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Definitions of Brazilian Mining and Manufacturing Sectors and Their Conversion

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Various different sector definitions were and are used for the classification of Brazilian mining and manufacturing industries. The present report lists those definitions (in the appendix) and suggests conversions to two common sector definitions for the USA: Conversions from *CNAE* (Brazil) to *NAICS* (US) and back, and from *SIC* (US) to *Nível 100* (Brazil). The conversions between *CNAE* and *NAICS* are particularly valuable for cross-country comparisons since *NAICS* is now applied jointly by the USA, Canada and Mexico, while *CNAE* resembles sector definitions in other MERCOSUR economies.

Disclaimer: The converters presented here are suggestive. Even the ‘strict’ converters attempt sector matches at possibly fine levels. They do this at the price of slight incompatibilities. The ‘loose’ converters allow even more incompatibilities in select sectors to achieve sector matches at still finer levels.

All converters and auxiliary files can be obtained as comma separated value (*.csv) and as Stata 6 (*.dta) files from

<http://www.econ.ucsd.edu/~muendler/html/brazil.html>

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Table 1: NUMBER OF CLASSES BY SECTOR DEFINITION

<i>Nível</i>		<i>CNAE</i>		<i>SIC</i>		<i>NAICS</i>	
Level	No.	Digits	No.	Digits	No.	Digits	No.
100	66	4	283	4	490	6	495
80	63	3	107	3	160	4	91
50	32	2	28	2	24	3	24

All converters discussed here are constructed such that the mapping target is unique. In other words, every converter is a function that maps the source classification uniquely to the target classification. This principle necessitates a mapping to higher-order (less-digit) classifications than the source classification itself exhibits. In some instances, a very small number of product groups with differing classifications can result in a very rough mapping of the converter. Therefore, I offer two sets of converters: (i) A set of strict converters that avoid incompatibilities at the price of rough mappings, and (ii) a set of less strict converters that tolerate a certain degree of incompatibility in select sectors to obtain a finer mapping for all sectors.

Table 1 compares the degree of differentiation in different sector definitions. It shows the number of sector classes by classification system and degree of precision. Even the finest available Brazilian classification system *CNAE* is considerably less detailed (283 classes) at the finest grid than the US systems *SIC* (490 classes) and *NAICS* (495 classes). At the intermediate and low precision level, however, *CNAE* is as fine or finer than the respective US systems.

1 Conversions between *CNAE* (Brazil) and *NAICS* (US)

The sector mappings between *CNAE* (Brazil) and *NAICS* (US), and the resulting converters, are derived in a series of algorithms from the base map *naic-ctae*, which is available from

<http://www.econ.ucsd.edu/~muendler/html/brazil.html>

in the following

files: `naic-cnae.csv` (comma separated value) and
`naic-cnae.dta` (Stata 6).

NAICS usually provides a finer grid of sectors than *CNAE*. However, there are exceptions. *CNAE* is more detailed with pesticides and other agricultural chemicals, for instance, as well as with food products and combustibles production.

In general, *CNAE* tends to be more oriented towards the input commodity, whereas *NAICS* generally classifies sectors by the output or final good. *CNAE* classifies vegetable and plant products, for instance, by the plant they are derived from, whereas *NAICS* focuses on the resulting products. This is also the case with many other food products. Similarly, *CNAE* tends to separate textile manufacturing by fiber and material, while *NAICS* provides finer classifications for the production process and distinguishes types of spinning, knitting and weaving. *CNAE* groups furniture by base material, *NAICS* by use. However, *CNAE* can be more process oriented than *NAICS* in other sectors. *CNAE* often distinguishes chemical intermediates from final chemical products, whereas *NAICS* does not. Another notable exception is pharmaceutical manufacturing, where *CNAE* classifies mostly by (human and veterinary) use, whereas *NAICS* stresses the main substance in the medication.

Slight incompatibilities arise with medical equipment, chemicals and other supplies. *NAICS* subordinates electrical medical instruments in the electrical sector (334510) and all remaining supplies in a sector of its own (3391). *CNAE*, however, groups medical equipment and instruments together irrespective of whether they are electrical or not (3310). Under weak assumptions, basic medicinal materials within the *NAICS* chemicals sector (325411) correspond to the medicinal materials and supplies within the *CNAE* basic chemicals and fabricated supplies (2451).

For food manufacturing, compatibility can only be achieved at fairly aggregate levels. Food manufacturing is organized according to different principles in *CNAE* (based on main input) and *NAICS* (based on final product). *NAICS* classifies frozen and canned specialty products, for instance, in sectors of their own (311412 and 311422), while *CNAE* classifies frozen and canned goods alongside the basic food products they are derived from.

Definitions of the mining sector are only compatible at the two-digit level in *NAICS* (21). For one, *NAICS* separates support activities for mining at the three-digit level, whereas *CNAE* does so only for petroleum and gas ex-

traction (10). This affects both the converter from *CNAE* to *NAICS* and back. The reverse problem occurs with *CNAE* for the metal (13) and non-metallic mineral (14) mining sectors. Whereas *CNAE* classifies support activities for those mining sectors at the four-digit level alongside the core activities, *NAICS* effectively bundles the support activities at the two-digit level but classifies them separately (213114, 213115). These problems are left untreated. Similar problems occur for the *NAICS* to *CNAE* converter with textile products (*CNAE* 17) and engine manufacturing (*CNAE* 34). In those cases, *CNAE* is more careful in separating support and service activities than *NAICS*.

Severe incompatibilities only arise in the printing and publishing sector. *CNAE* treats publishing, printing and reproduction of recordings as a manufacturing sector of its own (22) and does not separate the publishing activity from mere printing and reproduction. *NAICS*, on the other hand, classifies publishing as a service activity and printing and reproduction as manufacturing activities. This difference seems hard to reconcile and *CNAE* sector 22 was dropped.

1.1 Conversion from *CNAE* (Brazil) to *NAICS* (US)

A list of problematic classes in *CNAE* that cause a rough mapping to *NAICS* sectors, if not treated, is provided in appendix D on page 20.

1.1.1 Converter: *cnae2naic-strict*

Files: `cnae2naic-strict.csv` (comma separated value) and
`cnae2naic-strict.dta` (Stata 6)

For the strict converter *cnae2naic-strict*, the following adjustments to the mapping were made:

- The converter excludes publishing and printing (*CNAE* 22) due to severe incompatibilities.
- *NAICS* classifies a subgroup of electric engines (outboard electric motors) in the engine equipment manufacturing class among power transmission manufacturing (*NAICS* 3336). This small range of electric engines was not considered sufficient to base a sector conversion on it. Instead, electric engines from *CNAE* are only matched to electrical equipment manufacturing in *NAICS* (3336).

1.1.2 Converter: *cnae2naic-loose*

Files: `cnae2naic-loose.csv` (comma separated value) and
`cnae2naic-loose.dta` (Stata 6)

The strict converter results in very rough sector mappings, in some cases only to the two-digit level in *NAICS*. This is mitigated in the less strict converter under some assumptions. For the less strict converter *cnae2naic-loose*, the following adjustments to the mapping were made:

- *NAICS* separates electronic and non-electronic medical equipment in two distinct three-digit groups (334 and 339), whereas *CNAE* joins the two types of medical equipment in one class (3310). So, a strict mapping was only possible to the two-digit level in *NAICS* (33). To make the mapping finer, electronic medical equipment, produced in Brazil, is considered a small group of products compared to the non-electronic (but possibly electrical) medical equipment. This mapping is neglected in the less strict converter, mainly affecting hearing aids and x-ray equipment produced in Brazil.
- *NAICS* separates optical instrument and lens manufacturing from fiber optic cable manufacturing in two distinct three-digit groups (333 and 335), whereas *CNAE* puts non-isolated optic fibre to the general optical products class (3340) and isolated fibre optic to electric wires (3130). So, a strict mapping was only possible to the two-digit level in *NAICS* (33). To make the mapping finer, the non-isolated optic fibre in *CNAE* 3340 is ignored and treated as if almost all optic fibre was isolated and within *CNAE* 3130. The error should be small.
- Ice manufacturing is part of the soft drink sector in *NAICS* (31211) but falls under other food manufacturing in *CNAE* (1589). Since ice manufacturing plays a minor role within both other food manufacturing in *CNAE* and soft drinks in *NAICS*, ice manufacturing is ignored for the loose converter.

In some cases, only one sector definition prevents a finer mapping. *CNAE* groups springs, wires and screws in one sector (2892), for instance, whereas *NAICS* separates springs and wire products (3326) from turned products such as screws and bolts (33272). Similarly, *CNAE* classifies vehicle bodies, interiors and trailers in one group (3439), whereas *NAICS* separates bodies

(336211) from trailers (336214) and the interior (33636). In several further instances of low-digit mappings, various sectors cause the problem jointly.

1.2 Conversion from *NAICS* (US) to *CNAE* (Brazil)

A list of problematic classes in *NAICS* that cause a rough mapping to *CNAE* sectors, if not treated, is provided in appendix E on page 22.

1.2.1 Converter: *naic2cnae-strict*

Files: `naic2cnae-strict.csv` (comma separated value) and
`naic2cnae-strict.dta` (Stata 6)

For the strict converter *naic2cnae-strict*, the following adjustments to the mapping were made:

- *NAICS* classifies a subgroup of electric engines (outboard electric motors) in the engine equipment manufacturing class among power transmission manufacturing (*NAICS* 3336), whereas *CNAE* keeps all electrical machinery in one sector (*CNAE* 3113). The small range of electric engines that are singled out in *NAICS* was not considered sufficient to base a sector conversion on it. Instead, all engine equipment in *NAICS* (3336), including the allegedly few electric parts, is matched to one *CNAE* class (2911).
- *NAICS* classifies nuclear fuels among basic inorganic chemicals (*NAICS* 325188), whereas *CNAE* separates the nuclear combustibles from chemicals and groups them alongside other combustibles (coal products, petroleum, and alcohol) in a group of their own (*CNAE* 2330). Since nuclear combustibles processing is a minor manufacturing activity in Brazil, the incompatibility was resolved by dropping (*CNAE* 2330) from the converter. Instead, nuclear fuels production in *NAICS* is mapped to inorganic chemical manufacturing in *CNAE* (2419).
- *CNAE* puts non-isolated optic fibre to the general optical products class (3340) and isolated fibre optic to electric wires (3130), whereas *NAICS* separates optical instrument and lens manufacturing from fiber optic cable manufacturing in two distinct three-digit groups (333 and 335). So, a mapping in the strictest sense would only be possible to the one-digit

level in *CNAE* (3). Under the assumption that optical communication wires are only a minor part within the communication and energy wire sector (*NAICS* 335929), while electric wires and wire devices take the bulk, *CNAE* 3340 was ignored even for the strict converter. This may cause a slight incompatibility for optical communication wires (*NAICS* 335929).

1.2.2 Converter: *naic2cnae-loose*

Files: `naic2cnae-loose.csv` (comma separated value) and
`naic2cnae-loose.dta` (Stata 6)

The strict converter results in very rough sector mappings, in some cases only to the two-digit level in *CNAE*. This is mitigated in the less strict converter under some assumptions. For the less strict converter *cnae2naic-loose*, the following adjustments to the mapping were made:

- *NAICS* uses separates classes of frozen (311412) and canned specialty food (311422), irrespective of the main ingredient those products are derived from. *CNAE*, on the other hand, groups frozen and canned products within the classes of basic food products such as meat (1513), vegetable (1522), dough (1584) and other food manufacturing (1589). This causes a very rough sector mapping in the strict converter. Since frozen and canned meat products make up for a rather small share among all meat products in *CNAE* and within canned and frozen food in *NAICS*, it is dropped from the frozen and canned food sector for the less strict converter. Vegetable and other plant products are treated in a similar way.
- *NAICS* classifies animal and plant oils and fats along with the sectors for animal meat (311613), fish (311712), and plant processing (311225). *CNAE*, however, groups inedible oils from animals, all oils derived from fish and marine mammals and plant oil, fats and margarine in one sector (1533). In a strict interpretation, this treatment results in a mapping to the two-digit level in *CNAE*. However, inedible animal fats are a small share of all fats and oils, whereas a larger part of edible fats goes to two other *CNAE* sectors (1511, 1513). So, mainly marine animal oils and fats would demand a mapping to the two-digit level. Since those oils and fats are a minor share within seafood processing *NAICS* (311712)

and do not weigh heavily within oils and fats in *CNAE* (1533), they are ignored for the less strict interpretation.

- Potato chips manufacturing is part of the vegetable and plant processing sector in *CNAE* (1522) but part of the snack food manufacturing sector in *NAICS* (311919), which also includes pretzels (a cracker product in *CNAE* 1582). Left untreated, the differing classes would result in a mapping to the two-digit level in *CNAE*. Since pretzels are just one product within the snack food sector, the suppression seems justified to obtain a finer mapping.
- Machinery for specific uses, especially in the service industry, is treated differently in *NAICS* (3332, 3331, 33399) and *CNAE* (2929, 2969). However, only the sector *NAICS* (333319) creates a severe mapping problem down to the *CNAE* two-digit level. Machinery such as carpet and floor cleaning equipment and special-purpose machinery for restaurants and bars (commercial cooking equipment, ovens, coffee makers, and the like) are overlapping in *NAICS* and *CNAE* sectors. Since those goods are just a share of the long list of special-purpose machinery in *CNAE* (2929), it seems fair to map *NAICS* 333319 uniquely to specific commercial machinery in *CNAE* (2969).
- *NAICS* groups analytical laboratory instruments in one sector irrespective of whether they are for clinical (medical) or non-clinical use. *CNAE*, however, groups laboratory instruments for non-clinical use among general instrument manufacturing (3320), and separates laboratory equipment for medical use (3310). Within medical and therapeutic apparatus manufacturing (3310), however, analytic laboratory instruments play a minor role compared to the large groups of therapeutic equipment and medical apparatus for patients. Therefore, their mapping is suppressed for the less strict converter.

