the review of income and wealth

Review of Income and Wealth
Series 61, Number 3, September 2015
DOI: 10.1111/roiw.12097

THE EMERGING NEW CONCEPT OF SERVICES IN THE SYSTEM OF NATIONAL ACCOUNTS AND THE BALANCE OF PAYMENTS

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The new manuals of the National Accounts and of the Balance of Payments are implementing new features regarding services. The paper points out the emergence of an innovative concept of services which is highly relevant but whose consequences may not be fully understood. This new perspective helps to focus on the true nature of services, but it also redefines the borders between services and goods. The paper addresses the problems left unresolved, or brought in, by the revisions. Furthermore, it studies the treatment of non-financial services in the BOP as compared to the SNA. Although the two approaches have been rendered more compatible, the BOP still incorporates several inconsistencies. The hesitancy to completely implement the new services definition tends to somewhat blur the measurement of trade in services.

JEL Codes: F1, L8, O14

Keywords: balance of payments, national accounts, services

1. Introduction

The manuals of the System of National Accounts (SNA, 2009a) and of the Balance of Payments (BOP) (IMF, 2009) have recently been revised—both revisions taking several years to complete. Since 1993, when their former versions were released, the structures of many economies have changed in important ways so that, as Moulton (2004) has pointed out, it was indeed necessary to renew the manner in which economic data were presented and interpreted.

Numerous innovations were introduced in both manuals. They are not all familiar to users and their implications are not yet entirely clear. Among the new features, this paper focuses on the changes concerning the treatment of services. It points out the emergence of an innovative concept of services which is highly relevant but whose consequences may not be fully understood. This new perspective helps us to focus on the true nature of services, but it also redefines the borders between services and goods. Consequently, the list of economic activities that count as services should be altered and this might lead us to change commonly-held views on the size of goods and services sectors in modern economies.

The consistent delineation of the good/services boundary is of great importance, both for economic analysis and for policy purposes. The growing importance of Information Technologies, the development of Financial Services, as well

Note: The author would like to sincerely thank the sagacious and helpful comments of the reviewers. However he is still accountable for any problems or obscurities that may remain.

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as the digitalization of products and the emphasis put on Immaterial Investments and Intellectual Property, reinforce that need. Giovannini and Cave (2005) list a series of critical questions that show the need to strengthen the statistical infrastructure in order to yield more reliable data on services: a task which cannot be achieved without a proper definition of what a service is. The definition affects our understanding of the evolution of an industrial economy toward a service economy. The new perspective on what constitutes a service calls for a reassessment of claims about deindustrialization as these are based on the size of the service-producing sectors. The traditional debate on productivity might also be clarified with a sharper definition of services. The new definition of services would also have an important impact on the valuation of trade and obviously on the debate on trade in services (Broussolle, 2012). These various issues have important consequences for economic policy.

The paper does not address the changes with regard to financial services—a major subject in itself. The paper is structured in three main sections. The first section briefly explains the main changes initiated by the SNA manuals (1993, 2009a) in the treatment of services. The new perception of services owes much to Peter Hill's insights (Hill, 1999), in particular to his illuminating description of intangible goods, originals, and copies—entities that were previously considered to be services. The second section focuses on the services versus goods issue and the related problems raised by the revisions. We argue that the new delineation of goods and services is both more relevant and precise. The third section contrasts the treatment of services in the SNA (SNA, 2009a) and in the BOP (IMF, 2009). It looks at the changes introduced in the 2008 SNA and BOP manuals compared with the 1993 versions and shows that they follow the same orientation and refer to the same concepts. However, the BOP manual still is affected by measurement problems with regard to services that impair its consistency and may blur the meaning of the data. A short final section draws some conclusions.

