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with some insights on EU and France**

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Tertiarisation revisited in the perspective of Hill's views on services, with some insights on EU and France

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Abstract:

A new definition of service has been proposed by Hill (1999) and endorsed by SNA and BOP last updates. The paper studies its consequences for industrial classifications, such as ISIC, and on the respective shares of goods and services producing sectors. The first section reminds the main characteristics of the new definition. The second section scrutinises the list of sectors of ISIC Rev. 4 and 3.1 in order to show within which category (goods or services producing) the headings falls. The major changes concerns what may be called manufacturing services and information goods producing sectors, the former being previously included in goods and the latter in services-producing. The third section proposes a measure of the share of each broad category for EU 27 (2008 - 2011) and France (1995 – 2011). The tertiarisation trend is preserved, even if several significant differences appear with standard presentations. Manufacturing services, when added to services-producing by far supersede Information goods, added to goods-producing.

JEL codes: L8; E01;

Keywords: tertiarisation; industrial structures; services

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Tertiarisation revisited in the perspective of Hill's views on services, with some insights on EU and France

Since many decades in almost all countries, there has been a steady tertiarisation trend. Whether measured through the share of employment or value added, services-producing sectors have become largely dominant (Gadrey 2003, Memedovic Lapadre 2009). Obviously this trend is fairly depending upon the definition of the service, which in turn induces that of services producing activities (Daniels Bryson 2002). For instance there has been a debate on whether public utilities, such as power generation should be considered as services industries or not. Nonetheless, even if public utilities were not entirely included in services industries, the aforementioned trend would not be altered, but it could be so with a more radical change. Yet, it happens that an innovative interpretation of what a service is was popularised by Hill 1999 and was somewhat endorsed by SNA and BOP last updates (Broussolle 2014, SNA 2009, IMF 2009).

This new approach alters the traditional way of classifying industries with two symmetrical consequences: on the one hand several activities formerly included in goods producing industries, might be viewed as services. On the other hand several activities, which were formerly viewed as services industries, could be re-categorised in goods producing. Those consequences might prove significant; their extent has yet to be drawn.

The purpose of the paper is to suggest a first assessment of those potential changes, either on the classification of services activities and on the tertiarisation trend. The results might influence several aspects of economic policies related with the deindustrialisation issue.

Truly indeed the extent of deindustrialisation is a major subject of concern, if not in all developed countries, at least in the European Union. For instance the European Commission's Europe 2020 strategy aims at increasing to a 20% the share of industry in EU GDP. Since quite a few services producing activities may be seen as goods producing, what is customarily called deindustrialisation could rather be a shift in goods-producing sectors.

Another aspect would concern international trade: both on academic and strategic levels. On the academic one, the question would be whether the poor cross-border trade capacities of services producing industries are strengthened or not when they are better delineated? On the strategic level, the question would be what is the extent of the goods-producing exporting sectors, to determine those that might deserve support to foster exports within the current transactions account? Those last topics are not addressed by the paper even if several hints about them may be inferred.

The paper is structured as follows. First it will briefly remind the main aspects of the new perspective on services. Second, it will draw its consequences for the categorisation of industries in goods or services-producing by providing a

reorganised table for all industries within the International Standard Industrial Classification (ISIC, Rev. 3 and 4) frame. The last section will use detailed data to measure the effects of the new reorganisation on the tertiarisation of employment and value added and show which broad sector would expand or shorten.

1. The new service definition and its issues

The new definition of service departs to a certain extent from familiar views, which are mostly grounded on intangibility (immateriality), and non-storability, whereas goods are material or physical entities²:

It is especially centred on the fact that services are flows (Hill 1977), which induces that they are not separate entities from the provider or the recipient, thus they cannot be traded separately from their production. Consequently no ownership rights may be established over services. This innovative view owes much to Hill's works (1999), it is now endorsed by the manuals of the National Accounts (SNA 2009) and of the Balance of Payments (IMF 2009) (see box n°1).

The new view has two significant upshots; several manufacturing classified industries appear to produce services, thus providing substance to the concept of *manufacturing services*. Conversely one it raises doubts on the categorisation of the output of several traditionally viewed service-producing activities (Hill 1999), a fact which may appear fairly disturbing. Altogether, those circumstances prompt for a reorganisation of the customary services vs. goods producing ordering in industrial taxonomies.

Box n°1: Services enhanced definition, original in SNA (2009) manual

Services § 6.17

“Services are the result of a production activity that changes the conditions of the consuming units, or facilitate the exchange of products or financial assets. (...) services are not separate entities over which ownership rights can be established. They cannot be traded separately from their production. By the time their production is completed, they must have been provided to the consumers.”

Originals 6.208

“The production of books, recordings, films, software, tapes, disks, etc. is a two-stage process of which the first stage is the production of the original and the second stage the production and use of copies of the original. The output of the first stage is the original itself over which legal or de facto ownership can be established by copyright, patent or secrecy. (...)”

Knowledge capturing products

6.13 – *“(...) some service-producing industries may produce products that have many of the characteristics of goods. For convenience, the products of these industries are described in the SNA as **knowledge-capturing products**”.*

² Selon la définition qu'en donne l'INSEE, « relèvent de l'industrie les activités économiques qui combinent des facteurs de production (...) pour produire des biens matériels destinés au marché ». Les biens sont des « objets physiques pour lesquels il existe une demande, sur lesquels des droits de propriété peuvent être établis (...) ».

6.22 – (...) “The outputs of these industries, over which ownership rights may be established, are often stored on physical objects (whether on paper or on electronic media) that can be traded like ordinary goods. They have many of the characteristics of goods in that ownership rights over these products can be established and they can be used repeatedly. (...)”

1.1. Manufacturing services

Manufacturing like industries may provide services in several circumstances, even on a regular basis as their main output. This possible occurrence is well-recognised for repair services, but the new perspective on goods and services goes further on. Every time an economic unit, even customarily ranked within goods-producing, performs an activity for third parties, on goods which it does not own, it provides a service. Indeed in these circumstances its output may not be isolated from the producer or the recipient and, as such, it is not prone to ownership rights. This derives from the essential feature that the manufacturing operation is performed on materials not belonging to the economic unit. As it may be understood, this standpoint is an extension of the repair case. This approach is already applied in the BOP with the treatment of goods sent or received from abroad for processing (IMF 2009). Prior to 2008, that activity was regarded as exports of goods and when coming back, as imports. According to the new treatment, when there is no ownership change between the principal and the agent, these movements are services transactions. Similar views have somewhat been also applied in ISIC rev. 4 (see below).

An analogous reasoning also applies to construction activities, among which several tasks are usually performed by sub-contractors, on third parties owned materials (see next section).

1.2. Information goods: knowledge capturing products, original and copies

The new information economy significantly relies on dematerialisation and delivery through New Information and Communication Technologies (NICT). The output of several commonly viewed services-producing industries, may be delivered separately from their producer, digitalised and stored. Furthermore, it is possible to apply over it ownership rights. In order to take into account that state of fact, since 1993 the SNAs have acknowledged for a category of products bearing both characteristics of goods and services (box n°1), which the 2008 update calls *Knowledge-Capturing Products*. Subsequently several traditionally viewed services-producing industries are deemed to produce goods-like products. Actually they are goods, but of a special kind, as Hill's (1999) paper convincingly demonstrates by referring to the concept of *original*:

An *original* is the result of a creative process that produces an intangible entity. It may be copied as many times as necessary, without being altered. Enduring

originals, such as a patent or an architect's plan, may be viewed as some kind of new assets. Therefore, if used over a long period it is considered as an intangible asset by SNA. An original is definitely a good (Hill 1999 p. 440), "An original is the archetypal immaterial good. It is a good because it is an entity over which ownership rights can be established and which is of economic value to its owner". SNA acknowledges for this fact since SNA 2008 (§ 6.208, see also 10.99 sq.). Copies are undoubtedly goods as well, but as every goods they can be sold outright or made available under a license. When sold outright, a copy is a good, purchased with a license it may still be regarded as a commodity, if according to SNA "the licensee assumes all the risks and rewards of ownership copies (SNA 2009, § 10.100)". The manual suggests that the only situation when a license does not fall within the commodity case is when it does not involve a long-term contract. In these circumstances, the transaction relates to a flow of services. Consequently, a long-term license of use, which is quite frequent, is almost analogous to full ownership and outright sale.

