications equipment manufacturing, or computers and audio equipment are brought together. As new activities emerge, they are less likely therefore, to cross the Division boundaries of the classification.

Continuity:

High impact on continuity, since this Division is made up of parts of former Divisions 30-33 – this new Division cannot be identified in previous versions.

Comparability:

Corresponds to NAICS 334 (Computer and Electronic Product Manufacturing)

Boundary questions:

There may be boundary problems with the Electrical Equipment Division that have to be addressed to make the difficult split between Electrical Equipment, “Manufacture of machinery and equipment n.e.c. (products that may be electronic)” and electrical Equipment more transparent. A decision has to be found for the treatment of installation of mainframe computer (networks) which were under certain circumstances in Computer Machinery, but could also be considered as Computer activities (e.g. Hardware consultancy) or the newly established Repair/Maintenance category; NAICS includes also mass reproduction of recorded media (e.g. CD’s, video tapes, etc., corresponding to the ISIC 2230, see also 3.5) is optional as well the manufacture of these blank (unrecorded) products (ISIC 2429), see also 3.7.

A decision has to be found for such items that exist in different forms of technical complexity, such as parking meters, watches, clocks (ISIC 3330) that could be in 3.13 or 3.14; further classifying semiconductors (ISIC 2429) or laboratory distilling apparatus (ISIC 2919) could become part of this Division.

A decision has to be found on how to interpret the “electronic components” in the heading: is an ordinary kitchen appliance equipped with an additional feature based on a technologically advanced electronic component still a kitchen appliance? The difficulty will be how to weigh the importance/utility/purpose of the different features: a microwave oven with a TV-screen has a dual function, whereas a refrigerator with the ability of ordering products automatically is still a refrigerator. Such products could fall into 3.13 and 3.14.

The installation of network cabling in buildings etc. is considered a construction activity.

3.14 Manufacture of electrical equipment

Content:

This division comprises manufacturing activities of products that generate, distribute and use electrical power. This includes the manufacture of electric lamp bulbs, lighting fixtures and parts; both small and major electrical appliances and parts; electrical equipment such as electric motors, generators, transformers, and switchgear apparatus; devices for storing electrical power (e.g., batteries), for transmitting electricity (e.g., insulated wire), and wiring devices (e.g., electrical outlets, fuse boxes, and light switches).

This division is made up of a considerable part of former Division 31 (thus including Electric Motors and Generators, Batteries, Wires, Lighting), parts of former Division 29 (Household Appliances) as well as parts of former Division 33 (Watches, Clocks etc.)

Relevance:

Highly relevant, since the ISIC 3.1 breakdown doesn’t represent the current industrial production patterns

Continuity:

High impact, since this Division is made up by parts of former Divisions 29, 30, 31 and 33 – this new Division can’t be identified in previous versions

Comparability:

Corresponds to NAICS 335 (Electrical equipment, appliance and component manufacturing)

Boundary questions:

“Electrical Equipment” is primarily made up of ISIC 31, the majority of the items in ISIC 2930, and could also include electrical parts like condensers, resistors, capacitors (ISIC 3210).

See also Boundary questions of 3.13 (last paragraph).

3.15 Manufacture of transport equipment

Content:

Manufacture of motor vehicles for transporting people or goods, various parts and accessories; this Division is made up by merging ISIC Divisions 34 and 35

Relevance:

No changes

Continuity:

No changes to the former ISIC Divisions 34 and 35; structure will remain identifiable

Comparability:

NAICS Subsector 336 (Transportation Equipment Manufacturing) includes also manufacturing activities of parts of transport equipment that is included in other ISIC Divisions like truck lifting mechanisms (ISIC 2915), electric lighting equipment (ISIC 3150, 3190) and electric fuel pumps (ISIC 2912) and excludes rubber/plastic boats.

Boundary questions:

The treatment of manufacturing of vehicle parts, engine parts - electric and non-electric - either as transport equipment, electrical equipment or special purpose machinery has to be addressed. In addition, the boundary to 3.12 (Manufacture of machinery and equipment) has to be clarified – see boundary questions in 3.12.

3.16 Manufacture of furniture; manufacturing n.e.c.

Content:

Serves as a residual division, which may in the future also include parts of those classes that made up Divisions 30-33 of ISIC 3.1 which are no more identifiable in the new breakdown.

This Division will continue to include some “use-based” lower level categories, such as manufacture of games, manufacture of musical instruments, irrespective of their production process and input materials.

Relevance:

In the light of the necessity of a new breakdown of electrical equipment versus computers, etc. it would be a necessary step to move parts of former ISIC classes (e.g. non-electrical optical instruments, smaller mechanical office equipment as staplers) to this Division

Continuity:

High impact since this Divisions serves as a residual Division balancing the changes that within Manufacturing

Comparability:

Since this is a residual category for Manufacturing, this Division will balance all those differences between other Manufacturing Divisions. NAICS has the following items under Furniture Manufacturing: rubber waterbeds (ISIC 2519), hydraulic barber chairs (ISIC 3311) or decorative food wagons in restaurants (ISIC 3599).

Boundary questions:

Depends partly on the definition of electrical equipment, computers, communications equipment and electronic components; this Division will include some items of former Divisions 29-35 that don't fit somewhere else after changing the structure.

In order to prohibit a big residual Division that includes a large set of unrelated activities the central question is, whether it is possible to formulate clear criteria for classifying activities outside of 3.16!

III.4 Section 4 - Repair and Maintenance

The need for a separate section of specialized repair and maintenance services accommodates the needs of measuring this growing industry. Especially developing countries have raised the issue that the former practice of classifying repair and maintenance services together with manufacturing wouldn't reflect their needs.

Leaving repair and maintenance (services) in manufacturing obviously hurts the underlying principle of the separation of production and service activities.

First a clarification of definitional problems: there are units engaged in i) manufacturing, ii) rebuilding or re-manufacturing, iii) repair and iv) maintenance and as a matter of fact in combinations of i)-iv). While manufacturing and maintenance can be distinguished more easily, the difference between re-manufacturing and repair has been defined as follows: if a unit acquires and does speculative production in repairing an item, holding title of the good it is considered re-manufacturing. If only a service is provided without change in ownership the activity is repair. Thus, i) and ii) would be manufacturing, iii) and iv) in the newly established repair and maintenance section.

This is a completely new Section in ISIC comprising all specialized repair and maintenance activities of transportation equipment, personal and household goods and machinery and equipment. While some activities have been identified separately in ISIC 3.1 (as repair of motor vehicles or repair of personal and household goods), others require a split of existing classes.

While there are major time series continuity issues coming up with the creation of this Section, the gains in both relevance and conceptual integrity are also significant.

There are differences between this proposal and the Convergence Scenario and NAICS. Comparability is assured if subdivisions are created along the Convergence Scenario breakdown, except for the repair of transportation equipment which is supposed to be broader here than in the Convergence Scenario. As the Convergence Scenario is based on NAICS it's only the scope of Repair of Transportation Equipment that is different from NAICS.

Some boundary questions do exist, e.g. for units engaged in repair and retail activities, whose value added for repair is higher than for retail: should they be classified according to the value-added principle in Repair/Maintenance?

Repair and maintenance of building structures and integral equipment of buildings (e.g. central heating system, escalators, elevators, air-conditioning system, etc.) remain in construction as in ISIC 3.1.

Possible Section structure:

- 4 Repair and maintenance
- 4.1 Repair and maintenance of transport equipment
- 4.2 Repair and maintenance of personal and household goods
- 4.3 Repair and maintenance of machinery and equipment

4.1 Repair and maintenance of transport equipment

Content:

This Division includes Repair and maintenance of transportation equipment:

Land transportation:

- motor vehicles, trucks, buses, vans, trailers and parts thereof, e.g.
 - mechanical repairs, bodywork repair, repair of parts, washing, polishing, spraying, painting, repair of seats, screens and windows, electronic injection systems repair, tire and tube repair, fitting or replacement; antirust-treatment; installation of parts and accessories
- motorcycles and parts thereof
- bicycles and invalid carriages (e.g. wheelchairs)
- railway/tramway locomotives and rolling stock
- cable cars, chair lifts

Water transportation equipment:

- ships, ferries
- motorboats, sailboats, canoes

Air transportation equipment:

- aircraft
- spacecraft

A further disaggregation by land/water/air transportation equipment as above would be feasible.

Relevance:

The Division allows the identification of the whole Repair and Maintenance portion of transportation equipment.

Continuity:

The main building blocks are ISIC 3.1, group 502 (Maintenance and repair of motor vehicles and parts), the repair part group 504 (Sale, maintenance and repair of motorcycles and parts); repair of bicycles and parts thereof were not separately identified (they were part of 5260 - Repair of personal and household goods).

Repair/Maintenance of the remaining transportation equipment from above (ships, boats, railways, tramways, aircraft, cable cars, etc.) were in the respective groups of Divisions 34 (Manufacture of motor vehicles) and 35 (Manufacture of other transport equipment).

As outlined in the introduction, the impacts on continuity are high due to several splits of existing classes.

Comparability:

In NAICS all automotive repair is in industry group 8111 (Automotive Repair and Maintenance). The repair of all other transportation equipment performed at the transport facilities is realized as in ISIC 3.1, as Transportation Equipment Manufacturing (NAICS 336).

Boundary issues:

It excludes retreading and rebuilding of tyres as an ISIC manufacturing activity (2511- Manufacture of rubber tyres and tubes); towing services are included in NAICS subsector 488 (Support Activities for Transportation), while they are part of ISIC group 502 (Maintenance and repair of motor vehicles).

Repair/maintenance as integral part of the transportation infrastructure and performed at the transportation facility (e.g. aircraft maintenance at airports) is under NAICS 488 (Support Activities for Transportation) and treated equally in the Convergence Scenario.

4.2 Repair and maintenance of personal and household goods

Content:

This Division comprises repairing and servicing personal or household-type goods without retailing new personal and household-type goods (except transport equipment), formerly classified in ISIC class 5260.

This includes

- repair of household appliances,
- repair of consumer electronics:
 - television, radio, VCR, CD-players etc.
 - telephones, including mobile phones
- repair of boots, shoes, luggage and the like
- repair and alteration of clothing
- repair and alteration of jewelry
- repair of watches
- piano-tuning
- 'while-you-wait' services

It could be subdivided into

- a) Repair and maintenance of consumer electronics
- b) Repair and maintenance of household appliances
- c) Repair and maintenance of footwear and leather goods
- d) Repair and maintenance of personal and household goods, n.e.c.

therefore assuring comparability to NAICS and the Convergence Scenario.

Relevance:

This Division identifies the repair of personal and household goods separately from manufacturing or retailing.

Continuity:

This division corresponds to ISIC 3.1 group 526 (Repair of personal and household goods) except transportation equipment (e.g. bicycles).

Comparability:

This division corresponds to NAICS subdivision 811 (Repair and Maintenance) which identifies consumer electronics repair in 811211 and Personal and Household goods repair and maintenance in industry group 8114. If the repair is done by the retailer, repair is automatically in retail trade (i.e. NAICS subsectors 442, 443, 444, 448, 451).

Boundary issues:

None

4.3 Repair and maintenance of machinery and equipment**Content:**

This Division includes specialized repair performed to machinery and equipment. It aggregates a number of different repair activities that could be disaggregated according to

- a) repair and maintenance of industrial machinery,
- b) re-upholstry and furniture repair and maintenance
- c) repair and maintenance of office, accounting and computing machinery
- d) repair and maintenance n.e.c.

a) includes either sharpening/installing commercial and industrial machinery blades and saws or welding (e.g., automotive, general) repair services; or repair of agricultural and other heavy and industrial machinery and equipment (e.g., forklifts and other materials handling equipment, machine tools, commercial refrigeration equipment, construction equipment, and mining machinery).

b) comprises the following activities: (1) reupholstering furniture; (2) refinishing furniture; (3) repairing furniture; and (4) repairing and restoring furniture.

c) comprises all repair and maintenance of computer and computer peripheral equipment, typewriters, photocopy and thermocopy machines, electronic calculating machines and cash registers.

d) serves as a residual category comprising therefore all specialized repair not classified in one of the preceding divisions. Generally the repair of goods under 3.16 (Manufacture n.e.c.) will fall into this Division, together with repair and maintenance of other manufactured items (e.g. medical/optical instruments and electrical machinery and apparatus of former ISIC 33 and 31). Included in this subclass is the repair of items such as games and toys, but also roundabouts, swings, roller-coaster and other fairground amusements.

Relevance:

Specialized repair and maintenance of different types of machinery and equipment is a growing industry and therefore needs a separate identification.

Continuity:

There are implications on time-series continuity, but the relevance of observing repair and maintenance for both economic and conceptual reasons, outweighs the continuity criterion. ISIC classified these repair activities under Manufacturing, especially a) commercial and industrial machinery under ISIC 29, b) furniture repair under ISIC 361, d) repair and maintenance n.e.c. mainly under ISIC 369 and c) repair of office machinery under ISIC 7250.

Comparability:

a) corresponds to NAICS industry group 8113 (commercial and industrial machinery and equipment repair), b) to 81142 (re-upholstery and furniture repair) c) to 811212 (Computer and Office Machine Repair and Maintenance) and d) with 81149 (other personal and household goods repair and maintenance).

Boundary issues:

Repair and maintenance of musical instruments (e.g. piano-tuning and piano repair) could be in 4.2 (household goods repair) as well as in 4.3. The same holds true for repair of jewellery and watches (currently put under 4.2 for continuity reasons). Household furniture repair is part of 4.2, even though a split between household furniture and other furniture may seem arbitrary. Consequently the repair of office machinery (especially computers) would have to be split as well according to provision of this service to households versus commercial customers, even though the activity performed will be identical.

In respect to lawn and garden equipment, NAICS and the Convergence Scenario differ: NAICS puts it as a subcategory under Repair of appliances, while the Convergence Scenario puts it under Other personal household goods repair (see also boundary issues).

It remains to be decided whether the repair and maintenance of office and accounting machinery (non-electrical) should be split from repair and maintenance of computing machinery; particularly

as Divisions 29-33 of ISIC have been reorganized and the heading of this group corresponds to the “old” content of Division 30.

