



Red Latinoamericana
de Política Comercial

Rede Latino-Americana
de Política Comercial

Latin American
Trade Network

ISSN 2222-4815

**A service-based economy:
where do we stand?
Notes on structural change
and economic development**

Vivianne Ventura-Dias

WorkingPaper
139 | Septiembre 2011

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Vivianne Ventura-Dias

LATN – Latin American Trade Network

(diascordero@yahoo.com.br)

Abstract

The purpose of this paper is to provide a comprehensive view of the state of the art of economic research on services and the service economy and thereby contribute to the discussion of a model of inclusive and sustainable development in Latin America. The economic literature on services is widely dispersed in different academic fields that study services, namely economics, marketing, urban and regional studies, geography, human resources and operations research, with very little exchange between these disciplines than it is desired. Although the literature covered much of the empirical ground, it still proposes more questions than answers on macro and micro issues related to growth, employment and productivity in service-based economies.

The paper is divided into five sections, including this introduction. Next section is focused on two aspects of the services debate: (i) the definition and measurement of services; and (ii) the determinants of growth of services. Section 3 discusses new trends in international trade that gave prominence to the formation of international supply chains through widespread outsourcing. Section 4 proposes a discussion on the role of services in Latin American development. Section 5 presents some concluding remarks with indications of areas for further research.

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1. Introduction

The service sector, broadly defined, accounts for a large proportion of value-added and employment in the majority of countries, while goods-producing industries account for less than 20 to 30 per cent both in GDP and in employment in advanced economies, depending on the definition of services.¹ In 2009, services accounted for less than 50 per cent of the GDP in only 40 predominantly agricultural or mineral-based economies, out of 163 countries for which data was available, while in 82 countries, the share of the service sector was greater than 60 per cent of GDP (World Bank databank).²

The economic debate on services, however, has been surrounded by controversy since Adam Smith proposed that labour employed in the provision of some services was unproductive. After more than 40 years of multidisciplinary research efforts to interpret the deep and pervading movement that drastically changed the relations between goods and services, little consensus has emerged among economists on the impact of service expansion on growth and development. For the majority of professionals from international trade, marketing, operations management, human resources, engineering and design, modern services constitute the backbone of efficient economies. Complex services embody innovation, knowledge, and sophisticated skills.³ Moreover, innovation and entrepreneurial activity are themselves services (Baumol 2010). For many years, economists believed that the nature of services rendered productivity improvements harder to achieve there than in goods producing industries.⁴ The service sector is still perceived by some as consisting of low-productivity activities that maintain a parasitic relation with goods-producing industries, where innovation takes place. Hence, deindustrialisation, as the consequence of the expansion of services, could drive individual economies to a path of stagnant productivity and low growth (Cohen and Zysman 1987).

At the root of these divergent views there are two conceptual impasses. The first is the attempt to encapsulate all productive activities into two all-encompassing and highly heterogeneous sectors, goods and services, which may be of little analytical value for the understanding of innovation, productivity and growth. Services constitute an incongruent

¹ Data on the share of services in GDP and employment can vary widely depending on which industries are included. For instance, construction may be included in the goods sector, for some countries, and in services, for others.

² See the world page of The World Bank (<http://data.worldbank.org/indicator/NV.SRV.TETC.ZS>).

³ See among others Akehurst 2008; ADB 2007; Djellal and Gallouj 2010; François and Hoekman 2010 (and the literature included); Gallouj and Djellal 2010; Greenfield 1966; Maglio, Keliszewski and Spohrer 2010; Reed, Mrinska and Coelho 2008; Triplett and Bosworth 2000, 2004.

⁴ Baumol (1967) is the most quoted reference, although William Baumol has been an active proponent of the importance of services in advanced economies.

aggregate of activities, processes and industries that include both low-skill direct personal services and highly-skilled business and professional services, besides capital-intensive industries, such as telecommunications, public utilities, and transportation. Goods-producing industries, in the aggregate, are not less heterogeneous than services, broadly defined. The other associated difficulty is the conception of goods and services, each as discrete entities; a vision that service researchers believe contribute neither to the understanding of the drivers of innovations nor to the understanding of the dynamics of growth in advanced economies (Greenfield 2002). Ultimately, it makes little sense to speak of the aggregate service sector.

The division of productive activities in three sectors, respectively agriculture, manufactures and services is a remnant of 18th century conceptual framework (*tableau économique*) that lost its analytical capacity while it became increasingly difficult to disentangle one sector from the other. What are the limits of agriculture? Does it comprise only products *in natura* in the farms? Modern farms are so dependent on science and technology that they became unlikely candidates for the group of primary production. The grouping of industries into primary and secondary sectors became of common usage in the first third of the 20th century, but the tertiary sector is an invention of Allan G. B. Fisher, a New Zealander economist, that was the first proponent of a service economy, in the early 1930s.⁵

At the first stage of its development, academic research struggled to conceptualise services as a special case, an exotic entity with unique attributes such as intangibility, heterogeneity, inseparability and perishability that differentiated them from goods. While it matured the literature became more focused on the interrelationships between goods and services.⁶ In the global knowledge-based economies, goods and services have become so interdependent that, in many instances, the borderline separating ones from the others is barely discernible. In manufacturing, agriculture or in extractive industries, value-creation is based on the exploitation of skills, know-how and other intangible assets rather than in physical operations, while a large part of occupations in goods-producing enterprises are better classified as services. For instance, in 2009 occupations classified as “production occupations” accounted

⁵ “When tertiary production, moreover, was first suggested as a useful tool of economic analysis, there were no precedents in economic literature to confuse the discussion of its meaning...” (Fisher 1952: 820). In the same page, he also remarked: “There was not, indeed, universal agreement that these (primary, secondary) were the most appropriate meanings to attach to the terms.”

⁶ “...back in the early 1980s, it was necessary to draw attention to the appalling lack of knowledge about services and the service sector and ...there was a need to almost over-state the case for treating services as different from manufactures products in order to rectify the chronic knowledge and data problem.” (Akehurst 2008: 3). See also Hill 1999.

for less than 7 per cent of national employments (8.9 millions) in the United States.⁷ Actually, marketing researchers have identified a reverse movement in advanced economies, that it is being termed “service-dominant logic” underlying that, in recent years, innovation has been driven by services and that goods may have become just a material basis of service provision.⁸

In the 1990s, the interdependence between goods and services was further strengthened with the spread of foreign outsourcing of materials and services inputs to foreign companies or affiliates, commonly known as offshoring with the creation of widely spread international value chains, which changed the nature of international trade.⁹ Pervasive innovations in information and communication technology (ICT) are behind these changes. ICT reduced the costs of globalisation, and gave a remarkable impulse to the disembodiment of knowledge and capacities in the productive process, further increasing the share of services in the economies. The impact of offshoring in shifting employment from rich countries to developing countries, however, has spurred great controversy on the net gains of the new trade patterns.

The process of increasing the service base of the economy has been evolutionary rather than revolutionary. Already in 1950 the service sector accounted for 60 per cent of value-added in the United States.¹⁰ There was no “service revolution” comparable either to the industrial “revolutions” of the 18th and 19th centuries or to the knowledge/information revolution of the past decades, although there would not be the industrial revolution without the “service revolution”.¹¹ Industrialisation could not have occurred without major developments in transportation such as canals, railways, and steam boats (Hartwell 1973). As productive activities became more specialised, more localised and more roundabout more specialised services were required. Industrialisation promoted the expansion and diversification of banking and insurance, while banking innovations helped the industrialisation process to move further (Gille 1973).

At first, new business services grew out of activities that were already being performed within vertically integrated manufacturing plants. Gradually, manufacturing enterprises began to outsource service activities such as design, marketing, transportation, and advertising from specialised service firms, as the result of growing demand and increasing competition. This is

⁷ See “May 2009 Occupational Employment and Wage Estimates in the United States” at the Bureau of Labor Statistics (http://www.bls.gov/oes/current/oes_nat.htm#51-0000).

⁸ See Ehret and Wirtz 2010; Gummesson, Lusch and Vargo 2010; Vargo and Lusch 2004.

⁹ Grossman and Rossi-Hansberg 2006a, 2006b; 2008.

¹⁰ Stigler (1956: 6, table 3) showed that from 1870 to 1920, services accounted for roughly 39 per cent of non-agricultural labour force in the United States. Services increased slightly their share of total labour force from 19 to 28 per cent in the same period, although important changes in the composition of services occurred.

¹¹ The “industrial revolution” has also been contested in the economic history literature. See De Vries 1994.

to say that underneath the expansion of business services out of factories and that of consumer services out of home production we find the same virtuous interaction between scale and structure, and the intensification in the division of labour that the process of economic growth entails.¹²

In Latin America, the debate on innovation and structural change is still centred on the dualism between manufacturing and agriculture/mining specialisation. In recent years, a booming international demand for Latin American commodities combined in many countries, with overvalued currencies, and Asian-Chinese competition in manufactured products has contributed to a drastic reduction in Latin American manufacturing exports and capacities paralleled by a remarkable expansion of the share of commodities in total exports. In addition, poor physical and human infrastructure has prevented the region to successfully insert itself in global supply chains through high-skilled services as India and other Asian countries are doing.

The purpose of this paper is to provide a comprehensive view of the state of the art of economic research on services and the service economy and thereby contribute to the discussion of a model of inclusive and sustainable development in Latin America. The economic literature on services is widely dispersed in different academic fields that study services, namely economics, marketing, urban and regional studies, geography, human resources and operations research, with very little exchange between these disciplines than it is desired.¹³ Although the literature covered much of the empirical ground, it still proposes more questions than answers on macro and micro issues related to growth, employment and productivity in service-based economies.

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¹² "When the division of labour has been once thoroughly established, it is but a very small part of a man's wants which the produce of his own labour can supply." (Smith 1776/1976: Book One, Chapter IV.

¹³ François and Hoekman (2010) is an excellent review of the economic literature on services trade issues that listed more than 210 titles. See also Ventura-Dias (1987) that covered the economic literature on services until 1986.

