

ISIC Rev.4 (draft)

Manufacturing and Repair

UNSD

Areas of Discussion

- Divisions of manufacturing with substantial changes:
 - 26 Computer and electronic product manufacturing
 - 27 Manufacture of electrical equipment
 - 28 Manufacture of machinery and equipment n.e.c.
 - 31 Manufacture of furniture
 - 32 Manufacturing n.e.c.

Areas of Discussion (continued)

- More specific manufacturing changes (new class concepts)
 - Perishable and prepared foods
 - Treatment of nuclear activities
- Vertical integration rules in ISIC
- New classes for manufacturing regardless of the primary material input
 - Caskets?
 - Signs?
 - Gaskets?
 - Others?

Areas of Discussion (continued)

- Repair and maintenance
 - 422 Motor repair and maintenance
 - 33 Repair, maintenance and installation of machinery and equipment
 - 85 Repair of computers and personal and household goods

Electronic vs. Electrical

ISIC Rev 4 includes sections that differentiate between electrical and electronic products – the products used in electricity distribution and heavy electrical applications (e.g., distribution transformers) and miniature versions used in electronics (e.g. transformer used in laptop computer)

Division 26 Computer and Electronic Product Manufacturing

Draws together the manufacture of electronic products such as semiconductors, integrated circuits, electronic capacitors, electronic resistors, printed circuit boards, electronic connectors, computers and computer peripherals, consumer electronic products, communications equipment, electronic instruments, high-tech medical equipment (such as x-ray, MRI, PET, CAT-Scan, etc.) and magnetic and optical media from throughout the manufacturing section of ISIC Rev 3.1

Brought together because of similar production processes, keen interest in technology manufacturing (e.g., OECD definition of ICT Goods industries), and outdated classification practices in ISIC Rev.3.

New Industries for ISIC in Division 26

- 2610 Manufacture of electronic components
- 2620 Manufacture of computers and peripheral equipment
- 2650 Manufacture of measuring, testing, navigating, and control equipment
- 2660 Manufacture of irradiation, electromedical, and electrotherapeutic equipment
- 2680 Manufacture of magnetic and optical media

Division 27 Manufacture of Electrical Equipment

Brings together a range of electrical equipment (and some nonelectric equipment) such as electric motors, electric generators, electrical distribution transformers and electrical distribution capacitors, batteries, electrical wiring devices, lighting equipment, domestic appliances, and other electrical equipment

Grouped separately from electronics because of different production processes and producers, similar production processes as a group, and the need to regroup existing areas broken up to create division 26 and 28.

New Industries for ISIC Division 27

2730 Manufacture of wiring devices

- Wide range of current carrying and non current carrying devices used in electric wiring systems
- Created to follow production practices of units
- Includes a variety of input materials (e.g., metal and plastic junction boxes) and products (e.g., light switches, outlets, junction boxes, conduit, etc.)

New Industries for Division 27

(continued)

2790 Manufacture of other electrical equipment, n.e.c.

- While there was a similar industry, this industry has significantly different content (parts from 8 ISIC Rev 3 industries)
- Old 3190 went to 11 ISIC Rev 4 industries

Division 28 Manufacture of machinery and equipment, n.e.c.

Draws together a significant portion of ISIC Rev 3.1 division 28 with some notable exceptions:

- new industry for manufacture of fluid power equipment
- moved manufacture of weapons and ammunition to fabricated metal products and to vehicles

Notable changes in Division 28

- 2812 Manufacture of fluid power equipment
 - Hydraulic and pneumatic components, such as pumps, motors, cylinders, valves, hoses, and fittings
- Moved weapons and ammunition to fabricated metals and fighting vehicles to motor vehicles

Division 31 Manufacture of Furniture

ISIC Rev. 4 proposes splitting the manufacture of furniture into a separate division. The manufacture of furniture is significant in many regions of the world. The current draft includes only a single industry 3100 for furniture.

Should this class be broken into more detailed classes and if so, what should be the criterion for classes?

- primary material (wood, metal, plastic, etc.)?
- use of furniture (office, home, commercial, etc.)?
- type of furniture (seating, cabinets, beds, tables, etc.)?

Division 32 Manufacturing n.e.c.

One major change to miscellaneous manufacturing is the exclusion of furniture as just discussed.

Miscellaneous manufacturing is always going to be a mixture of activities and processes by default.