III.5 Section 5 - Utilities

This Section covers the activity of providing electric power, natural gas, steam supply and air conditioning supply through a permanent infrastructure (network) of lines, mains, and pipes. The dimension of the network is not decisive; also included is electricity, gas, steam and hot water supply and the like in industrial parks or blocks of flats.

The former Section E, “Electricity, Gas and Water Supply” – renamed to “Utilities” – will see various changes, for reasons of changes of the business structure (privatization) of the Utilities providers as well as to accommodate the broader spectrum of the Sanitation and Environment Section.

Water Supply for households, industries and commerce will be classified together with sanitation, sewage and refuse disposals, etc. in Section 16.

By removing former Division 41 (Water Supply), only one Division would remain in this Section, therefore and for reasons of reflecting the proposal in the Convergence Scenario, the former structure is raised by one level, resulting in the following breakdown:

- 5 Utilities
- 5.1 Electric power generation, transmission and distribution
- 5.2 Natural gas and other gas distribution
- 5.3 Steam and air conditioning supply

Boundary issues: Treatment of electricity transmission services, which are nowadays carried out by separate units and could also be seen as transportation services (analogue to pipelines). The different scope of activities included in gas supply vs. electricity supply should be addressed (e.g. long distance transport of gas under Transport, long distance transport of electricity under Utilities).

NAICS-Utilities (2213) include sewage treatment which is a Sanitation/Environmental activity in ISIC and NACE. In the current state of the NAICS-NACE convergence project this difference between NAICS and NACE has been resolved by putting it under Sanitation and Environment. Another major difference is the treatment of water supply (collection and distribution) which will become part of Sanitation and Environment in ISIC.

5.1 Electric power generation, transmission and distribution

Content:

This Division includes:

- operation of generation facilities that produce electric energy; including from thermal, nuclear, hydroelectric, gas turbine, diesel and renewable sources
- operation of transmission systems that convey the electricity from the generation facility to the distribution system;
- operation of distribution systems (i.e., consisting of lines, poles, meters, and wiring) that convey electric power received from the generation facility or the transmission system to the final consumer
- sale of electricity to the user
- activities of electric power brokers or agents that arrange the sale of electricity via power distribution systems operated by others.

Relevance:

No changes

Continuity:

Corresponds to former Group 401, the title has been updated

Comparability:

No differences.

Boundary questions:

Transmission service providers (high voltage) are nowadays often separated from electricity production and could also be treated as Transportation providers (analogous to a gas pipeline) while distribution services (low voltage, i.e. units connecting to end consumers) and brokers who don't produce electricity themselves could be identified as retail/wholesalers. Support services as arranging, co-ordinating and facilitating transmission would have to be treated as Transportation Support Services

5.2 Natural gas and other gas distribution**Content:**

This class includes:

- production of gas for the purpose of gas supply by carbonation of coal, from by-products of agriculture or from waste
- manufacture of gaseous fuels with a specified calorific value, by purification, blending and other processes from gases of various types including natural gas
- transportation, distribution and supply of gaseous fuels of all kinds through a system of mains
- sale of gas to the user through mains
- activities of gas brokers or agents that arrange the sale of gas over gas distribution systems operated by others;

Excluded are bulk sale of gaseous fuels, or its sale in canisters (see Wholesale/Retail trade), transportation of gases by pipelines other than mains (see Transportation) and manufacture of industrial gases (see Chemical Products).

Relevance:

No changes

Continuity:

Corresponds to former Group 402, the title has been updated.

Comparability:

Manufacture of gas as listed in the first two items of the content description is not mentioned in NAICS or the Convergence Scenario under this heading although modification of gas, that is distributed later on is part of this Division.

Boundary questions:

As in 5.1 brokerage of gas could be seen as a wholesale/retail activity.

5.3 Steam and air conditioning supply**Content:**

This class includes:

- production, collection and distribution of steam and hot water for heating, power and other purposes
- production and distribution of cooled air
- production and distribution of chilled water and ice for cooling purposes

Relevance:

No changes

Continuity:

Former group 403 included only steam and hot water supply. Already in ISIC 3.1 the scope of this Division has been extended to comprise also cooled air and the production and distribution of ice for cooling purposes.

Comparability:

In NAICS “ice production for non-food purposes” is classified as beverage manufacturing process due to the close relationship of the manufacturing process with “ice production used for consumption”

Boundary questions:

See above.

III.6 Section 6 - Construction

The content of this tabulation category differs largely from ISIC 3.1, following to a large extent the structure of the Convergence Scenario.

The erection of pre-fabricated buildings and structures as well as construction of temporary nature is included.

Units will be classified here irrespective of whether they carry out the complete construction activity or outsource parts of it.

The possible tabulation category is structured as follows:

- 6 Construction
- 6.1 Construction of buildings
- 6.2 Civil engineering
- 6.3 Specialized transversal trades

The proposed condensed structure assures increased comparability to the high-level structure in the Convergence Scenario and NAICS. Repair and maintenance of the building structure and of immovable equipment, repaired at the construction site (e.g. elevators, central heating system, escalators, cooling equipment, etc.) are included in this section, similar to their treatment in NAICS.

As already mentioned in the discussion of boundary questions in Mining, the treatment of mining support activities as test drilling and boring for coal, metal, etc. or overburden removal for all kind of mining products, which are classified as mining support services in NAICS but as construction in ISIC 3.1 has to be clarified. Furthermore the treatment of “turnkey-projects”, a special but common case of outsourcing and/or vertical integration (of all Construction activities 6.1-6.3, plus architectural and engineering consultancy services (13.3)) has to be addressed. They would currently be allocated to division 6.1 or 6.2, typically accounting for the highest value added.

6.1 Construction of buildings

Content:

This division comprises the construction of all types of buildings. It also includes the construction or erection of sports installations, prefabricated constructions, roofs, roof covering, surface work, water wells, steel bending, bricklaying and stone setting, scaffolds, chimneys and industrial ovens, working at height on tall structures and development on own account involving construction.

Further breakdown at lower levels will include the following groups:

- Residential building construction
- Non-residential building construction

This breakdown considers the identification of the Convergence Project breakdown. This division excludes architectural services and engineering activities (see division 13.3).

Relevance:

This Division identifies the actual construction, typically resulting in complete building structures (although outsourcing is possible), separated from civil engineering and specialized transversal trades.

Continuity:

This division mostly corresponds to ISIC 3.1 group 452 (excluding civil engineering works).

Comparability:

This division corresponds to NAICS subsector 236 (Construction of Buildings).

Boundary issues:

Turnkey-projects for buildings, as vertically integrated activity of Divisions 6.1 and 6.3 and other activities, could be included here, as the construction part may yield the highest value-added.

6.2 Civil engineering**Content:**

This division comprises the construction of waterways, dams, sewer systems, motorways, streets, railways and airfield runways. It also includes the construction of bridges, including those for elevated highways, viaducts, tunnels and subways; long-distance pipelines, communication and power lines; urban pipelines, urban communication and power lines; and ancillary urban works. This division would then include special transversal trades that are specific to civil engineering, e.g. road-paving, bridge abutment and utility pole installation.

Relevance:

This category separates these main construction activities from the construction of buildings.

Continuity:

This division corresponds to the civil engineering part of ISIC 3.1 group 452

Comparability:

This division corresponds to NAICS subsector 237 (Heavy and Civil Engineering Construction)

Boundary issues:

Turnkey-projects for buildings, as vertically integrated activity of divisions 6.2 and 6.3 and other activities, could be included here, as the construction part may yield the highest value-added.

6.3 Specialized Transversal Trades**Content:**

This division comprises site preparation, building installation and completion, and renting of construction equipment with operator.

Site preparation activities include:

- demolition or wrecking of buildings and other structures
- clearing of building sites
- earth moving: excavation, landfill, levelling and grading of construction sites, trench digging, rock removal, blasting, etc.
- stripping work of contaminated top soil as part of construction activities
- building site drainage
- drainage of agricultural or forestry land

ISIC excludes water well drilling and shaft sinking as already 'civil engineering works' – therefore part of 6.2, and decontamination of soil -- which although kind of a site preparation service, is placed as a remediation activity in division 16.3 due to its specialized character.

Building installation or other construction projects as in ISIC 3.1, group 453, covers installation activities of all kind of utilities that support the function of the building as such. Building completion corresponds without any changes to ISIC 4540 and covers activities that contribute to the finishing of a building, often relating to decorative functions or enhancing the quality of the building.

Renting of construction equipment with operator includes all renting of construction, demolition and similar equipment with operator (e.g. cranes, renting of bulldozers, mortar spreaders, concrete surfacing machinery). This seems often similar to contracting out parts of the construction work. However, the service provided here is based on the rental of the equipment for a specific time, not the completion of a specific assignment.

Continuity:

This division corresponds to ISIC 3.1 groups 451, 453, 454 and 455.

Comparability:

This division corresponds to NAICS subsector 238 (Specialty Trade Contractors).

Site preparation is implicit in NAICS subsector 236 when the same firm that does the building construction does site preparation. Site preparation done by contractors is included in NAICS industry group 2389 (Other Specialty Trade Contractors). Building installation and completion is covered by NAICS subsector 238.

Differences between ISIC and NAICS include:

- Repair of power boilers is part of construction in ISIC 3.1, while in NAICS it is part of sub-group 811 (Repair and Maintenance).
- Cleaning of new buildings after construction is part of construction in ISIC, while in NAICS it is under sub-group 561 (Administrative and Support Services).

Renting of construction equipment with operator corresponds to part of NAICS industry group 2389 (Other specialty trade constructors).

Boundary issues:

Concerning site preparation services for mining, NACE, ISIC and NAICS differ. So,

- overburden removal and other development and preparation of mineral properties and sites, except oil and gas sites
- test drilling, test boring and core sampling for construction, geophysical, geological or similar purposes

were still part of Construction in ISIC 3.1, while NACE put them under Mining as well as NAICS did (see Mining for the treatment of Mining Support Services in NAICS).

Installation of machinery, which could include repair activities, as being performed by millwrights are included in construction in NAICS, due to the similarity with and high portion of construction activities involved. ISIC could adopt this treatment.

III.7 Section 7 - Trade

This section includes wholesale and retail sale (sale without transformation) of any type of goods, and rendering services incidental to the sale of merchandise. Wholesaling and retailing are the final steps in the distribution of merchandise.

The main concept combining the activities in this section is the sale without transformation. If any mechanical or chemical transformation of the products takes place between buying and reselling, the activity should be classified in Manufacturing. Sale without transformation is considered to include the usual operations (or manipulations) associated with trade, e.g. sorting, grading and assembling of goods, mixing (blending) of goods (e.g. wine or sand), bottling (with or without preceding bottle cleaning), packing, breaking bulk and re-packing for distribution in smaller lots, storage (whether or not frozen or chilled), cleaning and drying of agricultural products on own account etc.

Trade activities of products that are not goods have not been included in this section before. The sale of telephone cards has always been given as an example for this. (To be discussed.)

The former tabulation category G in ISIC Rev.3.1 included also the repair of automobiles and household goods. The final allocation of this activity will depend on the decision to be taken on whether or not section 4 (Repair and Maintenance) will be created. For the purposes of this proposal, we are assuming the creation of a separate section 4.

ISIC Rev.3.1 had grouped all activities related to the sale of automobiles, plus some others, in one division (division 50). The issue remains on whether these activities could be neatly allocated in wholesale and retail categories or not, thus possibly eliminating division 50. The repair activities of division 50 would then eventually move to section 4 (Repair and maintenance), if this new section is decided. For the present proposal we are assuming the elimination of division 50.

Possible division structure:

- 7 Trade
- 7.1 Wholesale trade
- 7.2 Retail trade

Wholesale vs. Retail sale

While a subdivision of trade into wholesale and retail seems obvious, the boundary between those two can be defined in different ways. Criteria that can be used are a) the type of customer, b) the size of typical transactions (i.e. bulk sales vs. individual sales) and c) the way of conducting sales, i.e. through sales outlets (stores) or not.

Although a large portion of trade activities will be classified in the same category regardless of the criterion used, there is still a sizeable portion of units affected by a change in criteria.

Currently ISIC uses method a) to classify units in this area. The proposal at this point would be to stay with the ISIC treatment, recognizing that this poses a serious problem to comparability with NAICS. It is recognized at the same time that class of customer data is hard to reliably collect from many units. For example, attempting to separate business customers from household customers at an office supply store or a home center is not possible, so the units are defaulted to either wholesale or retail. NAICS uses a set of criteria based on the characteristics of the selling

unit. Roughly, if a unit is open to the general public for sales without qualification, the unit is retail, while if the unit not open to the general public, it is wholesale. The implementation still allows some leeway. Feedback is needed if countries want to change the current ISIC treatment.

7.1 Wholesale trade

Content:

This division includes the resale (sale without transformation) of new and used goods to retailers, to industrial, commercial, institutional or professional users; or to other wholesalers; or acting as agents in buying merchandise for, or selling merchandise to, such persons or companies. In this sense, wholesaling is an intermediate step in the distribution process, usually involving the sale of large quantities of goods.

Wholesalers may or may not take title to the goods they sell. Wholesale transactions carried out by electronic means are included here.

It also includes the usual manipulations involved in wholesale such as assembling, sorting and grading of goods in large lots, break bulks, repackaging and bottling, redistribution in smaller lots; and the packaging of solid goods and bottling of liquid or gaseous goods, including blending and filtering on own account.

This division could be subdivided into wholesale agents and wholesalers on own account, with the latter further subdivided according to product groups sold.

Relevance:

This division identifies the typically intermediate step in the distribution process, closer connected to the producer than to the final consumer.

Comparability:

This division corresponds, with few exceptions, to NAICS subsector 42 (see below).

Continuity:

This division corresponds to ISIC division 51, but includes also the wholesale of motor vehicles etc., formerly included in ISIC Rev.3.1 division 50.

Boundary issues:

While both ISIC and NAICS include wholesale of waste and scrap (or wholesale of recyclable materials) in this section, there are some differences over the boundary of these categories, with remaining items be allocated to 16.3 in ISIC (old ISIC division 37) and NAICS industry NAICS subsector 562 (Waste management and remediation services).

- Wholesale of bottle exchanges is included in ISIC class 5149 (Wholesale of other intermediate products, waste and scrap), while it is in NAICS sub-group 561 (Administrative Support Services). A differentiation according to the actual function of the bottle exchange units may be necessary.