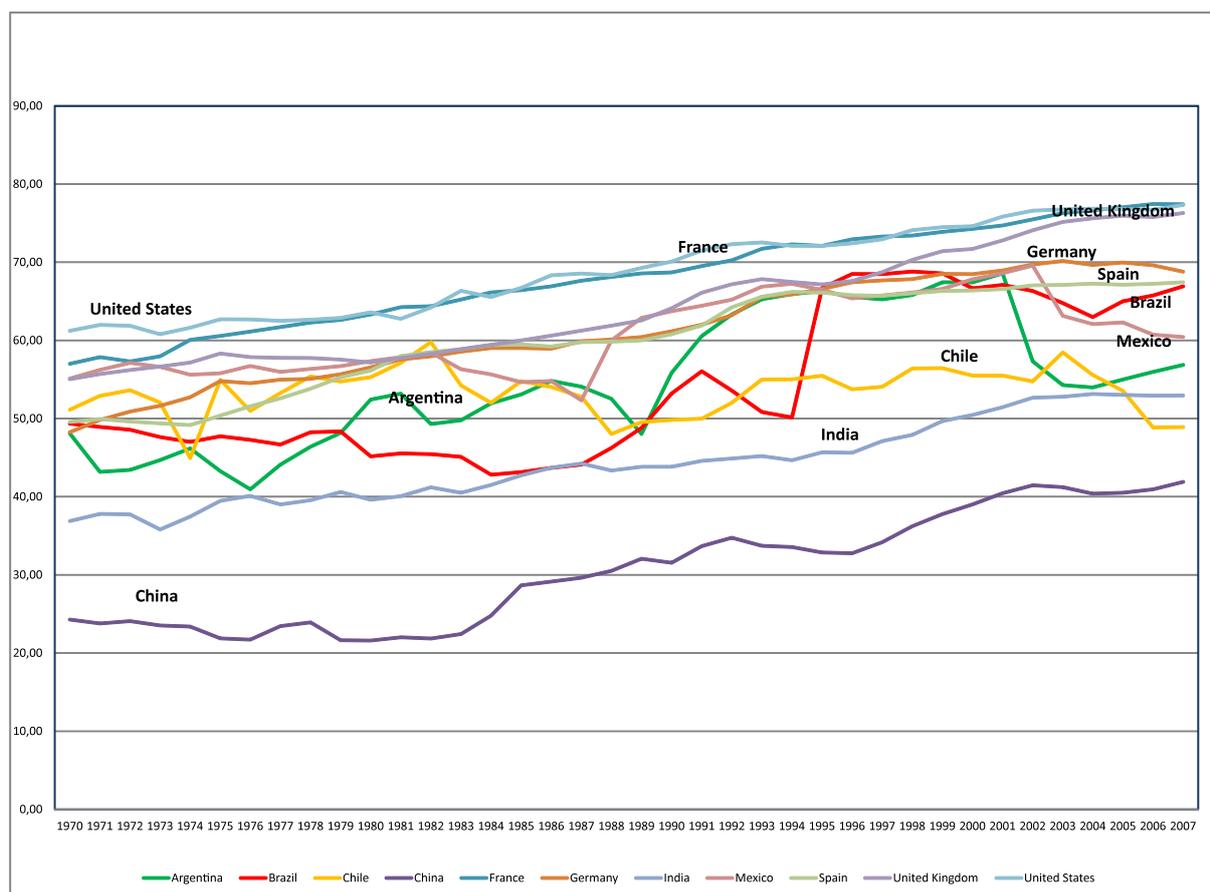
2. Services: from employment to capital

There is ample empirical evidence of the dominant position of services both in employment and in value-added in industrial countries and in advanced developing countries, when services comprise everything in the economy but agriculture, mining, construction and manufactures (see Figure 1). In the United States, that Fuchs (1968) called the world's first service economy, in 2007, the last year before the financial crisis, a little over 16 per cent of non-farm workers (22.2 millions) were "involved in the production of food, clothing, houses, automobiles, or other tangible goods".¹⁴ From 1961 to 2007, the number of non-farm jobs increased from 54.1 to 137.6 million while employment in goods-producing industries reached a peak in 1979, at roughly 25 million, to decrease continuously in the 2000s. Moreover, most of the reduction in these jobs is explained by the behaviour of manufacturing jobs: while remaining stable around 17.6 million in the period from 1966 to 1999, manufacturing jobs fell below 14 million in 2007.¹⁵ In addition, manufacturing and construction were more affected than services by the high levels of unemployment that followed the financial crisis of 2007-2009. Consequently, jobs in goods-producing industries fell from 22.2 million in 2007 to less than 18 million in March 2011, while those in service providing were reduced from 115.5 to 112 million, the reduction in jobs occurring mostly in sectors associated to goods such as trade, transportation, and financial activities.

¹⁴ Fuchs (1968: 1) indicated that the *increase* in employment in the field of education between 1950 and 1960 was greater than the total number employed in the steel, copper, and aluminium industries in either year. The *increase* in employment in the field of health between 1950 and 1960 was greater than the total number employed in automobile manufacturing in either year".

¹⁵ Employment in construction explained the total number of employment in goods-producing industries. See "Establishment Data Historical Employment, B-1. Employees on nonfarm payrolls by major industry sector, 1961 to date" at (<ftp://ftp.bls.gov/pub/suppl/empst.ceseeb1.txt>).

Figure 1. Share of Services in Selected Economies, 1970-2007



Notes: “Services” correspond to ISIC divisions 50-99 and they include value added in wholesale and retail trade (including hotels and restaurants), transport, and government, financial, professional, and personal services such as education, health care, and real estate services. Also included are imputed bank service charges, import duties, and any statistical discrepancies noted by national compilers as well as discrepancies arising from rescaling. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. The industrial origin of value added is determined by the International Standard Industrial Classification (ISIC), revision 3.

Source: World Bank, Databank, Services value added (% of GDP) at (<http://data.worldbank.org/indicator/NV.SRV.TETC.ZS/countries/1W?display=graph>).

Besides, as Fuchs (1968: 2) remarked, based on United States data of early 1960s, “if service employment is equated with white-collar and service occupations, the shift away from goods production has been even greater than the industrial classification statistics suggest. This is because there has been a shift of employment within the Industry sector from direct production of goods to activities which, if they were not carried out within the firm, would be classified as services.” In 1999, although there were 24.5 jobs in goods-producing industries, only 12.6 million were classified as “production occupations”. From 1999 to 2007,

employment in goods-producing industries fell from 24.5 to 22.2 million while production occupations decreased from 12.6 to roughly 10 million.¹⁶

The lasting dramatic effects of the global financial crisis, however, raised many doubts about the benefits for the whole economy of certain services sectors, such as financial services that were found to deliver little in terms of permanent welfare gains and much for its own consumption, or rather for the consumption of a very selected group of banking executives and traders (Kirkegaard 2009).

In what follows, a few introductory points around which the literature has clustered will be discussed. While it will be evident that it does not make much sense to talk of the aggregate set of services, the literature comprises efforts to define services, as a group, in order to identify ways and means to measure output and changes in productivity. The same difficulties apply to the analysis of growth determinants of services in the aggregate.

Definition and measurement in services

Traditionally, microeconomic theory has ignored the production and consumption of immaterial products. Textbook of microeconomics describe markets as buyers and sellers were always in direct contact without the chain of intermediate services between them. In the aggregate, specific attributes rendered services less attractive to quantitative models. However, individual service industries, namely transportation, banking and finance, insurance, health, education, housing, and energy, among others, have created their own economics.¹⁷ In other words, individual services were not ignored by economic analysis although they were not integrated into general economics. As it is discussed below, defining services is an elusive task.

Ordinary language renders the separation between goods and services quite problematic because the demand for material goods derives from the services these goods deliver, which represents their utility or value-in-use. The utility of a car is the transportation that it provides (although the advertising business sells other car's attributes associated with the buyer's self-

¹⁶ See United States Department of Labor/ Bureau of Labor Statistics (http://www.bls.gov/oes/2007/may/oes_nat.htm).

¹⁷ Transportation and utilities deserve a chapter of its own in the Journal of Economic Literature (JEL) Classification: In L (Industrial Organization) L9 - Industry Studies: Transportation and Utilities; L90 - General; L91 - Transportation: General; L92 - Railroads and Other Surface Transportation; L93 - Air Transportation; L94 - Electric Utilities; L95 - Gas Utilities; Pipelines; Water Utilities; L96 - Telecommunications; L97 - Utilities: General; L98 - Government Policy; L99 - Other. The remaining services are compressed in L8 Industry Studies: Services. L80 - General; L81 - Retail and Wholesale Trade; e-Commerce; L82 - Entertainment; Media; L83 - Sports; Gambling; Recreation; Tourism; L84 - Personal, Professional, and Business Services; L85 - Real Estate Services L86 - Information and Internet Services; Computer Software; L87 - Postal and Delivery Services; L88 - Government Policy; L89 - Other (http://www.aeaweb.org/jel/jel_class_system.php#D).

image). Basically, the factors of production, labour and physical capital (machines), are themselves providers of productive services.

Defining the attributes of a service activity might help to delimit the borders of such a set. The problem with services is that the set contains many disparate industries in terms of activities, processes, outputs, that defy every attempt of an encompassing classification able to uniquely describe all services. In the mid-1980s, a review of the service marketing literature found that the most frequently mentioned characteristics of services were: intangibility, inseparability or simultaneity of production and consumption; heterogeneity in the sense of non-standardisation; and perishability (or inability to create an inventory).¹⁸ Similar results were later confirmed by other surveys of the literature.

Intangibility or immateriality, inseparability of production and consumption, and perishability are perhaps the oldest ideas associated to services (Gadrey 2000).¹⁹ Nevertheless, several services do not fit this characteristic. For instance, retail trade is associated with handling of tangible goods, while repair and maintenance services transform or partly transform goods. The closeness of producers and consumers, which is an attribute of several consumer services, is not present in services such as banking, design, accounting and wholesaling, as intermediate services directed at other services- or goods-producing firms.

The intimate relation between producer and consumer was not included in the most quoted definition of services by Hill (1977: 318): “A service may be defined as a change in the condition of a person or of a good belonging to some economic unit, which is brought about as the result of the activity of some other economic unit, with the prior agreement of the former person or economic unit.”²⁰ However, later Hill (1999: 437, 441) included the simultaneity of production and consumption as part of the definition of services. “A good is an entity that exists independently of its owner and preserves its identity through time.” In the production of goods the production of goods can be separated from their disposal or use.

¹⁸ Zeithaml, Parasuraman and Berry (1985) quoted in Lovelock and Gummesson 2004.

¹⁹ Adam Smith’s definition of services was based on the durability of the product. A repair service was real because it produced something that lasted. But musicians or opera singers could not be regarded as yielding a product because their performance was only enjoyed while it was taking place.

²⁰ The Revised Version of the System of National Accounts (SNA) used Hill’s definition of services. (6.17) “Services are the result of a production activity that changes the conditions of the consuming units, or facilitates the exchange of products or financial assets. These types of service may be described as change-effecting services and margin services respectively. Change-effecting services are outputs produced to order and typically consist of changes in the conditions of the consuming units realized by the activities of producers at the demand of the consumers. Change-effecting 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.” (see the Appendix).

“Services involve relationships between producers and consumers. There cannot be a producer without a consumer.”