Several services-producing viewed industries can produce originals, thus goods. When economic units are customarily producing originals as primary output, they should be categorised within goods-producing units. For example, since most software is commonly sold outright or through long-term access contracts, where ownership may be viewed as transferred, they are not services. Hence, the software programming industry should no more be included in the services sector.

Finally let us underline that although any manufacturing activity maybe turned into a services one, depending on the contractual relations between the producer and the customer, true services-producing may not be turned into goods-producing.

Next section will study what are the consequences of those innovations on industrial classifications.

2. A new interpretation of industrial taxonomies

This section points out the main consequences of the new definition of the service for the categorisation of goods and services producing sectors. The analysis covers both ISIC rev. 3.1 and 4. It gives an occasion to pinpoint the changes that shed a better light on services activities, even if the partition between goods and services producing is not their main purpose (UN 2002 p. 10, UN 2008 p. 9).

2.1. General principles of the reorganisation

In accordance with the views presented in the previous section, any goods-producing activity, which output is, on a main and usual basis, neither separable from the provider, nor from the recipient, maybe classified within the services-producing sector. This especially concerns manufacturing like activities, which are carried out as subcontractors for third parties on not owned, or more commonly described as not self-produced, materials. Conversely, any activity over which output, on a main and usual basis, ownership rights maybe established, i.e. which output is separable either

from the producer or the consumer, is classified within the goods-producing sector, whether services like or not. This especially concerns information activities, usually classified within services producing.

As stated in ISIC manuals (Rev. 3.1 and 4): “Manufacturing units may process materials or may contract with other units to process their materials for them. Both types of units are included in manufacturing.” (UNO 2002 p.69, UNO 2008 p. 85). Thus unfortunately manufacturing entries are hardly ever established according to the criteria whether the activity is carried out on products belonging to third parties or not. Moreover, in the accompanying commentaries that characteristic is not systematically mentioned, even when industries may be concerned, for instance with textile or wearing apparels or slaughter houses, still some hints are provided. Be that as it may, Rev. 4 introduces improvements to distinguish proper manufacturing activities, from manufacturing services, or else services related and incidental. Those improvements partly take into consideration the new advocated service perspective. For instance, as a major step towards the recognition of a broad manufacturing services heading, all specialised repair activities are now separately classifiable³. Following the same orientation, contrary to the Rev. 3.1 presentation, that was customarily incorporating services related activities --or installation when carried out as a special activity⁴, with their goods-producing group, in the Rev. 4 they are now quite often detached in a dedicated sub-heading. For instance: *support activities to agriculture and post-harvest crop activities*, as well as *forestry (#024)*, or *Remediation activities and other waste management services (#3900)* are separately gathered. In the division 09, *Mining support service activities* are also better delineated and enhanced, than in the previous Rev 3.1 sub-division.

Finally, even if ISIC utterly states that it is not interested in the goods, services - producing categorisation, the last revision render visible services that were earlier incorporated within goods-producing sectors.

Still it is worth noticing that whereas ISIC delineation, between an activity and its maintenance and repair corresponding one, depends on the results of the output, being a new product or not⁵, the rationale of this paper relies on the fact that the former produces commodities and the latter services. What is at stake thus is the possibility or not to establish ownership rights on the output, or alternately stated if the operated materials are or not self owned. This principle may need some explanations particularly with installation activities, they will be provided, in the appropriate sub-section.

³ In ISIC. Rev.3.1 « Activities of units primarily engaged in maintenance and repair of industrial, commercial and similar machinery and equipment are, in general, classified in the same class of manufacturing as those specializing in manufacturing the goods » (UN 2002 p.15).

⁴ “Assembly and installation of machinery and equipment in mining, manufacturing, commercial or other units, when carried out as a specialized activity, is classified in the same class of manufacturing as manufacture of the item installed.” (UN 2002 p. 69)

⁵ “As a general rule, the activities in the manufacturing section involve the transformation of materials into new products” (UNO 2008 p. 86)

2.2. A look at the main questionable headings of ISIC

B Section: Mining and quarrying⁶

This section is definitely belonging to goods-producing; nevertheless some of the technical operations, particularly related to the extraction of hydrocarbons, may be carried out for third parties by specialised units as a manufacturing service. They are mainly grouped in division 09 (*Mining support service activities*).

C Section: Manufacturing

The bulk of the section obviously is goods-producing, with the exception of some divisions. They concern manufacturing or repair and maintenance services, as for instance *metal working service activities* (#259) or *Repair and installation of machinery and equipment* (#33, see table n°3). *Installation of industrial machinery and equipment* (#332), is a service when the installer is not the manufacturer of the equipment, or when being a subsidiary/ affiliate of the manufacturer, installation is its main activity. It is the case of the *specialised installation* heading.

Printing and reproduction of recorded media (#18) and *Printing and service activities related to printing* (#181) included in Manufacturing are evoked with section J *Information and communication*.

D & E sections: Utilities

The traditional view of utilities covers power and water supply and related activities, which quite often are included in services-producing (Kutscher & Personick 1986, Memedovic & Lapadre 2009)⁷.

However, the production of electricity, gas, steam and air conditioning is not to be considered as a service provision, because electricity... are separable from their producer or recipient and thus prone to ownership rights. It is also worth noticing that their production and consumption are distinctive operations, whereas, for instance, it is not so in the case of telecommunications services. In fact, only their delivery or long-distance transportation is a service activity. However those dimensions are seldom purposely identified. As the ISIC manual unfortunately puts it, "the network [*permanent infrastructure*] dimension of those activities is not decisive" (UN 2008 p. 165). Yet long distance transport of fluids through pipelines is captured in division *pipeline transport activities* (#4930). Since European directives concerning network industries, such as railways, postal services or power generation, command to isolate the transportation from the production activities, it should be easy to capture the services share of the output. As a matter of fact, the European classification, NACE Rev.2, retains four sub headings regarding transport and delivery of gas and power (Table n°3).

⁶ Albeit Agriculture, forestry and fishing may include services activities, whether concerning service activities incidental to agriculture as mentioned in the ISIC manual, or services activities according to the new service approach, due to available data, this paper only focuses on industry and services sectors.

⁷ Let us underline that many continental studies include them in goods-producing (Schettkat & Yocarini 2006, Demmou 2010, Shreiber & Vicard 2011). Others remain neutral (Montresor Vittuci-Marzetti 2011).

For similar reasons *water supply; sewerage, waste management and remediation activities* (Table n°1) are not to be regarded globally as service activities. Obviously, water supply may incorporate several sub processes that belong to services, such as water transportation or sanitation. Nevertheless, usually, what is sold is the water itself, not those services per se. The final product is processed water, which can be stored and isolated from its provider or user. The whole operation is akin to that of producing standard goods using intermediary inputs and services. Actually, selling water services only, for instance sewerage would require that the customer remain the owner of the water, on which the services would be applied.

An adapted line of reasoning is to be applied to recycling and waste disposal. Contrary to waste disposal, Recycling (#383 *Materials recovery*), where the operator becomes the owner of the waste, which he may sell after transformation as input for further processes, is not a service activity. Its main dimension does not rely in getting rid of refuse (i.e. essentially a collect, transport and storage activity). It is important to make a proper distinction between the common language, which may see recycling activities as bringing a service to customers, as every economic activity do, and the essence of those activities which is acquiring waste to transform it into new raw materials. In this perspective, ISIC Rev. 3.1 that included *Recycling* in manufacturing industries was accurate, even if its rationale almost certainly was not that of this paper.