7.2 Retail trade

Content:

Retailing is the re-sale of new and used goods mainly to the general public for personal or household consumption or utilization, by shops, department stores, stalls, mail-order houses, hawkers and peddlers, consumer co-operatives, auction houses, etc.

Most retailers take title to the goods they sell, but some act as agents for a principal and sell either on consignment or on a commission basis.

The sale through electronic means is included here. This includes activities involving online ordering (e.g. Amazon books), online delivery of goods (downloading) or both.

This division also includes the retail sale by commission agents and the activities of retail auctioning houses.

This current subdivision into specialized retail sale, non-specialized retail sale and non-store retail sale could be maintained.

Relevance:

This division covers the final step in the distribution of merchandise, selling to the end user.

Comparability:

This division corresponds, with few exceptions, to NAICS subsector 42 (see below).

Continuity:

It corresponds to ISIC division 52, except for group 526 (repair of household goods), transferred to the new section 4 (Repair and maintenance). This division also includes the retail sale of motor vehicles, motorcycles etc. as well as the retail sale of automotive fuel, formerly included in ISIC Rev.3.1 division 50.

Boundary issues:

The combined retail and repair of boats (with repair dominating) is in NAICS retail sale, similarly as the combined activity of selling and repairing new cars in automobile dealerships. See general discussion on Repair and maintenance.

Custom finishing and lettering of tombstones is in manufacturing in ISIC, but under retail sale in NAICS.

III.8 Section 8 - Accommodation and food services

This section is based on ISIC 3.1 tabulation category H. In this grouping little change is anticipated at the top levels. Additional changes at lower levels of the structure are detailed in 8.1 and 8.2 below.

This section mainly comprises the activity of providing customers with short-term lodging and/or preparing meals, snacks, and beverages for immediate consumption. The section includes both accommodation and food services because the two activities. Accommodation and food services are both placed here because the two activities are often combined in the same unit.

Included in this section are the activities of lodging units that primarily provide short-stay accommodations for visitors and other travellers. Also included are the activities of units providing longer term lodging for students, workers, and similar individuals. Some units provide only lodging, while others provide a combination of lodging, meals and/or recreational facilities. The activity of units belonging to the Food Services group is to provide complete meals fit for immediate consumption. These units may be traditional restaurants, self-service or take-away restaurants, catering establishments, permanent or temporary food service stands, with or without seating.

The new divisions come from raising groups 551 and 552 by one level and changing their titles for consistency.

Division structure :

- 8 Accommodation and food services
- 8.1 Accommodation
- 8.2 Food services

8.1 Accommodation

Content:

This division includes the provision of lodging, typically on a daily or weekly basis, primarily for short stays by visitors and other travellers away from their primary residence. Also included is the provision of longer term lodging for students, migrant workers and similar individuals.

Activities can broadly be divided into three groups: 1) activities related to the provision of short-stay accommodation, typically on a daily or weekly basis, primarily for visitors and other travellers away from their primary residence, in units such as hotels, motels, inns, resorts, visitor flats, chalets, 2) activities related to the provision of space and facilities, in units such as recreational camps, trailer camps and RV parks and 3) activities related to the provision of lodging for students, migrant workers and other individuals in units such as student residences, dormitories, rooming and boarding houses.

Units included in this division may be engaged in the activity of the provision of lodging facilities with food services and/or recreational facilities.

This division excludes activities related to the provision of long-term primary residences in facilities such as apartments typically leased on a monthly or annual basis classified in Real Estate.

Relevance:

This division separates all kind of lodging units and related facilities from units that basically sell food and/or beverages. The content of this division is important to identify units engaged in the provision of accommodation for the analysis of Tourism.

Comparability:

Corresponds to NAICS subsector 721 (Accommodation)

Continuity:

No change, it corresponds to ISIC group 551.

Boundary issues:

The current treatment puts units combining lodging and food provision and lodging and recreation in this division by default. Spas that also include accommodation are included here by default. The classification of casino-hotels becomes an issue when most of their value added could come from activities outside of the area of accommodations. They are now included here by default. Should the assignment in these cases rather be based on the share of value added?

8.2 Food services**Content:**

This division includes the sale of meals for consumption generally on the premises (e.g. restaurants, fast-food outlets); sale of drinks for consumption on the premises (e.g. bars, nightclubs); sale of meals and drinks, usually at reduced prices to groups mostly linked by ties of a professional nature (e.g. cafeterias); take-out activities; catering; restaurant and bar activities connected to transportation (e.g. dining cars on trains or restaurants on ships, when carried out by separate units).

These activities could also be combined with some form of entertainment.

Lower levels in the structure could consider the following groups:

- Full-service restaurants
- Limited-service restaurants (including take-out)
- Special food services (including catering)
- Bars and nightclubs

Relevance:

This division covers all activities related to provision of meals and drinks by separate units. This division forms another part of tourism related activities.

Comparability:

It corresponds to NAICS subsector 722 (Food services and drinking places).

Continuity:

This division corresponds to ISIC group 552.

Boundary issues:

Serving of beverages in connection with entertainment needs to be clarified, e.g. nightclubs vs. discotheques. Both have entertainment and beverage provision, but are currently classified in

different areas in ISIC. NAICS classifies dance halls and discotheques that do not service alcohol in Sector 71 (Arts, Entertainment and Recreation). Is that a suitable distinction for all countries?

III.9 Section 9 - Transportation and storage

The Section includes activities related to providing passenger or freight transport, whether scheduled or not, by rail, pipeline, road, water or air; supporting activities such as terminal and parking facilities, cargo handling, storage, etc.; renting of transport equipment with driver or operator. Repair services of transportation equipment can now be found in the Repair/Maintenance Section.

The former ISIC 3.1 Section “Transport, Storage and Communications” will see some major changes. The Telecommunications part will be moved to the newly established Information Section, and Travel Agency Services/Tour Operators will also be taken out of that Section (moved to Section 14 Administrative and Support Services) – the rest remains unchanged.

Comparability issues that existed before, e.g. the treatment of scenic transportation as realized in NAICS 487 (Scenic and Sightseeing Transportation) have now been approached and included in the classification. The identification of touristic transport activities is without any doubt useful, although reality shows that these activities are often carried out as secondary activities of units engaged in regular “efficient” transportation. This results in classes that do not really contain what they should or claim.

An outstanding problem is the treatment of mixed mode transportation (urban and suburban passenger transport, using more than one mode of transport over regular routes and on regular schedules) as already addressed in CPC v.1.1. A similar treatment under land transportation could also be realized.

Another issue is the treatment of “Logistics” services: logistics services are additional services along the supply chain provided by the transporter, e.g. just-in-time delivery, supply chain management; logistics is a very broad term and often refers to management itself, but should be used in limited boundaries in a classification. As logistics services often include storage and warehousing as an additional feature but also other support services, Storage is kept under Supporting and auxiliary transport activities.

An additional problem is the treatment of specialized repair services of transportation equipment (e.g. aircraft, railway), which are proposed to fall under 4.1 (Repair and maintenance of transport equipment). Some countries would be in favor of finding repair incidental to transportation under 9.5 (Supporting and auxiliary transport activities).

A decision how transportation should be subdivided has to be found:

- First by mode of transportation: land, water, air (=status quo), then by another criterion (e.g. passenger/freight) or vice versa.
 - passenger vs. freight transportation: some units may carry out both activities at the same time and the primary activity may depend on seasonality, business cycles, etc.
 - a differentiation between scheduled and non-scheduled, as done in the past, could be applied after classifying by mode first: this would require a clear cut definition of what scheduled means (how regular has the service to be provided, are fixed route, fixed stops a sufficient requirement?)

Both differentiations will most likely be addressed at lower levels. However, clearer arguments are needed to prefer one over the other as the initial (high-level) breakdown.

The Division is organized in the following way:

- 9 Transportation and storage
- 9.1 Land transport; transport via pipelines
- 9.2 Water transport
- 9.3 Air transport
- 9.4 Scenic Transportation
- 9.5 Supporting and auxiliary transport activities
- 9.6 Postal and courier activities

9.1 Land transport; transport via pipelines

Content:

This division includes the transport of passengers and freight via road and rail, as well as freight transportation via pipelines.

Relevance:

No changes

Continuity:

No changes to ISIC 60, except removal of Scenic Transportation

Comparability:

NAICS uses several Subsectors (482, 484-486) for identifying the different modes of land transportation on a higher level than ISIC, their content can be aggregated to ISIC Land transportation

Boundary questions:

No changes

9.2 Water transport

Content:

This division includes the transport of passengers or freight on water, whether scheduled or not. Also included are the operation of towing or pushing boats, ferries, water taxis etc. Excluded are excursion, cruise or sightseeing boats (see 9.4).

Relevance:

No changes

Continuity:

No changes to ISIC 61, except removal of Scenic Transportation

Comparability:

See introduction to this category (scenic transportation)

Boundary questions:

Charter fishing boats are considered as scenic transportation.

9.3 Air transport

Content:

This division includes the transport of passengers or freight by air or via space

Relevance:

No changes

Continuity:

No changes to ISIC 62, except removal of Scenic Transportation

Comparability:

See introduction to this category (scenic transportation)

Boundary questions:

No changes

9.4 Scenic Transportation**Content:**

This newly established category includes activities utilizing transportation equipment to provide recreation and entertainment. These activities have a production process distinct from passenger transportation carried out for the purpose of other types of for-hire transportation. This process does not emphasize efficient transportation; in fact, such activities often use obsolete vehicles (e.g. steam trains) to provide some extra ambience. The activity is local in nature, usually involving a same-day return to the point of departure. Activities that are recreational in nature and involve participation by the customer, such as white-water rafting, are generally excluded unless they impose an impact on part of the transportation system. Charter boat fishing, for example, is included.

Relevance:

From an activity point of view scenic transportation is different from regular transportation in respect of operation, efficiency etc. It is also an important component of tourism.

Continuity:

This Division is new in ISIC and can't be compared to any specific ISIC 3.1 classes. Scenic Transportation attributes for land, water and air transportation and breaks parts of former ISIC 3.1 classes 6010, 6021, 6022, 6110, 6120, 6210, 6220 out for inclusion in Scenic Transportation.

Comparability:

By introducing this Division former comparability issues between NAICS and ISIC are resolved.

Boundary questions:

A problem with Scenic Transportation is the dual character of most units involved in this kind of activity. Most units offer scenic transportation as well as regular "efficient" transportation. This could result in misrepresentation of the coverage of this division. Boundary problems arise with certain recreational activities as dinner, gambling, dancing cruises, where – according to the value-added principle the recreational activity might contribute more than transportation itself.

9.5 Supporting and auxiliary transport activities**Content:**

This division includes activities related to handling freight immediately before or after transport or between transport segments. The operation and maintenance of all transport facilities is

included. Travel agency and tour operator services are moved to Section 14 Administrative and Support Services.

Relevance:

Highly relevant Division, especially in the light of a growing service sector related to transportation (“Logistics”).

Continuity:

Removing travel agency and tour operator services will have an impact on the composition of this Section; otherwise this division corresponds to ISIC Rev.3.1 division 63.

Comparability:

The corresponding category in NAICS (488) includes towing of motor vehicles/motorcycles, a Motor vehicle/motorcycle repair activity in ISIC (5020/5040), division 4.1 in this structure, and aircraft maintenance and repair activities carried out at airports (ISIC 3530, division 4.1 in this structure). According to the Convergence Project Scenario, “Storage and Warehousing” is singled out and forms a separate Subcategory (see introduction to this Section).

Boundary questions:

Repair services incidental to transport equipment has to be classified in Repair and Maintenance Services. The liquefaction and re-gasification of natural gas for purpose of transport, not done at the mine site, is included here.

9.6 Postal and courier activities

Content:

Postal activities are the following activities performed by a national postal authority:

- picking-up, transport and delivery (domestic or international) of mail and parcels
- collection of mail and parcels from public letter-boxes or from post offices
- distribution and delivery of mail and parcels
- mailbox rental, poste restante, etc.
- mail sorting
- sale of postage stamps

Courier activities are the same activities as above performed by private firms, usually involved in:

- picking-up, transporting and delivering of letters and mail-type parcels and packages by firms other than national post. One or more modes of transport may be involved and the activity may be carried out with either self-owned (private) transport or via public transport.
- home delivery services (like grocery, restaurant delivery service)

Relevance:

No changes

Continuity:

This Division corresponds to former ISIC group 641, which has been raised by one level.

Comparability:

No differences

Boundary questions:

None

III.10 Section 10 - Information and communication

This is a new section whose structure will be composed of categories extracted from various parts of the classification. There is general agreement that the revised ISIC should include such a category, based upon the Information Sector in NAICS. It comprises units engaged in producing and distributing information and cultural products, in providing the means to transmit or distribute these products as well as data or communications, and in processing data. Its main components are the publishing industries (including software publishing), the motion picture and sound recording industries, the broadcasting and telecommunications industries, and the information services and data processing industries.

This section has been defined in terms of an alternate aggregation in ISIC Rev.3.1. The individual components had been included in several different top-level categories, which has an impact on the continuity of those sections as well. However, this aggregation does not only reflect the need for such a new grouping, but also enhances the definition of other sections of the classification, e.g. by removing publishing from manufacturing.

Possible division structure:

- 10 Information and communication
- 10.1 Publishing activities (except Internet)
- 10.2 Motion Picture and sound recording activities
- 10.3 Broadcasting (except Internet)
- 10.4 Internet publishing and broadcasting
- 10.5 Telecommunications
- 10.6 Internet service providers and web search portals
- 10.7 Other information services

10.1 Publishing activities (except Internet)

Content:

This division comprises the publishing of books, brochures, leaflets, dictionaries, encyclopaedias, atlases, maps and charts; publishing of newspapers, journals and periodicals; directory and mailing list and other publishing (photos, engravings, postcards, timetables, forms, posters, reproduction of works of art and other printed matter).

It also includes software publishing (production, supply and documentation of ready-made (non-customized) software) and publishing of multimedia products, such as CD-ROM reference books. This division excludes publishing of these products on-line (division 10.4), publishing of motion pictures, videotapes and movies on DVD or similar media (division 10.2), production of master copies for records or audio material (division 10.2) and the mass reproduction of media (division 3.5). However, printing in connection with publishing is included here.