Although in Adam Smith’s time, the performance of an opera singer was ephemeral, currently, the output of several services such as performing arts, music, broadcasting, professional services, and design, has a material basis that can be film, paper, DVDs, or CDs, or other electronic means of reproduction. Once there is a material basis for a service provision these services can be consumed temporally and/or spatially separated from where and when they were produced, hence, they can be stored for future use. For instance, medical services can be performed in a given place and at a given time on a person, albeit the simultaneity of time and space is not a restriction anymore. The information included in these services can be stored and shared with other doctors. Moreover, information and communication innovations allow complex surgeries to be performed on a patient without the physical presence of the surgeon (remote surgery or telemedicine). Even though there is an intimate relation between producer and consumer in the case of most medical services, there are tangible changes in customers that last longer than the action performed. For instance, there is as a feeling of physical wellbeing following a massage, or a restored mobility following a hip replacement surgery. Hence, intangibility should not be confused with perishability (Lovelock and Gummesson 2004).

Other authors tried to define intangibility in terms of ownership, because since a service is immaterial it cannot be physically possessed. Even though I can purchase a CD which reproduces an opera performance, I do not own the service that is stored in the CD. In the marketing literature, this characteristic implies that it is difficult to evaluate a service before purchasing it (Lovelock and Gummesson 2004).²¹ Market transactions represent the exchange of “rights to perform certain actions” according to the institutional theory of the firm, (Coase 1992: 717). In the case of many services, the transactions do not include the transfer of ownership in contrast to market transactions in goods.

The IMF (International Monetary Fund) definition of services includes four qualities: changes in the conditions of the consuming units; facilitation of the exchange of products or financial assets; inseparability of the production from consumption and ownership rights,

²¹ Lovelock and Gummesson (2004) proposed the creation of a new paradigm around the notion that marketing transactions that do not involve a transfer of ownership are distinctively different from those that do. They argued that services involve a form of access in which customers obtain benefits by gaining the right to use a physical objet, to hire the labour and expertise of personnel, or to obtain access to facilities and networks.

although not all attributes are present in all services (see the Appendix for the revisions in the System of National Accounts and in the International Standard Industrial Classification).

(10.8) Services are the result of a production activity that changes the conditions of the consuming units, or facilitates the exchange of products or financial assets. Services are not generally separate items over which ownership rights can be established and cannot generally be separated from their production. However,...some knowledge-capturing products, such as computer software and other intellectual property products, may be traded separately from their production like goods (IMF 2009).

It is safe to say that direct proximity and interaction between user and supplier are more important for transactions in services than for transactions in goods.

Heterogeneity is a general quality of services that precludes a collective treatment of services as a large sector. There is a high dispersion in service providers and in services processes, in terms of the characteristics of outputs, technologies, production processes, market structures, within the broad service sector. Likewise, within the same industry, particularly in labour-intensive industries, there is also high variation of behaviour and performance among service workers. In addition, heterogeneity is also linked to high variation in customers' needs and expectations (Edvardsson, Gustafsson and Roos 2006).

Therefore, problems of imperfect and asymmetric information abound in services transactions. Consumers face frequent difficulties in assessing the quality of service providers, as for instance, the competence of professionals such as medical doctors and lawyers; the safety and reliability of transport companies; and the soundness of banks and financial products (as we concluded from the last financial crisis).

At first, heterogeneity described the extreme diversity of firm size and market structure of services activities and industries. Later, it became associated to the high levels of inconsistency in service provision. It was replaced by the term non-standardisation, implying the difficulty in defining standards for tasks, procedures, and outputs, because some services are labour-intensive, with technological knowledge embodied in human labour (Lovelock and Gummesson 2004).

Nevertheless, the lack of uniformity among service industries should not imply that the production and distribution of services cannot be "industrialised". Levitt (1972) claimed that all industries are service industries. The difference is that some industries have greater service components than others.²² Actually, major innovations in services brought rationalisation and standardisation to transportation, banking, and retailing, among others, even before the

²² Theodore Levitt (1972, 1976) proposed that service operations should be "industrialised" through the employment of equipment, procedures and technology that converted human-intensive into machine-intensive operations.

information revolution (Chandler 1990; Mokyr 1998).²³ Moreover, some services, such as fast foods, can be mass-produced and service providers may benefit from economies of scale as much as traditional manufacturing firms. Even consumer services such as restaurants and hair-dressing went through greater uniformity, once the embodied knowledge was codified (disembodied), and the diffusion of brand-owned methods could be controlled through franchising (a service innovation epitomised by the MacDonald's franchise system). Technical change in services has not been uniform but it has been widespread.

Several classifications have been used to overcome the aggregation problem, subdividing the set of services in homogenous subgroups based on pragmatic criteria (Schettkat and Yocarini 2003, 12-24). The most common is the division of services into two broad groups: consumer and business (or producer) services.²⁴ The division is intuitive hence subjective. The division follows the classic tradition that one service can only be productive when they contribute to the production or the distribution of goods. Nevertheless, there are mixed services that cater both to the needs of firms and consumers. For instance, it is difficult to be accurate when classifying banking and insurance, transportation, retail, communication services as predominantly a producer service. Petit (1985: 124) suggested that within the service sector we could say that there are two poles around one of which are grouped services used for the most part by firms, while around the other are services used for the most part by consumers. Between these two poles there are several services that can be called "intermediation services" (distribution, transportation, communication, financial services among others).

Services can also be grouped according to the information or knowledge they carry, and the capacity for codifying, and storing in electronic means. In this case, physical/material services, like freight, construction, water and power are separated from information services, like financial, education, or business services. In the services debate, some of the definitions and terms implicitly assume that services are intensive in information and in skilled labour. This is not true, particularly in the case of capital-intensive services such as construction, transportation and public utilities (Apte, Karmarkar and Nath 2007).

Another broad classification divides services according to the form of the service provision into market/private and public provision. This classification was important because until the 1990s a majority of services was public-owned. Even after privatisation, prices of public utilities are still administered by public regulations. Public services are paid for indirectly through taxes. The determinants of price-formation in public-owned services enterprises are

²³ See Chandler 1977; Ewen 1976; Hartwell 1973.

²⁴ Business services are also called business-to-business services (B2B).

not defined by market mechanisms but by political commitments to equity, although efficiency concerns are also important.

The usual way of solving the problem of measuring total production of services for which prices do not exist was to employ input valuation, i.e. the company payroll plus some other input costs. In this case, because output is not measured independently of inputs, it cannot be used for productivity studies. Therefore, productivity in public services tends to be underestimated or overestimated in case productivity actually grows or decreases (Krantz 1994).

In some services, measuring output has further complications because of qualitative components. In services such as health care, education or professional services, the quality of the service provided is more important than the quantity. The output cannot be captured fully by quantitative data. For instance, in the case of medical services there are various categories of patients with different diseases, different treatments for the same diseases, and there are treatments with different qualities and costs. Hence, all kinds of quantitative measures of outputs such as bed-days, in-patients or whatever measure is used are not identical, which means that in principle the weighting problem should be solved in a way equivalent to the price weighting in public enterprises (Krantz 1994: 24).

A common sense conclusion is that the characteristics of services should not be generalised to all services, but they can be used for some services when they are relevant and in situations where they can be useful (Edvardsson, Gustafsson and Roos 2006).

The difficulties surrounding the definition and measurement of services can also be found in the interpretation of several factors that contributed to their growth. The explanations for the dynamics of services can be grouped in demand-driven and supply driven hypotheses, with the latter being subdivided into two groups: those that emphasise productivity differences between goods and services, and those that stress inter-industrial division of labour. The next section will examine some issues related to the growth of the production of services at a microeconomic level, while in section 4, the dynamics of services will be considered from the development process perspective.

The determinants of services growth

Agriculture and manufacturing were economic sectors ordered according to a hierarchy of wants and needs of consumers, as perceived by Classical economists.²⁵ Subsistence preceded conveniences and luxury, “so the industry which procures the former, must necessarily be prior to that which ministers to the latter” (Smith 1776/1976: Book One: 402). Services were those provided by “menial” servants but also, by government officials, military personnel as well as “some of the gravest and most important, and some of the most frivolous professions: churchmen, lawyers, physicians, men of letters of all kinds; players, buffoons, musicians, opera-singers, opera-dancers, etc.” (Smith 1776/1976: Book One: 352). These are services that fulfil luxury needs for arts and amusements.²⁶

Nevertheless, Adam Smith is often misquoted in his appreciation of services as unproductive activities because the adjective did not cover all services. He was referring to a particular set of services, currently classified as consumer services, which at his time were consumed predominantly by the aristocracy and the ascending bourgeoisie. He perceived non-productive spending as a restriction on capital formation that could slow development.²⁷ Differently from Quesnay, Smith considered producer services value-creating activities, although, at his time, these crafts were manufactures.²⁸ Occupations that are now considered “services”, such as “smiths, carpenters, wheel-wrights, and plough-wrights, masons, and bricklayers...” were considered “artificers” without whom “indeed the cultivation of land cannot be carried on, but with great inconveniency and continual interruption...The butcher, the brewer, and the baker, soon join them, together with many other artificers and retailers, necessary or useful for supplying their occasional wants, and who contribute still further to augment the town” (Smith 1776/1976: Book One: 403).

The first studies on services focused instead, on the high income elasticity of demand for services as a determining factor for the expansion of employment in services (Fisher 1935; Clark 1940). The empirical relation between spending patterns and levels of income, which is known as Engel’s Law, states that as income rises the demand for food tends to increase less

²⁵ “According to the natural course of things, therefore, the greater part of the capital of every growing society, is first, directed to agriculture, afterwards to manufactures, and last of all to foreign commerce.” (Smith 1776/1976: Book One p. 405).

²⁶ Chapter V (34) “Every man is rich or poor according to the degree in which he can afford to enjoy the necessities, conveniences, and amusements of human life”.

²⁷ “A man grows rich by employing a multitude of manufacturers: he grows poor, by maintaining a multitude of menial servants” (Smith 1776/1976: Book One, p. 351).