2. The New Concept of Services

2.1. *Services in the 1993 SNA Revision*

For a rather long time services were not separately characterized and lacked a strict definition, even in statistical publications. Nevertheless, economists had in mind several broad views of what services were which, even though the 1993 SNA began to depart from them, are still widely held. This is a typical illustration:

> Services are usually perceived as intangible, invisible, perishable and requiring simultaneous production and consumption, while goods are tangible, visible and storable and do not require interaction between producers and consumers. (UNCTAD, 2004, p. 145)

The 1993 SNA provided a specific definition of services (SNA, 1993; Berthier, 1999; Chauvin, 2000), which departs from the familiar views:

> Services are not separate entities over which ownership rights can be established. They cannot be traded separately from their production. Services are heterogeneous outputs produced to order and typically consist of changes in

> the condition of the consuming units realised by the activities of the producers at the demand of the customers. By the time their production is completed they must have been provided to the consumers. (SNA 1993, § 6.8)

This new approach, which owes much to Hill's works (1977, 1999), focuses on the fact that services are not separate entities over which ownership rights may be established. To some extent, it espouses a judicial-oriented standpoint, which continues in the 2008 update. A service is the result of a productive activity that cannot be isolated from the producer or the consumer. Since they are flows (Hill, 1977), they cannot be disconnected from their providers or recipients, so they are not subject to ownership rights. The essence of services is thus grounded on a more solid and illuminating basis. One corollary is that it is impossible to steal services—that is, in the sense in which goods are stolen. For instance, stealing transport implies appropriating the means of transportation (whatever it is), or the means of payment (money or transportation ticket), or else being a stowaway, but stealing the transportation services itself is out of reach. A second corollary is that cross-border trade is quite impossible for services (Hill, 1999).

The new standpoint allows for the fact that some transactions may take the form of either a sale of a service or of a good depending on the economic, technical, or institutional circumstances. It also helps us to understand why a service is not storable. Although non-storability was most frequently related to immateriality or immediacy of consumption (Grünfeld and Moxnes, 2003; UNCTAD, 2004), those references vanished for two main reasons.

On the one hand, immateriality was a simplification, because accurately speaking, services are not immaterial entities or invisible entities, some sort of good that cannot be seen or handled (Hill, 1999); they are changes, thus flows. On the other hand, immateriality was commonly supposed to imply non-storability and perishability. However, services effects may last long, thus several services, such as educational services, or organizational services, are durable. Long-lasting effects do not require separate storability. In fact, while services are not stored per se, they may nevertheless accumulate in their recipient, be it a good or a person. The sentence: "by the time their production is completed they must have been provided to the consumers" included in the 1993 definition, does not imply that all services should be consumed at once (i.e., are perishable).

Finally, three of the commonly held beliefs about the nature of services were challenged in1993: their immateriality, perishability, and non-storability. It was the price to pay for a more solid understanding of what a service truly is.

2.2. *New Features of Services in the 2008 SNA*

The 2008 SNA update brings in new features that strengthen the evolution and improve the analysis of services. However some raise questions.

- "Change-effecting" and "margin-services": a way to differentiate services from trade

Change-effecting services encompass three items (SNA 2009 § 6.18): change in the condition of the consumer's goods (repairing, cleaning, etc.); change in the physical condition of persons (transport, health care, etc.); and change in the mental condition of persons (education, entertainment, etc.). Margin services (SNA 2009 §

6.21) facilitate the change of ownership of goods or services, without significantly affecting their condition. They are very similar to trade since they are mainly provided by retailers and wholesalers, but unexpectedly they also cover financial institutions, whose main function is not to facilitate the change of ownership. They are labeled "margin-services" because their output is valued as the trade margin on goods purchased for resale (SNA 2009 § 6.146). However, the label "distributive" or "intermediation" services would have been more appropriate since these terms reflect their economic function (Collective, 2007; Editor, 2007).

- Goods for processing become *foreign services transactions*, with significant consequences to the measurement of foreign trade

Prior to 2008, goods sent abroad for processing were regarded as exports of goods and, when coming back, as imports. According to the new treatment, when there is no ownership change, these movements become services transactions. This is a good way of acknowledging that manufacturing enterprises can produce services (i.e., manufacturing services).