Relevance:

All publishing activities are combined, reflecting the commonality between these activities, which are based on acquiring the rights to intellectual property and making those works available to others. This is an improvement over the previous identification of publishing activities in manufacturing, business services and recreational activities.

Comparability:

This division corresponds to NAICS industry-groups 5111 (Newspaper, periodicals, book, and directory publishers) and 5112 (Software publishers).

Continuity:

This division corresponds to ISIC 3.1 group 221 (Publishing), except class 2213 (Publishing of music), plus class 7221 (Software publishing).

Boundary questions:

None.

10.2 Motion Picture and sound recording activities

Content:

This division includes production of theatrical and non-theatrical motion pictures whether on film, video tape or disc for direct projection in theatres or for broadcasting on television; supporting activities such as film editing, cutting, dubbing etc.; distribution of motion pictures and videotapes to other industries but not to the general public; as well as motion picture or video tape projection. Buying and selling of motion picture and video distribution rights is also included.

This division also includes music publishing, i.e. publishing of gramophone records, compact discs and tapes with music or other sound recordings, publishing of printed music, and publishing of other sound recordings. Activities of sound-recording studios are included.

Relevance:

This division comprises all activities related to producing and distributing video and audio recordings, including related services such as provided by motion picture theaters.

Comparability:

This division corresponds to NAICS subsector 512 (Motion picture and sound recording industries).

Continuity:

This division corresponds to ISIC 3.1 classes 2213 (Publishing of music), 9211 (Motion picture and video production and distribution), and 9212 (Motion picture projection).

Boundary questions:

This division does not include Film duplicating (except reproduction of motion picture film for theatrical distribution); wholesale or retail trade of video tapes; renting of video tapes to the general public; activities of personal theatrical or artistic agents or agencies.

10.3 Broadcasting (except Internet)

Content:

This division includes units that create content or acquire the right to distribute content and subsequently broadcast the content. This includes units that operate broadcasting studios and facilities for over the air or satellite delivery of radio and television programs of entertainment, news, talk, and the like. They are often engaged in the production and purchase of programs and generating revenues from the sale of airtime to advertisers and from donations, subsidies, and/or the sale of programs. This also includes units operating studios and facilities for the broadcasting

of programs that are typically narrowcast in nature (limited format, such as news, sports, education, and youth-oriented programming) on a subscription or fee basis.

This division excludes the distribution of cable and other subscription programming (division 10.5) and broadcasting on the Internet (10.4).

Relevance:

This division groups units creating new content (except motion pictures) to be broadcast.

Comparability:

It corresponds to NAICS subsector 515.

Continuity:

It corresponds to ISIC 3.1 class 9213 (Radio and television activities). (See below for boundary)

Boundary questions:

Production of television shows not done in broadcasting facilities is part of ISIC 9213, but excluded from NAICS 515. It is included in NAICS 512: Motion Picture and Sound Recording Industries. If NAICS is used as reference for this category, the link to ISIC 3.1 will change and include only a part of 9213.

10.4 Internet publishing and broadcasting

Content:

This division comprises economic units engaged in publishing and/or broadcasting content on the Internet. These units may or may not provide traditional (non-Internet) versions of the content that they publish or broadcast. Units in this class provide textual, audio, and/or video content of general or specific interest on the Internet. Included are Internet book publishers, Internet entertainment sites, Internet game sites, Internet news publishers, Internet periodical publishers, Internet radio stations, Internet sports sites, and Internet video broadcast sites.

Excluded are retail sale activities conducted over the Internet and operation of Internet gambling websites.

Web search portals (see 10.6) are not considered content providers, although they provide access to information.

Relevance:

This division separately recognizes all publishing activities and content distribution over the Internet.

Comparability:

It corresponds with NAICS subsector 516 (Internet publishing and broadcasting), except for non-exclusive Internet publishers (see boundary questions).

Continuity:

It corresponds to part of ISIC 3.1 class 7240 (Database activities and on-line distribution of electronic content) and does not carry the exclusive Internet restriction.

Boundary questions:

The original intent of this category (ISIC 3.1 class 7240) was to segregate units that exclusively produce by the Internet. For units that combine both traditional and Internet versions of their publications, it may be difficult to allocate the costs of creating the content across several media.

The question of whether this approach should be maintained or units that engage in traditional and Internet publishing combined be classified according to the value added principle needs to be discussed.

10.5 Telecommunications

Content:

This division includes the operation, maintenance, and provision of access to facilities for the transmission of voice, data, text, sound, cable programming, and full motion picture video. A transmission facility may be based on a single technology or a combination of technologies.

Relevance:

This groups all units in this section that are only engaged in the transmission of content, without being involved in creation or obtaining rights.

Comparability:

It corresponds to NAICS subsector 517 (Telecommunications);

Continuity:

It corresponds to ISIC 3.1 group 642 (Telecommunications), excluding Internet access provision and cable and other subscription programming.

Boundary questions:

Internet service providers, even if only engaged in data transmission, are excluded (see 10.6).

10.6 Internet service providers and web search portals

Content:

This division includes the provision of: (1) access to the Internet and (2) search facilities for the Internet, i.e. aiding in navigation on the Internet.

Relevance:

Although quite different in their nature, these activities are typically carried out within the same unit. It is therefore necessary to combine them in one category.

Comparability:

This division corresponds to NAICS industry 5181 (Internet Service Providers and web search portals). NAICS subsector 518 also includes data processing activities, which are part of 13.5 in this draft.

Continuity:

This division corresponds to part of ISIC 3.1 group 7240 (Database activities and on-line distribution of electronic content) and part of 6420 (Telecommunications).

Boundary questions:

None.

10.7 Other information services

Content:

This division includes activities of providing information, storing information, providing access to information, and processing information. This includes news syndicates, libraries, archives, and data processors.

Excluded are similar activities for storing or providing access to on-line information (see 10.6).

Relevance:

This division groups the non-Internet information services.

Comparability:

It corresponds with NAICS subsector 519 (Other information activities)

Continuity:

This division to ISIC 3.1 classes 9220 (News agency activities) and 9231 (Library and archive activities). It also includes part of 7499 (Other business services) to account for the 'Telephone-based information services'.

Boundary questions:

None.

III.11 Section 11 - Financial and Insurance Services

This section comprises units primarily engaged in financial transactions, i.e. transactions involving the creation, liquidation or change of ownership of financial assets. Also included are insurance and pension funding and activities facilitating financial transactions. Units charged with monetary control (the monetary authorities) are included here. Institutional arrangements for these services may differ in many countries.

This section does not include compulsory social security.

Problem: Funds as such have been excluded from the production boundary as such and are therefore not included in ISIC. However, this issue is under discussion. If funds were to be included in the production boundary of the SNA, they would be classified in division 11.1, while management activities of funds would remain in 11.3.

Possible division structure:

- 11 Financial and insurance services
- 11.1 Financial intermediation, except insurance and pension funding
- 11.2 Insurance and pension funding, except compulsory social security
- 11.3 Other financial services

11.1 Financial intermediation, except insurance and pension funding

Content:

This division includes the activity of obtaining and redistributing funds other than for the purpose of insurance or pension funding or compulsory social security. National institutional arrangements are likely to play a significant role in determining the classification of units within this division. Credit-card activities are classified according to type of operator. Financial leasing is included in this division. Security dealing on behalf of others is excluded, as is the activities of grant-making organizations.

This Division is divided into two groups: 1) Monetary intermediation and 2) Other financial intermediation.

Relevance:

No changes

Comparability:

It corresponds to NAICS subsectors 521 (Monetary Authorities – Central Bank), 522 (Credit Intermediation and Related Activities) and 523 (Securities, Commodity Contracts, and Other Financial Investments and Related Activities). However, while in ISIC monetary intermediation is one single category, in NAICS it is divided, in 521 and 522. Similarly, ISIC group 659 (Other financial intermediation) corresponds to NAICS industry groups 5222 (Non-depository Credit Intermediation), 5223 (Activities Related to Credit Intermediation), sub-group 523, and industry 551111 (Offices of Bank Holding Companies).

Continuity:

This corresponds to ISIC division 65 (Financial intermediation, except insurance and pension funding). See also general remark above.

Boundary questions:

Are units acting as agents for banks and the like coded under this division or under 11.3 (Other financial services)?

The differentiation between financial leasing (classified here) and operational leasing (see division 12.2) can be difficult for long-term leases. Clarification is necessary, also for the SNA treatment in this case. Is capitalization of the lease the determining criterion? If so, when is a lease capitalized? The answer to this question could vary from country to country.

11.2 Insurance and pension funding, except compulsory social security**Content:**

This division includes units engaged in setting up and managing insurance funds for all kinds of insurance (life and non-life) and units engaged in the provision of retirement incomes. The activities include spreading of long- and short-term risk, with or without a savings element. In either case, activities involving the collection and investment of related funds are included.

Compulsory social security and auxiliary activities to insurance and pension funding are excluded.

Relevance:

No changes

Comparability:

It corresponds with NAICS industry group 5241 (Insurance Carriers)

Continuity:

It corresponds exactly to ISIC division 66 (Insurance and pension funding, except compulsory social security)

Boundary questions:

Are the services of an actuary considered as an insurance service (if he specializes in insurance related activities) or is this management consulting?

11.3 Other financial services**Content:**

This division includes the provision of services involved in or closely related to financial intermediation, but not themselves involving financial intermediation. The primary breakdown of this division could be according to the type of financial transaction or function that they serve.

[The old title of “activities auxiliary to financial intermediation” seems too narrow, but extensions to scope need to be discussed.]

Relevance:

No change

Comparability:

It corresponds to NAICS industry group 5242 (Agencies, Brokerages, and Other Insurance Related Activities); and NAICS industries 522390 (Other Activities Related to Credit Intermediation), 523130 (Commodity Contracts Dealing), 523930 (Investment Advice), 523991 (Trust, Fiduciary, and Custody Activities) and 523999 (Miscellaneous Financial Investment Activities).

While ISIC groups these activities under one high-level category, NAICS groups them within the various services they support. The scenario proposal includes them under group K3.3 (Insurance related activities), which is part of the division K3 (Other financial industries). Are there indications why one approach is preferable over the other?

Continuity:

It corresponds to ISIC division 67 (Activities auxiliary to financial intermediation).

Boundary questions:

None.

III.12 Section 12 - Real Estate, rental and leasing activities

This Section includes activities of renting, leasing or otherwise allowing use of tangible assets and the provision of related services. For this proposal, the leasing of intangible assets forms a separate division, rather than being a subcategory of all renting and leasing activities. The differences in the characteristics of the units and transactions involved justify such a treatment.

Problem: Should Real Estate, Rental and Leasing be combined at the section level of the new ISIC? The current draft assumes this approach, which is consistent with previous versions of ISIC. An alternate proposal is to leave Real Estate by itself at the section level and move Rental and Leasing to Administrative and Support Services. Does this better reflect a) the importance of Real Estate activities and b) the character of rental and leasing activities?

Possible division structure:

- 12.1 Real estate
- 12.2 Rental and leasing
- 12.3 Leasing of intangible assets (except copyrighted works)

12.1 Real Estate

Content:

This division includes real estate activities with own or leased property, real estate activities on a fee or contract basis and the provision of related services, including management of real estate for others. Also included are building and then maintaining ownership or leasing structures.

Land development, where the developer also engages in Construction (operative builders), incl. local government housing development is placed in Construction.

More or less all activities covered in this Division can be provided to private households as well as to businesses. Number of groups envisaged for this Division is 3:

- 12.1.1 Lessors of residential and non-residential buildings
- 12.1.2 Real estate agencies
- 12.1.3 Activities related to Real Estate

Continuity:

The exclusion of units engaged in development and sale of real estate, but which also engage in construction activities represents maintenance of the status quo with regard to this Division. ISIC and NACE continue to maintain this position, placing those units with Construction. This Division corresponds to ISIC Division 70.

Relevance:

In terms of the overall importance of the Division, examples of two randomly chosen countries, US and Viet Nam show the following: according to figures provided by the US Bureau of Economic Analysis, Real Estate, as a sector contributing to GDP, has contributed on average 11% over the past four years. In the case of Viet Nam, for example, Real Estate and Renting has averaged 5% of GDP over the past five years. Similar trends can be seen in many other countries, underscoring the appropriateness of having Real Estate activities elevated to the Division level in their own right.

Additionally, ISIC has never explicitly accounted for leasing of intangible assets (except copyrighted works) before.

Comparability:

This division corresponds to NAICS Subsector 531.

Boundary questions:

- Land subdivision should this be placed here, or with construction. Suggested treatment: as a practical matter, this almost always involves construction and should be placed in construction. (See land development below).
- Land development, where the developer also engages in construction (operative builders, including local government housing development. Suggested treatment: Developers who only conduct the paper activities of buying and selling remain in Real Estate. Developers who may be involved in construction activities (even if all such activities are outsourced) are placed in Construction.
- Management of government buildings (in ISIC 3.1 in Public administration)
- Lessor/owner of railroad structures with and without operation of the lines. More recently, train station owners may also function as real estate developers, renting to stores, etc. but not engaging in transportation. (boundary to other supporting transport activities, ISIC 3.1 class 6304)
- Distinction between Accommodation and Real Estate should be by use of short-term versus non short-term stay (the term short-term is to be defined)

12.2 Rental and leasing

Content:

This division includes activities of renting of personal and household goods, transport equipment, agricultural, construction, engineering equipment, etc. The length of the rental may be short- or long-term. The machinery and equipment may be provided with or without maintenance. The following groups are envisaged:

- 12.2.1 - Renting of transport equipment
- 12.2.2 - Renting of other machinery and equipment (including office equipment)
- 12.2.3 - Renting of personal and household goods, n.e.c.

Continuity:

This division corresponds to former ISIC 3.1 division 71, with similar breakdown as proposed.

Relevance:

Rental and leasing continues to be a significant economic grouping.

Comparability:

This division corresponds to NAICS subsector 532.