Several new classes proposed with new grouping concepts

New industries in Division 32

- 3211 Manufacture of imitation jewellery and related articles
- 3250 Manufacture of medical and dental instruments and supplies; protective safety equipment
- 3291 Manufacture of signs

Goal of the new industries is to separately identify common activities that will stand alone.

Additional Industries For Consideration

- Using the same concept that was applied to propose a sign industry, other industries are possible:
 - Caskets
 - Gaskets
 - Window blinds and shades
 - Others?

Other notable new industries

- 1075 Manufacture of prepared meals and dishes
 - for units that are manufacturing “TV dinners”, frozen entrees, frozen meals of meat, potatoes, and vegetables, etc.
- 1076 Perishable prepared foods
 - for units that prepare and package fresh foods for sale at retail locations rather than for immediate consumption as would be the case for restaurants. Examples are sandwiches packaged and labeled for individual sale (including nutrition information, expiration date or other required information), prepared packaged salad greens, or other fresh food products sold at convenience stores and similar locations.

More notable changes in manufacturing

- Treatment of activities related to radioactive metals and nuclear fuels
 - Mining of ores classified to mining (ISIC 0722)
 - Primary smelting or refining of radioactive metals in primary metals (ISIC 2420)
 - Enriching uranium, preparation of fuels, treatment and conversion of spent nuclear fuels in chemicals (ISIC 2011)
 - Radioactive in-vivo diagnostic substances are classified in pharmaceuticals (ISIC 2100)
- Numerous small changes – refer to draft

Repair and Maintenance

Portions of Repair and Maintenance Addressed in ISIC Rev. 4

- Machinery and equipment
- Consumer and household goods
- Motor vehicles
- Computers
- Construction and constructions

Repair and Maintenance

- In ISIC Rev.3:
 - Classification of construction repair and machinery repair assumes that the same units or similar units perform the activities
 - Classification of motor vehicle repair, and consumer and household goods repair assumed that separate units performed the repair

New Classes for Repair and Maintenance in Manufacturing

- 33 Repair, maintenance and installation of machinery and equipment
 - 3311 Repair and maintenance of fabricated metal products
 - 3312 Repair and maintenance of machinery and equipment
 - 3313 Repair and maintenance of electronic and optical equipment
 - 3314 Repair and maintenance of electrical equipment
 - 3315 Repair and maintenance of transport equipment, except motor vehicles
 - 3319 Repair and maintenance of other equipment
 - 3320 Installation of industrial machinery and equipment

ISIC Rev 4 Treatment of Other Repair and Maintenance

4220 Maintenance and repair of motor vehicles

4240 Sale, maintenance, and repair of motorcycles and related parts and accessories

85 Repair of computers and personal and household goods

8511 Repair and maintenance of computers and peripheral equipment

8512 Repair of communications equipment

8521 Repair and maintenance of consumer electronics

8522 Repair and maintenance of household appliances and home and garden equipment

8523 Repair and maintenance of footwear and leather goods

8524 Repair of furniture and home furnishings

8529 Repair and maintenance of personal and household goods, n.e.c.

Other General Issues for Discussion in Manufacturing

- Treatment of vertical integration
- Treatment of combined activities

Treatment of vertical integration

Vertical integration exists when a single unit produces inputs and consumes most or all of those inputs producing additional outputs

Examples:

- making steel and fabricated steel structural members
- making paper and converted paper products
- making primary copper and drawing copper wire

Vertical Integration

- ISIC Rev 3.1 treatment was to classify to the last step.
 - Making steel and fabricating structural members is classified with structural members
 - Making paper and converted paper products is classified to converted paper products
 - Smelting copper and making wire is classified to wire manufacturing

ISIC Rev 4 Vertical Integration

- Use value added
 - Raises questions on a case by case basis
 - in the absence of step specific value added data, which step contributes the most to value added?
 - Paper example, is the conversion of pulp into paper the major value added component or is the conversion of paper to converted paper products the most value added? What if the conversion is simply ruling and printing?

Use default classifications in ISIC?

- One way to avoid inconsistencies is to provide specific guidance in ISIC –
 - Making steel and further processing fabricated metal products goes to making steel
 - Making paper and further converting the paper goes to paper
 - Making primary copper and further drawing wire goes to primary copper production

Combined Activities

Combined activities present problems similar to vertical integration.

Example:

- Selling and repairing of cars.

The primary activity can shift over time due to economic circumstances leading to industry classification changes even though the unit that is the subject of classification is exactly the same.