- Besides legal property (SNA 2009 § 3.21; 3.26), the 2008 SNA introduces the concept of *economic ownership*—a concept that elusively appeared in the 1993 SNA (§ 6.118–119)

The economic ownership of an economic entity belongs to the economic unit which bears the risks connected with its use, and which obtains the corresponding income. When a product changes hands, economic ownership belongs to the economic unit that bears the risks of a possible robbery, destruction, etc. This feature affects the treatment of assets, which should be recorded in the account of the economic owner, instead of the legal one. For instance, in the case of aeroplanes operated under leasing arrangements "the airline is . . . said to be the economic owner of the plane even though the bank remains the legal owner" (SNA 2009 § 2.47). Intellectual property assets are also concerned (SNA 2009 § 10.100). Similar principles are applied to goods for processing (SNA 2009 § 2.48) as noted above.

- The revision renames intangible assets as *intellectual property products*[1]

In the 2008 SNA this category is expanded to encompass R&D whose output, contrary to the 1993 SNA (Hill, 1997), is no longer treated as intermediate consumption. Intellectual property products also includes "originals," which result from an intellectual creative process that produces an intangible entity. An original may be copied as many times as necessary, without itself being altered. The treatment of originals and copies was primarily designed to deal with the case of software, but as Hill (2003) pointed out, the same treatment is applicable to other intellectual property products.

Originals, used for production during more than a year, are recognized as assets (e.g., software, literary and musical compositions, entertainment originals or recordings, and mineral exploration). To some extent, copies of originals are also

[1]It is worth noting that the French translation of the the term "intellectual property products" as "droits de la propriété intellectuelle," which is suggested in annex 3 (SNA, 2009b), does not seem to be appropriate. The English manual makes a clear distinction between *products* and *rights*. Using "droits" instead of "produits" conceals one major innovation of the manual update (see *Knowledge capturing-products*). The author suggests that "intellectual property products" should be translated as "produits liés à la propriété intellectuelle."

treated as assets, when they serve in production for more than one year, whether characterized as fixed capital (SNA), or as a "technological asset" (Hill, 2003).

These last changes do not directly concern services or services-producing activities, but they have consequences for the way in which they are analyzed. They lift the last, unnecessary, taboo that prevented services-producing industries from producing durable outputs. However, intellectual property rights may thus be applied to several activities that are customarily viewed as service activities and whose outputs can become fixed assets. The next section addresses the consequences of this.

- Knowledge-capturing products: goods-like services?

The new information economy relies significantly on digitalization and e-delivery, using New Information and Communication Technologies (NICT). This evolution has two consequences that contribute to obliterating the boundaries between services and goods.

First, the digitalization of information goods such as films, videos, books, and music tends to make them look like services because of the long-established "immateriality" feature of services. However, as emphasized previously, in the 2008 SNA, intangibility is no longer a significant characteristic.

Second, the output of several industries commonly viewed as producing services may be digitalized, and so can be delivered and stored separately from their producer. It becomes possible to claim property rights over them. This change raises questions about the boundary between goods and services. In an attempt to get round the problem, the 1993 revision had acknowledged a category of products bearing characteristics of both goods and services (§ 6.13). The 2008 update goes further: by identifying them, it creates a new kind of product, namely *knowledge-capturing products* (see Box 1), which may be provided by services-producing firms. Whether the term "knowledge-capturing products" is well-chosen is debatable (Editor, 2007), but the key issue raised here concerns the very substance of the goods and services distinction (Cave, 2008).

Box 1. Knowledge-Capturing Products in SNA 2008

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."

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. . . ."

The birth of this new category of a "good-service" raises more difficulties than it solves, as explained in the next section. As noted already, the 2008 revision of the SNA brings in many new important features and contributes to a better understanding of services, but not all the difficulties have been overcome.