Boundary questions:

- The treatment of long-term leases can be problematic. It requires essentially revisiting the boundary between financial and operative leases in the SNA.
- Issue raised earlier: Videotape and disc rental. Are activities similar in nature to those included in Recreational cultural and sporting activities, such as distribution of motion pictures? Argument of household expenditure similarity has been used here. ISIC/NACE and NAICS keep them in this category. Suggested placement: remain here with rental

and leasing as the process is one of rental and leasing and we are not using purpose as a criterion.

12.3 – Leasing of intangible assets (except copyrighted works).

Content:

The activities in this division include assigning rights to assets, such as patents, trademarks, brand names, and/or franchise agreements for which a royalty payment or licensing fee is paid to the asset holder. Only one group is proposed for this Division.

Continuity:

Previously, these activities were never explicitly accounted for in ISIC. Is a new category now warranted for these activities and is the category better accounted for at division level as opposed to placing it within the division on Rental/Leasing activities? As these activities were interpreted to be part of financial intermediation, ISIC 3.1 class 6599, this would impact on continuity.

Relevance:

With the steady increase in the number of branded products, these activities are gaining greater importance within developed and developing economies.

Comparability:

This division corresponds to NAICS Subsector 533.

Boundary issues:

None.

III.13 Section 13 - Professional, Scientific and Technical Services

Content:

The Professional, Scientific and Technical Services section comprises professional, scientific and technical activities performed for others. These activities require a high degree of expertise and training. The units in this section specialize according to expertise and provide these services to clients in a variety of industries and, in some cases, to households. Activities performed include: legal advice and representation; accounting and bookkeeping and payroll services; architecture, engineering and specialized design services; technical testing and analysis services; computer services; management and management consultancy services; research and development services; advertising services and other services such as market research and polling services, photography services, translation and interpretation services and other miscellaneous professional, scientific and technical services.

Possible division structure:

- 13.1 Legal services
- 13.2 Accounting services
- 13.3 Architecture and Engineering services
- 13.4 Technical testing and analysis
- 13.5 Computer Services
- 13.6 Management and management consultancy services
- 13.7 Research and development
- 13.8 Advertising services
- 13.9 Other professional, scientific and technical services

Relevance:

The increase of the services sector in most economies continues to dictate the need for recognition of specific categories of professional, scientific and technical services. Conceptually, the similarity criterion that is being implemented in this division is that the major input into all these activities is the provision of services requiring high skill levels/specific expertise.

Continuity:

This section is a newly elevated one, comprising elements that were formerly part of division 74 and which were formerly segregated at class level. It provides the opportunity to better recognize each of the specific skill groups or areas of expertise. The impact on continuity is therefore expected to be minimal.

Comparability:

This section corresponds to NAICS divisions 54 and 55.

Boundary questions:

- Arbitration and conciliation (except by attorneys or paralegal professionals) is placed in Other Professional Scientific and Technical Services – 5419 in NAICS. In ISIC they are split, placed in Business Management and Consultancy services if they are non-government but in Public Administration Regulation of and contribution to more efficient operation of business, if they relate to government.
- activities of writers of technical publications (legal and other scientific or professional trade journals, text books, articles, etc.); are they placed with the relevant professional,

scientific or technical service, or are they placed with Independent authors, writers, performers in Section 19.

13.1 Legal Services

Content:

This division includes legal activities, involving representation of one party's interests against another before a court or other judicial body or under supervision of persons who are members of the bar. It also includes providing the expertise of general counselling and advising as well as preparation of legal documents. The expertise may be for a specific area of law or across a range of areas of law. Also included are the drafting, approving or executing of legal documents and the receiving, indexing and storing such documents. Provision of expertise of legal practitioners and other legal or paralegal services are included.

Continuity:

This division corresponds to ISIC Rev.3.1 class 7411. The impact on continuity should be minimal.

Comparability:

This division corresponds to NAICS industry group 5411.

Relevance:

This division covers legal services, which is a growing area of the economy in developed and developing countries.

Boundary:

No boundary questions have been raised concerning this Division.

13.2 Accounting Services

Content:

This division includes the provision of services such as recording of commercial transactions, auditing accounting records, preparing financial accounts and records, budgets, personal and business tax returns; processing of payrolls, advisory activities and representation (other than legal) on behalf of clients. It does not include data processing and tabulation management consultancy or bill collection.

Continuity:

This division corresponds to ISIC Rev.3.1 class 7412. The impact on continuity should be minimal.

Relevance:

This division covers accounting services, which have recently been shown to command intense interest, as a sector of the economy in many developed countries. Conceptually, the similarity criterion that is being implemented in this division is that the major input into all the activities carried out is the provision of accounting type expertise to clients. It is conceptually consistent with the other contents of Section 13 in this regard.

Comparability:

This corresponds to NAICS group 5412.

Boundary questions:

None.

13.3 Architecture and Engineering Services**Content:**

This division includes architectural consulting services, machinery and plant design, elaboration of projects using air-conditioning, refrigerating, sanitary and pollution control engineering, acoustical engineering, etc. It also includes geological and prospecting activities, weather forecasting activities, geodetic surveying activities and landscape architectural services.

Continuity:

This division corresponds to ISIC Rev.3.1 class 7421. The impact on continuity should be minimal.

Relevance:

This division covers "architecture and engineering and design services" which is a well-recognized sector of the modern economy in developed and developing countries.

Comparability:

This division corresponds to NAICS industry group 5413, except for NAICS industry 54138 (Testing laboratories).

Boundary questions:

- Geological and prospecting activities are included in this Division. With respect to exploration activities for oil and gas, metals and non-metallic minerals, etc, for example, are these appropriately placed here, or would they be better placed with Mining. NAICS places them with Mining activities.
- For landscape and architectural services, is a distinction needed between the design and the maintenance portions of this activity? Were they to be split, should the maintenance portion be placed in Division 14.7 - Services to Building and Dwellings and Industrial Cleaning Services.

13.4 Technical Testing and Analysis**Content:**

This division includes testing and inspection of all types of materials and products, certification of products including consumer goods, motor vehicle, aircrafts, pressurized containers, nuclear plant, etc. It also includes periodic road-safety testing of motor vehicles, testing with use of models or mock-ups. Tests performed may be physical, chemical or other, such as acoustics or vibration, assaying, biological testing (except medical and veterinary), calibration testing, electrical and electronic testing, geo-technical testing, mechanical testing, non-destructive testing or thermal testing. Measuring related to cleanness of water or air, measuring of radioactivity and the like and analysis of potential pollution such as smoke or wastewater is also included.

Continuity:

This division corresponds to ISIC Rev.3.1 class 7422. The impact on continuity should be minimal.

Relevance:

Conceptually, the similarity criterion that is being implemented in this division is that the major input into all the activities carried out in this division is the provision of testing type expertise to clients. It is conceptually consistent with the other contents of Section 13 in this regard.

Comparability:

This division corresponds to NAICS industry 54138, i.e. at a lower level than other divisions in this section.

Boundary questions:

- Automotive emissions testing services are included here (NAICS – Repair and maintenance)
- Veterinary testing in relation to food production is included here (NAICS – Veterinary services)
- Government laboratories such as the FDA and police labs are in Public Administration in ISIC Rev.3.1, while NAICS includes them here. The NAICS treatment should be adopted, putting emphasis on the activity, not the ownership of the unit.

13.5 Computer Services**Content:**

This Division includes activities of 1) consultancy on type and configuration of hardware with or without associated software applications by analysing the users' needs and problems and presenting the best solution, 2) software consultancy including the writing of custom software programs, 3) data processing services and 4) other computer related activities.

Software publishing and on-line distribution of electronic content has been excluded and placed in the Information and Communication Section.

Continuity:

This is a reconstituted division, consisting of portions of the former Division 72 - Computer and related activities, now corresponding only to ISIC Rev.3.1 classes 7210 (Hardware consultancy), 7229 (Other software consultancy and supply), 7230 (Data processing) and 7290 (Other computer related activities).

Former ISIC 7221 (Software publishing) has been excluded and is now placed in section 10 (Information), while ISIC 725 (Maintenance and repair of office, accounting and computing machinery) has been placed in section 4 (Repair and Maintenance). The overall impact on continuity can be expected to be minimal as entire classes are being moved.

Relevance:

This new division provides an agglomeration of computer activities that is separate from the "information content" portion of computer activities. It can therefore serve as a useful analytical tool.

Boundary:

There are no boundary questions regarding this Division.

13.6 Management and Management Consultancy Services

Content:

This division includes the provision of advice or operational assistance to businesses and the public service in planning, organization, efficiency and control, information management, decision-making or other management services. Activities classified here may also include 1) holding the securities of (or other equity interests in) companies and enterprises; 2) administering, overseeing and managing other establishments of the company or enterprise without holding the securities of these establishments 3) simultaneously administering, overseeing and/or managing other establishments of the company or enterprise and holding the securities (or other equity interests in) these establishments.

Continuity:

This division corresponds to ISIC Rev.3.1 class 7414. Educational support services relating to the services of guidance counsellors, curriculum development, testing specialists, etc, have now been removed and placed in new Division 17.2 – Education Support Services. The impact on continuity should be minimal.

Comparability:

This division relates to two NAICS industry groups NAICS 5416 – Management, Scientific and Technical Consulting (see boundary question below) and NAICS 5511 – Management of Companies and Enterprises. These two portions could comprise the two Groups of this Division.

Relevance:

This Division, merging of management consultancy and management operational services, gives a more complete picture of management services.

Boundary questions:

- only non-financial holding companies were included in this division in ISIC Rev.3.1, financial holding companies were included under Financial Intermediation. While NAICS combines these activities, this seems to violate the treatment prescribed by the SNA (Annex I, para.21).
- Also - See Comparability issue in Division 13.2 above (Design of Accounting Methods and procedures).
- Executive search consulting services are classified under management consulting services in NAICS 5416, while being treated as employment services in ISIC (see 14.3)

13.7 Research and Development**Content:**

This division includes three types of research and development: 1) basic research, 2) applied research and 3) experimental development.

Continuity:

No changes are proposed to former Division 73 – Research and Development. There would therefore be no negative impact on continuity.

Relevance:

This division continues to respond to the need to segregate Research and Development activities as a separate economic grouping.

Comparability:

This division corresponds to NAICS industry group 5417.

Boundary questions:

There are no boundary questions for this Division. However, with regard to Research and Development, is there a need to specify R&D for specific fields or using specific methods, e.g. biotechnology, at lower levels?

13.8 Advertising Services**Content:**

This division includes the creation and realization of advertising campaigns. The contents of this class would be identical with former Group 743 – Advertising, now being elevated to Division level.

Continuity:

No changes are proposed to former sole Group 743 - Advertising. As the activities in this class are already categorized at Group level, there should be no negative impact on continuity.

Relevance:

This division continues to respond to the need to segregate Advertising Services activities as a separate economic grouping. It is now being accorded a higher degree of importance with its elevation to Division level.

Comparability:

This division corresponds to NAICS industry group 5418.

Boundary questions:

- NAICS includes public relations agencies in Advertising (ISIC Rev.3.1 7414 - Business and management consulting)
- NAICS includes merchandise demonstration and mannequin decoration in Advertising (ISIC 7499 – Other business services)
- Potential overlap with Section 14 – Administration and Support Services: mailing activities in connection with advertising campaigns, letter shop services, merchandise demonstrations.

13.9 – Other Professional, Scientific and Technical Services**Content:**

Proposal is being made to incorporate Market research and opinion polling services ISIC 7413, Photography Services 7494, Translation and Interpretation, part of ISIC 7499 into this Division, along with “Other” to make a total of four Groups under the Division – Other Professional Scientific and Technical Services. The Division would therefore include the provision of professional, scientific, or technical services, (except legal services, accounting, tax preparation, bookkeeping and related services; architecture and engineering services; technical testing and analysis; computer services, management and management consultancy services; research and development; advertising services).

Continuity:

This newly constituted division would contain portions of Division 74, some of which, like Translation and Interpretation represent only a part of an individual class. This would therefore be expected to have an adverse effect on continuity.

Relevance:

A residual “Other” class is an imperative in making a division such as this complete. It is not defined by its contents, but by what has been excluded from it. The proposed contents of this Division are of minor significance and therefore should not have an adverse effect on the integrity of the division.

Comparability:

This division corresponds to NAICS industry group 5419 (Other professional, scientific and technical services), except for NAICS industry 54194 (Veterinary activities) – linked to ISIC health services.

Boundary questions:

- Arbitration and conciliation (except by attorneys or paralegal professionals) is placed in Other Professional Scientific and Technical Services – 5419 in NAICS. In ISIC they are placed in ISIC 7414 – Business Management and Consultancy services if they are non-government and in Public Administration, ISIC 7513 – Regulation of and contribution to more efficient operation of business, if they relate to government.
- NAICS also includes Fish stock management in professional services, which ISIC places under Fishing
- NAICS also includes consumer credit and debt counselling in professional services, which ISIC places under social activities

III.14 Section 14 - Administrative and support services

This section is another possible breakdown of current tabulation category K. This possible grouping would include a variety of services that are used in the day-to-day operation of businesses, but do not only support a specific industry. In this sense, incidental services are excluded. The support services included here could include cleaning and janitorial services, security services, employment services, facilities support services and similar activities (including the travel agency services described under transportation and storage). The TSG saw both relevance improvements and comparability improvements with the separation of support services from other professional and technical services.

As an alternative, rental and leasing services could be included in this grouping as a support service.

As many of these services have accumulated in ISIC 74, especially 7499, the demand for reorganizing and restructuring this area necessarily limits the links to previous ISIC versions.

Possible division structure:

- 14 Administrative and support services
- 14.1 Office Administrative Services
- 14.2 Facilities Support Services
- 14.3 Employment Services
- 14.4 Business Support Services
- 14.5 Travel Agents, Tour Operators and other Reservation Services
- 14.6 Investigation and Security Services
- 14.7 Services to Buildings and Dwellings and Industrial Cleaning Services
- 14.8 Other Support Services

Comment: In the 1997 US Census, the share of these divisions was:

	Establishments	Total sales
14	260025	256590745
14.1	24537	28054350
14.2	2490	7575712
14.3	34569	86133314
14.4	32920	36026350
14.5	36578	21484040
14.6	21494	20444077
14.7	80807	29914507
14.8	26630	26958395
For comparison:		
Total mining	25000	173988778

14.1 Office Administrative Services

Content:

This division includes the provision of a range of day-to-day office administrative services, such as financial planning; billing and record keeping; personnel etc. for others on a contract or fee basis.