A sector mapping to the two-digit *CNAE* level cannot be avoided for mineral mining (*CNAE* 13, 14), textile products (*CNAE* 17) and engine manufacturing (*CNAE* 34). In all four cases, support and service activities cause the classification problem. For mineral mining, *NAICS* does not classify support activities by type of mineral (213114, 213115), whereas *CNAE* subsumes the support activities by mineral (by sector within 13 and 14).

For textile products, *NAICS* classifies textile production services among all other miscellaneous textile mills (314999), whereas *CNAE* defines a sector of its own for these services (1750). In addition, the knitting of textile bags is treated as an industry of its own in *CNAE* (1749) but like any other product in the knitting process in *NAICS* (31324). Unless one drops 1749 and 1750 from *CNAE*, no finer mapping than two digits in *CNAE* can be achieved.

Similar to the problem with textiles, *NAICS* groups rebuilding of automotive engines together with engine and engine parts manufacturing, whereas engine rebuilding forms a class of its own in *CNAE* (3450). Again, unless one drops 3450 from *CNAE*, no finer mapping than two *CNAE* digits is feasible.

Finally, the grouping of other petroleum and coal products in one *NAICS* class (324199) prevents a finer than two-digit mapping to *CNAE* (23).

2 Conversions from *SIC* and *NAICS* (US) to *Nível 100* (Brazil)

A list of problematic classes in *NAICS* that cause a rough mapping to *Nível 100* sectors, if not treated, is provided in appendix F on page 23. A similar list of problematic classes in *SIC* giving rise to a rough mapping to *Nível 100* sectors follows in appendix G on page 24.

2.1 General remarks on compatibility

Sector definitions according to *Nível 100* exhibit a degree of detail between the two-digit and three-digit level in the former *SIC* index of 1987 (Standard Industrial Classification Index). The conversions proposed here are based on a *CNAE*-to-*Nível 100* used internally at the Brazilian census bureau IBGE (see appendix A and the files *cnae2niv100*). These conversions are based on the predominant *CNAE* sectors within each *Nível 100* so that the mapping should be considered loose. Some new activities in *CNAE* were not distinguished in the earlier *Nível 100* system.¹ They are mapped to the most appropriate *Nível 100* sector.

The machinery maintenance, repair and installation sector (910) in the *Nível 100* classification is a service sector. Neither in *NAICS* and *SIC* nor in

¹The *CNAE* sectors without explicit counterpart in *Nível 100* are *CNAE* 2310, 2330, 2231, 2232, 2233, 2234, 3710, 3720.

the more recent Brazilian *CNAE* classification, this service sector is separated from the actual machinery manufacturing. So, this sector is dropped for conversions to *Nível 100*. The machinery manufacturing sector 8 in *Nível 100* has to be thought of as subsuming what would otherwise be sector 9. All non-manufacturing related machinery services that are part of *Nível 100* 9 are suppressed.

Apart from one notable exception, food fats and oils manufacturing, *NAICS* uses the finer grid than *Nível 100*. Oilseed milling and oil refining, however, is just one product group in *NAICS* (311225) but split into two groups within *Nível 100* (3010 and 3020).

Whereas *Nível 100* classifies peat beneficiating and peat product manufacturing in a sector of its own (1430), *NAICS* and *SIC* include peat manufacturing within the non-metallic mineral mining sector (and the recent Brazilian *CNAE* classification groups it within organic chemicals manufacturing, 2429). So, this sector is also dropped for conversions to *Nível 100*. The non-metallic mineral mining sector 220 in *Nível 100* has to be thought of as subsuming what would otherwise be sector 1430.

Within the textiles sector, *Nível 100* (22) distinguishes subsectors by type of input material and fabric, whereas *NAICS* provides finer classifications for the production process and distinguishes types of spinning, knitting and weaving. So does *SIC*. Consequently, a unique mapping can only be achieved at the aggregate level of the textiles sector (*Nível 100* 22).

A considerable incompatibility arises again in the printing and publishing sector. *Nível 100* treats publishing, printing and reproduction of recordings as a manufacturing sector of its own (*Nível 50*: 15; *Nível 100*: 1530) and does not clearly separate the publishing activity from mere printing and reproduction. *SIC*, on the other hand, classifies publishing as a service activity and printing and reproduction as manufacturing activities. This difference seems hard to reconcile. However, dropping the *Nível 100* sector 1530 from manufacturing data is not necessary for a conversion to *Nível 100* adequate. Instead, *Nível 100* sector 1530 in fact becomes Printing only after leaving out publishing activities that would otherwise be of part of *Nível 100* sector 1530.

2.2 Conversion from *NAICS* (US) to *Nível 100* (Brazil)

Converter: *naic2niv-loose*

Files: *naic2niv-loose.csv* (comma separated value) and *naic2niv-loose.dta* (Stata 6)

There is no strict converter from *NAICS* to *Nível 100*. The reason is that *naic2niv* has to be based on a mapping from *CNAE* to *Nível 100*, which is rough by itself.

A simple conversion could result in too rough sector mappings, in some cases only to the one-digit level in *Nível 100*. This is mitigated under some assumptions. The following adjustments to the mapping were made:

- Support activities to salt manufacturing are part of a large number of support activities to non-metal mineral mining activities in *NAICS* (213115) but part of food production in *Nível 100* (3120). Since support activities to stone, clay, fertilizer and all other non-metallic mining outweigh those to salt manufacturing these support activities are all grouped within *Nível 100* (220).
- Frozen specialty food and specialty canning in *NAICS* (311412 and 311422), though potentially spread over several sectors in *Nível 100* are exclusively mapped to other food manufacturing (3120), where the largest range of frozen and specialty food products be found.
- Potato chips manufacturing is part of vegetable and plant processing within *Nível 100* (2630) but part of the snack food manufacturing sector in *NAICS* (311919), which also includes other snack food that are part of *Nível 100* (3120). The majority of snack food falls within *Nível 100* (3120) and the mapping is reduced accordingly.
- Whereas *NAICS* does not distinguish between ferrous and nonferrous custom roll forming and crown stamping within the forging sector (33211), *Nível 100* is stricter about this and separates all forging into ferrous (610) and nonferrous production (710). To avoid an incompatibility between *NAICS* and *Nível 100*, custom roll forming and crown stamping, a smaller subgroup of products within forgings, is assumed to be mainly geared to ferrous materials (610).

- *NAICS* classifies animal and plant oils and fats along with the sectors for animal meat (311613), fish (311712), and plant processing (311225). *Nível 100*, however, groups inedible oils from animals, all oils derived from fish and marine mammals and plant oil, fats and margarine in one sector (3020). Especially marine animal oils and fats would demand a mapping to the one-digit level in *Nível 100*. Since those seafood-based oils and fats are a minor share within seafood processing *NAICS* (311712) and do not weigh heavily within oils and fats in *Nível 100* (3020), they are ignored for the this loose conversion.
- The grouping of other petroleum and coal products in one *NAICS* class (324199) prevents a finer than two-digit mapping to *Nível 100* (1810 and 1920). Under the assumption that the main share in this product class fall on petroleum products, the mapping is directed to *Nível 100* sector 1810.
- *NAICS* classifies nuclear fuels among basic inorganic chemicals (*NAICS* 325188), whereas *Nível 100* separates the nuclear combustibles from chemicals and groups them alongside other combustibles (coal products, petroleum, and alcohol) in a group of their own (*Nível 100* 1920). Since nuclear combustibles processing is a minor manufacturing activity in Brazil, the incompatibility was resolved by dropping (*Nível 100* 1920) from the converter. Instead, nuclear fuels production in *NAICS* is mapped to non-petrochemical chemical manufacturing in *Nível 100* (1710).
- Intermediates for resin and fiber manufacturing are among the other basic organic chemicals in *NAICS* (325199). *Nível 100*, however, classifies those intermediates among intermediate petrochemical products. Since the petrochemical intermediates among those constitute a less important group within all other basic organic chemicals, they are re-grouped for the mapping and converted to non-petrochemical chemicals in *Nível 100* (1710).
- *NAICS* classifies a subgroup of electric engines (outboard electric motors) in the engine equipment manufacturing class among power transmission manufacturing (*NAICS* 3336), whereas *Nível 100* keeps all electrical machinery in one sector (*CNAE* 1010). The small range of electric engines that are singled out in *NAICS* was not considered sufficient

to base a sector conversion on it. Instead, the entire range of engine equipment in *NAICS* (3336), including the allegedly few electric parts, is matched to one *Nível 100* class (810).

- Batteries in *NAICS* are grouped in one class (33591), irrespective of whether they are for automobiles or other uses. *Nível 100*, however, classifies batteries among motor vehicle parts if they are for automobiles (1310). Since automobile batteries are just one small group of products among vehicle parts, they are suppressed and all batteries are mapped to other electric device manufacturing in *Nível 100* (1020).
- Office machinery manufacturing in *NAICS* (333313) embraces both electronic and non-electronic equipment. *Nível 100*, however, separates the two in electric appliance (1030) and electronic equipment manufacturing (1110). Since most electric office machinery in *NAICS* also involves some electronic parts today, the mapping goes exclusively to the electronic equipment sector in *Nível 100* (1110). The same assumption applies photographic and photocopying equipment *NAICS* (333315).
- Breakfast cereals, a group of their own in *NAICS* (31123) can be made of many grains and seeds, not only wheat. They are mapped to the other grains and seeds milling and processing sector in *Nível 100* (2640).
- Flour milling in *NAICS* (311211) includes wheat, manioc and corn milling, whereas those flour sources are separated in *Nível 100* (2620 and 2640). Under the assumption that most flour is wheat-based the mapping is reduced to *Nível 100* (2620).

2.3 Conversion from *SIC* (US) to *Nível 100* (Brazil)

Converter: *sic2niv-loose*

Files: `sic2niv-loose.csv` (comma separated value) and
`sic2niv-loose.dta` (Stata 6)
`cnae-sic.csv` (comma separated value) and
`cnae-sic.dta` (Stata 6)

As was the case for *NAICS*, there is no strict converter from *SIC* to *Nível 100*. The reason is that *sic2niv* has to be based on a mapping from

CNAE to *Nível 100*, which is rough by itself. In addition, the intermediate matching of *SIC* and *CNAE* (based on *cnae-sic*) is rough, too.

A simple conversion *SIC* to *Nível 100* could result in too rough sector mappings, in some cases only to the one-digit level in *Nível 100*. This is mitigated under some assumptions. The following adjustments to the mapping were made:

- While wood logging is treated as a manufacturing-related activity in *SIC* (2411)s, *Nível 100* does not consider it a manufacturing activity (neither do *CNAE* nor *NAICS*). Wood logging is consequently suppressed.
- Crop production services and livestock services are taken as non-manufacturing activities in *SIC* (723, 751), but could be considered part of the respective *Nível 100* manufacturing sectors (custom slaughtering 2710, 2720 and 3110). For ease of conversion, however, these *SIC* service activities are omitted.
- Salt extraction and refining are split in *Nível 100* (220 and 3120) but kept within one sector to a larger extent in *SIC* (1479 and 1481). For conversion, the focus lies on extraction (table salt refining is part of *SIC* 2899).
- Egg processing is part of poultry processing in *SIC* (2015) but part of other food manufacturing in *Nível 100* (3120), whereas poultry slaughtering and meat processing is a sector of its own (2720). To make a mapping possible, egg processing (not egg packaging, which is part of the according agricultural sectors) is considered minor as compared to poultry slaughtering.
- While embracing a larger variety of products, several sectors in *SIC* are taken to map to a slightly smaller set of products in *Nível 100*. Often, the problematic sectors resemble those discussed in subsection 2.2. The adjustments apply to the following sectors: *SIC* 2032 is assumed to map to *Nível 100* 3120 uniquely (neglecting flour and soup mixes made from purchased produce), 2034 to 2640 (mostly vegetable flour), 2038 to 3120, 2043 to 2640 (mostly coffee substitute), 2046 to 2640 (neglecting refining purchased oil), 2074 to 3010 (mostly cottonseed processing), 2075 to 3020 (mostly processing purchased soybean oil), 2076

to 3020 (mostly oilseed processing), 2077 to 3120 (mostly animal fats and oils), 2079 to 3020, 2082 to 3130 (neglecting malt extract), 2087 to 3120 (mostly flavoring syrup and concentrate), 2099 to 3120 (neglecting bouillon, marshmallow creme and spices), 2392 to 2230 (neglecting mops and bags), 2395 to 2230, 2396 to 1210 (mostly apparel findings), 2399 to 2310 (neglecting automotive seat belts), 2426 to 1410 (neglecting flooring), 2499 to 1410, 2531 to 1420, 2599 to 1420 (neglecting hospital beds), 2611 to 1510 (mostly pulp mills producing paperboard), 2671 to 1520 (mostly plastics packaging film), 2673 to 2120 (neglecting plastics), 2819 to 1710 (neglecting activated carbon and charcoal), 2865 to 1710, 2869 to 1820 (neglecting aliphatics, carbon bisulfide and ethyl alcohol), 2899 to 1710 (neglecting frit and table salt), 2999 to 1920 (mostly products of petroleum and coal), 3069 to 1610 (neglecting rubberized and rubber resilient fabric), 3089 to 2120 (mostly pipes), 3131 to 2410 (neglecting wood heels and metal buckles), 3251 to 440 (neglecting slumped brick), 3272 to 420 (mostly concrete products), 3291 to 440 (neglecting steel wool with or without soap), 3292 to 440 (neglecting brake pads and linings), 3295 to 440 (neglecting grinding and washing), 3315 to 720 (mostly nails, spikes, paper clips, etc), 3357 to 1020 (mostly aluminum wire drawing), 3399 to 510 (neglecting copper and aluminum), 3429 to 720, 3432 to 810 (neglecting shower rods and lawn hose nozzles), 3443 to 720 (mostly heavy gauge tanks), 3449 to 710 (mostly metal plaster bases), 3466 to 710 (mostly crowns and closures), 3479 to 720 (neglecting jewelry, silverware, etc), 3494 to 810 (neglecting metal pipe hangers and supports), 3495 to 720 (neglecting watch and clock springs), 3496 to 720 (neglecting grocery carts), 3499 to 720 (mostly powder metallurgy), 3519 to 1310 (mostly stationary engine radiators), 3523 to 810, 3524 to 820, 3531 to 810 (neglecting railway track maintenance equipment), 3532 to 810 (mostly mining machinery and equipment), 3545 to 810 (mostly tools and machinists' precision measuring devices), 3548 to 810 (neglecting certain transformers), 3577 to 1110 (neglecting plotter controllers and magnetic tape), 3578 to 1030 (neglecting point some point-of-sale equipment), 3579 to 3210 (neglecting timeclocks and time stamps), 3585 to 810 (mostly air-conditioning and heating equipment for uses other than automobiles), 3599 to 810, 3634 to 1030 (neglecting some heating units), 3639 to 1030 (neglecting floor waxing and floor polishing machines), 3644 to 1020, 3679 to 1110, 3691 to 1020 (neglecting storage batteries for automobiles), 3692 to