Table n° 1
Rev. 4 presentation

Sections	Divisions	Description	Category	Comments
E	36–39	Water supply; sewerage, waste management and remediation activities		
	36	Water collection, treatment and supply	<i>goods</i>	<i>See main text</i>
	37	Sewerage	<i>services</i>	collecting and transporting; maintenance and cleaning
	38	Waste collection, treatment and disposal activities; materials recovery		
	381	<i>Waste collection</i>	<i>services</i>	collection, treatment, and disposal <i>maybe associated with power generation recycling: processing waste into new raw materials</i>
	382	<i>Waste treatment and disposal</i>	<i>services</i>	
	383	<i>Materials recovery</i>	<i>goods</i>	
	39	Remediation activities and other waste management services	<i>services</i>	

Rev. 3.1 presentation

D (Manuf.)	37	Recycling	<i>goods</i>	See main text
O (Personal serv.)	90	Sewage and refuse disposal, sanitation and similar activities	Mainly <i>services</i>	collection & treatment of household and industrial waste, not for a further use

As stated above, waste collection, disposal or sewerage are mainly services activities. Nevertheless, it is worth mentioning that the activities grouped in the sub heading *Waste treatment and disposal* (#382), may in a near future become goods-producing, when derived power generation and similar productive operations have

reached a dominant share of their turnover. When this is achieved the treatment dimension will have superseded the disposal dimension.

The ensuing, *Remediation activities and other waste management services* (#39) heading, which gathers decontamination and cleaning of soils and groundwater activities complies with the new service definition.

F section: Construction

The Construction section is traditionally categorised within goods-producing, but several sub-activities⁸ are services-producing:

The *Specialised construction activities* (#43, see table n°3) concerns: “the construction of parts of buildings and civil engineering works, without responsibility for the entire project” (UN 2008 p. 175). Those activities are mostly carried out under subcontract, and may be directly done for the owner of the property, especially in repair construction. For instance they encompass *Demolition and site preparation* or *Building completion* services (including repair services), which are carried out on non self-produced parts. Thus overall they are services producing activities.

Construction installation activities grouped in *Electrical, plumbing and other construction installation activities* (#432), consistently with *Installation of industrial machinery* (# 332), are providing services, because most often the installed part is not self-produced by the company, or when adapted, not fundamentally transformed and the value of the installed parts is rather low as compared to the service dimension of the whole activity. Moreover, as exposed above, those activities are carried out as specific activities.

G section: Trade

No doubt that almost all activities gathered in the trade section provide services. However it is worth mentioning that trade includes what Bernard & Fort (2013) name factoryless goods producer (FGP), i.e. plants and firms that are primarily involved in activities related to the overseas production of manufactured goods, but are incorporated by statistics within wholesale. Those economic units organise manufacturing abroad, for instance they design and market their own goods. They are at the head of an international manufacturing process, and thus they could be included in the manufacturing section. In USA according to Bernard & Fort (2013) FGP establishments, amounted to a 6.5 percent of total wholesale in 2002 (10.5 in 2007) and account for 10.2 percent of employment and 5.2 percent of output. If shifted to the manufacturing sector it would displace to manufacturing at least 431,000 workers to as many as 1,934,000 workers from wholesale in 2007.

Those views apply on “wholesale establishment that performs design/engineering/R&D activity at the establishment and either conducts manufacturing operations at the establishment itself or purchases manufacturing services from a domestic or foreign company” (Bernard & Fort 2013 p. 12). It is worth noticing that the new definition of services also tends to shift those economic units to goods-producing, for two reasons. On the one hand they are involved in the production of information goods (design; engineering and R&D). On the second hand, as

⁸ Not considering allocating workers for construction which belongs to the business services sector.

principals, i.e. buyers of foreign manufacturing services, they are the owners of the transformed goods, which production they have initiated. Therefore the new service definition supports the interpretation of Bernard & Frot. Yet, it will not be implemented in this paper because the special information required was not available.

J Section: Information and Communication

The section was created with ISIC Rev. 4, it is the chief section to be impacted by the new service definition. Its forewords stress that it includes: “the production and distribution of information and cultural products” (UNO 2008 p. 205). Quite many of those cultural products are in SNA’s terms Knowledge-capturing products, over which ownership rights maybe established, therefore actual information goods, only their delivery is a service activity.

The case of *Printing and reproduction of recorded media* (#18) and *Publishing* (#58) is especially interesting. Although the former activity is traditionally viewed as belonging to the manufacturing industries, with a few exceptions⁹, and the latter to services, the new perspective tends to revisit this disconnection. Truly indeed Printing result in an isolable entity thus belongs to goods-producing, but Publishing may also be so categorised. As the manual states: “Publishing includes the acquisition of copyrights to content (information products) and making this content available to the general public by engaging in (or arranging for) the reproduction and distribution of this content in various forms” (UN 2008 p. 206). While the distributive part of the activity definitely belongs to services, it is shared with various stores and retailers (included in Trade section) and amounts to a small fraction of the turnover. The other foremost components of the activity thus regard production and reproduction. The product (asset if an original) under exchange is prone to ownership rights, and thus the activity falls within the goods-producing sector. Let us emphasise that this rationale is applicable to all sub-sectors which deal with information goods production, such as software, directory or mailing lists, newspapers, motion pictures (see Table n°2).

The preceding principles applied to the two divisions: *Motion picture, video and television programme production, sound recording and music publishing activities* and *Programming and broadcasting activities* (#59 & # 60), drive to separate programming or production (i.e. the activity of making a motion picture, a video or a TV programs, or else making a matrix through recording¹⁰) and broadcasting or distribution. The former falls within the goods-producing category, since it results in an information good, whereas the latter within services. However, those two activities are not always distinguished. Although mixed, the sub-headings may generally be counted with goods-producing because the main share of their value added is external to the sole broadcasting activity. Nonetheless three sub-headings (#5912, #5913 and #5914) are indeed exclusive services (see Table n°2).

⁹ Division #18 Printing and reproduction of recorded media, is included in Manufacturing in ISIC rev. 4, of which #1812 is Service activities related to printing.

¹⁰ Music and sound recording may either result in a service or in an information good depending on the commercial contract. However since it is mixed with Publishing it is categorised in goods producing.

Computer programming, consultancy and related activities sub-section (#62) includes programming activities that result in information goods, such as software.

Table n°2
Information and Communication (#58-63)

Division	Group	Class	Description	Category
Division 58			Publishing activities	goods
	581		Publishing of books, periodicals and other publishing activities	
	582		Software publishing	
Division 59			Motion picture, video and television programme production, sound recording and music publishing activities	
	591		Motion picture, video and television programme activities	goods
		5911	Motion picture, video and television programme production activities	goods
		5912	Motion picture, video and television programme post-production activities	services
		5913	Motion picture, video and television programme distribution activities	services
		5914	Motion picture projection activities	services
	592	5920	Sound recording and music publishing activities	Mainly G
Division 60			Programming and broadcasting activities	
	601	6010	Radio broadcasting	Mainly S
	602	6020	Television programming and broadcasting activities	Mainly G
Division 61			Telecommunications	services
Division 62			Computer programming, consultancy and related activities	
		6201	Computer programming activities	goods
		6202	Computer consultancy and computer facilities management activities	services
		6209	Other information technology and computer service activities	services
Division 63			Information service activities	
	631		Data processing, hosting and related activities; web portals	Mainly Serv., because 6311> 6312
		6311	Data processing, hosting and related activities	Services: not owned or self-produced data
		6312	Web portals	goods
	639		Other information service activities	goods
		6391	News agency activities	see text
		6399	Other information service activities n.e.c.	see text

Information service activities (#63), includes *data processing* and *web portals* activities, of which several headings may be included in goods-producing, when they produce and sell information. Most frequently data processing operates on third parties data (see Rev. 3.1 accompanying comments), whereas web portals activities provide data or information they have mostly produced or gathered. When the

provision of information is organised through a long term access license, it is worth reminding that the SNA considers that relation similar to an outright sale.