²⁸ Quesnay considered that only agriculture was productive (Quesnay 1991). However, there are several versions of his *Tableau Économique*, and in later editions, clergy and soldier were added to the mixed class of landlords (Bos 2009: 16). Quesnay considered the artisans one “sterile class” (Quesnay 1991).

rapidly than the demand for other goods. The extension of the Engel's law to services was controversial because of the difficulties to disentangle income from price effects.²⁹

The expansion of consumer services impressed both Allan Fisher and Colin Clark, who independently interpreted the shift of employment of labour and capital from agriculture into manufactures first, and then to services, as part of the process of economic development in what became known as a "theory of stage growth"³⁰. Colin Clark (1940) presented historical analysis of empirical data on the relative importance in employment and in national product of agricultural, manufacturing and services.³¹ The most reliable data referred to employment. He concluded that different levels of economic progress were very closely associated with the proportions in which the working population is distributed among industries.³² The staged growth approach, however, was rejected by the economic community on the basis of evidence of retail trade, transportation, and public administration, among others in low-income developing countries.³³

However, the academic discussion missed some of the insights on services provided by Fisher and Clark. There are indeed some consumer goods, particularly those related to the use of leisure time, such as personal services, hotels, and facilities for travel, recreation, amusement and holidays, centres for cultural activities in music, art and science, which have high income elasticity. Fisher was impressed by this new type of consumer services that became visible in the early 1930s. He made an important distinction between those services that are ancillary to primary and secondary production and those that are "consumed for their own sake". Many branches of transportation, insurance and finance are examples of the former. As Adam Smith, Fisher believed that those services were "essential links in the chain of technical production, in the absence of which we shall not so conveniently obtain the

²⁹ Stigler (1956) examined a few samples on expenditure composition in two moments in time (1870-1930). He found evidence that over time services (insurance premiums, travel, health and unemployment insurance, medical care, personal care, entertainment, etc.) had increased their share in consumer spending. The surveys on income and expenditures that Stigler used were rudimentary and not strictly comparable. George Stigler had already prepared a book on domestic servants in the United States from 1900 to 1940 (Stigler 1946) as part of NBER research on trends in production, employment and productivity in United States industries, including professional services, distribution, public utilities, transportation, and education (see <http://www.nber.org/books>).

³⁰ Fisher (1935). Colin Clark (1940) borrowed Fisher's category of tertiary sector, but in the third edition of his book, the term tertiary was dropped, and he referred to the "service" sector (Maddison 2004: 20).

³¹ Later, Colin Clark was to refer to the difficulties of compiling consistent historical series for the few countries he analysed (1984).

³² Clark (1984: 70) mentioned that the reduction in the share of agriculture in employment and in national product, with manufacturing first showing a rise and then a decline in favour of services, was a generalisation first made in the 17th century by Sir William Petty.

³³ Peter T. Bauer was the most critical of the proposition that economic progress would lead to hierarchical changes in the occupational distribution of the population. See Bauer 1984.

primary or secondary products we require” (Fisher 1933). But Fisher believed that the determinants of growth in consumer and producer services were not the same. As the standard of living improves, a larger share of consumer expenditures tends to be allocated to services that are required “for their own sake”, determining their expansion. Fisher was concerned with the long-run reduction in employment in agriculture and manufacturing due to higher relative productivity in those broad sectors. Therefore, to countervail the reduction of jobs in goods-producing industries, policy efforts should be addressed at the promotion of labour-intensive consumer services.

Krüger (2008: 335) calls the attention to the different grouping of services used by Fisher (1939) and Clark (1940). In the classical tradition, Fisher (1939) divides the sectors according to a hierarchy of needs, beginning with goods that satisfy basic needs in the primary sector, standardised products in the secondary sector and new products in the tertiary sector. Clark (1940) assigned agriculture, forestry and fishery to the primary sector; all goods producing and processing industries to the secondary sector and the remaining industries to the tertiary sector. The latter industries comprise construction, transport, communications, finance, public administration, personal services, etc.

Supply-side interpretations for the shift of employment to the service sector emphasise the differential productivity growth between services and goods. William Baumol (1967) believed that services, or at least several services, were inherently condemned to slow productivity growth. Due to the role played by labour in the production of some services, there are inherent difficulties to the introduction productivity-enhancing innovations. His examples included services in which “labour itself is the end product”, such as concerto live performance or teaching, which do not account for a large share of total services (1967: 416). Baumol acknowledged the adoption of important innovations such as the self-service, the supermarket and pre-wrapping in retailing, that have all increased the productivity per man hour of the retailing personnel. But, “ultimately, the activity involved is in the nature of a service and it does not allow for constant and cumulative increases in productivity through capital accumulation, innovation, or economies of large-scale operation” (420). Hence, unbalanced growth between the manufacturing and the service sector would induce a resource re-allocation towards the slowly growing sector, eventually slowing down aggregate growth.

Fuchs (1968) used household budget surveys to investigate the role of income elasticity of services in the overall expansion of services. He denied that services had higher income elasticity than industrial goods, albeit he did not have precise estimates of differential income

elasticity for goods and services.³⁴ For him, the shift of employment from goods into services industries was explained for low productivity of services, because although employment in services was expressive, the share of services of output, in real dollars, remained constant from 1929 to 1965.³⁵ “Examinations of cross-sectional buying patterns, and of trends in output over time, suggests that the growth of income and a consequent shift in demand has not been a major source of the relative growth of service employment” (Fuchs 1968: 3).³⁶

It should be remarked that Baumol assumed that labour-intensive services had high income elasticity. Ultimately, because of demand elasticity households would be willing to pay more for these services. Hence, the share of employment in the service sector will be higher in advanced economies firstly, because labour productivity is higher in goods-producing industries. Secondly, the share of services in nominal output will rise because wages in the service sector increases in line with the economy’s average rate of growth since the output of some services is equal to the sum of wages and salaries (Baumol 1967). Although the argument developed by Baumol was sound it cannot be extended to all services industries but to those in which quality rather than quantity is important such as performing arts, health care or education.³⁷ More recently, Baumol (2010) emphasised the role of innovation as a prime focus for the literature on the services.

Final demand is an important factor for the growth of certain services, particularly personal, social and community services in all countries but it cannot explain the structural change towards the services sector. A few services are characterised by high income elasticity. It is the case of leisure and entertainment activities, high quality health and care services, higher education or other services such as travel, lodging and food services. However, the size of these services in value added and the recent evolution of their share cannot explain the overall movements of resource reallocation in the economies (see table 1 for historical trends of share of “services” in the national accounts of the United States from 1929 to 1975).

³⁴ Fuchs (1968) found that the income elasticity of services was not significantly higher than one.

³⁵ Victor Fuchs revisited his conclusions in a contribution to Gregory, Salverda and Schettka (2007). Almost fifty years later he was still pessimistic about the relative contributions of the differential growth in demand for services due to their higher income elasticity, on the one side, and low productivity growth in their production, on the other (cited in Gregory Salverda and Schettka 2007: 9).

³⁶ The National Economic Research Bureau (NBER) carried two broad researches on services in the late 1940s (Stigler 1956) and in the 1960s (Fuchs 1968). Besides, it was in NBER that Simon Kuznets carried out detailed work on national income and capital formation in the United States, from 1927 to 1960. Together with the work developed as Chairman of the Committee on Economic Growth of the Social Science Research Council (1948-1968) on comparative quantitative analysis of economic growth of nations, Kuznets accumulated the empirical data for his subsequent studies on growth and structural change. See the short autobiography by Simon Kuznets at the Nobel Prize site (http://nobelprize.org/nobel_prizes/economics/laureates/1971/kuznets-autobio.html).

³⁷ The dilemma presented by Baumol (1967) is known as “Baumol cost disease” of personal services in the economic literature.

Table 1. Percentage Distribution of National Income, by Sector of Origin United States, Selected Years 1929-1978

Sector	1929	1945	1950	1955	1960	1965	1970	1975
Agriculture, forestry, fisheries and mining	12.4	9.9	9.5	6.4	5.5	4.7	4.0	5.0
Manufacturing	25.2	28.8	31.6	32.6	30.0	30.1	26.8	25.1
Construction	4.4	2.4	4.9	5.0	5.1	5.4	5.5	5.4
Transportation	7.6	5.8	5.6	4.8	4.3	4.1	3.8	3.6
Communications, electric, gas, sanitary services	3.2	2.3	3.0	3.6	4.1	4.0	4.1	4.5
Wholesale, retail trade	15.6	15.4	17.0	15.8	15.5	15.0	15.2	15.6
Finance, insurance, real estate	10.1	7.8	9.0	9.4	10.7	11.3	12.8	13.5
Government, govt. enterprises	10.1	7.8	9.0	9.4	10.7	11.3	12.8	13.5
Services*	10.1	7.8	9.0	9.4	10.7	11.3	12.8	13.5
Rest of the world	0.9	0.2	0.5	0.5	0.6	0.8	0.6	0.8

Notes: * The residual category of services includes health, education and legal services.

Source: Caves et alia 1980, table 7.1.

There is empirical evidence showing that historically the material well-being of families in rich countries and in advanced developing countries has improved dramatically, as demonstrated by the reduction in the percentage of expenditures allocated for food, clothing, and housing. In 1901, the average family in the United States allocated almost 80 per cent of its spending to these necessities, whereas one hundred years later, only 50 per cent of an average family expenditure was devoted to necessities (United States Department of Labor 2006: 66). Beginning in the 1970s, data on consumer expenditures show that the average family in the United States began to spend more for food eaten away from home: in 1970. Food eaten away accounted for a little over 26 per cent of spending for food while in 2003 this share increased to almost 42 per cent. Nevertheless, the share of expenditures allocated for food decreased from 42.5 to just 13.2 per cent over the same period (United States Department of Labor 2006: 69-70).

Rather than look at income elasticity it is necessary to take into account structural changes that affected final consumer demand creating at the end the mass consumption society, in which the majority of households can constantly expand their range of consumer goods and services (Matsuyama 2000).

Demographic changes that resulted in declining birth rates and longer life expectancy affected demand patterns causing falling demand for primary schooling and rising demand for health and personal services. Research on structural changes in the composition of households and on the relation between home production and market production was integrated only recently to the economic literature (Buera and Kaboski 2009; Ngai and Pissarides 2008). The literature has stressed the substitution between goods and services that cater to the same needs of households. Gershuny (1983) calls “mode of provision” the particular means that a household employs to satisfy its needs for a particular ‘service’ function, may it be food, shelter, domestic services, entertainment, transport, medicine, or education. The selection of a mode of provision determines the household’s pattern of expenditures on final commodities. For instance, consumers may prefer to buy a washing-machine and do their laundry at home, or they may prefer to send the laundry to a professional cleaner. Similarly, consumers may use their own cars to travel or use professional transportation services.³⁸

Households and enterprises face the same choices between “make or buy” although households are not under similar competitive cost pressures as business units. The substitution of home production by market purchases of goods and services is a development that has been labelled marketization of household functions. The increasing participation of women in paid work changed family patterns with two-wage earners households, and long-hours workers. Care services for children, the elderly and sick persons that would be provided by unpaid female labour can be provided by the market or by the public sector. Similarly, house maintenance and cleaning, meal preparation, among other domestic services can be provided in-house by unpaid labour or purchased in the market.³⁹ Despite non-conclusive findings on gender-biased allocation of time at home and at work, there is empirical evidence of more time for leisure for men and women over the 20th century (Aguiar and Hurst 2006)⁴⁰.