2.3. *Can Service Industries Produce Goods?*

This section focuses on the problems pertaining to the services versus goods issue that have been brought in by the revision and/or left unresolved. Although the SNA 2008 gives a much better definition of services, it appears reluctant to draw all its consequences. In turn, and ironically, it tends to undermine the very goods and services boundaries it has set.

2.3.1. Manufacturing Industries Providing Services and Vice Versa

The SNA (SNA 2009 § 6.12 and 6.13) emphasizes that manufacturing industries may provide services, and that service producing activities may produce goods. Combined with the creation of knowledge-capturing products, this raises some difficult issues.

First, the SNA manual suggests that the distinction between manufacturing and services is above all only necessary, and therefore presumably established, in the International Standard Industrial Classification (ISIC) or, by implication, in the Central Product Classification (CPC). However, rather surprisingly in view of the SNA's interest in the goods–services boundaries, neither of these classifications pay attention to the definitions of services or goods.

Explanatory notes to the manufacturing section of ISIC rev. 4 merely state:

> This section includes the physical or chemical transformation of materials, substances, or components into new products, although this cannot be used as the single universal criterion for defining manufacturing . . . The boundaries of manufacturing and the other sectors of the classification system can be somewhat blurry. As a general rule, the activities in the manufacturing section involve the transformation of materials into new products. . . . However, the definition of what constitutes a new product can be somewhat subjective. (UN, 2008 p. 85)

Similarly, the CPC does not suggest any definition of services or goods. It classifies products by their physical characteristics or, regarding services, either by the nature of the services rendered, or by the origin of the activity (Gaugris, 2007).[2] It is also worth mentioning that ISIC includes *repair and installation of machinery and equipment* (item # 33) in manufacturing industries, although these are definitely service activities according to the SNA or BOP rationales.

From ISIC explanatory notes, it is clear that manufacturing involves the transformation of materials into new products but there is no reference to ownership rights. ISIC seems to rely on the old view of services. It is thus rather unexpected that although overtly questioning the necessity of distinguishing between goods and services (see next paragraph), the SNA is the only source that devotes noteworthy efforts to establish such a distinction.

[2]Consequently, for some of them, services are defined as the output of economic units belonging to the services-producing industries, a rather circular explanation.

Second, the idea that manufacturing units can commonly provide services, and vice versa, brings about significant difficulties, which the manual does not intend to elucidate: "In the SNA, it is seldom if ever necessary to make a clear distinction between goods and services . . ." (SNA 2009 § 6.11). From the previous observation, it is concluded that a clear understanding of the boundary between goods and services may not be within reach, and above all, is probably not a relevant economic goal (see also Cave, 2008): "The question of services produced by goods industries and vice-versa gives rise to a debate about the boundary between goods and services that is (in my opinion) neither resolvable not useful" (Editor, 2007, p. 2). To clarify where the problem lies and how the SNA tackles it, it is necessary to first recall several simple principles of economic taxonomy.

To begin with, it is important to keep in mind that two separate approaches to services exist. There is first the activity or sector perspective, that of the ISIC or, in its own way, that of the SNA. This approach focuses on manufacturing or services-producing sectors. Economic units are categorized according to their main activity. In this respect, manufacturing activities are expected to mainly produce goods, and service activities mainly produce services. There is second, the product approach, which focuses on transactions and which therefore needs to pay attention to the differentiation between a service and a good. This approach is mainly followed by the BOP manual. It scrutinizes the products that cross the border, irrespective of their economic sector of origin. Consequently, manufacturing activities may quite commonly trade services and serviced activities may commonly trade goods.