Units classified in this division do not provide operating staff to carry out the complete operations of a business. Units engaged in one particular aspect of these activities are classified according to that particular activity.

Relevance:

This category allows the separate identification of businesses that provide bundled services for the operation of other businesses, rather than specializing in individual aspects. If the size of this division is too small, it could be combined with other business support services, although this would limit comparability.

Comparability:

This category corresponds to NAICS industry group 5611.

Continuity:

As a mix of business support activities, these activities were formerly part of ISIC 7499, but not separately identifiable.

Boundary questions:

- delineation with individual services in transportation and delivery services, accounting services etc. are as described above
- does not include complete operation of the business, which would be classified under the corresponding code for the client unit

14.2 Facilities Support Services

Content:

This division includes the provision of operating staff to perform a combination of support services within a client's facilities. Units classified here typically provide a combination of services, such as janitorial; maintenance; trash disposal; guard and security; mail routing; reception; laundry; and related services to support operations within facilities. These economic units provide operating staff to carry out these support activities; but are not involved with or responsible for the core business or activities of the client.

Relevance:

This division allows the separation of activities for "running" a building from actual real estate activities. The type of service performed and type of revenue generated is substantially different for these activities.

Comparability:

This category corresponds to NAICS industry group 5612.

Continuity:

These activities were included as Management of real estate on a fee or contract basis in ISIC 7020, but not separately identified.

Boundary questions:

Economic units operating correctional facilities (i.e., jails) on a contract or fee basis are included in the corresponding NAICS category, but have been under ISIC 75 in the past. The definition of public administration has to be considered here. Units that are providing a service of running a facility should be included here.

14.3 Employment Services

Content:

This division includes activities of 1) listing employment vacancies and referring or placing applicants for employment, where the individuals referred or placed are not employees of the employment agencies, 2) supplying workers to clients' businesses for limited periods of time to supplement the working force of the client, where the individuals provided are employees of the temporary help service unit (However, these units do not provide direct supervision of their employees at the clients' work sites.) and 3) Co-employment agencies. The PEO is the employer of record for the employees on matters relating to payroll, taxes, and other fiscal and human resource issues. In this case the client is responsible for direction and supervision of employees.

Relevance:

Provision of employment services to businesses and individuals is an important service to businesses. These activities also have a political importance.

Comparability:

This category corresponds to NAICS industry group 5613 (see also boundary question below).

Continuity:

These activities correspond to ISIC 7491 (Labour recruitment and provision of personnel), but also include theatrical casting agencies, which are part of ISIC 9249 (Other recreational activities).

Boundary questions:

- agents for individual artists etc. are not included here
- executive search activities are included here, while being classified as management consultancy services in NAICS 5416

14.4 Business Support Services

Content:

This division includes support activities that are ongoing routine business support functions that businesses and organizations traditionally do for themselves. Further subdivision of this division could recognize the different types included here:

- Document Preparation Services
- Business Service Centers
- Call Centers
- Collection Agencies
- Credit Bureaus
- Other Business Support Services

Relevance:

This division reflects the growing importance of businesses providing specific services to businesses that used to be carried out by the businesses themselves as part of their regular operation.

Comparability:

This category corresponds to NAICS industry group 5614.

Continuity:

These activities are now included in ISIC 7499, but (even in their entirety) not separately identifiable.

Boundary questions:

- NAICS 5614 also includes tax collection, which is in ISIC 75 (definition of public administration is important here, similar to 14.2)

14.5 Travel agents, tour operators and other reservation services**Content:**

This division includes activities of (1) *Travel Agencies* (agents in selling travel, tour, and accommodation services to the general public and commercial clients), (2) *Tour Operators* (arranging and assembling tours which are sold through travel agencies or tour operators), (3) *Tourism offices and similar facilities* and (4) *Reservation and ticket services* providing travel arrangement and reservation (e.g., airline, car rental, hotel, restaurant) services or ticket (e.g., amusement, sports, theatrical) services.

Relevance:

This division addresses the separation of providing travel arrangement and ticketing services separate from the actual transportation or event service. The typical combination of these activities (sale of various types of tickets by the same unit) eliminates the partial allocation to transport, recreation and sports services in ISIC Rev.3.1. The grouping “Ticket sales” is not specialized enough to be placed in transportation, as it is a grouping that supports Hotels and Accommodation, Transportation and Arts and recreation.

Comparability:

This division corresponds to NAICS industry group 5615.

Continuity:

This division includes all activities of ISIC 6304 (Activities of travel agencies and tour operators; tour assistance activities n.e.c.), plus portions related to ticket sales from ISIC 9214, 9219, 9241, 9249.

Boundary questions:

None.

14.6 Investigation and Security Services**Content:**

This division includes security-related services such as: (1) investigation and detective services; (2) guard and patrol services; and (3) picking up and delivering money, receipts, or other valuable items with personnel and equipment to protect such properties while in transit (4) selling security alarm systems, such as burglar and fire alarms, along with installation, repair, or monitoring services or (5) remote monitoring of electronic security alarm systems.

Relevance:

Investigation and security services can be provided to businesses and also individuals. While they may be important for the operation of the business, they are not part of the day-to-day operation and should not be combined with other business support services. They were separately recognized in ISIC, although at a more detailed level.

Comparability:

This division corresponds to NAICS industry group 5616.

Continuity:

These activities correspond to ISIC 7492.

Boundary questions:

NAICS 5616 includes locksmiths that are included in ISIC 5260 (Repair of personal and household goods), as they may provide a wider range of services beyond the repair and maintenance of locks.

14.7 Services to Buildings and Dwellings and Industrial Cleaning Services

Content:

This division includes activities of (1) interior and exterior cleaning of buildings of all types, including offices, factories, shops, institutions and other business and professional premises and multiunit residential buildings, window cleaning, chimney cleaning and cleaning of fireplaces, stoves, furnaces, incinerators, boilers, ventilation ducts and exhaust units; (2) cleaning of industrial machinery, cleaning of trains, buses, planes, etc., cleaning of the inside of road and sea tankers, disinfecting and exterminating activities for buildings, ships, trains, etc., bottle cleaning; (3) street sweeping, snow and ice removal; (4) provision of landscape care and maintenance services and/or installing trees, shrubs, plants, lawns, or gardens and provision of these services along with the design of landscape plans and/or the construction (i.e., installation) of walkways, retaining walls, decks, fences, ponds, and similar structures.

This division excludes agricultural pest control, steam-cleaning, sand blasting and similar activities for building exteriors (see 6.3), carpet and rug shampooing, drapery and curtain cleaning (see 20.2). Cleaning of new buildings immediately after construction is also excluded (see 6.3).

Relevance:

Activities for industrial cleaning of buildings and other objects and extermination activities in non-agricultural settings are treated in a clearer defined way than before. The core of these activities was already separately identified in ISIC, but at a more detailed level.

Comparability:

This category corresponds to NAICS industry group 5617 and portions of NAICS subsector 488 for specialized transportation related cleaning services, such as street sweeping and rail car cleaning.

Continuity:

This category corresponds to ISIC 7493. Also included are small portions of ISIC 0140 (Agricultural and animal husbandry services) for landscaping and 9000 for extermination activities and snow removal.

Boundary questions:

- agricultural pest control, see [agriculture]

14.8 Other support services

Content:

This division comprises all remaining support activities. NAICS has singled out Packaging and Labelling services, as well as Trade show organizers for breakdown at the next level, accounting for 10 and 15 percent, respectively, of this division.

Relevance:

Catch-all category for support services.

Comparability:

This division corresponds to NAICS industry group 5619.

Continuity:

This division corresponds to remaining parts of ISIC 74, i.e. class 7495 and parts of 7499.

Boundary questions:

Due to the nature of this division, there will be a number of small support activities that may have different treatment in ISIC and NAICS now.

III.15 Section 15 - Public administration and defence; compulsory social security

This section covers activities of a governmental nature, i.e. the enactment and judicial interpretation of laws and their pursuant regulation, as well as the administration of programmes based on them. Legislative activities, taxation, national defence, public order and safety, immigration services, foreign affairs and the administration of government programmes are activities that are purely governmental in nature.

This section therefore includes activities normally carried out by the public administration. However, the legal or institutional status is not, in itself, the determining factor. This means that activities classified elsewhere in ISIC do not fall under this section, even if carried out by public administrations. For example, administration of the school system (i.e. regulations, checks, curricula) falls under this section, but teaching itself does not (see section 17), and a prison or military hospital is classified to health (see section 18). Similarly, some activities described in this section may be carried out by non-government units.

Actual organization of the activities involved may differ among countries. This may also result in different needs for additional breakdown in this section. Therefore, no change in structure is proposed. One option would be to raise the current groups 751, 752 and 753 to the division level as described below.

The exact scope of this section has an impact on other sections within the classification, such as the Professional, scientific and technical services (section 13) or the Administration and Support Services (section 14). While there seems no doubt that government administration functions are to be included in this division, the issue becomes more critical in the case of operating programmes or facilities. While in general the operation aspect has been moved to the corresponding sections in ISIC in the past, a number of operating activities remained in division 75, as they were considered to be typical government operations. However, privatization of once traditional government activities changes the boundaries in this case (example: tax collection).

Our goal is to find a way to handle the range of government activities that are performed in a consistent and meaningful manner, taking into account the data collection and measurement issues and the conceptual basis of a classification. One possible way to do this is a blanket exclusion for operating units (with output other than administration, policy, legislative, executive, etc) from the public administration grouping and treat it as purely as possible as administration only. A second option is to use the above treatment but make certain exceptions for the traditional functions of government such as police, courts and national defense.

If the public administration section is limited to only administration and oversight rather than operating units, it will be relatively straight forward to treat newly outsourced activities (they would not be in public administration to begin with) and there would be little or no overlap with other categories. The treatment could (and probably should) be extended to include specific exceptions if there is a desire to retain police, courts, national defense, international affairs, and similar within the section. The only problem would be negotiating the list of specific exceptions. This would lead to a smaller and conceptually clearer set of exceptions than in the previous ISIC.

15.0 Public administration and defence; compulsory social security

Content:

This division includes activities of a governmental nature, normally carried out by the public administration. This includes the enactment and judicial interpretation of laws and their pursuant regulation, as well as the administration of programmes based on them, Legislative activities, taxation, national defence, public order and safety, immigration services, foreign affairs and the administration of government programmes. This division also includes compulsory social security activities.

Relevance:

This division covers typical government administration functions.

Comparability:

This division corresponds to NAICS sector 92, with the exception international organizations (ISIC section 22).

Continuity:

This category corresponds to group 75 of ISIC Rev.3.1.

Boundary questions:

These boundary questions (except for the first one) are typical examples of the general discussion above, excluding operating activities from this section.

NAICS US includes only government units in this section. For ISIC, the status of units in the institutional sector classification is not relevant here. However, in some of the following examples the previous ISIC treatment has put legal status over actual activities carried out.

- government archive (operating) (NAICS – Information)
- management of government buildings (NAICS – real estate)
- police laboratories (NAICS – testing; professional services)
- private contract operation of prisons (NAICS – facilities support; business services)
- tax collection on a contract or fee basis (NAICS – business services)
- vehicle license issuing on a contract or fee basis (NAICS – business services)
- commercial fire fighting (NAICS – business services)
- international disaster or conflict refugee services (NAICS – social services)

* * * * *

Alternate structure for this division (raising of current groups to the division level)

Possible division structure:

- 15.1 Administration of the state and the economic and social policy of the community
- 15.2 Provision of services to the community as a whole
- 15.3 Compulsory social security activities

The number of boundary questions (between 15.1 and 15.2), and problems in linking to NAICS would increase.

III.16 Section 16 – Water supply; sewage, waste management and remediation

This is a newly proposed Section, presented as one possible way of representing elements of Environment and Sanitation in ISIC. This Section represents one scenario that is conservative in its recognition of the need for continuity. The creation of this section is expected to enhance the usefulness of the classification, at an analytical level. However, it was agreed not to use the words “environment”, “sanitation” or “recycling” in the name, as these concepts tend to connote a wider and more inconsistently defined range of concepts than those being presented in this category.

This new section would be comprised of three divisions:

Div 16.1 - Water collection and supply; sewage

Div 16.2 - Waste treatment and disposal

Div 16.3 – Remediation activities

These are environmental activities that are seen to impact more directly on human health, but which do not span the breadth of environmental activities within a given economy.

Content:

This Section includes the activities of operating water treatment, distribution or supply facilities. It also includes the operation of sewer systems or sewage treatment facilities and the collection, treatment and disposal of waste materials other than waste through sewer systems or sewage treatment facilities. Remediation and other waste management activities are also included.

Relevance:

The impetus for changes in ISIC to better reflect environmental type activities has come mainly from the Questionnaire on main issues for the revision of ISIC and CPC for 2002. This expressed the need for categories dealing with:

- (a) environmental services;
- (b) environmental protection services;
- (c) ecological treatment activities for protecting the environment;
- (d) categories for treatment of hospital and similar bio-waste;

Also, with regard to ISIC Division 37 – Recycling, a desire to have it remain separate, but with enhanced definition of its boundaries to render it more useful, was indicated.

The international agencies, which made responses concerning environment activities, expressed the wish to see a classification of environmental activities that would facilitate “horizontal” analysis – aggregating of environment related categories across Sections/Divisions, as opposed to a structure where environment related activities are concentrated within a single identified higher level structure. This appeared to be pointing to a need for an Alternate Aggregation structure. In addition, reflecting these demand-based activities in a common structure would be difficult to harmonize with the principles of an activity classification. This position was taken into account in the discussions that led to the changes that are currently being proposed.

Continuity:

This section now encompasses the former Divisions 37, 40 and 41 and cuts across parts of Division 90. The obvious disadvantage of this structural change is that it would cause a rearrangement of categories that risks disruption of time series. Former Division 90 would now be split into portions in each of the three newly proposed Divisions. The advantage of such a

section however, would be similarity in character of the categories within the Section, which would make for conceptual consistency and completeness of the Section.