Other information service activities class (#639) is quite mistakenly labelled. This class includes activities such as news agencies, which main object is to sell information, which is obviously separable from its provider or receiver, thus information goods.

Section M: *Professional, scientific and technical activities* (#69–75), gathers mainly services producing activities, but the purpose of several maybe producing authorised documents, design charts or reports, over which ownership rights may be established. When it becomes their main output they have to be categorised in information goods producing. It is especially the case of *Advertising and market research activity* (#73), which object is the creation of advertising campaigns and placement of such advertising in periodicals... those output adopt a separable form, or result in advisory documents or reports (marketing and poll research).

Finally, as compared to common practice, which agglomerates broad sections to measure the goods and services producing sectors, this analysis shows that there are at least eight headings or sub headings that are related to services in broad sections A-B-C-F, that are usually viewed as purely goods-producing. Conversely there are nearly a dozen headings, or sub headings, that relates to goods in broad sections D-E-J-M that are usually viewed entirely connected to services-producing. The result of the preceding survey is summarised in table n°3.

Table n°3
ISIC Rev. 4 / NACE 2 Main list of industries (excerpts)

Sections	Divisions	Descriptions	Category	Comments
A	01–03	Agriculture, forestry and fishing	Goods	
	016	Support activities to agriculture and post-harvest crop activities	services	
	024	Support services to forestry	services	
B	05–09	Mining and quarrying	Goods	
	09	Mining support service activities	services	
C	10–33	Manufacturing	Goods	
	1313	Finishing of textiles	services	done for third parties Cf. rev. 3.1 comments
	1812	Service activities related to printing	services	
	259	Manufacture of other fabricated metal products; metalworking service activities	Mainly services	except 2593, 2599 ¹¹
	33	Repair and installation of machinery and	Services	

¹¹ Rev. 4: 2593 Manufacture of cutlery, hand tools and general hardware ; 2599 Manufacture of other fabricated metal products n.e.c.; Rev. 3.1: 25.50 Forging, pressing, stamping and roll-forming of metal; powder metallurgy ; 25.60 Treatment and coating of metals; machining

		equipment		
	331	Repair of fabricated metal products, machinery and equipment service	Services	Services since specialised activity
	332	Installation of industrial machinery and equipment	Services	when an integral part of a building, belongs to construction
D	35	Electricity, gas, steam and air conditioning supply	Mainly Goods	see main text
		35.12 <i>Transmission of electricity</i> 35.13 <i>Distribution of electricity</i> 35.14 <i>Trade of electricity</i> 35.22 <i>Distribution of gaseous fuels through mains</i> 35.23 <i>Trade of gas through mains</i>	Services	NACE 2
E	36–39	Water supply; sewerage, waste management and remediation activities		see main text
	36	Water collection, treatment and supply	Goods	
	37	Sewerage	Services	
	38	Waste collection, treatment and disposal activities; materials recovery	Mainly serv.	see main text
	39	Remediation activities and other waste management services	Services	
F	41–43	Construction		
	41	Construction of buildings	Goods	
	42	Civil engineering	Goods	can be carried out on a fee or contract basis, but on self owned or produced parts
	43	Specialised construction activities	Mainly Services	see main text
	43.1	Demolition and site preparation	Mainly Services	
	43.2	Electrical, plumbing and other construction installation activities	Mainly Services	sub contracted (consist in the adaptation or installation of not self-produced materials for third parties)
	43.3	Building completion and finishing		
	43.9	Other specialised construction activities		
G	45–47	Wholesale and retail trade; repair of motor vehicles and motorcycles	Services	
H	49–53	Transportation and storage	Services	
I	55–56	Accommodation and food service activities	Services	
J	58–63	Information and communication	Goods predominant	see main text
K	64–66	Financial and insurance activities	Services	

L	68	Real estate activities	Services	
M	69–75	Professional, scientific and technical activities	Mainly services	
	73	Advertising and market research	goods	Information goods
	741	Specialised design activities	goods	creating and developing designs : originals
N	77–82	Administrative and support service activities	Services	
O	84	Public administration and defence; compulsory social security	Services	
P	85	Education	Services	
Q	86–88	Human health and social work activities	Services	
R	90–93	Arts, entertainment and recreation	Services	
S	94–96	Other service activities	Services	
T	97–98	Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	Mainly services	
	981	Undifferentiated goods-producing activities of private households for own use	Goods	
	982	Undifferentiated service-producing activities of private households for own use	Services	
U	99	Activities of extraterritorial organizations and bodies	Services	

For the need of the empirical study the categorisation analysis has also been conducted on ISIC Rev. 3. 1, accordingly with the principles that were explained before, the result is shown in table n°4.

Table n°4

ISIC Rev. 3.1 / NACE 1.1 Main list of industries (excerpts)

Section	Divisions	Description	Category	comments
A	01, 02	Agriculture, hunting and forestry	goods	
	14	Agricultural and animal husbandry service activities, except veterinary activities	services	
	0200	Forestry, logging and related service activities	Mainly goods	Goods so dominant that mention of services vanishes in Rev. 4
B	05	Fishing	Mainly goods	
C	10-14	Mining and quarrying	Mainly goods	
	112	Service activities incidental to oil and gas extraction excluding surveying	services	
D	15-37	Manufacturing	Mainly goods	
	1511	Production, processing and preserving of meat and meat products	Mainly goods	slaughter houses may produce for third parties
	1712	Finishing of textiles	Services	not self-produced textile fibres
	2222	Service activities related to printing	Services	
	289	Manufacture of other fabricated metal products; metal working	Mainly services	except 2893 ; 2899, see note 8.
	32.1D	Assemblage de cartes électroniques pour compte de tiers	Services	French classification idiosyncrasy
	351	Building and repairing of ships and boats	Services	Repairing included in repair Rev. 4
	37	Recycling	goods	
E	40, 41	Electricity, gas and water supply	Mainly goods	see Utilities
		<i>40.13 Distribution and trade of electricity</i> <i>40.22 Distribution and trade of gaseous fuels through mains</i>	services	NACE 1.1
		<i>41.0 Collection, purification and distribution of water</i>	services	NACE 1.1
F	45	Construction		see main text
	451	Site preparation	services	
	453	Building installation	mainly services	
	454	Building completion	mainly Services	
	455	Renting of construction or demolition equipment with operator	services	

G	50-52	Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	services	
H	55	Hotels and restaurants	services	
I	60-64	Transport, storage and communications	services	
J	65-67	Financial intermediation	services	
K	70-74	Real estate, renting and business activities	services	
	72	Computer and related activities	mainly services	
	722	Software publishing, consultancy and supply	goods	mainly production of software
	724	Database activities and on-line distribution of electronic content	Mainly goods	on-line publishing of self-produced data dominant
	725	Maintenance and repair of office, accounting and computing machinery	services	
	7413	Market research and public opinion polling	Mainly goods	Activity separable from recipient
	742	Architectural and engineering activities and related technical consultancy	Mixed, mainly services	goods becoming dominant outside of architecture consultancy (class split in Rev. 4)
	743	Advertising	goods	creation and realisation of advertising campaigns
L	75	Public administration and defence; compulsory social security	services	
M	80	Education	services	
N	85	Health and social work	services	
O	90-93	Other community, social and personal service activities	services	
	90	Sewage and refuse disposal, sanitation and similar activities	mainly services	collection and treatment of household and industrial waste, not for a further use
	921	Motion picture, radio, television and other entertainment activities	mixed	
		9211 Motion picture and video production and distribution	mainly goods	
		9213 Radio and television activities	Idem	only broadcasting is a service
	922	News agency activities	goods	
		<i>Artistic and literary creation (92.31)</i>	<i>goods</i>	<i>NACE 1</i>

P	95	Activities of private households as employers and undifferentiated production activities of private households	services	
	96	Undifferentiated goods-producing activities of private households for own use	goods	
	97	Undifferentiated service-producing activities of private households for own use	services	
Q	99	Extra-territorial organizations and bodies	services	

The next step of the study consist in assessing how much the new interpretation affects the shares of goods producing and services producing.