The two approaches may sometimes look as if they were at odds. For instance, a unit classified in *manufacture of refined petroleum products*, which definitely belongs to the manufacturing sector (ISIC item # 192), can export services as far as goods sent abroad for processing is concerned. In this respect, the SNA rightly points out that: ". . . the fact that the processing is classified as a service does not prevent the processor from being classified within manufacturing . . ." (SNA 2009 § 6.12). However, the evenly balanced parallel drawn in the SNA manual, between manufacturing industries producing services, and services activities producing goods (SNA 2009 § 6.12; 6.13), is a forced one. It conceals a major methodological problem. Although the reasoning suggests comparable circumstances [". . . for example, some aircraft engine manufacturers may both fabricate aircraft engines and repair and service existing engines . . . (SNA 2009 § 6.12). . . . Similarly, some service-producing industries may produce products that have many of the characteristics of goods (SNA 2009 § 6.13)"], in fact it is not so.

As previously noted, while manufacturing industries can episodically produce services, and correspondingly services-producing industries intermittently produce goods, it should not be their chief output. It is true that units belonging to manufacturing industries can incidentally provide services; however, each time that services become their main output, they should be included within the services-producing sectors. The aforementioned example of engine repair is an illuminating one. Engine or plane maintenance is definitely a services activity. For that very reason, when an economic unit performs repair as its foremost output, it belongs to *repair services*[3] instead of *aircraft manufacturers*.[4] Indeed, aircraft engine manufacturers rather refurbish engines (engine conversion, overhaul or rebuild, in ISIC terms), than repair them.

2.3.2. The Case for Knowledge-Capturing Products, Originals and Copies

The case of the so-called "services-producing" economic units that fabricate goods-like products is very unsatisfactory. Actually, those units are quite routinely producing goods-like entities, which are their main output. For instance, *computer software* or *film producing* activities, typical commonly-viewed services activities, are not "incidentally" producing goods-like products. Producing entities, over which ownership rights may be established, is their standard activity. In the 2008 SNA, that group of industries is deemed to provide *knowledge-capturing* products—a way of suggesting that they do not provide authentic services. This new type of product has probably been coined because the UNSTAT advanced experts group did not reach a more definite agreement. The category then fulfils two correlated practical goals. First, it veils the fact that, according to the 2008 SNA's own characterizations, *knowledge-capturing products* are genuine goods. Second, it diverts the attention from the industrial classification concerns that those circumstances raise. As the SNA manual puts it with a neat understatement: ". . . 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" (SNA 2009 § 6.13, emphasis added).[5]

The production of originals and copies brings about a similar situation. Their production is described in the SNA as a two-stage process, where the first step produces the original and the second the copy. As Hill (2003) underlines, the original is not the physical matrix of CD or film—it is the very intellectual production that can be stored on some device. "Legal or de facto ownership can be established by copyright, patent or secrecy," over originals (§ 6.208, see also 10.99 sq.). Hence, they are definitely goods (Hill, 1999). Copies are undoubtedly goods as well, but as any good, they can be sold outright or made available under a license. When sold outright they are goods and are to be considered as assets if used in production for more than one year. A copy purchased with a license may still be regarded as an asset if, according to SNA, "the licensee assumes all the risks and rewards of ownership copies (SNA 2009, § 10.100)," that is to say when at least the economic ownership has been transferred. The manual suggests persuasively that the only situation when a license does not fall within the commodity/asset case is when it does not involve a long-term contract. In those circumstances, the transaction relates to a flow of services.

[3]In fact ISIC item # 3315: Repair of transport equipment, except motor vehicles. This class includes: repair and maintenance of aircraft (except factory conversion, factory overhaul, factory rebuilding).

[4]Item # 3030 Manufacture of air and spacecraft and related machinery.

[5]See also the manual editor's standpoint: "The term knowledge-capturing products, is intended to capture products of service industries without arguing about whether they are goods or services" (Editor, 2007 p. 2).

When economic units are producing knowledge-capturing products, originals, or assets as primary output, they should be categorized within manufacturing industries, even if they are commonly viewed as services-producing. For example, since ownership rights may be established on software and since most of them are commonly sold outright or else through long-term access contracts, they are not services. Hence, the software industry should no more be attached to the services sector.