Comparability:

An analogous section does not exist in NAICS, combining “waste management and sanitation”, “processing of waste and scrap” and “environmental remediation and abatement type services”. Portions of this Section relate to NAICS 221 (Utilities) and other portions relate to NAICS 562 (Waste Management and Remediation). There is also an overlap with NAICS industry 42393 (Recyclable Material Merchant Wholesalers).

Division 16.1 – Water collection and supply; sewage

Content:

This Division covers the activity of providing water supply through a permanent infrastructure (network) of lines, mains and pipes. It also includes activities of operating sewer systems or sewage treatment facilities.

Relevance:

This Division is designed to segregate water supply and sewage system activities, as part of a larger “environmental” type section.

Continuity:

This Division is the same as former Division 41 along with a portion (sewage) of former Division 90.

Comparability:

This is a newly created Division; it combines elements of former Divisions 41 and 90. Its contents do not align precisely with a similarly constructed category – 2213 in NAICS, as outlined under Boundary questions.

Boundary questions:

Operation of irrigation systems is included in NAICS 2213 (Water, Sewage and Other Systems), see also boundary questions for 1.1.

Division 16.2 – Waste treatment and disposal

Content:

This Section includes activities of collection and disposal of waste materials - including hazardous and non-hazardous materials - for which the generator has no further use for own purposes of production, transformation, or consumption and which he wants to dispose of. Incidental transport is included, but not long distance transport of waste (see 9.1).

The Section also includes the processing of waste and scrap and other articles, whether used or not, into a form feasible to be transformed into new materials. A transformation process is required, either mechanical or chemical. Typical is that in terms of commodities, input consists of waste and scrap, the input being sorted or unsorted, but normally unfit for direct use in an industrial process whereas the output is made fit for direct use in an industrial manufacturing process. The resulting secondary raw material is to be considered as an intermediate good, with a value, but is not a final new product.

Excluded from this Division are the operation of sewer systems or sewage treatment facilities, as well as activities of treating, storing or disposing of solid and hazardous wastes or media or debris, which are being treated or managed for implementing cleanup.

Relevance:

This Division continues to respond to the need for a category that includes the environmental type elements: waste and recycling.

Continuity:

This Division is analogous to Division 37 and part of Division 90 that covers waste treatment and disposal.

Comparability:

This Division corresponds to NAICS category 5622 – Waste treatment and disposal. There is also an overlap with NAICS industry 42393 (Recyclable Material Merchant Wholesalers), as some of the activities previously covered in ISIC 3.1 division 37 are considered to be wholesale of waste and scrap in NAICS.

Boundary questions:

See above.

Division 16.3 – Remediation activities

Content:

This Division includes remediation and waste management activities, including remediation and cleanup of contaminated buildings, mine sites, soil or ground water.

Continuity:

This division covers activities that were formerly included in ISIC division 90. However, there has always been an issue with remediation activities that involve construction, such as asbestos removal. It would therefore have an impact on continuity, but the new treatment facilitates the classification of such activities.

Relevance:

This division covers activities relevant from environmental an environmental point of view. Legal requirements often separate these activities from construction, while the capital input separates them from divisions 16.1 and 16.2.

Comparability:

This Division approximates category 5629 Remediation and Other Waste Management Services in NAICS.

Boundary questions:

See above (asbestos removal etc.).

III.17 Section 17 - Education

This Section includes activities of providing education and training in a wide variety of subjects, at different levels, to different audiences and through different means. Also included in this section is the provision of non-instructional services that support educational processes or systems.

A question to be raised concerns the disaggregation within the Division. How are the education activities and education levels to be linked? Is for example adult literacy to be considered at the same level with primary education? In ISCED, they are placed together. Nevertheless, it is worth enquiring whether units providing adult literacy programs generally provide other adult education or whether they generally provide primary education. Have countries established homogeneity ratios for this?

Division structure:

- 17.1 - Education
- 17.2 - Education support services

17.1 Education

Content:

This division includes the provision of education and training in a wide variety of subjects. It includes public as well as private education at any level or for any profession, oral or written as well as by radio and television or other communication means. It comprises education by the different institutions in the regular school system at its different levels, as well as adult education, literacy programmes, etc. Also included are military schools and academies, prison schools etc. at their respective levels. The instruction or training should be provided by specialized units.

The constituent groups for the Education division however remain disaggregated in keeping with ISCED levels for education:

- Primary education
- Secondary education
- Higher education
- Other education

The type of school or field of education / training can be used at lower breakdowns.

Relevance:

The Education division continues to be relevant to developing and developed economies. Proper categorization within the Division would prove an asset to the classification.

Continuity:

This division corresponds to ISIC Rev.3.1 division 80 (Education).

Comparability:

This division corresponds to NAICS industry group 6111-6116 (i.e. subsector 611, except education support services).

Boundary questions:

- Should all types of training be in Education? For instance, when does training or instruction for sporting and recreational activities fall under education?
- Educational TV (Classes in Math, GED prep. etc). Are these activities similar in nature to motion picture, video production, etc. or classified under Education? Are these separate activities, or is this a product concept?

17.2 Education Support Services

Content:

This division includes the provision of non-instructional services that support educational processes or systems, covering activities of educational consultants and curriculum development specialists, student exchange programs, educational guidance provision, education brokers, etc.

Relevance:

The services of guidance counsellors, curriculum development, testing specialists, etc. are well established and separate aspects of education, deserving of segregation into a separate category. As these activities specifically support education, they are not placed with general support services in section 14.

Continuity:

As this is a newly proposed division, the impact on continuity would be significant. Most of these services are now located in Business Services (ISIC 7414) as well as in Administration.

The negative impact on continuity may however be outweighed by the availability of the new category to economic / education that contributes to conceptual completeness for the category.

Comparability:

This division corresponds to NAICS Industry group 6117. Creation of this division would greatly enhance comparability.

Boundary questions:

None.

III.18 Section 18 - Health and Social Services

18.0 Health and Social Services

Content:

This division includes the provision of health care by diagnosis and treatment, the provision of residential care for medical and social reasons, as well as the provision of social assistance, such as counselling, welfare, child protection, community housing and food services, vocational rehabilitation and child care, to those requiring such assistance. Also included is the provision of veterinary services.

Three groups are proposed for Division 18.1:

- 18.0.1 Human health
- 18.0.2 Veterinary services
- 18.0.3 Social Work

Continuity:

No changes are proposed to former Division 85 – Health and Social Work. There would therefore be no negative impact on continuity.

Relevance:

This division continues to respond to the need to segregate services of health and social work as an economic grouping. Veterinary services remain part of this Division.

Comparability:

This division corresponds to NAICS sector 62. However, international disaster and conflict refugee services are included in this NAICS sector, but are classified under foreign affairs activities in ISIC. This will be affected by the scope of Public Administration (see section 15).

Boundary questions:

- Boundary between social and health services, e.g. for Varying degrees of medical care ranging from services which are almost entirely accommodation in nature, through services that are mostly medical care, with accommodation provided (Nursing/ rehabilitation facilities, vs. hospitals); different treatment in ISIC (according to involvement of health care) and NAICS (always in social services)
- Family planning - Depends on the services provided by individual units. These are not uniform, they may be medical in nature or purely advisory or a combination.
- “Spas” – those with a clear health care function, but including accommodation

III.19 Section 19 - Arts, entertainment and recreation

This division includes the operation of facilities and provision of services to meet the cultural, entertainment, recreational and sports interest of their customers. This includes the production, promotion of and participation in live performances, events or exhibits intended for public viewing; the provision of artistic, creative or technical skills for the production of artistic products and live performances; the preservation and exhibition of objects and sites of historical, cultural or educational interest and the operation of facilities and provision of services that enable customers to participate in sports or recreational activities or pursue amusement, hobbies and leisure-time interests.

Due to the implementation of an Information section former division 92 (Recreational, cultural and sporting activities) is split between new section 10 (Information) and this section 19. As far as possible the former structure was kept, nevertheless some fundamental changes complicate the comparability to ISIC 3.1. As selling tickets for a diversity of performances, facilities, etc. has become a separate activity, often operated independently, this service moves to 14 (Administrative and support services).

Possible division structure:

- 19.1 Dramatic arts, music and other arts activities
- 19.2 Museums, historical sites, botanical and zoological gardens and nature reserves
- 19.3 Gambling and betting activities
- 19.4 Other entertainment and recreation activities

Division 19.1 - Dramatic arts, music and other arts activities

Content:

This division includes the

- production of live theatrical presentations, concerts and opera or dance productions and other stage productions:
- activities of groups or companies, orchestras or bands
- activities of individual artists such as actors, directors, musicians, authors, lecturers or speakers, sculptors, painters, cartoonists, stage-set designers and builders, etc.
- operation of concert and theatre halls and other arts facilities.

The activities of personal theatrical or artistic agents or agencies and casting activities are excluded (see 14.8 and 14.3 respectively). Also excluded is the operation of cinemas (see 10.2). At a lower level, a distinction between performing artists and other artists (such as painters, sculptors, writers etc.) could be made.

Relevance:

This division covers the provision of cultural activities to audiences, usually through direct contact, unlike the creation and distribution of cultural content in Section 10 (Information).

Continuity:

Time series continuity is assured, as this Division did exist on class-level in ISIC 3.1. However, as ticket sales for performing arts are treated as a business service activity, differences to ISIC 9214 have occurred.

Comparability:

NAICS groups performing arts companies (7111) and independent artists, writers, etc (7115) in separate classes on a lower level. Therefore comparability is assured.

Boundary issues:

- Should Circuses, puppet shows, dance companies, comedy troupes, etc. be included here or 19.4?
- “Museum-type” restoring of works of art (paintings, furniture, etc) which usually requires higher and different skills, is included here, while other “normal” restoration is considered a Repair and maintenance activity (section 4).
- Activities of independent writers of scientific or professional books, articles etc. could be included in Section 13

19.2 Museums, historical sites, botanical and zoological gardens, and nature reserves**Content:**

This division includes:

- operation of museums of all kinds:
- art museums, museums of jewellery, furniture, costumes, ceramics, silverware
- natural history, science and technological museums, historical museums, including military museums and historic houses
- other specialized museums
- open-air museums
- operation and preservation of historical sites and buildings
- operation of botanical and zoological gardens, including children's zoos
- operation of nature reserves, including wildlife preservation etc.

A proposed further breakdown, similar to ISIC 3.1, would be separate a) museums, historical sites and buildings from b) botanical and zoological gardens and nature reserves.

Relevance:

Allows identification of activities for the preservation and exhibition of objects of historical, cultural, and/or educational value.

Continuity:

This Division corresponds to ISIC 3.1 classes 9232 and 9233.

Comparability:

This Division is fully comparable to NAICS 7121.

Boundary issues:

None.

19.3 Gambling and betting activities**Content:**

This division includes the operation of gambling facilities, such as casinos, including floating casinos (i.e., gambling cruises, riverboat casinos), bingo halls, and video gaming terminals, and the provision of gambling services, such as lotteries and off-track betting.

Casino hotels are excluded (see 8.1).

Relevance:

Identification of gambling and betting are separated from other recreation activities, reflecting the high (financial) value of these activities and legal considerations.

Continuity:

These activities were previously recorded under ISIC 3.1 9249 (Other recreational activities) and are now identified separately. This is a split of a previous class, therefore no impact on comparability is expected.

Comparability:

Corresponds to NAICS 7132.

Boundary issues:

Casino hotels, where the majority of value added is generated by gambling – should they still be in accommodation (see also 8.1)?

19.4 Other entertainment and recreation activities

Content:

The division comprises a wide range of activities related to the operation of facilities or provision of services to meet various cultural, entertainment, and recreational interests of their patrons. This division comprises (1) activities of producing, promoting, or participating in live performances, events, or exhibits intended for public viewing, other than those in 19.1, and (2) the operation of facilities or provision of services that enable patrons to participate in recreational activities or pursue amusement, hobby, and leisure-time interests.

Separating sports activities on a lower level, similar to ISIC 3.1, would still be possible.

Relevance:

Serves as a residual Division.

Continuity:

As mentioned under 19.3 former class 9249 has been split into divisions 19.3 and 19.4. Specialized ticket sales for events, performances etc. falling into this division will be recorded in division 14.5. Furthermore casting agencies are now recorded as employment services (14.3).

Comparability:

By and large this Division corresponds to NAICS 7139 (Other Amusement and Recreation Industries) with the main difference that ski lift operators are part of this NAICS industry group, while they are a transportation activity in ISIC and NACE.

Boundary issues:

- While spectator sports will unanimously be part of this Division, a clear definition of (active) sportive recreation would make the distinction between education/training and recreation easier. Where does sport as a recreation stop and professional sports training begin? Can the following definition be used: participant is not paid to participate – activity is recreational; participant is paid to participate – activity is a professional sport.

- Discotheques can be placed under recreation as well as under bars/restaurants (see boundary issues under 8.2).
- The treatment of fishing cruises involves transportation and could therefore go under scenic and sightseeing transportation, although the character is different, since the client gets involved in the activity (similar: white-water rafting, parasailing, water-skiing).
- Fine art schools: recreation versus education
- Sports clubs and sports leagues: the activity of a sports club is very close to a membership organization with the specific purpose of providing recreation. If sports clubs were classified under recreation, one would consequently have to classify other membership organizations by their purpose.
- Tourist guide services would be included here, which were in former ISIC 6304.

III.20 Section 20 - Other Services

Compared to ISIC 3.1 the content under the heading “Other Services” has been expanded. It is now largely a merger of Divisions 91 (Activities of membership organizations n.e.c.) and 93 (Other Service Activities). The scope of heading “Other Services” in NAICS is quite different.

As far as membership organizations are concerned a general concept of what they are and how to treat them would be favourable. ISIC Division 91 only comprised membership organizations n.e.c., which raises the question whether, in the case where similar activities are being performed, the purpose of the organization should be the primary criterion for classifying it.

Possible division structure:

- 20.1 Activities of membership organizations
- 20.2 Other service activities

20.1 Activities of membership organizations

Content:

This division includes activities of organizations representing interests of special groups or promoting ideas to the general public. These organizations usually have a constituency of members, but their activities may involve and benefit non-members as well. The primary breakdown of this division is determined by the purpose that these organizations serve, a) interests of employers, self-employed individuals and the scientific community, b) interests of employees, c) or promotion of religious, political, cultural, educational or recreational ideas and activities.