3. What changes for goods and services producing shares?

3.1. Matters of data

To be implemented, the reorganisation requires at least detailed data at the four digit level, but they are not available on the OECD STAN database dedicated to industrial data and ordered accordingly to ISIC principles. However, Eurostat provides annual detailed enterprise statistics for various industries arranged following NACE classification, which is inspired by and very close to ISIC, but which does not cover the entire economy (see below).

The analysis of the evolution of industrial shares requires a rather long period of comparison. Unfortunately the 2008 ISIC Rev. 4 classification has introduced a major gap in statistics series. This break cannot be bridged, because the changes were too numerous and too deep, for instance a great number of manufacturing headings have been split into three, even four new divisions, also the number of headings have been significantly extended. Another difficulty comes from the creation of new broad sections like *Information and Communication* (J). The same phenomenon occurred for NACE. Thus series of data following ISIC Rev. 3.1 (resp. NACE 1.1), may range up to 2007; new series arranged according ISIC Rev. 4 principles (resp. NACE 2) begin in 2008. As a consequence recent tables are based on NACE 2 and the old ones on NACE 1 or NACE 1.1¹².

Two series of tables are proposed. The first series is based on NACE 2 (ISIC Rev. 4) and concerns the share of employment and value Added (at factor costs) in goods and services producing sectors for the UE 27 as a whole and for France. They range from 2008 to 2011. The second series of tables concerns France only and use a particular national source (see appendix for the characteristics of the source). It is based on a special extraction of enterprise data at the finest unrestricted level (five digits) of NACE 1 (1995 to 2002) & 1.1 (2003 to 2007). This level is not available in Eurostat database, yet it is especially valuable to classify as much as possible the results in headings approximately close to those of Rev. 4.

¹² As a matter of fact there has been a slight change in the European classification in 2003 (NACE 1.1), which included few aspects that were eventually confirmed with NACE 2/ ISIC Rev. 4. This update has only little consequences for this study. It essentially affects wholesale and, marginally, 722 A-Z Software publishing.

It must be reminded that in the two series of tables the depicted economy is not entire; several major broad sections are not included in both the databases, such as Agriculture-fishery, Finance-Insurance and Government. In addition, because Structural business statistics (SBS) from Eurostat covers only business economy, in this database Education, Health and social works activities are missing. These deficiencies significantly lessen the share of services-producing industries and the proposed figures may not be comparable with other similar studies. However that phenomenon does not impede this analysis, since its main goal is to scrutinise what are the consequences of the new service definition on the share of employment and VA as compared to the standard view.

3.2. The tertiarisation enlarged

The new presentation does not change our broad views on the hierarchy among major sectors, it even magnifies it, nor does it impede the long standing evolution towards services.

Whether measured, by employment or Value Added, the share of services sectors raises with the new arrangement (Tables n°5 to 8), by 4 to almost 10 points of percentage, depending on the reference and the country under scrutiny.

This result most of all derives from two conflicting changes; the first one concerns the better delineation of Manufacturing and Construction services, which in turn increases the share of services-producing, by approximately 7 % for UE 27. It is worth underlining that the influence of Construction services is well above that of Manufacturing services. As a matter of fact Construction services at least amount to a 50% of the Construction section. The second one is the creation of Information Goods heading, which indeed tends to increase the share of Goods-producing activities, but by a mere 2 or 3 percentage points. This study thus shows that the weight of Manufacturing services, by far supersedes that of Information goods. Nevertheless that first learning does not exhaust the subject.

Table n°5
 UE 27 employees (NACE 2 / ISIC 4)

%	Standard presentation					New arrangement			
	2008	2009	2010	2011		2008	2009	2010	2011
Goods producing	38,91	37,32	36,51	36,13		33,88	31,47	30,84	30,97
Mining and quarrying	0,57	0,55	0,53	0,51	Manuf. serv. excluded	0,52	0,51	0,48	0,51
Manufacturing (except publishing)	26,46	25,10	24,81	24,66	Manuf. serv. excluded	25,13	22,96	22,69	22,78
Publishing	0,79	0,79	0,72	0,77	Info. goods sectors	2,75	2,82	2,74	2,85
Recycling	0,13	0,13	0,14	0,15	Recycling & Water supply	0,44	0,44	0,47	0,48
Electricity, gas, steam and air conditioning supply (D)	1,03	1,03	1,05	1,02	Distribution & serv. related excluded	0,50	0,50	0,53	0,66
Construction (F)	9,93	9,73	9,26	9,01	Serv. related excluded	4,53	4,25	3,93	3,70
Services producing	61,09	62,68	63,49	63,87		66,11	68,53	69,16	69,04
Manufacturing & mining services						1,38	2,13	2,12	1,86
Services related to D & F						5,94	6,01	5,85	5,68
Wholesale and retail trade; repair of motor vehicles	23,32	23,99	23,92	23,93		23,32	23,99	23,92	23,93
Transportation and storage	8,43	8,22	8,26	8,25		8,43	8,22	8,26	8,25
Accommodation and food service activities	6,84	7,19	7,32	7,33		6,84	7,19	7,32	7,33
Real estate activities	1,43	1,49	1,47	1,48		1,43	1,49	1,47	1,48
Professional, scientific and technical activities	6,83	7,02	7,04	7,10	Info. goods excluded	6,01	6,15	6,21	6,21
Administrative and support service activities	9,43	9,88	10,47	10,77		9,43	9,88	10,47	10,77
Repair of computers and personal and household goods	0,20	0,21	0,20	0,19		0,20	0,21	0,20	0,19
Water supply; sewerage, waste management and remediation activities	0,93	0,95	0,99	1,02	water supply excluded	0,61	0,64	0,67	0,69
Information and communication	3,69	3,74	3,81	3,81	Info. goods excluded	2,54	2,58	2,62	2,64
Total	100,0	100,0	100,0	100,0		99,99	100,0	100,0	100,0

Source: Eurostat Structural Business Statistics (SBS)

Table n°6
UE 27 value added (NACE 2 / ISIC 4)

%	Standard presentation					New arrangement			
	2008	2009	2010	2011		2008	2009	2010	2011
Goods producing	42,73	40,56	41,21	40,94		36,39	33,70	35,35	36,39
Mining and quarrying	1,62	1,28	1,41	1,46	Manuf. serv. excluded	1,51	1,19	1,31	1,46
Manufacturing (except publishing)	27,09	25,06	26,69	26,73	Manuf. serv. excluded	25,02	23,18	24,76	24,99
Publishing	0,97	1,11	1,04	1,00	Information goods sectors	3,65	3,07	3,72	3,87
Recycling	-	0,13	0,15	0,17	Recycling & Water supply	0,47	0,63	0,65	0,67
Electricity, gas, steam and air conditioning supply (D)	3,24	3,80	3,58	3,47	Distribution & serv. related excluded	1,72	1,95	1,68	2,34
Construction (F)	9,80	9,18	8,33	8,09	Serv. related excluded	4,03	3,70	3,23	3,05
Services producing	57,27	59,44	58,79	59,06		63,64	66,34	64,63	63,58
Manufacturing & mining services						2,17	1,79	1,97	1,75
Services related to D & F						7,30	7,32	7,00	6,17
Wholesale and retail trade; repair of motor vehicles	18,71	19,86	19,33	19,34		18,71	19,86	19,33	19,34
Transportation and storage	7,73	7,80	7,92	7,79		7,73	7,80	7,92	7,79
Accommodation and food service activities	3,15	3,36	3,28	3,37		3,15	3,36	3,28	3,37
Real estate activities	3,57	3,94	3,86	3,89		3,57	3,94	3,86	3,89
Professional, scientific and technical activities	9,30	9,33	9,41	9,41	Info. Goods excluded	8,30	9,21	8,50	8,45
Administrative and support service activities	6,33	6,27	6,38	6,57		6,33	6,27	6,38	6,57
Repair of computers and personal and household goods	0,17	0,17	0,16	0,16		0,17	0,17	0,16	0,16
Water supply; sewerage, waste management and remediation activities	1,14	1,26	1,30	1,32	water supply excluded	0,67	0,77	0,80	0,81
Information and communication	7,18	7,45	7,15	7,22	Info. Goods excluded	5,54	5,67	5,36	5,27
Total	100,0	100,0	100,0	100,		100,0	100,0	100,0	100,0