1020 (neglecting storage batteries for automobiles), 3699 to 1030, 3711 to 1210, 3799 to 1340, 3841 to 3210, 3842 to 3210, 3861 to 1110, 3914 to 3210, 3944 to 3210, 3999 to 3210 (mostly other miscellaneous metal products) .

Appendix

A *Nível 100*

Files: `niv100-longlist.csv` (comma separated value) and
`niv100-longlist.dta` (Stata 6)
`niv100-list.csv` (comma separated value) and
`niv100-list.dta` (Stata 6)

Until the mid 1990s and prior to *CNAE*, Brazilian industry surveys were mostly based on the *Nível 100* (level 100) system. The level of detail in *Nível 100* corresponds roughly to a level between the *SIC* two- and three-digit levels (see table 1, p. 2, and section 2).

A conversion from the recent classification system *CNAE* back to *Nível 100* is often needed and a unique mapping has been derived internally at the Brazilian census bureau *IBGE*. The list on p. 47 shows (Portuguese) *CNAE* definitions and how they translate to *Nível 100* (p. 61, English). The proposed, yet not official, converter is also available from

<http://www.econ.ucsd.edu/~muendler/html/brazil.html>

in the following

files: `cnae2niv100.csv` (comma separated value) and
`cnae2niv100.dta` (Stata 6).

The reverse conversion from *Nível 100* to *CNAE* would be of little use because the mapping becomes prohibitively rough.

Appendix H provides a list with Portuguese sector definitions on p. 27 and an English translation on p. 31. *Nível 100* came close to the sectoral definitions in the Brazilian national accounting system. However, the actual accounting system used a classification system called *Nível 80* which aggregated several manufacturing sectors in a slightly different way. Both *Nível 100* and *Nível 80* used a number system with four digits. The first two digits were identical in both systems (usually called *atividade 80*, *atividade 100*, or *Nível 50*) and provided the simplest manner to move from *Nível 100* to *Nível 80*, and vice versa. However, it is possible to derive a finer mapping between sector definitions at *Nível 80* and *Nível 100*. Sectors 801 and

802, for instance, can be separated and correspond one-to-one to 810 and 820, respectively. An according base map between *Nível 80* and *Nível 100* is available in the

files: `niv80niv100.csv` (comma separated value) and
`niv80niv100.dta` (Stata 6).

B CNAE

Files: `cnae-longlist.csv` (comma separated value) and
`cnae-longlist.dta` (Stata 6)
`cnae-list.csv` (comma separated value) and
`cnae-list.dta` (Stata 6)

During the 1990s, Brazil devised and adopted a new industry classification system called *CNAE* (*Classificação Nacional de Atividades Empresariais*). This system comes closer to international classifications.

Appendix I gives a quick overview of *CNAE* sector definitions (Portuguese: p. 35, English: p. 41) for mining and manufacturing and provides precise lists subsequently. The detailed list on p. 47 shows the *CNAE* definitions and how they translate to *Nível 100*. The list contains Portuguese sector definitions and is followed by an identical list with English translations on p. 61. A complete list of (Portuguese) sector definitions beyond mining and manufacturing can be found in the files

files: `cnae-complete-pt.csv` (comma separated value) and
`cnae-complete-pt.dta` (Stata 6)

A documentation of the complete *CNAE* system (beyond mining and manufacturing industries) is available at

<http://www.rais.gov.br/cnaecomp.htm>

A detailed sector search can be conducted at

<http://www.cnae.ibge.gov.br/>

The latter web site also provides converters to further national and international classification systems.

C *SIC* and *NAICS*

In the course of the 1990s, the US Standard Industrial Classification (*SIC*) system was replaced by the North American Industry Classification System (*NAICS* or *NAICS*). *NAICS* was developed jointly by the US, Canada and Mexico to provide new comparability in statistics about business activity across North America. The most recent information on *NAICS* can be found at

<http://www.census.gov/epcd/www/naics.html>

Tables documenting the compatibility between *SIC* and *NAICS* are also provided on that web page.

D Problematic *CNAE* classes for *cnae2naic* conversion

<i>CNAE</i>	Finest possible <i>NAICS</i> mapping	corresponding <i>NAICS</i> classes
1000	21	212111, 212112, 212113, 213113
1310	21	21221, 213114
1321	21	212299, 213114
1322	21	212299, 213114
1323	21	212299, 213114
1324	21	212221, 212222, 213114
1325	21	212291, 213114
1329	21	212231, 212234, 212299, 213114
1410	21	212311, 212312, 212313, 212319, 212321, 212322, 212324, 212325, 213115
1421	21	212391, 212392, 212393, 213115
1422	21	212399, 213115
1429	21	212399, 213115
1513	311	311412, 311422, 311612, 311612
1521	311	311411, 311421, 311423, 311911
1522	311	311411, 311412, 311421, 311422, 311423, 311919
1533	311	213115, 311612
1582	311	311821, 311919
1584	311	31183, 311412, 311822, 311823
1589	31	311412, 311991, 311999, 312113
2211	.	51111, 323110, 323111, 323112, 323113, 323114, 323115, 323119
2212	.	51112, 323110, 323111, 323112, 323113, 323114, 323115, 323119
2213	.	51113, 323110, 323111, 323112, 323113, 323114, 323115, 323117, 323119
2214	.	51121, 51211, 51212, 51221, 51222, 51223
2229	.	323119, 323119, 512191, 512199
2892	332	33271, 332611, 332612, 332618, 332721, 332722

<i>CNAE</i>	Finest possible <i>NAICS</i> mapping	corresponding <i>NAICS</i> classes
2929	333	333311, 333312, 333319, 333993, 333995, 333996, 333997, 333999
2940	333	333511, 333512, 333513, 333514, 333515, 333516, 333518, 333991, 333992
2969	333	33321, 33322, 333293, 333295, 333295, 333319
3113	33	333518, 334517
3310	33	334510, 334510, 334517, 339111, 339112, 339113, 339114, 339115, 339116
3340	33	333314, 334517
3439	336	33636, 334517, 336213, 336214
3611	337	33711, 33792, 337121, 337122, 337127, 337129, 337211, 337212, 337215
3612	337	33792, 337124, 337127, 337214, 337215
3613	337	33792, 337121, 337125, 337127, 337214, 337215

E Problematic *NAICS* classes for *naic2cnae* conversion

<i>NAICS</i>	Finest possible <i>CNAE</i> mapping	corresponding <i>CNAE</i> classes
213114	13	1310, 1321, 1322, 1323, 1324, 1325, 1329
213115	14	1410, 1421, 1422, 1429
311412	15	1513, 1522, 1584, 1589
311422	15	1513, 1522, 1586
311712	15	1514, 1533
311919	15	1522, 1582
313241	17	1721, 1722, 1723, 1724, 1749
313249	17	1721, 1722, 1723, 1724, 1749
314999	17	1750, 1763, 1764, 1769
323110	22	2211, 2212, 2213, 2221
323111	22	2211, 2212, 2213, 2221
323112	22	2211, 2212, 2213, 2221
323113	22	2211, 2212, 2213, 2221
323114	22	2211, 2212, 2213, 2221
323115	22	2211, 2212, 2213, 2221
323117	22	2213, 2221
323119	22	2211, 2212, 2213, 2221
324199	23	2310, 2320
325188	2	2330, 2419
333319	29	2929, 2969
333618	.	2911, 3113
334516	33	3310, 3320
335929	3	3130, 3340
336312	34	3441, 3450

F Problematic *NAICS* classes for *naic2niv* conversion

<i>NAICS</i>	Finest possible <i>Nível 100</i> mapping	corresponding <i>Nível 100</i> classes
31123	26	2620, 2640
31321	22	2210, 2220, 2230
31323	22	2210, 2220, 2230
31332	22	2210, 2220
33312	8	810, 820, <i>910</i>
212399	.	220, <i>1430</i> , 3120
213115	.	220, 3120
311211	26	2620, 2640
311225	30	3010, 3020
311412	.	2630, 2710, 3120
311422	.	2630, 2710, 3120
311712	3	3020, 3120
311919	.	2630, 3120
313221	22	2210, 2220, 2230
313222	22	2210, 2220, 2230
313241	22	2210, 2220, 2230
313249	22	2210, 2220, 2230
313311	22	2210, 2220
313312	22	2210, 2220
324199	.	1810, 1920
325188	.	1710, 1920
325199	.	1710, 1820
332114	.	610, 710
332115	.	610, 710
333131	8	810, 820, <i>910</i>
333313	.	1030, 1110
333315	.	1030, 1110
333618	.	810, <i>910</i> , 1010
335911	.	1020, 1310
335912	.	1020, 1310
335929	.	1020, 3210

G Problematic *SIC* classes for *sic2niv* conversion

<i>SIC</i>	Finest possible <i>Nível 100</i> mapping	corresponding <i>Nível 100</i> classes
1479	.	220, 3120
1481	.	220, 3120
2015	.	2720, 3120
2032	.	2630, 2710, 3120
2034	.	2640, 3120
2038	.	2630, 2710, 3120
2043	.	2510, 2620, 2640
2046	.	2640, 3020
2074	.	2640, 3010
2075	.	2640, 3020
2076	.	2640, 3020
2077	.	2710, 3120
2079	.	2640, 3020
2082	.	2630, 3130
2087	.	2510, 2630, 3120
2099	.	2610, 2630, 2640, 3120
2241	22	2210, 2220, 2230
2251	22	2210, 2220, 2230
2252	22	2210, 2220, 2230
2253	22	2210, 2220, 2230
2254	22	2210, 2220, 2230
2257	22	2210, 2220, 2230
2258	22	2210, 2220, 2230
2259	22	2210, 2220, 2230
2269	22	2210, 2220
2284	22	2210, 2220
2295	22	2210, 2220
2297	22	2210, 2220, 2230
2299	22	2210, 2220, 2230
2392	.	2230, 3210
2395	.	2230, 2310

<i>SIC</i>	Finest possible <i>Nível 100</i> mapping	corresponding <i>Nível 100</i> classes
2396	.	1210, 1530, 2230, 2310
2399	.	1210, 2230, 2310
2426	14	1410, 1420
2499	.	810, 1410, 3210
2531	.	1210, 1420, 3210
2599	.	1420, 3210
2611	15	1510, 1520
2671	.	1520, 2120
2673	.	1520, 2120
2819	.	610, 1710, 1920
2865	.	1710, 1820
2869	.	1710, 1720, 1820
2899	.	1710, 1920, 2630
2999	.	1810, 1920
3069	.	1610, 2120, 2310, 3210
3089	.	1420, 2110, 2120
3131	.	1410, 2410, 3210
3251	4	420, 440
3272	4	420, 440
3291	.	440, 720
3292	.	440, 1310
3295	.	220, 440, 1430, 3120
3315	.	510, 720
3357	.	610, 1020, 3210
3399	.	510, 610, 720
3429	.	720, 810, 1310, 1420
3432	.	720, 810
3443	.	720, 810
3449	.	610, 710, 720
3466	.	610, 710
3479	.	720, 3210
3494	.	720, 810
3495	.	720, 3210
3496	.	720, 810
3499	.	720, 810, 1210, 1420

<i>SIC</i>	Finest possible <i>Nível 100</i> mapping	corresponding <i>Nível 100</i> classes
3519	.	810, 910, 1310
3523	.	720, 810
3524	.	720, 820, 910
3531	.	810, 820, 910, 1330
3532	8	810, 820, 910
3545	.	720, 810
3548	.	810, 1010
3577	.	1110, 1920
3578	.	810, 1030, 1110
3579	.	1110, 3210
3585	.	810, 910, 1310
3599	.	720, 810, 910, 1310
3634	.	910, 1030, 3210
3639	.	810, 910, 1030
3644	.	720, 1020
3679	11	1110, 1120
3691	.	1020, 1310
3692	.	1020, 1310
3699	.	810, 910, 1010, 1020, 1030
3711	.	810, 1210
3799	.	910, 1210, 1310, 1340
3841	.	810, 3210
3842	.	1520, 3210
3861	.	1030, 1110, 3210
3914	.	720, 3210
3944	.	1340, 3210
3999	.	720, 810, 910, 1020, 1030, 2120, 2410, 3210