What is now apparent is that several industries, commonly viewed as services-producing activities, such as producing software, films, radio, and TV shows, are mainly providing goods (Hill, 1999), an observed fact which may appear fairly disturbing. It must be acknowledged that the problem was already implied by the 1993 revision. Troubling as it may be, the only consistent and long-enduring solution, even when it concerns intangible goods, is to admit that those activities are wrongly classified. Consequently, industrial classifications should be adapted to include information producing sectors.

The reluctance to acknowledge this fact may be seen as a temporary stalemate, but is hardly satisfactory and brings about adverse consequences. It leads to a misapprehension of the relevance of the new approach, and stimulates a skeptical attitude toward the very notion of service. The previously mentioned quotations show the true uneasiness of the editors. As long as the odd situation of services-producing activities routinely producing goods-like products is maintained, the validity of the distinction between good and service will be disputed. Hence, one may consider that the 2008 SNA is not fully confident in its own innovative approach, and contributes to weaken it.

If the new ideas were fully applied, the size of the services-producing industries would fall and the size of manufacturing would increase. Views on the de-industrialization of the OECD countries which have been widely held for at least the last decade may need to be revised.

3. Services in the Balance of Payments as Compared to SNA's Approach

This section of the paper compares the treatment of services in the BOP (IMF, 2009) with that of the SNA (SNA, 2009a). The aim of this comparison is to point out the new perspective changes in the measurement of services trade, and to assess how far the two approaches have been rendered compatible. In doing this we refer to the standard presentation of the BOP and not to the Extended Balance of Payments Services Classification (EBOPS) version because the statistics essentially derive from the presently available standard BOP classification.

While it may be asserted that the differentiation between goods and services is not a matter of major consideration for the SNA, it is a keystone for the BOP. The BOP follows a product approach (IMF 2009 § 10.61); the current account is, among other items, traditionally split between goods and services transactions, and the detailed classification is linked to the Central Product Classification (CPC).

3.1. *The Services Account Incorporates Valuable Improvements*

The distinction between goods and services is to be done, in the BOP, according to the definition of the 2008 SNA, chapter 6 (IMF 2009 § 10.6 and 10.7).

Appendix 8 of the BOP (IMF, 2009) manual describes all the changes affecting the goods and services account that were introduced since the fifth version (IMF, 1993). Their main rationale is to reconcile BOP methods and SNA principles. The paper will successively look through the key changes.

Beginning with the sixth update, the entry *maintenance and repair* is listed under services instead of goods; in addition, it includes *maintenance of transport equipment*. It is a welcome change, since, as was argued in the previous sections, repair is definitely a service. Similarly *manufacturing services on physical inputs owned by others* (IMF 2009 § 10.62), which mainly refers to *goods for processing* in the SNA, are also moved from goods to services. These shifts are relevant and consistent with SNA's views.

Economic ownership is referred to in the BOP (IMF 2009 § 5.3) as it affects the time t of recording of transactions in goods and assets. It may be inferred from the text that services are not concerned by this innovation (IMF 2009 § 3.47, § 10.7).

Knowledge-capturing products are discussed in the BOP manual (IMF 2009 §10.8), in order to clarify the item *charges for the use of intellectual property*. However, oddly enough, while it is acknowledged that *knowledge-capturing products* can be traded separately from their production like goods, the corresponding transactions mainly remain classified within services. Thus, a clarification will certainly be needed in the future.

3.2. *The Services Account Still Incorporates Several Non-Services Transactions*

Despite the major improvements underlined above, the main headings and their breakdown as shown in Table 1 are not yet fully consistent with the new definition of services and the services account includes some non-service transactions.

- The classification is still not fully consistent

The BOP manual notes that although the classification is essentially product-oriented, three entries listed under services in the current account are not actually products (IMF 2009 § 10.61), namely *Construction*, *Travel*, and *Government*.