Buera and Kaboski (2008; 2009) found empirical evidence that the recent growth of services in the United States has been driven by the movement of consumption into more skill-intensive services. Shifts of resources from goods-producing to services industries were interpreted as the result of the same forces that drove production of goods out of home towards market production: specialisation in the division of labour. Service output for which there is specialised labour that is relatively more productive will tend to be purchased in the

³⁸ See also Bhagwati 1984; Brender, Chevalier and Pisani-Ferry 1980; Petit 1985.

³⁹ See Salvador and Pradera 2009; Salvador and Ventura-Dias 2011.

⁴⁰ The relation between home technology (appliances) and female unpaid work at home is controversial. There is no consensus on trends in home production time during the 20th century (See Ramey 2009 for a review of the historical literature and estimates of time budgets).

market. Rising opportunity cost of time of working women makes in-house provision of services less attractive than purchasing similar services in the market.

Institutional arrangements exert a strong influence on the level and composition of private household expenditures, with the public sector as an important provider of household services in Europe, particularly of education, day care, and health care, while they are provided privately in the United States (Gregory, Salverda and Schettka 2007: 5-6).

Likewise, business-related services are intermediate inputs for the production of goods and other services that can be performed as in-house activities within the manufacturing firm boundaries or can be outsourced from service providers. Growing specialisation of activities, as the result of the expansion and diversification of markets, determines two trends: one within enterprises and the other between enterprises. In the first case, new activities not directly related to material production, such as design, strategic programming, and logistics, become more prominent than activities directly related to the physical production of goods, while in the other case new independent service enterprises are generated, as spin-offs from a manufacturing firm, or old ones are expanded. As it was already mentioned, the number of production workers in manufacturing firms has been steadily falling over the years.⁴¹ Over the past five decades, business-related services, such as research and development, information and communication, financing, product design, logistics, legal, advertising and recruitment services have been outsourced to specialised service providers that can deliver the services at lower cost or higher quality both to other service firms and to goods-producing enterprises.

In her detailed study of input-output data on the United States economy, Anne Carter (1970) found that energy, transportation, trade, communications, and other services (that she named 'general inputs') were required by virtually all establishments in the economy and used in the production of a very broad range of goods and services. She proposed that "Over the period 1939-1961, growing demand for general inputs accounts for a major portion of any observed increases in roundaboutness" in the United States economy", meaning greater specialisation in the division of labour and increasing inter-industrial relations (p. 51). Furthermore, she noted that general input requirements did not vary between the different sub-vectors of final demand, including services industries. The relative uniformity of general input requirements among various consuming sectors was explained by the functions that these service firms

⁴¹ In the United States the process began even earlier: between 1920 and 1959, the number of workers not directly related to physical production in manufacturing industries was multiplied by two whereas the number of production workers increased by 45 per cent (McMahon and Worswick 1960: 13). From 1950 to 1985, the number of production workers that made up to 82 per cent of employment in manufacturing firms fell to 68 per cent (Ecalte 1986: 41).

were attending: record keeping, finance, communications, advertising, transportation, and trade, which are common to all types of productive activities. She acknowledged that only part of the growth of service sectors represented actual increases in the total volume of services performed. The rest was the transfer of service functions from firms and establishments primarily engaged in manufacturing and other product-oriented activities to specialised service firms (p. 65).

Business support services have been increasingly involved in the production of intermediate inputs. It is the case for financial intermediation, transport, storage, and post and telecommunications services, and to a smaller degree also for wholesale and retail trade. On average across OECD countries, roughly 45 per cent of gross output produced by those services industries is used as intermediate input by other industries (Wölfl 2005). In the mid-1990s, the total share of services in manufacturing production was closer to 22 per cent (Pilat and Wölfl 2005: 12).

The importance of intermediate inputs increased in more recent years. Pilat and Wölfl (2005: 10) found that in the manufacturing sector, intermediate inputs contributed to between one half and two-thirds of output growth in the 1990s for Organisation for Economic Co-operation and Development (OECD) countries for which data were available. Since the 1980s, there has been increasing evidence that the upsurge in the share of the service sector in total value added in OECD countries can be attributed to the growth of business related services.⁴² In 2001, in particular, finance, insurance and business services accounted for about 20-30 per cent of value added in the total economy of those countries whereas their respective shares were between 10-20 per cent in 1980 (Wölfl 2005: 7).

Work done by OECD has shown that innovation pressures led firms to outsource knowledge input for innovation. Business services can play several roles in the innovation process: “they can be a *source* of innovation if they play a role in initiating and developing innovation activities in client organisations. Alternatively, they may be *facilitators* of innovation if they support an organisation in the innovation process. Similarly, business service firms can be *carriers* of innovation, playing a role in transferring existing knowledge among or within

⁴² Business services are defined to include “computer and related services”, “research and development” and “other business services” (ISIC rev. 3 categories 72, 73 and 74). Business services can also be sub-divided in two groups: the first subgroup is *knowledge-intensive business services*, which are professional services, including IT-consulting (72), R&D services (73), legal (74), accounting (74), marketing and advertising (74), business consulting and human resource development (74). The second subgroup consists of *operational services*, including industrial cleaning (74), security services (74) and secretarial services (74) (OECD 2007: 7).

organisations, industries or networks, so that it can be applied in a new context” (OECD 2007: 4).

More recently, through offshoring, a second dimension was added to the decision of “make or buy” that affects the organisational form of the firm. A firm must decide firstly, whether to produce a service in-house or to purchase it in the market, and secondly, where to outsource it, from domestic firms or from firms located in other regions, within or without the corporate boundary. Outsourcing from foreign firms was termed “offshore outsourcing” or offshoring.

The classical explanation of “the extent of the market” for the division of labour is useful to interpret the growth in intermediate demand for services (Stigler 1951). After the volume of production reaches a threshold in-house production of activities that are not directly related to the core operations of the enterprise become less cost-effective.⁴³ Scale economies, imperfect competition and product differentiation are main drivers in this process of specialisation, increasing varieties of services and expanded markets. However, coordinating a growing volume of more specialised transaction implies social diseconomies of scale. In the absence of technological progress to reduce the costs of informational services required to coordinate widespread activities in the system, strategic services would still be in-house produced. The information revolution of the 1990s contributed to decreasing the coordinating costs both domestically and internationally.⁴⁴

The institutional theory of the firm helps to understand the division of labour between companies. Indeed, Coase (1937) showed that there are costs derived from operating markets (“the cost of using the price mechanism”). These costs that later became known as the costs of market transactions or transactions costs for short, in large extent determine the organisational form the firm will take (Coase 1960).⁴⁵ Building on Coase’s insights, property rights theory proposed that the size of the “boundaries of the firm” will be defined by evaluating the costs of owning assets and employees to produce a service, or conversely to purchase these services from external providers. The transaction costs theory predicts that companies internalise production and make their own parts when opportunism and the use of specialised assets

⁴³ The basic assumption is that a production of a final product can be split into a series of technologically separable stages.

⁴⁴ Carter (1970: 65) remarked that the growth of communications and advertising in all service inputs could be an evidence of the increasing share of informational services in the coordination of specialised transactions.

⁴⁵ Coase (1992: 715) perceived firms as planning entities that provide more efficient coordination (management) than the decentralised market system, in the presence of transaction costs. “Their presence implies that methods of coordination alternative to the market, which are themselves costly and in various ways imperfect, may nonetheless be preferable to relying on the pricing mechanism, the only method of coordination normally analysed by economists.”

make it too costly for them to engage in market exchange to buy parts and services from other firms.

Property rights theory shed light on factors that render owning assets to produce internally instead of purchasing in the market an inefficient choice (Williamson 1975; 1986). In particular, two types of costs are critical for a firm to decide if it will use an independent service provider rather than producing itself: measurement costs and governance costs. Measurement costs are the costs of measuring the contribution of the service provider in order to enforce the terms of a contract. If the output of an activity can be easily measured and enforced, services contracts tend to be an efficient solution. Conversely, prospective inter-firm contracting difficulties may be responsible for the decision of the firm to integrate service operations. Governance costs affect efficient allocation of property rights. These are the costs of negotiating, executing, and monitoring an agreement and the costs of adapting it to changing circumstances (Ehret and Wirtz 2010).⁴⁶ The information and communication revolution is contributing to decreasing transaction costs by reducing the costs of getting information on prices, among other things.

On the other hand, business services are not just intermediate inputs but increasingly they account for critical assets of goods-producing and services enterprises alike. Intellectual capital, organisational capital, human capital and human resources practices became crucial components of competitive strategies in today's economy.⁴⁷ These business services will be internalised in the enterprise or within the corporate boundary.

A recent book released by NBER (National Bureau of Economic Research) called the attention to the importance of intangible capital and their interaction with other forms of capital. Examples of intangible capital are computerized databases, R&D, new copyrights and licenses, brand equity, and improved organizational structures. These new forms of capital pose challenging questions in terms of measurement and adequate treatment of their contribution to the economy (Corrado, Haltiwanger and Sichel 2005).⁴⁸

The literature on intangible assets is large and growing, but relatively little is known about the precise size of these assets, even though recent work has pointed to the potentially large

⁴⁶ See also Joskow (2003) or a review of recent literature on vertical integration. The literature on transaction costs is voluminous and cannot be listed here.

⁴⁷ The United States Bureau of Economic Analysis plans to extend the types of produced intangibles that are treated as capital formation in the national accounts to include research and development expenditures and some types of entertainment, literary, and artistic originals protected by copyright (Robbins, Streiwieser and Jolliff 2010: 2).

⁴⁸ "Just as Grilliches (1994) argued that the fraction of output that is difficult to measure has been growing over time, we argue that the fraction of capital that is challenging to measure has been growing over time as well." (Corrado, Haltiwanger and Sichel 2005: 2)

magnitude of business spending on intangibles.⁴⁹ The share of investment in machines, construction and equipment decreased as compared to investment in R&D, human resources training, customer relationship management, brand image, internal organisation, marketing and ICT, that were previously classified as production costs. Corrado, Hulten and Sichel (2005) estimated that approximately 800 billion dollars investment and more than 3 trillion dollars of business intangible capital stock are missing or miscounted in current statistics.

The importance of intangible assets for advanced capitalist countries cannot be overlooked. Because most expenditure on intangible assets are not fully recognised as investments in “either U. S. companies’ financial accounts or the U.S. national income and product accounts” corporate profits may be understated, but also United States national income, saving, and investment may be understated since a larger proportion of output is invested in intangibles (Nakamura 1999). Researchers argue that there is need for “better metrics of what constitutes the knowledge economy and how it contributes to economic growth” (van Ark and Hulten 2007). I will return to this issue in the context of economic growth and development in section 4.