Source: Eurostat Structural Business Statistics (SBS)

Indeed the comparison between employment and value added tables gives rise to another interesting finding. The share of the goods producing sectors measured in VA is larger than when done in employment (respectively that of services producing is smaller), both with the standard and the new arrangement. However this imbalance tends to increase when the shares are measured through the new method. It is especially noticeable for France (tables n°9 & 10), which level of goods-producing is lower than EU 27. Similarly, the fall of goods-producing nearly vanishes when using the new definition when measured in VA for EU 27 (table n°6). These facts illustrates that the VA per employee produced by the newly measured Manufacturing services -- hence subtracted to goods-producing, tends to be smaller than that of the Information goods sectors --which are added. In other terms, Information goods sectors are more productive than Manufacturing services. This finding is to be combined with that of the next sub-section.

Table n°7
Number of employees (%) France (NACE 2 / ISIC 4)

	Standard presentation					New arrangement			
	2008*	2009	2010	2011		2008*	2009	2010	2011
Goods producing	38,73	36,19	34,98	34,19		29,88	26,52	25,51	25,04
Mining and quarrying	0,20	0,19	0,18	0,18	serv. excluded	0,20	0,19	0,18	0,18
Manufacturing (except publishing)	25,21	22,38	21,34	20,89	serv. excluded	22,44	19,67	18,76	18,37
Publishing	1,03	1,03	0,97	0,95	Info. goods sectors	2,62	2,75	2,76	2,68
Recycling	0,20	0,20	0,22	0,21	Recycling & Water supply	0,52	0,46	0,51	0,50
Electricity, gas, steam supply (water excl.) (D)	1,40	1,20	1,20	1,20	Distribution & serv. related excluded	1,32	1,17	1,18	1,18
Construction (F)	10,69	11,18	11,06	10,76	Serv. related excluded	2,57	2,27	2,11	2,13
Services producing	61,27	63,81	65,02	65,81		69,61	73,48	74,49	74,96
Manuf.& mining services						2,78	3,02	2,99	2,94
Serv. related to D & F						8,20	8,94	8,97	8,66
Wholesale and retail; repair of motor vehicles	22,91	22,20	21,88	21,79		22,91	22,20	21,88	21,79
Transportation and storage	10,62	9,53	9,45	9,20		10,62	9,53	9,45	9,20
Accommodation and food service activities	5,95	6,13	6,30	6,23		5,95	6,13	6,30	6,23
Real estate activities	1,60	1,68	1,75	1,77		1,60	1,68	1,75	1,77
Professional, scientific and technical activities	7,39	7,51	7,82	7,97	Info. goods excluded	6,30	6,49	6,71	6,95
Administrative and support service activities	6,96	11,47	12,45	13,43		6,96	11,47	12,45	13,43
Repair of computers and personal and household goods	0,36	0,34	0,32	0,31		0,36	0,34	0,32	0,31
Water supply; sewerage, waste management and remediation activities	0,92	0,83	0,85	0,86	water supply excluded	0,61	0,57	0,55	0,56
Information and communication	4,56	4,12	4,20	4,24	Info. goods excluded	3,33	3,42	3,52	3,53
Total	100,0	100,0	100,0	100,0		100,0	100,0	100,0	100,0

* Due to an erratic value for Administrative and support service activities (Section N) in the database, figures for 2008 are dubious. As a consequence Goods producing is exaggerated (respect. Services producing is lessened) by approximately 2 point of %.

Source: Eurostat Structural Business Statistics (SBS)

Table n°8
Value added factor costs % France (NACE 2 / ISIC 4)

	Standard presentation					New arrangement			
	2008	2009	2010	2011		2008	2009	2010	2011
Goods producing	38,04	36,83	36,54	36,00		30,20	29,13	28,79	28,69
Mining and quarrying	0,32	0,29	0,25	0,29	Manuf. serv. excluded	0,31	0,29	0,25	0,29
Manufacturing (except publishing)	23,44	22,16	22,18	21,77	Manuf. serv. excluded	21,21	19,82	19,89	19,45
Publishing	1,17	1,26	1,25	1,21	Info. goods sectors	3,20	3,73	3,65	3,66
Recycling	0,22	0,16	0,24	0,22	Recycling & Water supply	0,56	0,47	0,63	0,62
Electricity, gas, steam supply (water excl.) (D)	2,61	2,79	2,84	2,75	Distribution & serv. related excluded	2,48	2,73	2,50	2,72
Construction (F)	10,28	10,17	9,78	9,77	Serv. related excluded	2,16	2,09	1,87	1,94
Services producing	61,96	63,17	63,46	64,00		69,17	70,87	71,21	71,31
Manufacturing & mining services						2,24	2,19	2,31	2,39
Services related to D & F						8,25	8,15	8,26	7,87
Wholesale and retail trade; repair of motor vehicles	19,26	19,61	19,29	19,49		19,26	19,61	19,29	19,49
Transportation and storage	8,70	8,97	8,82	8,65		8,70	8,97	8,82	8,65
Accommodation and food service activities	3,58	3,85	3,94	4,05		3,58	3,85	3,94	4,05
Real estate activities	3,69	4,10	4,17	4,34		3,69	4,10	4,17	4,34
Professional, scientific and technical activities	10,23	10,12	10,70	10,73	Info. goods excluded	9,26	9,06	9,66	9,67
Administrative and support service activities	8,03	7,66	7,79	7,96		8,03	7,66	7,79	7,96
Repair of computers and personal and household goods	0,31	0,31	0,31	0,31		0,31	0,31	0,31	0,31
Water supply; sewerage, waste management and remediation activities	0,89	0,87	0,98	0,99	water supply excluded	0,55	0,56	0,58	0,58
Information and communication	7,27	7,69	7,46	7,48	Info. goods excluded	5,31	6,28	6,09	6,09
Total	100,0	100,0	100,0	100,0		99,37	100,0	100,0	100,0

Source: Eurostat Structural Business Statistics (SBS)

3.3. Tertiarisation in the two last decades in France at a glance

Let us now turn to findings concerning especially the French economy, for which it has been possible to gather data ranging from 1995 to 2011 (Tables n°10 to 7). However, due to the change in the classification, they are split in two series of tables. The two series use consistent sources and data, but are built on two versions of the NACE / ISIC classification. In order to facilitate the reading, the table following NACE 1.1 has been rendered, as much as possible, close to the NACE 2 ordering. For instance Recycling and Water supply have been removed from Manufacturing and similarly several services-producing headings are depicted outside their formally intended broad sections. Nevertheless, as previously noticed the changes introduced in 2008 are so deep and numerous, than an adequate matching for all headings is out of reach. Nevertheless, broad figures and several divisions are consistent and the evolution of the share of goods and services producing sectors may be read on the whole period.

As explained above the new definition confirms and even increases the tertiarisation phenomenon (Graph n°1a & b)¹³. Moreover the study corroborates the usual profile of the deindustrialisation tendency (Kutscher Personick 1986), as stressed for instance by Montresor Vittucci Marzetti (2011): « For a long time, the global process of tertiarisation was accompanied by rising industrial shares in total value added, but from 1970, tertiarisation coincided with relative downsizing of the manufacturing sector » (Memedovic Lapadre 2009 p. 49).