H *Nível 100* definitions

<i>Nível</i> 100	Portuguese description
2	Extração mineral, exclusive combustíveis minerais
210	Extração de minerais metálicos
220	Extração de minerais não-metálicos
3	Extração de petróleo e gás natural, carvão e outros combustíveis
310	Extração de petróleo e gás natural
320	Extração de carvão mineral e outros combustíveis minerais
4	Fabricação de produtos de minerais não-metálicos
410	Fabricação de cimento e clínquer
420	Fabricação de peças e estruturas de cimento, concreto e fibrocimento
430	Fabricação de vidro e artigos de vidro
440	Fabricação de outros produtos de minerais não-metálicos
5	Siderurgia
510	Siderurgia
6	Metalurgia dos não-ferrosos
610	Metalurgia dos não-ferrosos
7	Fabricação de outros produtos metalúrgicos
710	Fabricação de fundidos e forjados de aço
720	Fabricação de outros produtos metalúrgicos
8	Fabricação de máquinas, equipamentos e instalações, inclusive peças e acessórios
810	Fabricação de máquinas, equipamentos e instalações, inclusive peças e acessórios
820	Fabricação de tratores e máquinas rodoviárias, inclusive peças e acessórios
9	Manutenção, reparação e instalação de máquinas
910	Manutenção, reparação e instalação de máquinas

- 10 Fabricação de aparelhos, equipamentos e material elétrico**
 - 1010 Fabricação de equipamentos para produção e distribuição de energia elétrica
 - 1020 Fabricação de condutores e outros materiais elétricos, exclusive para veículos
 - 1030 Fabricação de aparelhos e equipamentos elétricos, inclusive eletrodomésticos, máquinas e utensílios para escritórios, peças e acessórios
- 11 Fabricação de aparelhos, equipamentos e material eletrônico e de comunicações**
 - 1110 Fabricação de material e aparelhos eletrônicos e de comunicações
 - 1120 Fabricação de receptores de tv, rádio e equipamentos de som
- 12 Fabricação de automóveis, caminhões e ônibus**
 - 1210 Fabricação de automóveis, caminhões e ônibus
- 13 Fabricação de outros veículos, peças e acessórios para veículos**
 - 1310 Fabricação de motores e peças para veículos
 - 1320 Indústria naval, inclusive reparação
 - 1330 Fabricação e reparação de veículos ferroviários
 - 1340 Fabricação de outros veículos
- 14 Serrarias e fabricação de artigos de madeira e do mobiliário**
 - 1410 Indústria da madeira
 - 1420 Indústria do mobiliário
 - 1430 Produção de carvão vegetal
- 15 Indústria de papel e gráfica**
 - 1510 Fabricação de celulose e pasta mecânica
 - 1520 Fabricação de papel, papelão e artefatos de papel
 - 1530 Indústria editorial e gráfica

Nível
100

Portuguese description

16	Indústria da borracha
1610	Indústria da borracha
17	Produção de elementos químicos não-petroquímicos ou carboquímicos
1710	Produção de elementos químicos não-petroquímicos ou carboquímicos
1720	Destilação de álcool
18	Refino de petróleo e indústria petroquímica
1810	Refino de petróleo
1820	Petroquímica básica e intermediária
1830	Fabricação de resinas, fibras artificiais e sintéticas e elastômeros
19	Fabricação de produtos químicos diversos
1910	Fabricação de adubos, fertilizantes e corretivos do solo
1920	Fabricação de produtos químicos diversos
20	Fabricação de produtos farmacêuticos e de perfumaria
2010	Indústria farmacêutica
2020	Indústria de perfumaria, sabões e velas
21	Indústria de transformação de material plástico
2110	Fabricação de laminados plásticos
2120	Fabricação de artigos de material plástico
22	Indústria têxtil
2210	Beneficiamento, fiação e tecelagem de fibras têxteis naturais
2220	Fiação e tecelagem de fibras têxteis artificiais ou sintéticas
2230	Outras indústrias têxteis
23	Fabricação de artigos do vestuário e acessórios
2310	Fabricação de artigos do vestuário e acessórios
24	Fabricação de calçados e de artigos de couro e peles
2410	Indústria do couro e peles e fabricação de artigos de viagem
2420	Fabricação de calçados

<i>Nível</i>	Portuguese description
100	
25	Indústria do café
2510	Indústria do café
26	Beneficiamento de produtos de origem vegetal, inclusive fumo
2610	Beneficiamento de arroz
2620	Moagem de trigo
2630	Preparação de conservas de frutas e legumes, inclusive sucos e condimentos
2640	Beneficiamento de outros produtos de origem vegetal para alimentação
2650	Indústria do fumo
27	Abate e preparação de carnes
2710	Abate de animais (exceto aves) e preparação de carnes
2720	Abate e preparação de aves
28	Resfriamento e preparação do leite e laticínios
2810	Resfriamento e preparação do leite e laticínios
29	Indústria do açúcar
2910	Indústria do açúcar
30	Fabricação e refino de óleos vegetais e de gorduras para alimentação
3010	Fabricação de óleos vegetais em bruto
3020	Refino de óleos vegetais e fabricação de gorduras para alimentação
31	Outras indústrias alimentares e indústria de bebidas
3110	Fabricação de alimentos para animais
3120	Outras indústrias alimentares
3130	Indústria de bebidas
32	Indústrias diversas
3210	Fabricação de produtos diversos

Nível
100

English description

2	Mineral Mining (except combustibles)
210	Metal Ore Mining
220	Nonmetallic Minerals Mining
3	Petroleum and Gas Extraction and Coal Mining
310	Petroleum and Gas Extraction
320	Coal Mining
4	Nonmetallic Mineral Goods Manufacturing
410	Cement Manufacturing
420	Cement, Concrete Product and Gypsum Product Manufacturing
430	Glass and Glass Product Manufacturing
440	Nonmetallic Mineral Product Manufacturing
5	Iron and Steel Production and Processing
510	Iron and Steel Production and Processing
6	Nonferrous Metals Production and Processing
610	Nonferrous Metals Production and Processing
7	Other Metal Products Manufacturing
710	Iron and Steel Foundries and Forgings
720	Other Metal Products Manufacturing
8	Machinery, Equipment and Commercial Installation Manufacturing (including parts and accessories)
810	Machinery, Equipment and Commercial Installation Manufacturing (including parts and accessories)
820	Road Construction Machinery and Tractor Manufacturing
9	Machinery Maintenance, Repairing and Installation
910	Machinery Maintenance, Repairing and Installation
10	Electrical Equipment and Components Manufacturing
1010	Electrical Products Manufacturing for Power Generation and Distribution

<i>Nível</i>	English description
1020	Electric Conductor and Other Electrical Device Manufacturing (except for vehicles)
1030	Electric Appliance and Equipment Manufacturing (including household appliances, office machinery, parts and accessories)
11	Electronic Equipment and Communication Apparatus Manufacturing
1110	Electronic Components, Electronic Equipment and Communication Apparatus Manufacturing
1120	Audio and Video Equipment Manufacturing
12	Automobile, Truck and Bus Manufacturing
1210	Automobile, Truck and Bus Manufacturing
13	Other Transportation Equipment and Vehicle Parts Manufacturing
1310	Motor Vehicle Engine and Parts Manufacturing
1320	Ship and Boat Building (including repairing)
1330	Railroad Rolling Stock Manufacturing and Repairing
1340	Other Transportation Equipment Manufacturing
14	Wood Sawing, Wood Products and Furniture Manufacturing
1410	Wood Sawing and Wood Products Manufacturing
1420	Furniture Manufacturing
1430	Peat Production
15	Paper Manufacturing, Publishing and Printing
1510	Pulp and Paper Production
1520	Pulp, Paper and Paperboard Products Manufacturing
1530	Publishing and Printing
16	Rubber Product Manufacturing
1610	Rubber Product Manufacturing
17	Non-petrochemical Chemical Manufacturing
1710	Non-petrochemical Chemical Manufacturing

Nível
100

English description

1720	Alcohol Production
18	Petroleum Refining and Petrochemical Manufacturing
1810	Petroleum Refining
1820	Basic and Intermediate Petrochemical Manufacturing
1830	Resins, Artificial and Synthetic Fibers and Elastomers Manufacturing
19	Miscellaneous Chemical Products Manufacturing
1910	Fertilizer Manufacturing
1920	Miscellaneous Chemical Product Manufacturing
20	Pharmaceutical Products, Perfumes and Detergents Manufacturing
2010	Pharmaceutical Manufacturing
2020	Perfumes, Detergents and Candles Manufacturing
21	Plastics Products Manufacturing
2110	Laminated Plastics Plate and Pipe Manufacturing
2120	Plastics Products Manufacturing
22	Textiles Manufacturing
2210	Natural Fabric Processing, Weaving, Knitting and Finishing
2220	Artificial and Synthetic Fabric Weaving, Knitting and Coating
2230	Other Textiles Manufacturing
23	Apparel and Apparel Accessories Manufacturing
2310	Apparel and Apparel Accessories Manufacturing
24	Footwear and Leather and Hide Products Manufacturing
2410	Leather and Hide Products and Luggage Manufacturing
2420	Footwear Manufacturing
25	Coffee Manufacturing
2510	Coffee Manufacturing
26	Processing of Plant Products (including tobacco)
2610	Rice Milling and Processing
2620	Wheat Milling

<i>Nível</i>	English description
100	
2630	Fruit and Vegetable Processing and Canning (including juice and spices manufacturing)
2640	Other Grains and Seeds Milling and Plant Product Manufacturing
2650	Tobacco Product Manufacturing
27	Slaughtering and Meat Processing
2710	Animal (except poultry) Slaughtering and Meat Processing
2720	Poultry Slaughtering and Processing
28	Fluid Milk and Dairy Product Manufacturing
2810	Fluid Milk and Dairy Product Manufacturing
29	Sugar Manufacturing
2910	Sugar Manufacturing
30	Seed Oil Refining and Food Fats and Oils Processing
3010	Oilseed Milling
3020	Seed Oil Refining and Food Fats and Oils Processing
31	Other Food and Beverage Manufacturing
3110	Animal Feeds Manufacturing
3120	Other Food Manufacturing
3130	Beverage Manufacturing
32	Miscellaneous Other Products Manufacturing
3210	Miscellaneous Other Products Manufacturing

I *CNAE* definitions

CNAE 3d

Portuguese description (three digits)

Indústrias extrativas

- 10 **Extração de carvão mineral**
- 100 Extração de carvão mineral
- 11 **Extração de petróleo e serviços correlatos**
- 111 Extração de petróleo e gás natural
- 112 Serviços relacionados com a extração de petróleo e gás
- 13 **Extração de minerais metálicos**
- 131 Extração de minério de ferro
- 132 Extração de minerais metálicos não-ferrosos
- 14 **Extração de minerais não-metálicos**
- 141 Extração de pedra, areia e argila
- 142 Extração de outros minerais não-metálicos

Indústrias de transformação

- 15 **Fabricação de produtos alimentícios e bebidas**
- 151 Abate e preparação de produtos de carne e de pescado
- 152 Processamento, preservação e produção de conservas de frutas, legumes e outros vegetais
- 153 Produção de óleos e gorduras vegetais e animais
- 154 Laticínios
- 155 Moagem, fabricação de amiláceos e de rações balanceadas para animais
- 156 Fabricação e refino de açúcar
- 157 Torrefação e moagem de café
- 158 Fabricação de outros produtos alimentícios
- 159 Fabricação de bebidas
- 16 **Fabricação de produtos do fumo**
- 160 Fabricação de produtos do fumo
- 17 **Fabricação de produtos têxteis**
- 171 Beneficiamento de fibras têxteis naturais
- 172 Fiação

- 173 Tecelagem, inclusive fiação de tecelagem
- 174 Fabricação outros artefatos têxteis, incluindo tecelagem
- 175 Serviços de acabamento em fios, tecidos e artigos têxteis produzidos por terceiros
- 176 Fabricação de artefatos têxteis a partir de tecidos, exclusive vestuário, e de outros artigos têxteis
- 177 Fabricação de tecidos e artigos de malha
- 18 **Confecção de artigos do vestuário e acessórios**
- 181 Confecção de artigos do vestuário
- 182 Fabricação de acessórios do vestuário e de segurança profissional
- 19 **Preparação de couros e fabricação de artefatos de couro, artigos de viagem e calçados**
- 191 Curtimento e outras preparações de couro
- 192 Fabricação de artigos para viagem e de artefatos diversos de couro
- 193 Fabricação de calçados
- 20 **Fabricação de produtos de madeira**
- 201 Desdobramento de madeira
- 202 Fabricação de produtos de madeira, cortiça e material trançado, exclusive móveis
- 21 **Fabricação de celulose, papel e produtos de papel**
- 211 Fabricação de celulose e outras pastas para a fabricação de papel
- 212 Fabricação de papel, papelão liso, cartolina e cartão
- 213 Fabricação de embalagens de papel ou papelão
- 214 Fabricação de artefatos diversos de papel, papelão, cartolina e cartão
- 22 **Edição, impressão e reprodução de gravações**
- 221 Edição; edição e impressão
- 222 Impressão e serviços conexos para terceiros
- 223 Reprodução de materiais gravados