The following section reviews part of the literature on the role of services in the creation of global value-added chains and on trade in services, in general.

3. Trade, foreign investment and services: the exclusions from trade theory⁵⁰

Outsourcing in different modalities became a dominant component of domestic economies as well as a transforming factor in the organisation of world production and trade. Grossman and Helpman (2002: 1) claimed that “we live in an age of outsourcing”. Krugman (1995: 332) asserted that the “ability of producers to *slice up the value* chain, breaking a production process into many geographically separated steps” was one of the new aspects of modern world trade. Although international production is not a new phenomenon, it expanded with the movement of trade liberalisation, privatisation, and market deregulation that started in the 1980s and reached full speed in the 1990s. The spread of outsourcing to foreign firms in goods- and services- producing industries was further facilitated by great progress in technologies of transportation, information and communication that considerably reduced the costs of coordinating international operations of firms. The vertical disintegration of the production process of final goods includes services activities such as research and

⁴⁹ See Corrado, Hulten and Sichel 2005, 2009; Hulten 2010; Nakamura 1999.

⁵⁰ This section draws partly on Ventura-Dias 2003.

development R&D), inventory management, quality control, professional and technical services, logistics, marketing, distribution, and after sales services that can be outsourced from foreign firms.

The nature of international transactions was transformed by the new modality of inter-industrial relations that brought together trade, foreign direct investment and inter-firm collaborative arrangements.⁵¹ Nevertheless, it was only in the late 1990s that trade economists began to admit that the nature of international trade was becoming radically different from what it used to be (Helpman 1998). In spite of significant changes in the international organisation of production, “the core of international trade theory continues to be dominated by thinking about production and exchange of complete goods.” The effects of international integration on prices, production patterns, and factor income are interpreted in models in which goods – sometimes used as intermediate inputs, but in general serving final consumer demand – are produced entirely in one location (Grossman and Rossi-Hansberg 2006a: 1).

The literature on production disintegration and re-integration through trade introduced the notion of international specialisation in finely defined production activities.⁵² Hence, in the context of global supply chains international specialisation is the result of comparative advantage within a narrow set of activities, rather than in particular industries as in the Ricardian model (Rayment 1983; Feenstra 1998; Knetter and Slaughter 1999).⁵³ Global competition determined trade-in-tasks rather than trade-in-goods that demands a new theory to interpret its impact on productivity and growth (Grossman and Rossi-Hansberg 2006b; Baldwin 2007; Baldwin and Robert-Nicoud 2010).⁵⁴

International trade theory has traditionally neglected the complex process through which goods are marketed and distributed, as well as the institutions that organise their production and trade (Helleiner 1981:7).⁵⁵ In economic models the invisible hand of markets provides a costless coordination of economic decisions. In real life, coordination involves skills and

⁵¹ The phenomenon received different names until it became known as offshoring: global production sharing (Feenstra and Hanson, 2001); co-production (Grunwald and Flamm, 1985); outsourcing and disintegration of production (Feenstra, 1998); delocalisation (Leamer, 1996); fragmentation (Deardorff, 1998; 2000). Grunwald and Flamm (1985) described the creation of a “global factory”, when studying the international production-sharing schemes created by the United States.

⁵² Rayment (1983) proposed a dynamics theory of international specialisation originally conceived to explain intra-industry trade in intermediate goods. Production is proposed as a joint set of activities in which the degree of disintegration is a function of technical conditions of production and the extent of the market.

⁵³ Bhagwati and Dehejia (1994) called the changes in man-made comparative advantage “kaleidoscopic comparative advantage”. Comparative advantage shifts from labour intensive to high skilled labour.

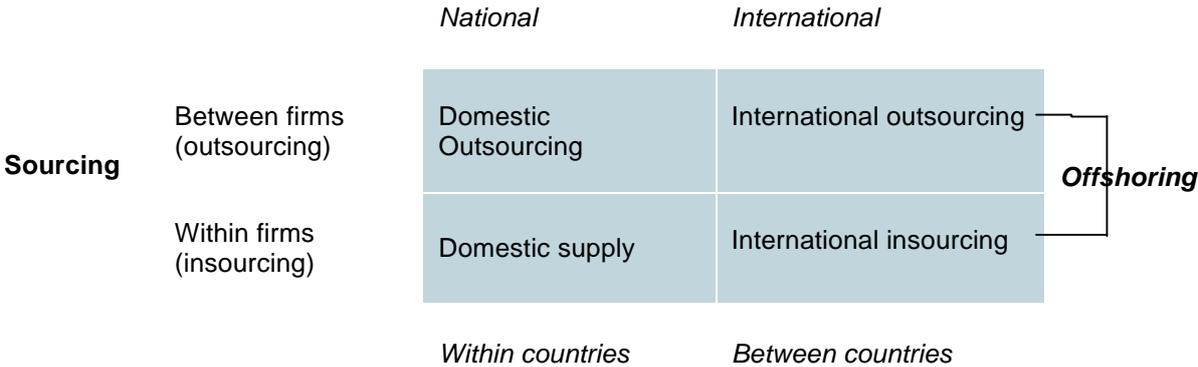
⁵⁴ Baldwin (2007) perceived changes in international trade as a succession of unbundlings. The first separated factories from consumers, as the result of falling prices of transportation. The current movement, fragmentation or offshoring, has spatially unpacked the factories and offices themselves.

⁵⁵ There are few exceptions. See Raff and Schmitt (2009).

knowledge that are scarce and consequently command large financial rewards (Wood 2001). As it was mentioned above, the literature of transaction costs that grew out the insights provided by Ronald Coase brought to the fore the costs of coordinating economic activities as a critical element in the firm’s choice on defining its own boundaries. In other words, in deciding which activities will be carried out within its hierarchy and which will be carried out through arms-length transactions.

Actually, part of offshoring activities is pursued through transactions within corporate boundaries (intra-firm transactions). Outsourcing involves switching from in-house provision to purchasing intermediate goods and services from outside specialist providers. Through offshoring firms purchase intermediate goods and services from foreign providers or transfer particular tasks to a foreign subsidiary. International outsourcing may be used in a narrower concept than “offshoring”. Some authors include in the former only purchases from unaffiliated entities of inputs that were formerly produced in house, and use the term “insourcing” for the services produced in a foreign affiliate of a multinational corporation (international insourcing) (see figure 2). Products delivered through foreign affiliates of multinationals are especially critical in the case of services (Reinsdorf and Slaughter 2009).

Figure 2. Outsourcing and Offshoring



Source : BERR (Business, Enterprise and Regulatory Reform) 2009, *The globalisation of value chains and industrial transformation in the U.K.*, BERR Economics Paper n. 6, figure 2, p. 3 (at <http://www.bis.gov.uk/files/file50584.pdf>).

Offshoring or trade in intermediate goods involves greater input of service, in terms of coordination and communication, than would be needed for trade in final goods, particularly in terms of coordinating the geographically dispersed segments of the value chain (Burda and Dluhosch 2000; Deardorff 2000). Offshoring may reduce direct production costs but also generates overhead costs derived from new requirements in terms of communication, management, and other organisational costs. Hence, the costs of business-related services

become a variable of central importance in the extent of manufacturing offshoring. Burda and Dluhosch (2000) proposed that these business-related costs are proxies for the costs of fragmentation. As stated above, the growing visibility of the fragmentation of the productive process of goods is partly due to technological improvements that reduced the costs of these service inputs. The process, however, has its limitations. For instance, in the United Kingdom, the relocation by some firms of parts of the supply chain back to the country (“on-shoring”) showed that there are also downsides to the fragmentation of production (BERR 2008: 7).⁵⁶

There are two movements in service offshoring that should be separated: offshoring of intermediate business services for both services and goods industries, and offshoring of final services. Because of technological advances, more final services can be digitised and transported internationally through satellite and telecommunication networks, as it is the case of call centres, software programming, legal services, and even medical services such as radiology and diagnostics. As it was mentioned in the last section, some services have mixed purposes, serving as intermediate inputs and as final product. For instance, following the International Monetary Fund (IMF) Balance-of-Payments Manual, services supplied by call centres and similar types of operations should be classified according to the type of service provided. Hence, call centres selling products are included in trade-related services, whereas call centres providing computer support are included in computing services. The IMF guideline is that services that are outsourced, such as billing services or information help services should be classified according to the type of service provided, thereby making difficult the measurement of outsourcing (IMF 2009: 160).

Labour costs remain a major factor in a firm’s decisions about where to outsource. In the process, a few countries became outsourcing hubs. India and Philippines account for 50 per cent of the world’s business process outsourcing while companies from the United States and Canada account for 70 per cent of offshore outsourcing spending and were the first to send services offshore.⁵⁷ India started as a low-cost location that provided routine tasks to information technology to United States companies, and it still retains a competitive

⁵⁶ The study by BERR (2008: 7) mentioned a survey in United Kingdom by the Confederation of British Industry (CBI/EEF) which asked firms to consider how important it is to locate parts of the supply chain in geographical proximity. The survey showed that adjacent activities in the value chain, in particular, appeared to benefit most from co-location. Around two thirds of firms attributed importance to the co-location of Design&Development with Research, and with Production&Assembly, that should also be co-located with Logistics&Integration.

⁵⁷ The Philippines is the second-largest offshoring destination in the world, capturing around 15 per cent of the global market. It has been home to many contact centres, especially those geared toward the United States market, for the past 10 years, but it is now increasingly moving into information technology and non-voice business process outsourcing (BPO) services (AT Kearney 2009:10)

advantage in this area.⁵⁸ At the same time, the country has moved up the value chain. Currently, virtually any offshoring service can be performed in India, and new areas are constantly been created. These services include routine data entry, finance and accounting, customer-facing functions, and higher-end outsourcing such as knowledge management and legal processes. In addition, Indian outsourcing companies are beginning to expand across the world (AT Kearney 2009: 7-8). Section 4 will discuss the integration of developing countries in services supply chains.

After more than two decades of studies, the information on offshore assembly operations is still diffuse. In spite of the widespread trend toward offshoring there are only indirect measures of its size. The empirical literature on outsourcing has been largely based on case studies; it is focused on specific industries, and on firm characteristics. Moreover, the empirical literature is predominantly focused on quantifying the international outsourcing of material intermediate goods in manufacturing industries. The scattered estimations of offshoring trade in services that can be found do not match the expectations that the conceptual and theoretical literature raises. For instance A. T. Kearny (2009: 1), a global management consulting firm, mentioned an estimation of 30 billion dollars in revenues of outsourced offshoring in services, without taking into account captive centres in low-cost locations operations by companies from developed countries. Although the estimated magnitude is large from the point of view of individual business, it is diminutive when compared to total service trade (see tables 3 and 4 below).