Nevertheless, the new definition tends to lessen the tertiarisation trend by approximately 2 points of % (Tables n°9 & 10). This remark may seem at odds with the year 2010, for which data arranged consistently with the new definition, depict a stronger increase in services-producing, than those according to the standard method. This occurrence, even more obvious for the value added figures, actually illustrates that the data ordered according NACE 2 principles, better measure Manufacturing services, which reach almost a 3% in 2010, as compared to a mere 1 % in 2007, when assessed accordingly with NACE 1.1. The shift is thus chiefly a statistical artefact.

That circumstance somehow hides the fact that, in the last decades, up to the 2007 crisis, the discrepancy between the standard and new modes of presentation tends to shrink (Tables n°9 & 10). Two reasons may be proposed to explain this phenomenon: due to the reducing pace of the reorganisation of production process, Manufacturing services expands more slowly than before. In addition, the long established weakening of the goods producing sectors also affects the magnitude of manufacturing services. In other words, outsourced activities (agent activities) are affected by the size of their principals. From 1995 to 2007, in France the weight of Manufacture services in employment and value added has continuously decreased. Conversely, Information goods sectors experience an exact opposite evolution: a growth trend. It is thus possible to envision that, in the future, those two tendencies

¹³ The data presented don't reallocate temporary workers in the users sectors, as for instance Bernard, Smeets and Warzynski (2014) or Shreiber and Vicard (2011) do. If done so, it would have approximately add a 10% employee in Manufacturing, and reduce Real estate, renting and business activities employment by an 18%, thus slightly lessening the deindustrialisation. Let us however notice that, while this correction is relevant for the measurement of employment shares, it is not for Value Added.

would cross each other, with as an impending consequence a potential rise in goods-producing.

Graph n°1a

Evolution of employment shares in % in France

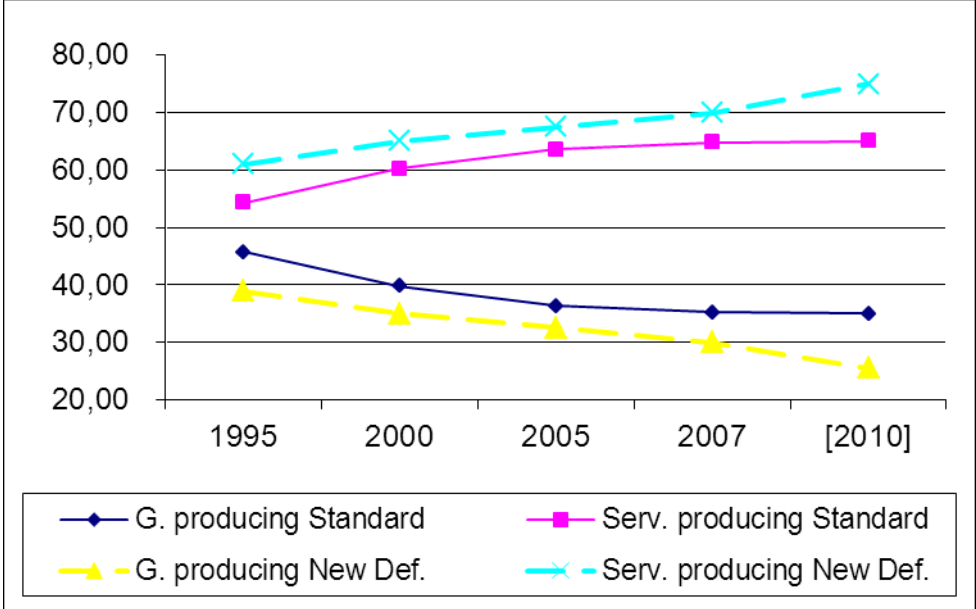
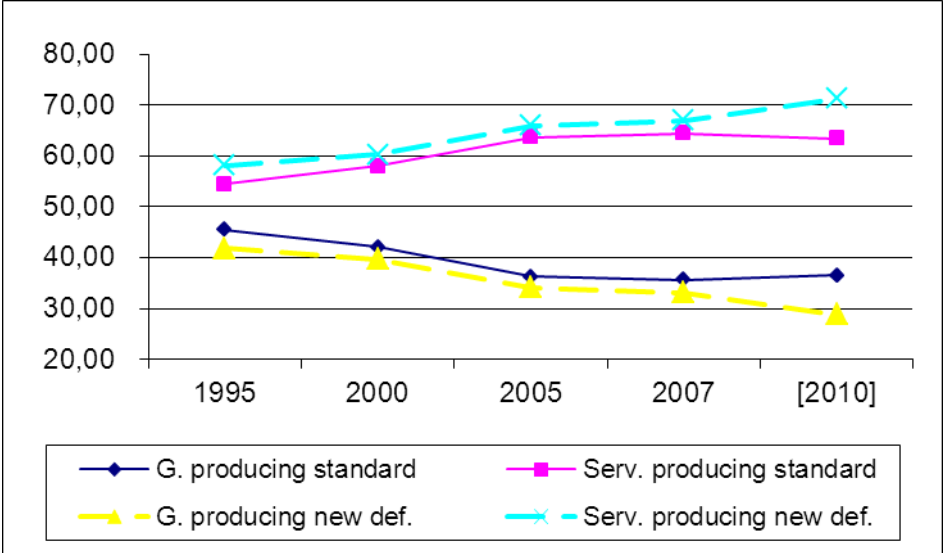


Figure n°1b

Evolution of Value Added shares in % in France



Source: 1995- 2007, special exploitation of SUSE INSEE database (see appendix) NACE 1.1 data. As mentioned in the text, the principles of NACE 2/ ISIC 4 have been applied whenever possible (see table n°9 and 10). Eurostat SBS database for 2010 (NACE 2, see text).

Table n°9
Employment France % (NACE 1.1 / ISIC 3.1)*

	Standard presentation					New arrangement			
	1995	2000	2005	2007		1995	2000	2005	2007
Goods producing	45,70	39,78	36,37	35,21		38,97	34,98	32,53	30,03
Mining and quarrying	0,50	0,31	0,21	0,20	Manuf. serv. excluded	0,50	0,31	0,21	0,20
Manufacturing (exc. recycl. & publishing)	32,08	28,05	24,66	22,84	Manuf. serv. excluded	30,85	26,91	23,57	21,83
Publishing (book & newspaper)	1,89	1,59	1,33	1,22	Information goods sectors (incl. publishing)	4,49	5,01	5,86	4,97
Recycling	0,18	0,18	0,20	0,21	Recycling & water supply	0,50	0,43	0,45	0,45
Electricity, gas, steam & air conditioning supply (D)	0,21	0,14	0,19	0,17		0,21	0,14	0,16	0,14
Construction (F)	10,83	9,50	9,77	10,57	Serv. related excluded	2,43	2,18	2,28	2,43
Services producing	54,30	60,22	63,63	64,79		61,03	65,02	67,47	69,97
Manufacturing & mining services						1,23	1,14	1,10	1,01
Service related to D & F						8,40	7,32	7,53	8,17
Wholesale and retail trade; repair of motor vehicles and motorcycles	21,34	21,39	21,61	21,51		21,34	21,39	21,61	21,51
Transportation and storage	5,88	6,24	5,97	5,90		5,88	6,24	5,97	5,90
Accommodation and food service activities	4,25	5,05	5,73	5,86		4,25	5,05	5,73	5,86
Real estate activities	2,44	2,33	2,49	2,57		2,44	2,33	2,49	2,57
Professional, scientific and technical activities n. e. c	9,97	12,09	13,11	13,63		9,97	12,09	13,11	13,63
Advertising & market research	2,35	3,21	3,40	3,62	Info. Goods excluded	0,68	1,29	1,38	1,46
Computer and related activities (except repair)	1,38	2,15	2,39	2,59	Info. Goods excluded	0,88	1,17	0,51	1,63
Communication	0,12	0,39	1,12	0,99		0,12	0,39	1,12	0,99
Motion picture, radio, TV & news agencies	0,51	0,56	0,59	0,59	Info. Goods excluded	0,15	0,16	0,16	0,17
Personal, recreational and support service activities n. e. c	1,95	2,15	2,17	2,29	Info. Goods excluded	1,89	2,04	1,97	2,08
Water supply; sewerage, waste management and remediation activities	0,67	0,65	0,75	0,75	Water supply excluded	0,36	0,40	0,49	0,50
Education, Health & Social Work	3,31	3,88	4,19	4,38		3,31	3,88	4,19	4,38
Repair of computer & personal and household goods	0,12	0,12	0,12	0,11		0,12	0,12	0,12	0,11
Total	100,0	100,0	100,0	100,0		100,0	100,0	100,0	100,0

Source: special exploitation of SUSE INSEE database, see appendix.