The well-known problem is that those three entries mix trade in goods and in services. Why then are they shown under services rather than under goods? This is presumably done because the services component is assumed to predominate. Although it might be true for *Government*, it is not clear in the case of *Travel* and most certainly erroneous for *Construction*.

Before the Balance 6th update, *Construction* was named *Construction services*. One must remember that *Construction* is definitely not a service product or activity. Consequently, the entry *Construction services* sounded rather awkward. *Construction-related-services* could have been a more suitable label for activities like architectural expertise, consultancy services, or providing construction workers. In a true product-oriented classification, these exchanges would not be classified under *Construction*, but under their corresponding entries in "other business services." Classifying these services under *Construction* mixes up industry and product-oriented classifications.

The *Construction* heading raises another more crucial issue. The value computed includes the goods and materials bought locally for construction (IMF 2009

TABLE 1
Overview of the Goods and Services Account (6th update)

Goods and Services	
General merchandise	
Of which: Re-exports	
Net exports of goods under merchanting	x
Total goods	
Manufacturing services on physical inputs owned by others	x
Maintenance and repair services n.i.e.	x
Transport (*including postal services*)	x
Travel	
Construction	x
Insurance and pension services	
Financial services	x
Charges for the use of intellectual property n.i.e.	x
Telecommunications, computer, and information services	x
Other business services	x
Personal, cultural, and recreational services	
Government	
Goods and services n.i.e.	
Total services	

Notes: n.i.e., not included elsewhere; x, new or moved headings (in *italics*) or else modified contents.
Source: IMF (2009).

§ 10.102). The 6th update has therefore removed the word "services" from the item heading, which becomes solely "Construction."

However, since the BOP revision overtly acknowledges that the *Construction* item does not primarily relate to trade in services, why does it remain within the services cluster? It was plausibly done to improve consistency with EBOPS and GATS negotiation criteria, but it would probably have been better to introduce a memorandum item for Construction consistent with GATS requirements.

• All Merchanting operations should be listed within services

Merchanting designates "the purchase of goods by a resident (of the compiling economy) from a non-resident combined with the subsequent resale of the same goods to another non-resident without the goods being present in the compiling economy. . . ." (IMF 2009 § 10.41). According to SNA's views, it is a typical margin services (SNA 2009 § 6.17 sq.). Thus, merchanting should not be listed under goods transactions. Besides, the BOP manual already states that, when merchanting involves some transformation of goods, the transactions should be included under manufacturing services rather than general merchandise (IMF 2009 § 10.42).

• The treatment of intangibles does not fully implement the new services definition

As regards intellectual property, originals and copies, the BOP is in line with the SNA. It indeed refers to the same definitions and principles (see Box 2). Nevertheless, like the SNA, the BOP is reluctant to fully combine the new features with the principles of the new services definition.

Box 2. How the BOP Deals with Intellectual Property and Originals

10.138 . . . *In contrast to temporary rights to use, outright sales of patents, copyrights, and industrial processes and designs are included under research and development services . . .*

10.17 c) *Noncustomized* packaged software (systems and applications), and video and audio recordings, *on physical media*, such as disks and other devices, with a license for perpetual use are included in general merchandise . . .

10.164 Mass-produced recordings and manuscripts that are purchased or sold outright or for perpetual use are included under audiovisual and related services *if downloaded* (i.e., delivered electronically). *However, those on CD-ROM, disk, paper, and so forth, are included in general merchandise . . .*

10.166 Purchases and sales of original manuscripts, sound recordings, films, and so forth are included in audiovisual and related services.