It should be added that the empirical literature on offshoring in services is concentrated on measuring the impacts of international outsourcing services on the labour markets of advanced countries. For many workers in these countries, offshoring is seen as a race to the bottom. More and more occupations are exposed to international competition from countries with low costs of labour. Studies search to identify and measure the consequences for employment in rich countries of increasing the offshoring of “impersonal services”- services that can be delivered electronically over long distances with little or no reduction in quality.⁵⁹ The critical labour-market distinction is not anymore between highly educated (or highly skilled) people and less-educated (or less skilled) people – engineers versus call-centre operators, for example. Both high-end and low-end work can be offshored if the services they

⁵⁸ The financial crisis affected the service offshoring because of the prominence of the financial services industry in offshoring. According to A.T. Kearny (2009), a global management consulting firm, forty per cent of the activities in Indian service centres are driven by banks (see <http://www.atkearney.com>).

⁵⁹ See Blinder (2006) for a clear non-technical presentation. See Autor 2010a, 2010b; Bhagwati, Panagariya and Srinivasan 2004; Wheeler 2005.

produce will be suitable for electronic delivery. The crucial difference in terms of possible replacement of humans by machines is one of routine versus non-routine, rather than white-collar versus blue-collar.⁶⁰

Trade in services, however, is a broader concept than offshoring of services or international outsourcing of services. Since the early 1980s, when trade economists were forced to give attention to the production of and trade in services, much was done to improve empirical data on international transactions in services. In 1982, in the Ministerial meeting of the GATT (General Agreement to Tariffs and Trade), the United States succeeded in introducing proposals to negotiate multilateral rules on policies affecting trade and foreign investment in services. Eventually new multilateral rules were defined to gradually liberalise what was agreed to be the four modes of services supply.⁶¹ The GATS (General Agreement on Trade in Services), which extended the formal trading rules from goods to services, is one of the trade agreements that are administered by the WTO (World Trade Organization).⁶²

The formulation of the four modes of services provision tried to encompass basic characteristics of services that were discussed above, namely, the proximity of producers and consumers, the tacit knowledge that is embodied in persons, as well as the fact that many services have material basis, that can move across borders. Two modes of supply (1) cross-border supply and (2) consumption abroad (tourism) succeeded in defining international transactions in services in a way that can be separated from domestic transactions.⁶³ However, the modes (3) commercial presence of foreign affiliates of multinational companies and (4) movements of natural persons are movements of productive factors across borders that raise questions in the construction and interpretation of measures of international transactions. The problem starts with the definition of international transaction as one transaction between residents of the same host country. In the case of movements of natural persons, only temporary visits of less than a year could be classified as an international transaction of service. But, in the case of GATS mode 3, the affiliate of an international firm is clearly a resident of its host country that exchange property rights with other residents of the same

⁶⁰ A recent article in the New York Times exposed how “Armies of expensive lawyers were replaced by cheaper software”. In 1978, lawyers charged 2.2 million dollars to examine six million documents in one antitrust lawsuit against CBS television. Now, software can analyse documents in a fraction of the time and for a fraction of the cost. In January 2011, for example, Blackstone Discovery of Palo Alto, California, helped analyse 1.5 million documents for less than 100,000 dollars. Software is also making its way into tasks that were the exclusive province of human decision makers, like loan and mortgage officers and tax accountants. Once a task can be electronically accomplished it is ready to be offshored. (Ramin, 2011).

⁶¹ See Feketekuty (2008) for a detailed description of the GATS negotiation process.

⁶² For a detailed overview of the GATS, see Adlung and Mattoo 2008.

⁶³ One example of cross-border supply is professional consultant providing services for clients in another country through mail, telephone or internet.

country.⁶⁴ Multinational enterprises are important for mode 3, but they are also important for mode 4, while moving technical personnel across domestic borders.

Lipsey (2009: 2-3) indicated persuasively that major measurement of trade in goods is based on geography rather than ownership whereas the measurement of trade in services necessarily involves changes in the ownership between residents and non-residents, since it is based on balance-of-payments data. Detailed data on goods trade flows are possible because merchandise trade is taxed, while most services cannot be taxed.

Trade in goods has two alternative measurements based on either physical movements (customs data) or ownership (balance of payments) while exports and imports of services exist only in the balance of payments. The consequence is that some exports or imports of services are geographically domestic transactions made international just by a difference in the country of residence between the buyer and seller of the service. Trade in services becomes a balance of payments concept more than a physical trade concept, and the definition of residence plays a crucial part in defining what exports and imports of services are. The ambiguities in defining the location of service production, particularly service production based on intangible and financial assets, introduce inaccuracy in service exports and imports measurement (Lipsey 2009).

For instance, rentals of fixed capital assets, or operating leasing services, are accounted for as service flows from the owner of the asset to the user of the asset.⁶⁵ As a result, operating leases for movable capital assets with non-resident lessors are included in imports of services, and those with non-resident lessees are included in exports of services (Reinsdorf and Slaughter 2009: 7).⁶⁶ Royalties and license fees paid to the owners of intellectual property are analogous to rents paid on movable fixed capital assets. On the other hand, the services of immovable fixed capital assets such as land or structures are always considered to be provided by a resident of the country where they are located. Hence, when a rented structure is owned

⁶⁴ The concept of Foreign Affiliates Trade in Services (FATS) was created by statisticians in the late 1990s (see United Nations 2010, Chapter IV. Foreign affiliates statistics and the international supply of services).

⁶⁵ "(10.156) Operating leasing services cover leasing (rental) and charters, without crew, of ships, aircraft, and transport equipment, such as railway cars, containers, and rigs, without crew. Also included are operating lease payments relating to other types of equipment without an operator, including computers and telecommunications equipment. License payment for the right to use intangible assets, such as software, intellectual property, and so forth are included under specific headings (computer services, charges for the use of intellectual property n.i.e, etc.) rather than operating leasing. Excluded from operating leasing services are leasing of telecommunications lines or capacity (included in telecommunications services) and rental of ships and aircraft with crew (included in transport services)" (IMF 2009: 179).

⁶⁶ The IMF Manual (6th edition) define as technical, trade-related and other business services the following: (a) architectural, engineering, and other technical services; (b) waste treatment and depollution, agricultural and mining services; (c) operating leasing services; (d) trade-related services and (e) other business services.

by directly by a non-resident, a national resident affiliate is effectively credited with receiving the rent, and the payment to the non-resident is classified as a distribution of income. There are questions related to certain payments for the use of intellectual property that have as the main justification shifting taxable income to a jurisdiction with a low tax rate (ibidem: 8) (see table 2 for a classification of services in IMF Service account).

Table 2. Overview of the Services Account

Manufacturing services on physical inputs owned by others
Maintenance and repair services n.i.e.
Transport
Travel
Construction
Insurance and pension services
Financial services
Charges for the use of intellectual property n.i.e.
Telecommunications, computer, and information services
Other business services
Personal, cultural, and recreational services
Government goods and services n.i.e.

Source: IMF (International Monetary Fund) (2009), *Balance of Payments and International Investment Position Manual (Sixth Edition) (BPM6)*, table 10.1, p. 150, available at (<http://www.imf.org/external/pubs/ft/bop/2007/pdf/bpm6.pdf>).

With all the caveats that involve the measurement of trade in services, it is hard to make strong statements about how fast it has been growing. More countries began to report this trade and the number of categories covered by surveys and reporting also increased, although there are great disparities between countries. There are some indications that the reported ratio of service exports to good exports increased from 21-22 per cent to 28 per cent, between 1972-1976 and 2002-2006, for a sample of 22 countries that had reported service exports to the IMF since 1972 and that accounted for close to half of world exports of services in 2005 (Lipsey 2009: 7). However, it is more accurate to say that there is a rough stability in the ratio of service exports and imports to goods exports and imports, although there is a price effect hidden (*ibidem* p. 14).

Using data from the WTO (World Trade Organization), compiled from IMF statistics, for the period 1980-2010, we can see that between 1980 and 1990, the ratio of services exports to merchandise exports increased from 17.6 to 22.6 per cent.⁶⁷ Thereafter the ratio increased

⁶⁷ WTO data do not include Government services such as expenditures of embassies and consulates.

moderately, remaining at 23 per cent in 1990 and increasing to 24 per cent in 2010. When the indicator is the participation of services trade in the world trade in goods and services (the sum of merchandise and services trade), the change is even more modest: from 15.2 to 18.4 per cent in the first period, and then from 18.7 to 19.4 per cent in the second period (see table 3). The growth over the 1980s can be attributed to a better reporting in terms of countries and categories of services covered

Table 3. Merchandise and Services Trade (Exports) 1980-2010 (US dollar at current prices millions)

	1980	1990	2000	2010
Merchandise	2,034,000	3,449,000	6,456,000	15,237.6
Commercial Services*	365,000	780,400	1,481,300	3,663.8
Ratio1	17.9	22.6	23.0	24.0
Ratio2	15.2	18.4	18.7	19.4

Ratio 1 measures the ratio between the value of commercial services exports to the value of merchandise exports.

Ratio 2 measures the ratio between the value of commercial services exports to the sum of the value of merchandise exports and commercial service exports.

Source: WTO 2011, "World Trade 2010, Prospects for 2011", *Press Release*, PRESS/628, at (http://www.wto.org/english/news_e/pr628_e.pdf).

The same caution remains when we analyse the composition of trade in services. The three major components of trade in services are Transportation, Travel, and Other Commercial Services. There is an increase in the share of Other Commercial Services that may be due to a better reporting of these services, and not necessarily to an increase in the volume of transactions, or in technological improvements in Transportation, for instance. Data from WTO indicate that the share of Other Commercial Services in total services exports increased from less than 35 per cent to more than half (see table 4).

Table 4. Composition of Services Exports 1980-2010 (US dollar at current prices millions)

	1980	1990	2000	2010
Commercial Services*	365,000	780,400	1,481,300	3,663.8
Transportation	134,400	223,200	347,500	782,800
Travel	103,500	264,800	473,300	935,700
Other commercial services	127,100	292,500	660,500	1,945,300
Share of commercial services	34.8	37.5	44.5	53.1

Source: WTO (World Trade Organization), *Statistics Database*, Time Series at International Trade, at (<http://stat.wto.org/StatisticalProgram/WSDStatProgramHome.aspx?Language=E>), and WTO

Recent research has shown that the modes of supply of services have implications for the normative and positive aspects of trade and foreign investment in services.⁶⁸ Different modes can be complementary or substitutes, hence one mode may be affected by what happens in another one as the result of firms' strategy. For instance, a firm may serve the market, in which it has oligopolistic power, through disembodied cross-border trade mode (mode 1). As the costs of this mode of supply fall, and entry becomes easier, the firm may have incentives to seek commercial presence (mode 3) in order to retain market power (Christen and François 2010).