- 23 **Fabricação de coque, refino de petróleo, elaboração de combustíveis nucleares e produção de álcool**
- 231 Coquerias
- 232 Refino de petróleo
- 233 Elaboração de combustíveis nucleares
- 234 Produção de álcool

- 24 **Fabricação de produtos químicos**
- 241 Fabricação de produtos químicos inorgânicos
- 242 Fabricação de produtos químicos orgânicos
- 243 Fabricação de resinas e elastômeros
- 244 Fabricação de fibras, fios, cabos e filamentos contínuos artificiais e sintéticos
- 245 Fabricação de produtos farmacêuticos
- 246 Fabricação de defensivos agrícolas
- 247 Fabricação de sabões, detergentes, produtos de limpeza e artigos de perfumaria
- 248 Fabricação de tintas, vernizes, esmaltes, lacas e produtos afins
- 249 Fabricação de produtos e preparados químicos diversos

- 25 **Fabricação de artigos de borracha e plástico**
- 251 Fabricação de artigos de borracha
- 252 Fabricação de produtos de plástico

- 26 **Fabricação de produtos de minerais não-metálicos**
- 261 Fabricação de vidro e de produtos do vidro
- 262 Fabricação de cimento
- 263 Fabricação de artefatos de concreto, cimento, fibrocimento, gesso e estuque
- 264 Fabricação de produtos cerâmicos
- 269 Aparelhamento de pedras e fabricação de cal e de outros produtos de minerais não-metálicos

- 27 **Metalurgia básica**
- 271 Siderúrgicas integradas
- 272 Fabricação de produtos siderúrgicos, exclusive em

- siderúrgicas integradas
- 273 Fabricação de tubos, exclusive em siderúrgicas integradas
- 274 Metalurgia de metais não-ferrosos
- 275 Fundição
- 28 **Fabricação de produtos de metal, exclusive máquinas e equipamentos**
- 281 Fabricação de estruturas metálicas e obras de caldeiraria pesada
- 282 Fabricação de tanques, caldeiras e reservatórios metálicos
- 283 Forjaria, estamparia, metalurgia do pó e serviços de tratamento de metais
- 284 Fabricação de artigos de cutelaria, de serralheria e ferramentas manuais
- 289 Fabricação de produtos diversos de metal
- 29 **Fabricação de máquinas e equipamentos**
- 291 Fabricação de motores, bombas, compressores e equipamentos de transmissão
- 292 Fabricação de máquinas e equipamentos de uso geral
- 293 Fabricação de tratores e de máquinas e equipamentos para a agricultura, avicultura e obtenção de produtos animais
- 294 Fabricação de máquinas-ferramenta
- 295 Fabricação de máquinas e equipamentos para as indústrias de extração mineral e construção
- 296 Fabricação de outras máquinas e equipamentos de uso específico
- 297 Fabricação de armas, munições e equipamentos militares
- 298 Fabricação de eletrodomésticos
- 30 **Fabricação de máquinas para escritório e equipamentos de informática**
- 301 Fabricação de máquinas para escritório
- 302 Fabricação de máquinas e equipamentos de sistemas eletrônicos para processamento de dados

- 31 **Fabricação de máquinas, aparelhos e materiais elétricos**
- 311 Fabricação de geradores, transformadores, e motores elétricos
- 312 Fabricação de equipamentos para distribuição e controle de energia elétrica
- 313 Fabricação de fios, cabos e condutores elétricos isolados
- 314 Fabricação de pilhas, baterias e acumuladores elétricos
- 315 Fabricação de lâmpadas e equipamentos de iluminação
- 316 Fabricação de material elétrico para veículos, exclusive baterias
- 319 Fabricação de outros equipamentos e aparelhos elétricos
- 32 **Fabricação de material eletrônico e de aparelhos e equipamentos de comunicações**
- 321 Fabricação de material eletrônico básico
- 322 Fabricação de aparelhos e equipamentos de telefonia e radiotelefonia e de transmissores de televisão e rádio
- 323 Fabricação de aparelhos receptores de rádio e televisão e de reprodução, gravação ou amplificação de som e vídeo
- 33 **Fabricação de equipamentos de instrumentação médico-hospitalares, instrumentos de precisão e ópticos, equipamentos para automação industrial, cronômetros e relógios**
- 331 Fabricação de aparelhos e instrumentos para usos médico-hospitalares, odontológicos e de laboratórios e aparelhos ortopédicos
- 332 Fabricação de aparelhos e instrumentos de medida, teste e controle, exclusive equipamentos para controle de processos industriais
- 333 Fabricação de máquinas, aparelhos e equipamentos de sistemas eletrônicos dedicados à automação industrial e controle do processo
- 334 Fabricação de aparelhos, instrumentos e materiais ópticos, fotográficos e cinematográficos

<i>CNAE 3d</i>	Portuguese description (three digits)
335	Fabricação de cronômetros e relógios
34	Fabricação e montagem de veículos automotores, reboques e carrocerias
341	Fabricação de automóveis, camionetas e utilitários
342	Fabricação de caminhões e ônibus
343	Fabricação de cabines, carrocerias e reboques
344	Fabricação de peças e acessórios para veículos automotores
345	Recondicionamento ou recuperação de motores para veículos automotores
35	Fabricação de outros equipamentos de transporte
351	Construção e reparação de embarcações
352	Construção, montagem e reparação de veículos ferroviários
353	Construção, montagem e reparação de aeronaves
359	Fabricação de outros equipamentos de transporte
36	Fabricação de móveis e indústrias diversas
361	Fabricação de artigos do mobiliário
369	Fabricação de produtos diversos
37	Reciclagem
371	Reciclagem de sucatas metálicas
372	Reciclagem de sucatas não-metálicas

Mining Industries

- 10 **Coal Mining**
- 100 Coal Mining
- 11 **Petroleum and Gas Extraction**
- 111 Petroleum and Gas Extraction
- 112 Petroleum and Gas Extraction Services
- 13 **Metallic Mineral Mining**
- 131 Iron Ore Mining
- 132 Other Metal Ore Mining
- 14 **Nonmetallic Mineral Mining**
- 141 Stone, Sand and Clay Mining and Quarrying
- 142 Other Nonmetallic Mineral Mining

Manufacturing Industries

- 15 **Food and Beverage Manufacturing**
- 151 Animal Slaughtering and Meat and Seafood Processing
- 152 Fruit, Vegetable and Other Plant Processing and Canning
- 153 Fats and Oils Processing from Plants and Animals
- 154 Dairy Product Manufacturing
- 155 Grains and Seeds Milling and Manufacturing
- 156 Sugar Milling and Refining
- 157 Coffee Roasting and Grinding
- 158 Other Food Manufacturing
- 159 Beverage Manufacturing
- 16 **Tobacco Product Manufacturing**
- 160 Tobacco Product Manufacturing
- 17 **Textile Products Manufacturing**
- 171 Natural Fabric Refining
- 172 Fabric Weaving, Knitting and Processing
- 173 Finishing and Coating
- 174 Other Textile Goods Manufacturing (including coating)
- 175 Textile Production Services
- 176 Other Textile Products Manufacturing (except apparel)

177	Other Textile Products Knitting
18	Apparel Manufacturing
181	Apparel Cut-and-Sew Manufacturing
182	Apparel Accessories Manufacturing
19	Leather Processing and Leather Products, Luggage and Footwear Manufacturing
191	Leather and Hide Cutting, Tanning and Finishing
192	Suitcase, Luggage and Other Leather Products Manufacturing
193	Footwear Manufacturing
20	Wood Products Manufacturing
201	Wood Sawing
202	Wood Products Manufacturing (except furniture)
21	Pulp, Paper and Paper Products Manufacturing
211	Pulp Manufacturing
212	Paper and Paperboard Manufacturing
213	Paper and Paperboard Containers and Coated Paperboard Manufacturing
214	Miscellaneous Pulp, Paper and Paperboard Products Manufacturing
22	Publishing, Printing and Reproduction of Recordings
221	Publishing and Printing
222	Printing and Reproduction Services
223	Reproduction of Recordings
23	Coal Products Manufacturing, Petroleum Refining, Nuclear Combustibles Processing and Alcohol Production
231	Coal Products Manufacturing
232	Petroleum Refining
233	Nuclear Combustibles Processing
234	Alcohol Production

24	Chemical Products Manufacturing
241	Inorganic Chemical Manufacturing
242	Organic Chemical Manufacturing
243	Resins and Elastomers Manufacturing
244	Fibers and Filaments Manufacturing
245	Pharmaceutical Manufacturing
246	Other Agricultural Chemicals Manufacturing
247	Soap, Detergent and Perfumes Manufacturing
248	Paint, Varnish, Lacquer and Allied Products Manufacturing
249	Miscellaneous Chemical Product Manufacturing
25	Rubber and Plastics Product Manufacturing
251	Tire and Rubber Product Manufacturing
252	Plastics Product Manufacturing
26	Nonmetallic Mineral Product Manufacturing
261	Glass and Glass Product Manufacturing
262	Cement Manufacturing
263	Cement, Concrete Products and Gypsum Products Manufacturing
264	Clay Products Manufacturing
269	Other Nonmetallic Mineral Product Manufacturing
27	Metals Production and Basic Processing
271	Iron and Steel Sheets, Plates and Foils Production in Integrated Mills
272	Iron and Steel Works and Processing
273	Iron and Steel Tubes Production
274	Nonferrous Metals Production and Processing
275	Foundries
28	Metal Product Manufacturing (excluding machinery and equipment)
281	Metal Structures and Heavy Gauge Tank Manufacturing
282	Metal Tank, Heater and Boiler Manufacturing

<i>CNAE 3d</i>	English description (three digits)
283	Forgings, Stamped Metal Product Manufacturing, Powder Metallurgy and Metal Treating Services
284	Cutlery, Hardware and Handtool Manufacturing
289	Other Metal Product Manufacturing
29	Machinery and Equipment Manufacturing
291	Engine, Pump, Compressor and Transmissions Manufacturing
292	General-Purpose Machinery Manufacturing
293	Tractor and Farm Machinery and Equipment Manufacturing
294	Machine Tool and Tool Manufacturing
295	Mining and Construction Machinery and Equipment Manufacturing
296	Specific-Use Commercial Machinery Manufacturing
297	Fire Arms, Ammunition and Military Equipment Manufacturing
298	Household Appliance Manufacturing
30	Office Machinery and Data Processing Equipment Manufacturing
301	Office Machinery Manufacturing
302	Equipment and Peripherals Manufacturing for Data Processing
31	Electrical Machinery, Equipment and Supplies Manufacturing
311	Electric Generator, Transformer and Motor Manufacturing
312	Control Equipment and Switchgear for Electricity Distribution
313	Electric Wire and Wiring Device Manufacturing
314	Battery Manufacturing
315	Lamp Bulb and Lighting Equipment Manufacturing
316	Electrical Equipment Manufacturing for Vehicles (except batteries)

- 319 Other Electrical Machinery, Equipment and Supplies Manufacturing
- 32 **Electronic Component and Communication Apparatus and Equipment Manufacturing**
- 321 Basic Electronic Component Manufacturing
- 322 Telephone, Radio and Television and Radio Broadcasting Equipment Manufacturing
- 323 Audio and Video Equipment Manufacturing
- 33 **Medical and Therapeutic Equipment, Optical and Precision Instruments, Equipment for Industrial Automation and Watch and Clock Manufacturing**
- 331 Medical and Therapeutic Apparatus Manufacturing
- 332 Instrument Manufacturing for Measuring, Testing and Controlling (except for controlling industrial processes)
- 333 Instruments, Equipment and Related Products Manufacturing for Automation and Control of Industrial Processes
- 334 Optical Instruments and Materials and Photographic and Cinematographic Equipment Manufacturing
- 335 Watch and Clock Manufacturing
- 34 **Motor Vehicle Assembly and Motor Vehicle, Engine, Trailer and Body Manufacturing**
- 341 Automobile, Light Truck and Utility Vehicle Manufacturing
- 342 Heavy Duty Truck and Bus Manufacturing
- 343 Motor Vehicle Body, Interior and Trailer Manufacturing
- 344 Motor Vehicle Parts and Accessories Manufacturing
- 345 Rebuilding of Engines for Motor Vehicles
- 35 **Other Transportation Equipment Manufacturing**
- 351 Ship and Boat Building and Repairing
- 352 Railroad Rolling Stock Manufacturing, Overhauling and Rebuilding
- 353 Aircraft Manufacturing, Overhauling and Rebuilding
- 359 Other Transportation Equipment Manufacturing

<i>CNAE</i> 3d	English description (three digits)
36	Furniture and Miscellaneous Manufacturing
361	Furniture Manufacturing
369	All Other Miscellaneous Manufacturing
37	Recycling
371	Metallic Scrap Recycling
372	Nonmetallic Scrap Recycling