Source: IMF (2009, emphasis added)

The 1993 BOP update introduced a major clarification between the income and services account. The entry *Royalties and license fees*, previously classified in the income cluster, was moved to that of services. This shift, as the IMF (1993, p. 67) explains, was done in accordance with the SNA. Indeed, even if these monetary flows are connected to property rights, they frequently relate to rental or distribution operations, and thus to the provision of services. The move of license fees to services was thus a sagacious one. However, the entry still mixes dissimilar items as regards the distinction between goods and services. The new entry, called *Charges for the use of intellectual property*, covers only fees pertaining to temporary use of intellectual property (a true service transaction). Nevertheless, the remaining part of the previous license fees entry, which pertains to outright sales, is incorrectly distributed over the corresponding service entries—*Research and development services*, *Computer services*, or *Audiovisual services* (see Box 2). These outright sales involve a transfer of ownership and so should be recorded under goods in an *information goods* or *knowledge-capturing goods* entry.

The BOP manual declares that a clear borderline between goods and services has been delineated for *Audiovisual* and *Computer services* (IMF, 2009, p. 298). Nevertheless, despite significant improvements, it is not entirely successful.

Audiovisual and related services, as well as the *Computer services* entries include non-services flows. The first one includes "fees related to the production of motion pictures (on film or video tape), radio and television programs . . . , and musical recordings" (IMF 2009 § 10.162, Box 2). According to the services definition advocated in SNA 2008 and in BOP 2009, these information products do not belong in services.

An additional problem is that transactions in information goods are classified in the BOP under goods or under services depending on whether they are provided "materially" (CDs, books, etc.) or "immaterially" by being downloaded and, in the case of software, depending on whether it is mass produced or customized (IMF

2009 § 10.164 and 10.140, Box 2). To be consistent, all these transactions, in so far as they pertain to outright sales or purchases, should be regarded as goods transactions. Similarly, the purchase of an original, even if it is "immaterial" (Box 2), should not be regarded as a service transaction. These two last examples suggest that the BOP still views services as immaterial goods.

To sum up, while the changes mentioned above are helping to bring the BOP in line with the SNA, some inconsistencies remain. The BOP shares with the SNA a reluctance to completely implement the new services definition they both advocate. Unfortunately, that hesitancy tends to somewhat blur the measurement of trade in services.

4. Conclusion

The 2008 SNA revision brought in many new features that directly or indirectly shed a clearer light on the analysis of services. It corroborates and deepens the new approach to services which started with the 1993 SNA and, following Hill's (1977, 1999) insights, defines services by the impossibility of establishing ownership rights over them. In particular, the old "immateriality" feature is no longer a distinctive attribute of services.

The SNA introduces new useful concepts such as change-effecting services and the new treatment of goods for processing and it clarifies the notion of economic ownership. The coverage of intangible assets is also expanded and, indirectly, the SNA underlines the capacity of services-producing industries to provide durable outputs. The SNA also develops the concept of originals and copies, which is a major step toward a better understanding of information goods. However, the SNA does not consistently follow its own innovative approach, in particular when it creates the peculiar category of *knowledge-capturing products* which encompass characteristics of both goods and services. It was presumably an attempt to reconcile the old and new views on services, but the result is somehow confusing. Eventually, it will be necessary to recognize that *knowledge-capturing products* are genuine goods. The economic units that produce them belong in the manufacturing sectors, probably under an information goods heading.

The new features that are studied in this paper are gradually shaping a new way of understanding services which is much sharper and more relevant than the old one. If its features were all to be implemented, the list of services would be altered, and most likely the size of services as products would shrink as immaterial goods and intellectual rights sold through license with long-term regular payments would be withdrawn from the services list. However, the general implementation of the new approach might have opposite effects on the size of services-producing industries. On the one hand, it could result in a decline in the number of information service producers (software, audiovisual, etc.), but on the other hand, because of the new treatment of goods for processing it could bring about a growth in manufacturing services.

Even if services are better understood from a theoretical point of view, services classifications are still outdated (Cave, 2008). Service classifications remain too loose and services tend to be mixed up with non-services: economic analysis suffers as a result. The latest revision of the SNA invites a cleaning-up of both the product and industry classifications. If this were done it is unlikely that the share of the services-producing industries would still be over 70 percent of value added or employment in the developed countries.

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