* As mentioned in the text, the principles of NACE 2/ ISIC 4 have been applied whenever possible.

Table n°10
France % VA (NACE 1.1 / ISIC 3.1)*

	Standard presentation					New arrangement			
	1995	2000	2005	2007		1995	2000	2005	2007
Goods producing	45,54	42,03	36,31	35,60		41,88	39,68	34,07	33,07
Mining and quarrying	0,61	0,39	0,53	0,50	Manuf. serv. excluded	0,61	0,39	0,52	0,49
Manufacturing (exc. recycl., & publishing)	33,87	31,70	25,84	24,23	Manuf. serv. excluded	32,80	30,72	24,97	23,42
Publishing (book & newspaper)	2,16	1,88	1,50	1,30	Information goods sectors (incl. publish.) & Water supply	5,49	6,22	5,95	5,82
Recycling	0,19	0,18	0,21	0,23		0,64	0,44	0,51	0,54
Electricity, gas, steam and air conditioning supply (D)	0,44	0,14	0,23	0,77		0,44	0,14	0,17	0,71
Construction (F)	8,27	7,75	8,01	8,57	Serv. related excluded	1,90	1,78	1,95	2,09
Services producing	54,46	57,97	63,69	64,40		58,12	60,32	65,93	66,93
Manufacturing & mining services						1,07	0,98	0,87	0,82
Service related to D & F						6,38	5,97	6,12	6,55
Wholesale and retail trade; repair of motor vehicles and motorcycles	19,18	19,21	18,60	18,50		19,18	19,21	18,60	18,50
Transportation and storage	5,78	5,41	5,40	5,19		5,78	5,41	5,40	5,19
Accommodation and food service activities	2,91	3,42	3,50	3,58		2,91	3,42	3,50	3,58
Real estate activities	4,92	5,03	5,85	5,96		4,92	5,03	5,85	5,96
Professional, scientific and technical activities n.e.c	8,53	9,47	10,42	11,27		8,53	9,47	10,42	11,27
Advertising & market research	2,77	3,89	4,21	4,34	Info. Goods excluded	0,86	1,53	1,95	2,04
Computer and related activities (except repair)	1,68	2,56	3,11	3,21	Info. Goods excluded	1,06	1,38	1,89	1,96
communication	0,16	0,77	3,43	3,04		0,16	0,77	3,43	3,04
Motion picture, radio, TV and news agencies	1,40	1,26	1,27	1,38	Info. Goods excluded	0,67	0,60	0,52	0,63
Personal, recreational and support service activities n. e. c	1,51	1,58	1,55	1,61	Info. Goods excluded	1,43	1,43	1,33	1,38
Water supply; sewerage, waste management and remediation activities	0,79	0,63	0,74	0,77	Water supply excluded	0,34	0,37	0,44	0,47
Education, Health & Social Work	4,71	4,65	5,49	5,46		4,71	4,65	5,49	5,46
Repair of computer & personal and household goods	0,13	0,10	0,11	0,09		0,13	0,10	0,11	0,09
Total	100,0	100,0	100,0	100,0		100,0	100,0	100,0	100,0

Source: special exploitation of SUSE INSEE database, see appendix

* As mentioned in the text, the principles of NACE 2/ ISIC 4 have been applied whenever possible.

4. Conclusion

The paper suggests a way to reorganise industrial classifications, such as ISIC Rev. 3.1 and 4, to take into account the new definition of services proposed by Hill (1999) and implemented by both SNA and BOP last updates. The changes essentially regard three headings: Manufacturing services, Construction services and Information goods. On the one hand it regards manufacturing like services that are operated for third parties on materials that are not self produced or not self owned. As such it also applies to Construction services especially Site preparation, installation and Specialised construction. Information goods relates to the output of activities on which ownership rights may be established and which may be sold like goods, for instance software or data. The two first headings add to services-producing, whereas the latter, formerly regarded as services activities, adds to goods-producing.

The reorganisation of the classification lists is applied on Eurostat and INSEE data. Altogether the tertiarisation, understood as a bigger services-producing sector, is magnified. This proves that the shift of Manufacturing and Construction services has a bigger effect, than that of Information goods. As a matter of fact it is essentially due to Construction services that amount to at least a 50% of the of ISIC Construction division. However the tertiarisation/ deindustrialisation trend is affected, since the share of services-producing is growing slower, when measured with the new definition, than otherwise. Implementing the new definition would hence facilitate increasing the share of industry value added as the EC requested. Nevertheless, the last result, which is mostly based on the French case, has to be checked on other countries.

On the whole, it must be underlined that the findings of this first work need to be confirmed and sharpened for several reasons. Firstly they mix up better measurement of services as of ISIC updates and Hill's new definition. Secondly, since the long run trends derive from data mostly ordered under the old classification (Rev. 3.1), it is necessary to make sure that they hold under the recent update. Thirdly the results also need to be tested against more countries to become more relevant. It will be the task of a future work.

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Appendix

French special data

Source : Ficus 1995-2007

Le fichier Ficus est une extraction de la source statistique SUSE : Système Unifié de Statistique d'Entreprises. Ensemble cohérent de données individuelles et statistiques sur les entreprises, la source statistique SUSE provient de l'exploitation conjointe de deux sources : l'une fiscale, qui regroupe les bénéficiaires industriels et commerciaux (BIC) et les bénéficiaires non commerciaux (BNC) et l'autre statistique, l'enquête annuelle d'entreprises (EAE).

Zone : France

Secteur d'activités :

Les activités suivantes :

- L'agriculture, sylviculture, pêche
- Les Activités financières et d'assurance
- l'administration
- les activités associatives et extra-territoriales ne figurent pas dans les tableaux car :
- le fichier Ficus couvre partiellement ces secteurs.
- le plan comptable des activités financières est particulier.

De même, les données sur les entreprises ayant un code activité « défense » sont interdites de diffusion.

Sélections effectuées sur le fichier :

Les observations ayant des numéros siren non renseignés ont été éliminées.
Les observations en double ont été éliminées. On retient les observations dont le montant de la valeur ajoutée est le plus élevé.

Les croisements :

Activités Niveau 700 X (Nombre d'entreprises, Effectif salarié moyen, Valeur ajoutée brute aux coûts des facteurs)

Les tableaux :

13 tableaux, un par année de 1995 à 2007

fichiers en format sas, du type taaaa.sas7bdat (*aaaa*) représentant l'année

Le secret statistique en quelques chiffres :

Un certain nombre de cases peuvent être à blanc en raison du secret statistique et fiscal.

Les règles du secret statistique, avalisées par la CNIL dans un avis du 27 mai 1997, concernent le nombre d'unités agrégées d'une part, le poids de chaque unité dans le montant agrégé d'autre part.

Les seuils à appliquer sont les suivants :

- Règles du nombre d'unités

- Cas général : une donnée agrégée ne sera pas communiquée lorsqu'elle concerne moins de trois unités
- Cas particulier : En matière de fiscalité des personnes physiques ce seuil est porté à 11 unités

Règle du poids des unités

Une donnée agrégée ne sera pas communiquée lorsqu'elle comprend un élément dominant qui représente plus de 85 % du montant agrégé.

Précaution d'emploi :

Les mouvements sur les durées et dates d'exercice, les changements d'activité, les modifications de structure (fusion ou scission d'entreprises) ne rendent pas les évolutions annuelles cohérentes

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