<i>CNAE</i>	<i>Nível</i> <i>100</i>	Portuguese description
Indústrias extrativas		
10		Extração de carvão mineral
1000	320	Extração de carvão mineral
11		Extração de petróleo e serviços correlatos
1110	310	Extração de petróleo e gás natural
1120	310	Serviços relacionados com a extração de petróleo e gás
13		Extração de minerais metálicos
1310	210	Extração de minério de ferro
1321	210	Extração de minério de alumínio
1322	210	Extração de minério de estanho
1323	210	Extração de minério de manganês
1324	210	Extração de minério de metais preciosos
1325	210	Extração de minerais radioativos
1329	210	Extração de outros minerais metálicos não-ferrosos
14		Extração de minerais não-metálicos
1410	220	Extração de pedra, areia e argila
1421	220	Extração de minerais para fabricação de adubos, fertilizantes e produtos químicos
1422	3120	Extração e refino de sal marinho e sal-gema
1429	220	Extração de outros minerais não-metálicos
Indústrias de transformação		
15		Fabricação de produtos alimentícios e bebidas
1511	2710	Abate de reses, preparação de produtos de carne
1512	2720	Abate de aves e outros pequenos animais e preparação de produtos de carne
1513	2710	Preparação de carne, banha e produtos de salsicharia não associados ao abate
1514	3120	Preparação e preservação do pescado e fabricação de conservas de peixes, crustáceos e molucos
1521	2630	Processamento, preservação e produção de conservas de frutas
1522	2630	Processamento, preservação e produção de conservas

<i>CNAE</i>	<i>Nível</i> <i>100</i>	Portuguese description
		de legumes e outros vegetais
1523	2630	Produção de sucos de frutas e de legumes
1531	3010	Produção de óleos vegetais em bruto
1532	3020	Refino de óleos vegetais
1533	3020	Preparação de margarina e outras gorduras vegetais e de óleos de origem animal não-comestíveis
1541	2810	Preparação do leite
1542	2810	Fabricação de produtos do laticínio
1543	3120	Fabricação de sorvetes
1551	2610	Beneficiamento de arroz e fabricação de produtos do arroz
1552	2620	Moagem de trigo e fabricação de derivados
1553	2640	Fabricação de farinha de mandioca e derivados
1554	2640	Fabricação de fubá e farinha de milho
1555	2640	Fabricação de amidos e féculas de vegetais e fabricação de óleos de milho
1556	3110	Fabricação de rações balanceadas para animais
1559	2640	Beneficiamento, moagem e preparação de outros alimentos de origem vegetal
1561	2910	Usinas de açúcar
1562	2910	Refino e moagem de açúcar
1571	2510	Torrefação e moagem de café
1572	2510	Fabricação de café solúvel
1581	3120	Fabricação de produtos de padaria, confeitaria e pastelaria
1582	3120	Fabricação de biscoitos e bolachas
1583	2640	Produção de derivados do cacau e elaboração de chocolates, balas e gomas de mascar
1584	3120	Fabricação de massas alimentícias
1585	2630	Preparação de especiarias, molhos, temperos e condimentos
1586	3120	Preparação de produtos dietéticos, alimentos para crianças e outros alimentos conservados
1589	3120	Fabricação de outros produtos alimentícios
1591	3130	Fabricação, retificação, homogeneização e

<i>CNAE</i>	<i>Nível</i> <i>100</i>	Portuguese description
		mistura de aguardentes e outras bebidas destiladas
1592	3130	Fabricação de vinho
1593	3130	Fabricação de malte, cervejas e chopes
1594	3130	Engarrafamento e gaseificação de águas minerais
1595	3130	Fabricação de refrigerantes e refrescos
16		Fabricação de produtos do fumo
1600	2650	Fabricação de produtos do fumo
17		Fabricação de produtos têxteis
1711	2210	Beneficiamento de algodão
1719	2210	Beneficiamento de outras fibras têxteis naturais
1721	2210	Fiação de algodão
1722	2210	Fiação de outras fibras têxteis naturais
1723	2220	Fiação de fibras artificiais ou sintéticas
1724	2230	Fabricação de linhas e fios para coser e bordar
1731	2210	Tecelagem de algodão
1732	2210	Tecelagem de fios de fibras têxteis naturais
1733	2220	Tecelagem de fios e filamentos contínuos artificiais ou sintéticos
1741	2230	Fabricação de artigos de tecido de uso doméstico, incluindo tecelagem
1749	2230	Fabricação de outros artefatos têxteis, incluindo tecelagem
1750	2230	Serviços de acabamento em fios, tecidos e artigos têxteis produzidos por terceiros
1761	2230	Fabricação de artefatos têxteis a partir de tecidos
1762	2230	Fabricação de artefatos de tapeçaria
1763	2230	Fabricação de artefatos de cordoaria
1764	2230	Fabricação de tecidos especiais, inclusive artefatos
1769	2230	Fabricação de outros artigos têxteis, exclusive vestuário
1771	2230	Fabricação de tecidos de malha
1772	2230	Fabricação de meias
1779	2230	Fabricação de outros artigos do vestuário produzidos em malharias (tricotagens)

<i>CNAE</i>	<i>Nível</i> <i>100</i>	Portuguese description
18		Confecção de artigos do vestuário e acessórios
1811	2310	Confecção de peças interiores do vestuário
1812	2310	Confecção de outras peças do vestuário
1813	2310	Confecção de roupas profissionais
1821	2310	Fabricação de acessórios do vestuário
1822	2310	Fabricação de acessórios para segurança industrial e pessoal
19		Preparação de couros e fabricação de artefatos de couro, artigos de viagem e calçados
1910	2410	Curtimento e outras preparações de couro
1921	2410	Fabricação de malas, bolsas, valises e outros artefatos para viagem, de qualquer material
1929	2410	Fabricação de outros artefatos de couro
1931	2420	Fabricação de calçados de couro
1932	2420	Fabricação de tênis de qualquer material
1933	2420	Fabricação de calçados de plástico
1939	2420	Fabricação de calçados de outros materiais
20		Fabricação de produtos de madeira
2010	1410	Desdobramento de madeira
2021	1410	Fabricação de madeira laminada e de chapas de madeira compensada, ou aglomerada
2022	1410	Fabricação de esquadrias de madeira, de casas de madeira pré-fabricadas, de estruturas de madeira e artigos de carpintaria
2023	1410	Fabricação de artefatos de tanoaria e embalagens de madeira
2029	1410	Fabricação de artefatos diversos de madeira, palha, cortiça e material trançado, exclusive móveis
21		Fabricação de celulose, papel e produtos de papel
2110	1510	Fabricação de celulose e outras pastas para a fabricação de papel
2121	1520	Fabricação de papel
2122	1520	Fabricação de papelão liso, cartolina e cartão

<i>CNAE</i>	<i>Nível</i> <i>100</i>	Portuguese description
2131	1520	Fabricação de embalagens de papel
2132	1520	Fabricação de embalagens de papelão, inclusive a fabricação de papelão corrugado
2141	1520	Fabricação de artefatos de papel, papelão, cartolina e cartão para escritório
2142	1520	Fabricação de fitas e formulários contínuos, impressos ou não
2149	1520	Fabricação de outros artefatos de pastas, papel, papelão, cartolina e cartão
22		Edição, impressão e reprodução de gravações
2211	1530	Edição; edição e impressão de jornais
2212	1530	Edição; edição e impressão de revistas
2213	1530	Edição; edição e impressão de livros
2214	1530	Edição de discos, fitas e outros materiais gravados
2219	1530	Edição; edição e impressão de outros produtos gráficos
2221	1530	Impressão de jornais, revistas e livros
2222	1530	Serviço de impressão de material escolar e de material para usos industrial e comercial
2229	1530	Execução de outros serviços gráficos
2231	1530	Reprodução de discos e fitas
2232	1530	Reprodução de fitas de vídeos
2233	1530	Reprodução de filmes
2234	1530	Reprodução de programas de informática em disquetes e fitas
23		Fabricação de coque, refino de petróleo, elaboração de combustíveis nucleares e produção de álcool
2310	1920	Coquerias
2320	1810	Refino de petróleo
2330	1920	Elaboração de combustíveis nucleares
2340	1720	Produção de álcool
24		Fabricação de produtos químicos
2411	1710	Fabricação de cloro e álcalis

<i>CNAE</i>	<i>Nível</i> <i>100</i>	Portuguese description
2412	1910	Fabricação de intermediários para fertilizantes
2413	1910	Fabricação de fertilizantes fosfatados, nitrogenados e potássicos
2414	1710	Fabricação de gases industriais
2419	1710	Fabricação de outros produtos inorgânicos
2421	1820	Fabricação de produtos petroquímicos básicos
2422	1820	Fabricação de intermediários para resinas e fibras
2429	1710	Fabricação de outros produtos químicos orgânicos
2431	1830	Fabricação de resinas termoplásticas
2432	1830	Fabricação de resinas termofixas
2433	1830	Fabricação de elastômeros
2441	1830	Fabricação de fibras, fios, cabos e filamentos contínuos artificiais
2442	1830	Fabricação de fibras, fios, cabos e filamentos contínuos sintéticos
2451	2010	Fabricação de produtos farmoquímicos
2452	2010	Fabricação de medicamentos para uso humano
2453	2010	Fabricação de medicamentos para uso veterinário
2454	2010	Fabricação de materiais para usos médicos, hospitalares e odontológicos
2461	1920	Fabricação de inseticidas
2462	1920	Fabricação de fungicidas
2463	1920	Fabricação de herbicidas
2469	1920	Fabricação de outros defensivos agrícolas
2471	2020	Fabricação de sabões, sabonetes e detergentes sintéticos
2472	1920	Fabricação de produtos de limpeza e polimento
2473	2020	Fabricação de artigos de perfumaria e cosméticos
2481	1920	Fabricação de tintas, vernizes, esmaltes e lacas
2482	1920	Fabricação de tintas de impressão
2483	1920	Fabricação de impermeabilizantes, solventes e produtos afins
2491	1920	Fabricação de adesivos e selantes
2492	1920	Fabricação de explosivos
2493	1920	Fabricação de catalisadores

<i>CNAE</i>	<i>Nível</i> <i>100</i>	Portuguese description
2494	1920	Fabricação de aditivos de uso industrial
2495	3210	Fabricação de chapas, filmes, papéis e outros materiais e produtos químicos para fotografia
2496	1920	Fabricação de discos e fitas virgens
2499	1920	Fabricação de outros produtos químicos não especificados ou não classificados
25		Fabricação de artigos de borracha e plástico
2511	1610	Fabricação de pneumáticos e de câmaras-de-ar
2512	1610	Recondicionamento de pneumáticos
2519	1610	Fabricação de artefatos diversos de borracha
2521	2110	Fabricação de laminados planos e tubulares plásticos
2522	2120	Fabricação de embalagem de plástico
2529	2120	Fabricação de artefatos diversos de plástico
26		Fabricação de produtos de minerais não-metálicos
2611	430	Fabricação de vidro plano e de segurança
2612	430	Fabricação de vasilhames de vidro
2619	430	Fabricação de artigos de vidro
2620	410	Fabricação de cimento
2630	420	Fabricação de artefatos de concreto, cimento, fibrocimento, gesso e estuque
2641	440	Fabricação de produtos cerâmicos não-refratários para uso estrutural na construção civil
2642	440	Fabricação de produtos cerâmicos refratários
2649	440	Fabricação de produtos cerâmicos não-refratários para usos diversos
2691	440	Britamento, aparelhamento e outros trabalhos em pedras (não associados à extração)
2692	440	Fabricação de cal virgem, cal hidratada e gesso
2699	440	Fabricação de outros produtos de minerais não-metálicos
27		Metalurgia básica
2711	510	Produção de laminados planos de aço
2712	510	Produção de laminados não-planos de aço

<i>CNAE</i>	<i>Nível 100</i>	Portuguese description
2721	510	Produção de gusa
2722	510	Produção de ferro, aço e ferroligas em formas primárias e semi-acabadas
2729	510	Produção de relaminados, trefilados e retrefilados de aço, exclusive tubos
2731	720	Fabricação de tubos de aço com costura
2739	720	Fabricação de outros tubos de ferro e aço
2741	610	Metalurgia do alumínio e suas ligas
2742	610	Metalurgia dos metais preciosos
2749	610	Metalurgia de outros metais não-ferrosos e suas ligas
2751	710	Fabricação de peças fundidas de ferro e aço
2752	610	Fabricação de peças fundidas de metais não-ferrosos e suas ligas
28		Fabricação de produtos de metal, exclusive máquinas e equipamentos
2811	720	Fabricação de estruturas metálicas para edifícios, pontes, torres de transmissão, andaimes e outros fins
2812	720	Fabricação de esquadrias de metal
2813	810	Fabricação de obras de caldeiraria pesada
2821	810	Fabricação de tanques, reservatórios metálicos e caldeiras para aquecimento central
2822	810	Fabricação de caldeiras geradoras de vapor, exclusive para aquecimento central e para veículos
2831	710	Produção de forjados de aço
2832	610	Produção de forjados de metais não-ferrosos e suas ligas
2833	720	Fabricação de artefatos estampados de metal
2834	720	Metalurgia do pó
2839	720	Têmpera, cementação e tratamento térmico do aço, serviços de usinagem, galvanotécnica e solda
2841	720	Fabricação de artigos de cutelaria
2842	720	Fabricação de artigos de serralheria, exclusive esquadrias