This breakdown could be used on the subsequent level (as in ISIC 3.1).

Relevance:

No changes

Continuity:

No changes to ISIC 3.1, Division 91.

Comparability:

Corresponds to NAICS 813 (Religious, grant-making, civic, professional and similar organizations).

Boundary issues:

Although this division corresponds to a great degree with NAICS 813, here in ISIC, grant-making is thought to resemble financial services and is therefore placed under Financial intermediation (current ISIC 3.1 Class 6599/new ISIC Section 12 – Finance and Insurance). Of course, this would only have an impact if grant-making is the primary activity.

Sports leagues (teams) are seen as recreational activity in both, ISIC and NAICS, but the leagues as regulating bodies would go under 19.4 (Other arts, entertainment and recreational activities) in ISIC, but in 20.1 in NAICS.

20.2 Other service activities

Content:

This division serves as a residual Division of all services not classified in one of the preceding Sections (7-19). Therefore it includes a list of not too closely related services, including:

- Washing and (dry-) cleaning of textile and fur products
- Hairdressing and other beauty treatment
- Funeral and related activities
- Other service activities n.e.c.

Relevance:

Residual Division to the whole services block.

Continuity:

No changes

Comparability:

This Division corresponds to NAICS 812 (Personal and Laundry Services).

Boundary issues:

- A unit that only presses jeans for a manufacturer was treated as textile manufacturing in the previous ISIC version, but included here in NAICS. This reflects the general discussion on captive units (see Concepts Paper). If the coding is based solely on the activity of the unit, it should be classified here.
- Carpet cleaning plants and performed on premises are grouped together in the Convergence Scenario (as does ISIC), while NAICS singled out carpet cleaning done on premises as a Repair/Maintenance service (561 Carpet and upholstery cleaning services).
- The following items are part of NAICS personal services, but were not under ISIC 3.1:
 - Parking lot operation: ISIC transportation support activity (6303)
 - Pay telephone concession operators: ISIC telecommunication (6420)
 - film developing and photo printing laboratories, and one hour photo shops not part of camera stores: ISIC photographic activities (7494)
 - baby shoe bronzing: ISIC Repair of personal and household goods (5260)

III.21 Section 21 – Households

This section is usually excluded from mainstream ISIC applications, related to industrial surveys. Its content is somewhat inhomogeneous, covering a) households as employers, b) goods producing activities of households for own use and c) service producing activities of households for own use. No change of the treatment in ISIC Rev.3.1 is intended.

Divisions 21.2 and 21.3 cover activities that should theoretically be allocated to other parts of the classification (often focusing on agriculture, food production, textile production and construction). Included here are those units, where such an allocation is, for practical reasons, not possible due to the mix of activities carried out and the lack of any accounting methods that make such an allocation. These divisions have special applications for labour force surveys and the like.

In NAICS, activities of private households are included under Other Services, which is closer to ISIC section 20.

Possible division structure:

- 21 Households
- 21.1 Activities of households as employers of domestic personnel
- 21.2 Undifferentiated goods-producing activities of private households for own use
- 21.3 Undifferentiated service-producing activities of private households for own use

21.1 Activities of households as employers of domestic personnel

Content:

This division includes the activities of households as employers of domestic personnel such as maids, cooks, waiters, valets, butlers, laundresses, gardeners, gatekeepers, stable-lads, chauffeurs, caretakers, governesses, babysitters, tutors, secretaries, etc. It allows the domestic personnel employed to state the activity of their employer in censuses or studies, even though the employer is an individual.

The product, which is self-consumed, is considered non-market and assessed according to the cost of the personnel in the national accounts. These services cannot be provided by companies.

Relevance:

This division covers one portion of household activities for own use, this one involving employment of domestic staff.

Comparability:

This division corresponds to NAICS group 814 (Private households) and NACE division 95.

Continuity:

This category corresponds to Division 95 of ISIC Rev.3.1.

Boundary questions:

None.

21.2 Undifferentiated goods-producing activities of private households for own use

Content:

This class contains the undifferentiated subsistence goods-producing activities of households, that is the activities of households that are engaged in a variety of activities that produce goods for their own subsistence. These activities include hunting and gathering, farming, the production of shelter and clothing and other goods produced by the household for its own subsistence. In application, if households are also engaged in the production of marketed goods, they are classified to the appropriate goods-producing industry of ISIC. If they are principally engaged in a specific goods-producing subsistence activity, they are classified to the appropriate goods-producing industry of ISIC.

Relevance:

This division covers another portion of household activities for own use. Unlike for division 21.1 employment of non-household members is not typical here. Activities carried out here are within the production boundary of the SNA.

Comparability:

This division corresponds to NACE division 96. There is no equivalent in NAICS for these activities.

Continuity:

This category corresponds to Division 96 of ISIC Rev.3.1.

Boundary questions:

None.

21.3 Undifferentiated service-producing activities of private households for own use

Content:

This class contains the undifferentiated subsistence services-producing activities of households. These activities include cooking, teaching, caring for household members and other services produced by the household for its own subsistence. In application, if households are also engaged in the production of multiple goods for subsistence purposes, they are classified to the undifferentiated goods-producing subsistence activities of households.

Relevance:

This division covers another portion of household activities for own use. Unlike for division 21.1 employment of non-household members is not typical here. Activities carried out here are not within the production boundary of the SNA.

Comparability:

This division corresponds to NACE division 97. There is no equivalent in NAICS for these activities.

Continuity:

This category corresponds to Division 97 of ISIC Rev.3.1.

Boundary questions:

None.

III.22 Section 22 – Extraterritorial organizations

Due to the size (in terms of statistical values) of this section, a breakdown may not be necessary. One option would be the separation of national and international units.

An alternate proposal is to include these activities as a separate subcategory of Public Administration (section 15).

22.0 Extraterritorial organizations

Content:

This class includes the activities of international organizations such as the United Nations and its specialized agencies, regional bodies, etc., the International Monetary Fund, the World Bank, the Customs Cooperation Council, the Organization for Economic Cooperation and Development, the Organization of Oil Producing and Exporting Countries, the European Communities, the European Free Trade Association, etc.

This class also includes activities of diplomatic and consular missions when being determined by the country of their location rather than by the country they represent.

Relevance:

This section is relatively small in terms of economic size and importance. However, the units represented in here are not a part of the reporting economy, but part of the ROW account in the National Accounts. They therefore have to be separated from domestic units in the other sections of ISIC.

Comparability:

This category corresponds to a part of NAICS industry 928120 (International affairs). This NAICS(US) class covers establishments of U.S. and foreign governments primarily engaged in international affairs and programmes relating to other nations and peoples.

Continuity:

This category corresponds to Division 99 of ISIC Rev.3.1.

Boundary questions:

None.

IV Correspondence between ISIC Rev.3.1 and the ISIC Rev.4 draft

44. The following table shows the correspondence between the previous version of ISIC and the draft in this document. The correspondence shows the detailed level, if necessary, of the ISIC Rev.3.1 that corresponds to the new draft. The majority of cross-links and splits results from the introduction of new concepts, such as information or repair, which necessarily cut across exiting ISIC categories. The correspondence is not considered final, pending a number of boundary decisions listed in the draft, and should be seen only as an indication of the existing links. Boundary issues are marked with an asterisk. A link without a description is usually an obvious main (or default) link.
45. Links shown with an asterisk (*) next to their description indicate boundary questions mentioned in the text. These links may not be applicable, pending the outcome of discussions on the boundary issues. In general, these links are very small in size.

ISIC Rev.3.1	ISIC Rev.4	Comment / Description of minor detail
A		
011	1.1	gathering of mushrooms or truffles
012	1.1	
013	1.1	
014	1.1	
0140	14.7	landscaping
015	1.3	
02	1.2	
B		
0501	1.4	
0501	3.1	fish processing on fishing boats involved in fishing (*)
0502	1.5	Aquaculture
C		
10	2.1	
10	2.5	support services
1110	2.2	
1120	2.5	support services
1120	9.5	liquefaction not done at the mine site
12	2.3	
12	2.5	support services
13	2.3	
13	2.5	support services
14	2.4	
14	2.5	support services
1422	3.1	table salt processing
D		
15	3.1	
16	3.1	
17	3.2	
18	3.2	
19	3.2	
1920	3.2	rubber shoe parts(*)
1920	3.8	plastic shoe parts(*)
20	3.3	
21	3.4	
2211	10.1	
2212	10.1	
2213	10.2	
2219	10.1	
222	3.5	
223	3.13	mass reproduction of recorded media (*)
23	3.6	
2330	3.7	uranium enriching (*)
2330	3.10	uranium smelting and refining (*)
2330	16.2	radioactive waste treatment (*)
24	3.7	
24	3.13	production of blank CD's, DVD's, VC's
2429	3.1	iodized salt

25	3.8	
2519	3.2	raingear, shower curtains, bathing caps, aprons, etc. (*)
2520	3.7	cellophane film (*)
26	3.9	
27	3.10	
28	3.11	
28	4.3	repair only
2899	3.10	vertically integrated activities: Metal products that are manufactured in wire-drawing plants (e.g. Shopping carts, steel chairs, aluminum/steel cables, used as conductors) (*)
291	3.12	
292	3.12	
293	3.14	electric domestic appliances only
293	3.16	non-electric domestic appliances (e.g. space heaters, cooking ranges, grates, stoves, etc.)
29-35	3.16	residual category for activities in former Divisions 29-35, that don't fit somewhere else into the new structure (*)
30	3.12	non-electric office machinery (e.g. mechanical typewriters, staplers)
30	3.13	electronic office machinery
30	3.13	production of toner cartridges (*)
30	3.14	electric office machinery only
31	3.13	electronic components only (e.g. electronic transformers, switches, connectors)
31	3.14	
31	4.3	repair only
3130	3.10	vertically integrated activities: Metal products that are manufactured in wire-drawing plants (e.g. Shopping carts, steel chairs, aluminum/steel cables, used as conductors) (*)
32	3.13	
321	3.14	electrical parts like condensers, resistors, capacitors (*)
33	4.3	repair only
331	3.16	non-electronic measuring instruments (*)
3312	3.13	e.g. electronic medical thermometers (*)
3313	3.13	electronic industrial process control equipment (*)
332	3.13	electro-optical photographic lenses, binoculars, etc. (*)
332	3.14	optic fibre cable (*)
332	3.16	spectacles (*)
333	3.13	e.g. electronic parking meters (*)
333	3.14	electrical clocks
333	3.16	mechanical watches and clocks (*)
34	3.15	
34	4.1	repair only
35	3.15	
35	3.15	repair of ships in floating dry-docks (*)
35	4.1	repair only
3511	3.8	plastic/rubber boats and life rafts (*)
3512	3.8	plastic/rubber boats and life rafts (*)
3599	3.10	vertically integrated activities: Metal products that are manufactured in wire-drawing plants (e.g. Shopping carts, steel chairs, aluminum/steel cables, used as conductors) (*)
36	3.16	
36	4.3	repair only

3691	3.9	manufacturing of precious and semiprecious stones for jewellery (*)
3699	3.2	(leather) horse whips and riding crops
3699	3.2	(textile) powder puffs and mitts (*)
3699	3.3	handles for umbrellas and canes, blocks for smoking pipes (*)
3699	3.7	matches (*)
3699	3.8	hard surface floor coverings, combs, hair curlers (*)
37	16.2	
E		
401	5.1	
401	7.1	transmission (low voltage), delivery, brokerage of electricity (*)
401	9	transmission (high voltage) of electricity (*)
402	5.2	
402	7.1	transmission (long distance), delivery, brokerage of gas (*)
403	5.3	
41	16.1	
F		
451	6.3	
4510	2.5	site preparation for mining, overburden removal, test drilling on a fee or contract basis (*)
452	6.1	
452	6.2	
453	6.3	
454	6.3	
455	6.3	
G		
501	7.1	
501	7.2	
502	4.1	
503	7.1	
503	7.2	
504	4.1	
504	7.1	
504	7.2	
505	7.2	
51	7.1	
521	7.2	
522	7.2	
523	7.2	
524	7.2	
525	7.2	
5260	4.1	repair of bicycles only
5260	4.2	
H		
551	8.1	
552	8.2	
I		
60	9.1	
6010	9.4	scenic transportation
6021	9.4	scenic transportation
6022	9.4	scenic transportation
61	9.2	

6110	9.4	scenic transportation
6120	9.4	scenic transportation
62	9.3	
6210	9.4	scenic transportation
6220	9.4	scenic transportation
63	9.5	
6304	14.5	
641	9.6	
6420	10.5	
6420	10.6	
J		
65	11.1	
6599	12.3	lessors of intangible assets
66	11.2	
67	11.3	
K		
70	12.1	
7020	14.2	
71	12.2	
7210	13.5	
7221	10.1	
7229	13.5	
7240	10.4	
7240	10.6	
7250	4.3	
729	13.5	
73	13.7	
7411	13.1	
7412	13.2	
7413	13.9	
7414	13.6	
7414	17.2	educational support services
7421	2.5	exploration services, on a fee or contract basis (*)
7421	13.3	
7422	13.4	
743	13.8	
7491	13.9	
7491	14.3	
7492	14.6	
7493	14.7	
7495	14.8	
7499	10.7	Telephone-based information services
7499	13.9	
7499	14.1	
7499	14.4	
7499	14.8	
L		
75	14.2	operation of jails by private units
75	14.4	tax collection by private units
75	15.0	
M		

80	17.1	
N		
85	18.0	
O		
9000	14.7	extermination services, street cleaning and snow removal
9000	16.1	sewage treatment
9000	16.2	waste treatment and disposal
9000	16.3	remediation and waste management
91	20.1	
921	19.1	
9211	10.2	
9212	10.2	
9213	10.3	
9214	14.5	ticket sales and reservations for art events
9219	14.5	ticket sales and reservations for circus, amusement parks etc.
9220	10.7	
9231	10.7	
9232	19.2	
9233	19.2	
9241	14.5	ticket sales and reservations for sport events
9249	14.3	casting agencies
9249	14.5	ticket sales and reservations for fairs, shows etc.
9249	19.3	gambling and betting
9249	19.4	
93	20.2	
P		
95	21.1	
96	21.2	
97	21.3	
Q		
99	22.0	