<i>CNAE</i>	<i>Nível</i> <i>100</i>	Portuguese description
2843	720	Fabricação de ferramentas manuais
2891	720	Fabricação de embalagens metálicas ligas
2892	720	Fabricação de artefatos de trefilados
2893	720	Fabricação de artigos de funilaria e de artigos de metal para uso doméstico e pessoal
2899	720	Fabricação de outros produtos elaborados de metal
29		Fabricação de máquinas e equipamentos
2911	810	Fabricação de motores estacionários de combustão interna, turbinas e outras máquinas motrizes não-elétricas, exclusive para aviões e veículos rodoviários
2912	810	Fabricação de bombas e carneiros hidráulicos
2913	810	Fabricação de válvulas, torneiras e registros
2914	810	Fabricação de compressores
2915	810	Fabricação de equipamentos de transmissão para fins industriais, inclusive rolamentos
2921	810	Fabricação de fornos industriais, aparelhos e equipamentos não-elétricos para instalações térmicas
2922	810	Fabricação de estufas e fornos elétricos para fins industriais
2923	810	Fabricação de máquinas, equipamentos e aparelhos para transporte e elevação de cargas e pessoas
2924	810	Fabricação de máquinas e aparelhos de refrigeração e ventilação de uso industrial
2925	810	Fabricação de aparelhos de ar-condicionado
2929	810	Fabricação de outras máquinas e equipamentos de uso geral
2931	810	Fabricação de máquinas e equipamentos para agricultura, avicultura e obtenção de produtos animais
2932	820	Fabricação de tratores agrícolas
2940	810	Fabricação de máquinas-ferramenta
2951	810	Fabricação de máquinas e equipamentos para a indústria de prospecção e extração de petróleo

<i>CNAE</i>	<i>Nível</i> <i>100</i>	Portuguese description
2952	810	Fabricação de outras máquinas e equipamentos para a extração de minérios e indústria da construção
2953	820	Fabricação de tratores de esteira e tratores de uso na construção e mineração
2954	820	Fabricação de máquinas e equipamentos de terraplanagem e pavimentação
2961	810	Fabricação de máquinas para a indústria metalúrgica, exclusive máquina-ferramenta
2962	810	Fabricação de máquinas e equipamentos para as indústrias alimentar, de bebida e fumo
2963	810	Fabricação de máquinas e equipamentos para a indústria têxtil
2964	810	Fabricação de máquinas e equipamentos para as indústrias do vestuário e de couro e calçados
2965	810	Fabricação de máquinas e equipamentos para as indústrias de celulose, papel e papelão e artefatos
2969	810	Fabricação de outras máquinas e equipamentos de uso específico
2971	810	Fabricação de armas de fogo e munições
2972	810	Fabricação de equipamento bélico pesado
2981	1030	Fabricação de fogões, refrigeradores e máquinas de lavar e secar para uso doméstico
2989	1030	Fabricação de outros aparelhos eletrodomésticos
30		Fabricação de máquinas para escritório e equipamentos de informática
3011	1030	Fabricação de máquinas de escrever e calcular, copiadoras e outros equipamentos não-eletrônicos para escritório
3012	1110	Fabricação de máquinas de escrever e calcular, copiadoras e outros equipamentos eletrônicos destinados à automação gerencial e comercial
3021	1110	Fabricação de computadores
3022	1110	Fabricação de equipamentos periféricos para máquinas eletrônicas para tratamento de informações

<i>CNAE</i>	<i>Nível</i> <i>100</i>	Portuguese description
31		Fabricação de máquinas, aparelhos e materiais elétricos
3111	1010	Fabricação de geradores de corrente contínua ou alternada
3112	1010	Fabricação de transformadores, indutores, conversores, sincronizadores e semelhantes
3113	1010	Fabricação de motores elétricos
3121	1010	Fabricação de subestações, quadros de comando, reguladores de voltagem e outros aparelhos e equipamentos para distribuição e controle de energia
3122	1010	Fabricação de material elétrico para instalações em circuito de consumo
3130	1020	Fabricação de fios, cabos e condutores elétricos isolados
3141	1020	Fabricação de pilhas, baterias e acumuladores elétricos, exclusive para veículos
3142	1310	Fabricação de baterias e acumuladores para veículos
3151	1020	Fabricação de lâmpadas
3152	1020	Fabricação de luminárias e equipamentos de iluminação, exclusive para veículos
3160	1310	Fabricação de material elétrico para veículos, exclusive baterias
3191	1020	Fabricação de eletrodos, contatos e outros artigos de carvão e grafita para uso elétrico, eletroímãs e isoladores
3192	1110	Fabricação de aparelhos e utensílios para sinalização e alarme
3199	1030	Fabricação de outros aparelhos ou equipamentos elétricos
32		Fabricação de material eletrônico e de aparelhos e equipamentos de comunicações
3210	1110	Fabricação de material eletrônico básico
3221	1110	Fabricação de equipamentos transmissores de rádio e televisão e de equipamentos para estações telefônicas; para radiotelefonia e radiotelegrafia, inclusive de

<i>CNAE</i>	<i>Nível</i> <i>100</i>	Portuguese description
		microondas e repetidoras
3222	1110	Fabricação de aparelhos telefônicos, sistemas de intercomunicação e semelhantes
3230	1120	Fabricação de aparelhos receptores de rádio e televisão e de reprodução, gravação ou amplificação de som e vídeo
33		Fabricação de equipamentos de instrumentação médico-hospitalares, instrumentos de precisão e ópticos, equipamentos para automação industrial, cronômetros e relógios
3310	3210	Fabricação de aparelhos e instrumentos para usos médico-hospitalares, odontológicos e de laboratórios e aparelhos ortopédicos
3320	3210	Fabricação de aparelhos e instrumentos de medida, teste e controle, exclusive equipamentos para controle de processos industriais
3330	1110	Fabricação de máquinas, aparelhos e equipamentos de sistemas eletrônicos dedicados à automação industrial e controle do processo
3340	3210	Fabricação de aparelhos, instrumentos e materiais ópticos, fotográficos e cinematográficos
3350	3210	Fabricação de cronômetros e relógios
34		Fabricação e montagem de veículos automotores, reboques e carrocerias
3410	1210	Fabricação de automóveis, camionetas e utilitários
3420	1210	Fabricação de caminhões e ônibus
3431	1210	Fabricação de cabines, carrocerias e reboques para caminhão
3432	1210	Fabricação de carrocerias para ônibus
3439	1210	Fabricação de cabines, carrocerias e reboques para outros veículos
3441	1310	Fabricação de peças e acessórios para o sistema motor
3442	1310	Fabricação de peças e acessórios para os sistema

<i>CNAE</i>	<i>Nível</i> <i>100</i>	Portuguese description
		de marcha e transmissão
3443	1310	Fabricação de peças e acessórios para o sistema de freios
3444	1310	Fabricação de peças e acessórios para o sistema de direção e suspensão
3449	1310	Fabricação de peças e acessórios de metal para veículos automotores não classificados em outra classe
3450	1310	Recondicionamento ou recuperação de motores para veículos automotores
35		Fabricação de outros equipamentos de transporte
3511	1320	Construção e reparação de embarcações e estruturas flutuantes
3512	1320	Construção e reparação de embarcações para esporte e lazer
3521	1330	Construção e montagem de locomotivas, vagões e outros materiais rodantes
3522	1330	Fabricação de peças e acessórios para veículos ferroviários
3523	1330	Reparação de veículos ferroviários
3531	1340	Construção e montagem de aeronaves
3532	1340	Reparação de aeronaves
3591	1340	Fabricação de motocicletas
3592	1340	Fabricação de bicicletas e triciclos não-motorizados
3599	1340	Fabricação de outros equipamentos de transporte
36		Fabricação de móveis e indústrias diversas
3611	1420	Fabricação de móveis com predominância de madeira
3612	1420	Fabricação de móveis com predominância de metal
3613	1420	Fabricação de móveis de outros materiais
3614	1420	Fabricação de colchões
3691	3210	Lapidação de pedras preciosas e semipreciosas, fabricação de artefatos de ourivesaria e joalheria

<i>CNAE</i>	<i>Nível</i> <i>100</i>	Portuguese description
3692	3210	Fabricação de instrumentos musicais
3693	3210	Fabricação de artefatos para caça, pesca e esporte
3694	3210	Fabricação de brinquedos e de jogos recreativos
3695	3210	Fabricação de canetas, lápis, fitas impressoras para máquinas e outros artigos para escritório
3696	3210	Fabricação de aviamentos para costura
3697	3210	Fabricação de escovas, pincéis e vassouras
3699	3210	Fabricação de produtos diversos
37		Reciclagem
3710	3210	Reciclagem de sucatas metálicas
3720	3210	Reciclagem de sucatas não-metálicas

<i>CNAE</i>	<i>Nível</i> <i>100</i>	English description
Mining Industries		
10		Coal Mining
1000	320	Coal Mining
11		Petroleum and Gas Extraction
1110	310	Petroleum and Gas Extraction
1120	310	Petroleum and Gas Extraction Services
13		Metallic Mineral Mining
1310	210	Iron Ore Mining
1321	210	Aluminum Mining
1322	210	Ferrous Alloy Ore Mining
1323	210	Manganese Ore Mining
1324	210	Precious Metal Mining
1325	210	Radioactive Ore Mining
1329	210	Other Metal Ore Mining
14		Nonmetallic Mineral Mining
1410	220	Stone, Sand and Clay Mining and Quarrying
1421	220	Chemical and Fertilizing Mineral Mining
1422	3120	Salt Extraction, Mining and Refining (including maritime salt extraction)
1429	220	Other Nonmetallic Mineral Mining
Manufacturing Industries		
15		Food and Beverage Manufacturing
1511	2710	Animal Slaughtering and Meat Processing
1512	2720	Poultry Slaughtering and Processing
1513	2710	Rendering and Meat Product Processing
1514	3120	Seafood Processing and Canning
1521	2630	Fruit Processing and Canning
1522	2630	Vegetable and Other Plant Processing and Canning
1523	2630	Fruit and Vegetable Juice Manufacturing
1531	3010	Oilseed Milling
1532	3020	Plant Oil Refining

<i>CNAE</i>	<i>Nível</i> <i>100</i>	English description
1533	3020	Fats, Oils and Margarine Processing from Plants and Animals
1541	2810	Fluid Milk Manufacturing
1542	2810	Dairy Product Manufacturing
1543	3120	Ice Cream Manufacturing
1551	2610	Rice Milling and Rice Products Manufacturing
1552	2620	Wheat Milling and Wheat Products Manufacturing
1553	2640	Manioc Milling and Manioc Products Manufacturing
1554	2640	Corn Milling and Flour Manufacturing
1555	2640	Corn Oil Manufacturing and Other Grain Preparations
1556	3110	Prepared Feeds for Animals
1559	2640	Other Grains and Seeds Milling and Manufacturing
1561	2910	Sugarcane Milling and Distilling
1562	2910	Sugar Grinding and Refining
1571	2510	Coffee Roasting and Grinding
1572	2510	Soluble Coffee Manufacturing
1581	3120	Bakery Product, Cakes and Other Pastries Manufacturing
1582	3120	Cookie and Cracker Manufacturing
1583	2640	Chocolate Manufacturing from Cacao Beans and Confectionery Manufacturing
1584	3120	Flour Mixes and Dough Manufacturing
1585	2630	Dressing and Other Prepared Sauce, Spices and Concentrate Manufacturing
1586	3120	Diet, Infant and Other Canned Food Manufacturing
1589	3120	Other Food Manufacturing
1591	3130	Liquor Distilling, Purifying and Bottling
1592	3130	Wineries
1593	3130	Manufacturing of Stout and Beer
1594	3130	Bottled Mineral Water Manufacturing
1595	3130	Soft Drink Manufacturing
16		Tobacco Product Manufacturing
1600	2650	Tobacco Product Manufacturing

<i>CNAE</i>	<i>Nível</i> <i>100</i>	English description
17		Textile Products Manufacturing
1711	2210	Cotton Refining
1719	2210	Other Natural Fabric Refining
1721	2210	Cotton Weaving and Processing
1722	2210	Other Natural Fabric Weaving, Knitting and Processing
1723	2220	Artificial and Synthetic Fabric Weaving, Knitting and Processing
1724	2230	Embroidery Fabric Weaving, Knitting and Processing
1731	2210	Cotton Finishing and Coating
1732	2210	Other Natural Fabric Finishing and Coating
1733	2220	Artificial and Synthetic Fabric Finishing and Coating
1741	2230	Household Textile Manufacturing
1749	2230	Other Textile Goods Manufacturing
1750	2230	Textile Production Services
1761	2230	Textile Products Manufacturing from Fabrics
1762	2230	Carpet and Rug Manufacturing
1763	2230	Rope and Cordage Manufacturing
1764	2230	Special Fabrics and Textile Products Manufacturing
1769	2230	Other Textile Products Manufacturing (except apparel)
1771	2230	Fabrics Knitting
1772	2230	Hosiery and Socks Knitting
1779	2230	Other Textile Products Knitting
18		Apparel Manufacturing
1811	2310	Underwear and Nightwear Cut-and-Sew Manufacturing
1812	2310	Other Apparel Cut-and-Sew Manufacturing
1813	2310	Professional Gear Cut-and-Sew Manufacturing
1821	2310	Apparel Accessories Manufacturing
1822	2310	Industrial and Personal Security Accessories Manufacturing

<i>CNAE</i>	<i>Nível</i> <i>100</i>	English description
19		Leather Processing and Leather Products, Luggage and Footwear Manufacturing
1910	2410	Leather and Hide Cutting, Tanning and Finishing
1921	2410	Suitcase, Bag, Purse and Other Luggage Manufacturing
1929	2410	Other Leather Products Manufacturing
1931	2420	Leather Footwear Manufacturing
1932	2420	Athletic Footwear Manufacturing
1933	2420	Rubber and Plastics Footwear Manufacturing
1939	2420	Footwear Manufacturing from Other Materials (except athletic footwear)
20		Wood Products Manufacturing
2010	1410	Wood Sawing
2021	1410	Plywood and Engineered Wood Products Manufacturing
2022	1410	Cut Wood, Wood Structures and Prefabricated Wood Buildings Manufacturing
2023	1410	Wood Containers and Packaging Material Manufacturing
2029	1410	Other Wood Products Manufacturing (except furniture)
21		Pulp, Paper and Paper Products Manufacturing
2110	1510	Pulp Manufacturing
2121	1520	Paper Manufacturing
2122	1520	Paperboard Manufacturing
2131	1520	Paper Bags and Containers Manufacturing
2132	1520	Paperboard Containers and Coated Paperboard Manufacturing
2141	1520	Stationery Products Manufacturing from Paper and Paperboard
2142	1520	Printed and Plain Tape and Forms Manufacturing
2149	1520	Other Pulp, Paper and Paperboard Products Manufacturing

<i>CNAE</i>	<i>Nível</i> <i>100</i>	English description
22		Publishing, Printing and Reproduction of Recordings
2211	1530	Publishing and Printing of Newspapers
2212	1530	Publishing and Printing of Magazines
2213	1530	Publishing and Printing of Books
2214	1530	Publishing of Records, Tapes, Disks and Other Recording Materials
2219	1530	Publishing and Printing of Other Products
2221	1530	Printing of Newspapers, Magazines and Books
2222	1530	Other Printing and Reproduction Services
2229	1530	Other Printing Services
2231	1530	Records, Tapes and Disks Reproducing
2232	1530	Video Tape Reproducing
2233	1530	Motion Picture Reproducing
2234	1530	Software Reproducing
23		Coal Products Manufacturing, Petroleum Refining, Nuclear Combustibles Processing and Alcohol Production
2310	1920	Coal Products Manufacturing
2320	1810	Petroleum Refining
2330	1920	Nuclear Combustibles Processing
2340	1720	Alcohol Production
24		Chemical Products Manufacturing
2411	1710	Chlorine and Alkalies Manufacturing
2412	1910	Fertilizer Ingredient Processing
2413	1910	Phosphatic, Nitrogenous and Potassic Fertilizer Manufacturing
2414	1710	Industrial Gas Manufacturing
2419	1710	Other Inorganic Chemical Manufacturing
2421	1820	Basic Petrochemical Products Manufacturing
2422	1820	Intermediate Chemicals Manufacturing for Resins and Fibers
2429	1710	Other Organic Chemical Manufacturing
2431	1830	Thermal-forming Resin Manufacturing
2432	1830	Non-thermal-forming Resin Manufacturing

<i>CNAE</i>	<i>Nível</i> <i>100</i>	English description
2433	1830	Elastomers Manufacturing
2441	1830	Artificial Fibers and Filaments Manufacturing
2442	1830	Synthetic Fibers and Filaments Manufacturing
2451	2010	Medicinal Chemicals Manufacturing
2452	2010	Pharmaceutical Manufacturing for Human Use
2453	2010	Pharmaceutical Manufacturing for Veterinary Use
2454	2010	Chemicals and Supplies Manufacturing for Medicinal, Diagnostic and Odontological
2461	1920	Insecticides Manufacturing
2462	1920	Fungicides Manufacturing
2463	1920	Herbicides Manufacturing
2469	1920	Other Agricultural Chemicals Manufacturing
2471	2020	Soap and Synthetic Detergent Manufacturing
2472	1920	Sanitation Good and Polish Manufacturing
2473	2020	Perfumes and Cosmetics Manufacturing
2481	1920	Paint, Varnish, Lacquer and Enamel Manufacturing
2482	1920	Printing Ink Manufacturing
2483	1920	Coatings, Solvents and Allied Products Manufacturing
2491	1920	Adhesives and Sealants Manufacturing
2492	1920	Explosives Manufacturing
2493	1920	Chemical Catalyst Manufacturing
2494	1920	Chemical Additives Manufacturing for Industrial Use
2495	3210	Photographic Plates, Films, Paper and Other Photographic Chemicals
2496	1920	Disk and Tape Manufacturing
2499	1920	Other Miscellaneous Chemical Product Manufacturing
25		Rubber and Plastics Product Manufacturing
2511	1610	Tire and Rubber Hose Manufacturing
2512	1610	Tire Retreading
2519	1610	Other Rubber Product Manufacturing
2521	2110	Laminated Plastics Plate and Pipe Manufacturing
2522	2120	Plastics Packaging Material Manufacturing
2529	2120	Other Plastics Product Manufacturing

<i>CNAE</i>	<i>Nível</i> <i>100</i>	English description
26		Nonmetallic Mineral Product Manufacturing
2611	430	Flat and Security Glass Manufacturing
2612	430	Glass Container Manufacturing
2619	430	Glass Product Manufacturing
2620	410	Cement Manufacturing
2630	420	Cement, Concrete Products and Gypsum Products Manufacturing
2641	440	Non-refractory Structural Clay Products Manufacturing
2642	440	Refractory Products Manufacturing
2649	440	Non-refractory Other Clay Products Manufacturing
2691	440	Cut Stone and Stone Product Manufacturing
2692	440	Lime and Gypsum Product Manufacturing
2699	440	Other Nonmetallic Mineral Product Manufacturing
27		Metals Production and Basic Processing
2711	510	Iron and Steel Plain Sheets, Plates and Foils Production in Integrated Mills
2712	510	Iron and Steel Formed Sheets Production in Integrated Mills
2721	510	Basic Iron and Steel Works
2722	510	Primary and Semi-Finished Iron and Steel Production
2729	510	Iron and Steel Processing and Steel Wire Drawing
2731	720	Iron and Steel Seamed Tubes Production
2739	720	Other Iron and Steel Tubes Production
2741	610	Aluminum Production and Processing
2742	610	Precious Metals Production and Processing
2749	610	Other Nonferrous Metals Production and Processing
2751	710	Iron and Steel Foundries
2752	610	Nonferrous Metal Foundries
28		Metal Product Manufacturing (excluding machinery and equipment)
2811	720	Prefabricated Metal Structures and Component Manufacturing
2812	720	Metal Structures and Plates Manufacturing

<i>CNAE</i>	<i>Nível</i> <i>100</i>	English description
2813	810	Heavy Gauge Tank and Heater Manufacturing
2821	810	Metal Tank and Central Heater Manufacturing
2822	810	Boiler and Heat Exchanger Manufacturing
2831	710	Iron and Steel Forgings
2832	610	Nonferrous Forgings
2833	720	Stamped Metal Products Manufacturing
2834	720	Powder Metallurgy Product Manufacturing
2839	720	Metal Coating, Heat Treating and Allied Services
2841	720	Cutlery Manufacturing
2842	720	Hardware Manufacturing
2843	720	Handtool Manufacturing
2891	720	Metal Container Manufacturing
2892	720	Turned Product, Spring and Wire Product Manufacturing
2893	720	Domestic Utensil Manufacturing
2899	720	Other Metal Product Manufacturing
29		Machinery and Equipment Manufacturing
2911	810	Internal Combustion Engines, Turbines and Other Non-Electric Generator Manufacturing
2912	810	Pump and Pumping Equipment Manufacturing
2913	810	Valve and Plumbing Fixture Manufacturing
2914	810	Compressor Manufacturing
2915	810	Transmissions and Gears Manufacturing
2921	810	Non-Electric Industrial Oven and Thermic Installation Manufacturing
2922	810	Electric Industrial-Process Furnace and Oven Manufacturing
2923	810	Elevators, Cranes and Other Handling Machinery and Equipment Manufacturing
2924	810	Commercial Refrigeration and Ventilation Equipment Manufacturing
2925	810	Air-Conditioning Equipment Manufacturing
2929	810	Other General-Purpose Machinery Manufacturing
2931	810	Farm Machinery and Equipment Manufacturing
2932	820	Tractor Manufacturing for Agriculture

<i>CNAE</i>	<i>Nível</i> <i>100</i>	English description
2940	810	Machine Tool and Tool Manufacturing
2951	810	Oil and Gas Field Machinery and Equipment Manufacturing
2952	810	Mining and Construction Machinery and Equipment Manufacturing
2953	820	Tractor Manufacturing for Mining and Construction
2954	820	Road Construction Machinery and Equipment Manufacturing
2961	810	Machinery and Equipment Manufacturing for Metallurgy (except machine tools)
2962	810	Food Product Machinery Manufacturing
2963	810	Textile Machinery Manufacturing
2964	810	Apparel, Leather and Footwear Machinery Manufacturing
2965	810	Pulp, Paper, Paperboard and Paper Products Machinery Manufacturing
2969	810	Other Specific-Use Commercial Machinery Manufacturing
2971	810	Fire Arms and Ammunition Manufacturing
2972	810	Heavy Military Equipment Manufacturing
2981	1030	Household Cooking, Refrigerating and Laundry Appliance Manufacturing
2989	1030	Other Household Appliance Manufacturing
30		Office Machinery and Data Processing Equipment Manufacturing
3011	1030	Non-Electronic Typewriting, Calculating, Copying and Office Machinery Manufacturing
3012	1110	Electronic Typewriting, Calculating, Copying and Office Machinery Manufacturing
3021	1110	Electronic Computer Manufacturing
3022	1110	Peripherals Manufacturing for Data Processing Equipment
31		Electrical Machinery, Equipment and Supplies Manufacturing
3111	1010	Electric Generator Manufacturing

<i>CNAE</i>	<i>Nível</i> <i>100</i>	English description
3112	1010	Transformer, Converter and Similar Electrical Product Manufacturing
3113	1010	Electric Motor Manufacturing
3121	1010	Industrial Control, Switchgear and Other Apparatus for Energy Distribution and Control
3122	1010	Electrical Equipment for Current-Carrying Wiring
3130	1020	Electric Wire and Wiring Device Manufacturing
3141	1020	Battery Manufacturing (except for vehicles)
3142	1310	Battery Manufacturing for Vehicles
3151	1020	Lamp Bulb Manufacturing
3152	1020	Lighting Equipment Manufacturing (except for vehicles)
3160	1310	Electrical Equipment Manufacturing for Vehicles (except batteries)
3191	1020	Carbon and Graphite Product Manufacturing for Electrical Uses
3192	1110	Electrical Signals and Alarm Equipment Manufacturing
3199	1030	Other Electrical Machinery, Equipment and Supplies Manufacturing
32		Electronic Component and Communication Apparatus and Equipment Manufacturing
3210	1110	Basic Electronic Component Manufacturing
3221	1110	Radio and Television Broadcasting and Telephone Exchange Equipment Manufacturing
3222	1110	Telephone and Similar Communication Apparatus
3230	1120	Audio and Video Equipment Manufacturing
33		Medical and Therapeutic Equipment, Optical and Precision Instruments, Equipment for Industrial Automation and Watch and Clock Manufacturing
3310	3210	Medical and Therapeutic Apparatus Manufacturing
3320	3210	Instrument Manufacturing for Measuring, Testing and Controlling (except for controlling industrial processes)

<i>CNAE</i>	<i>Nível</i> <i>100</i>	English description
3330	1110	Instruments, Equipment and Related Products Manufacturing for Automation and Control of Industrial Processes
3340	3210	Optical Instruments and Materials and Photographic and Cinematographic Equipment Manufacturing
3350	3210	Watch and Clock Manufacturing
34		Motor Vehicle Assembly and Motor Vehicle Engine, Trailer and Body Manufacturing
3410	1210	Automobile, Light Truck and Utility Vehicle Manufacturing
3420	1210	Heavy Duty Truck and Bus Manufacturing
3431	1210	Motor Vehicle Body, Interior and Trailer Manufacturing for Trucks
3432	1210	Motor Vehicle Body Manufacturing for Buses
3439	1210	Motor Vehicle Body, Interior and Trailer Manufacturing for Other Vehicles
3441	1310	Motor Vehicle Engine Parts Manufacturing
3442	1310	Motor Vehicle Transmission and Power Train Parts Manufacturing
3443	1310	Motor Vehicle Brake System Manufacturing
3444	1310	Motor Vehicle Steering and Suspension Components Manufacturing
3449	1310	Other Motor Vehicle Parts and Accessories Manufacturing
3450	1310	Rebuilding of Engines for Motor Vehicles
35		Other Transportation Equipment Manufacturing
3511	1320	Ship and Floating Structure Building and Repairing
3512	1320	Boat Building and Repairing for Sports and Leisure
3521	1330	Railroad Rolling Stock Manufacturing
3522	1330	Railroad Rolling Stock Parts and Accessories Manufacturing
3523	1330	Railroad Rolling Stock Overhauling and Rebuilding
3531	1340	Aircraft Manufacturing

<i>CNAE</i>	<i>Nível</i> <i>100</i>	English description
3532	1340	Aircraft Overhauling and Rebuilding
3591	1340	Motorcycle Manufacturing
3592	1340	Bicycle and Tricycle Manufacturing
3599	1340	Other Transportation Equipment Manufacturing
36		Furniture and Miscellaneous Manufacturing
3611	1420	Wooden Furniture Manufacturing
3612	1420	Metal Furniture Manufacturing
3613	1420	Furniture Manufacturing from Other Materials
3614	1420	Mattress Manufacturing
3691	3210	Precious Stone, Metal and Jewelry Etching and Engraving
3692	3210	Musical Instrument Manufacturing
3693	3210	Hunting, Fishing and Sporting Goods Manufacturing
3694	3210	Toy and Game Manufacturing
3695	3210	Pen, Pencil, Marking Device and Other Office Supplies Manufacturing
3696	3210	Fastener, Button, Needle and Pin Manufacturing
3697	3210	Broom, Brush and Mop Manufacturing
3699	3210	All Other Miscellaneous Manufacturing
37		Recycling
3710	3210	Metallic Scrap Recycling
3720	3210	Nonmetallic Scrap Recycling



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