The theoretical literature on trade and foreign direct investment (FDI) in services has stressed the importance of regulation and policies to enforce competition, in markets characterised by asymmetric information, imperfect competition and market power. Several service industries are reported to have market structures highly concentrated. For instance, the global courier, express and parcel services market is dominated by four large delivery companies (FedEx, UPS, DHL and TNT).⁶⁹ Moreover, because services act as facilitators between economic agents through transport, communications, trade and intermediation activities there are implication in terms of potential market power, both downstream through oligopoly or monopoly pricing and upstream through oligopoly or monopsony pricing (François and Hoekman 2010: 652). Raff and Schmitt (2009) examined the consequences in increasing concentration in the retail services accruing from trade liberalisation in goods.

When the debate on the liberalisation of trade in services began, the majority of the economists had no doubt whatsoever in extending the theory of comparative advantages from merchandise trade to the international trade in services. It was puzzling because several of the basic assumptions of the traditional trade theory are violated by trade in services.⁷⁰ Although very little was known on services industries and their market structure, the literature pointed

⁶⁸ See UNCTAD 2004 for a detailed review of determinants of FDI in services, FDI dynamics and the impact on the development process.

⁶⁹ A recent study by the United States GAO (Government Accountability Office) (2004) showed that the median market share of carrier in the small group health insurance market in the United States was 43 per cent, with a range from about 19 per cent in Texas to about 93 per cent in North Dakota. The median market share of all Blue Cross and Blue Shield (BCBS) largest carrier offering health insurance was about 44 per cent, with similar variation among states.

⁷⁰ For instance, Deardorff (1984) admitted that the economic characteristics of services could affect the conclusions of the comparative advantage model. The demand from services such as insurance, transportation, trade financing and legal assistance is derived from the demand for goods. Hence, there is not autarky price. Most services are subordinated to the international movement of productive factors. Some trade services, such as hotels, obtain capital and labour in the host country. The only factor that is not local is management. See also Ventura-Dias 1987.

out that there were no contradictions between the gains from trade in goods asserted by the literature, and the gains from trade in services.

In spite of the fact that trade in services involve FDI, intra-firm trade, subcontracting within the corporation border, still the recommendation for developing countries was to build up on their comparative advantage by liberalising trade in services. In the new complex environment of trade, the gains from trade are not easily assessed. Since the basic "vent-for-surplus" model of Adam Smith, the international trade theory asserts a precise relation between the opportunity costs of locally producing a good and complementing local production with trade. These relative costs are derived from production-possibilities schedule in each trading country. However, when labour abundant countries are integrated into world supply chains the causality is reversed: it is trade and investment decisions that determine the pattern of local production based on absolute advantages of labour costs. Likewise, in the simple trade model, although there is competition between alternative uses of domestic resources, there is no direct competition between resources of different nations due to the assumption of immobility of each nation's productive factors ("trapped within a nation's borders", as in Jones 1980). In real world, international enterprises have resources and information that enable them to benefit (even though temporarily) from wage differentia

Hopefully, the voluminous research that was accumulated over the past two decades taught trade economists to be more cautious in their recommendations, as it was the case in the conclusions of a recent extensive review of the literature:

"A basic message that emerges from the prospective literature is that liberalization of services matters, perhaps much more than trade in goods, but that much depends on how well the characteristics and economic functions of different services are captured, the accuracy of estimated or assumed impacts on costs and prices of services, whether policies create rents or simply raise costs, and if there are rents, what share accrues to foreign factors (François and Hoekman 2010: 673)."

With these words in the background, the following section introduces some considerations on the role of services in development theory and the evolution of services in Latin America.

4. Services and development strategies: is manufacturing still the leading development sector?

What we call economic and social development is growth with structural change. More specifically, it is "a sustained increase in per capital or per worker product, most often accompanied by an increase in population and usually by sweeping structural changes" (Kuznets 1966/1973: 1). The shift of resources among aggregate sector results from changes in the relative productivity of the various sectors, from demand response to changes in relative

prices of goods and services, and from the creation of new products, new production and consumption processes. Structural change in the economy goes beyond differential growth rates of industries and sectors, because it is a long-term phenomenon that includes new forms of doing old things as well as new goods and services.

For Simon Kuznets, the insightful writer on structural change, the peculiar characteristic of modern economic growth was not “the shifts in the long-term proportions of industries in product and resources”, what he called industrial structure, “but rather the rapidity of these shifts and their striking magnitude when cumulated over decades” (1966/1973: 86). Kuznets also grouped all industries into three sectors but tried to be more specific in his definition of services: construction, power and light utilities, transportation and communication were part of “industry proper”, together with manufacturing and mining. Services comprised trade, finance, real estate, personal, business, domestic, professional and government.⁷¹ Kuznets included changes in comparative advantage in open economies as an additional variable to explain changes in the proportion of workers by sectors. Differential productivity growth, demand responses to the fall in costs due to improved technology and in response to the unceasing emergence of new goods, added to the evolution of comparative advantage as causes of structural change.

This notion of structural change is incompatible with models of balanced growth and steady states (Syrquin 2005).⁷² Kuznets was critical of theoretical economic models that assume as exogenously given everything that a theory of economic growth should explain, namely, technology, population, tastes, and institutions. Concerns with growth, innovation, and structural change were very much akin to those of the pioneers of development who also perceived economic development problems as part of a disequilibrium growth process (Meier and Seers 1984).

The study of rich countries experience set the empirical basis for the persuasion of development theorists that industrialisation had been the engine of growth of their development. Therefore, industrialisation was proposed as the principal means at the disposal of developing countries “of obtaining a share of the benefits of technical progress and of progressively raising the standards of living of the masses” (Prebisch 1949/1962). Evidently, it was implicit that the movement from subsistence to market economies or from agricultural

⁷¹ These service industries accounted for rising shares of the labour force in the advanced countries studied (over 40 per cent of United States employment in 1950) but accounted for a constant or declining share in countrywide product (Kuznets 1966/1973: 147-148).

⁷² Krüger (2008: 341-344) reviews the deficiencies of the literature on neoclassical multi-sector growth models that attempted to introduce innovative activity as endogenous variable for the analysis of structural change.

to industrial economies could not be achieved without a concurrent expansion of services such as retailing, transportation, communication, education, administration and health care, among others.⁷³

Raúl Prebisch in Latin America, and Prasanta Chandra Mahalanobis in India, proposed that shifting capital and labour from agricultural into industrial activity, should increase factor productivity, promote growth, create employment and induce structural change. The debate on the use of resources was divided between agriculture and manufacturing with a subsidiary role to services (mostly distribution, transportation and communication). It should be borne in mind that after the Second World War, industrialisation gained hearts and minds everywhere except in the United States, the prototype of the “second industrial revolution”. Public policy was focused on fostering reindustrialisation in Europe and Japan, and on the industrialisation of Latin America, India, China, and other few independent developing countries.⁷⁴

In Great Britain, economists perceived the shift of labour from manufactures to services as an anomaly. The influent economist Nicholas Kaldor believed that services were technologically stagnant activities while economic growth was driven by manufacturing productivity. Hence, a large service sector, as it was the case in England would starve manufacturing of productive resources and inhibit economic growth (Kaldor 1966).⁷⁵ This presumption is still alive in the conceptions of many development economists nowadays.

As an important adviser to the Labour Party that won the election in 1964. Kaldor was behind the creation of a Selective Employment Tax (SET) that was introduced in 1966. The SET taxed employment in services more heavily than employment in manufactures while the creation of manufacturing employment was rewarded with subsidies.⁷⁶ Actually, the payroll of all industries was taxed but the tax was refunded to all but to enterprises classified as services and construction. Labour’s tax policy was aimed at achieving structural change in industry to boost exports and redress a serious balance of payments deficit.⁷⁷ However,

⁷³ The economist Peter Bauer was the most critical of a development theory based on sequential stages of history. He dismissed the Clark-Fisher hypothesis of a progressive shift of labour from agriculture to manufacturing and then to the services. Bauer attacked the nonsensical treatment of services as an aggregate so heterogeneous that no meaningful conclusion could be drawn from it (Bauer 1984: 36).

⁷⁴ The process of industrialisation started after the crisis of the 1930s in Argentina and Brazil.

⁷⁵ “But the SET was a nonsense which tried to hold back the tide of economic history. It represented an extra tax on employment in the services sector which came to represent the most dynamic part of our economy” (“Full text: Sir Andrew Turnbull’s speech” in *The Guardian*, July 27, 2005 (<http://www.guardian.co.uk/politics/2005/jul/27/Whitehall.uk>).

⁷⁶ See the site of legislation .go.uk (<http://www.legislation.gov.uk/ukpga/1966/32/section/1/enacted>). Kaldor (1966) held that raising the cost of service sector labour relative to that in manufacturing would increase average productivity. It would also provide a covert subsidy to manufacturing exporters thereby easing the balance of payments.

⁷⁷ The SET was abolished in 1973 and replaced by value added tax (VAT).

according to one extensive assessment of the application of SET, coordinated by Reddaway (1973) in Cambridge University, SET reduced employment in wholesaling and retailing and also resulted in a higher rate of growth of productivity in these industries than would otherwise have been the case. SET made labour more expensive and, relatively speaking, capital investment cheaper. This encouraged many retailers (who were the largest employers of “non-productive workers”) to invest in capital systems (e.g. central checkout systems) that made them less reliant on labour.⁷⁸

Similar concerns with low productivity services led communist countries to omit information on services because they were not considered as a form of production. In the former Soviet Union, national accounts were based on Material Product System, which was introduced in the 1920s and later, in 1969, adopted by all centrally planned economies. Net Material Product covers material production (industry, agriculture and construction) and also material services that bring material goods to consumers and producers (transportation, distribution and trade) and maintain the capital stock (maintenance and repairs).⁷⁹ Nonmaterial services such as the services of housing, health, education, government, and the like must be treated only as forms of consumption and not regarded as part of the national product (World Bank 1992).

In Latin America, services were not the subject of deep thinking by development theorists, except later when the industrialisation process was criticised for being “concentrador and excluyente” (concentrating and excluding development). In the 1960s, there was enough empirical evidence on under-employment in services derived from low absorption of labour released from agriculture by “modern” manufacturing industries (Pinto 1970). Low-productivity services or the “informal sector” emerged as a symptom of failures of Latin American industrialisation process (Tokman 1992). It was ironic because documents by CEPAL (United Nations Economic Commission for Latin America and the Caribbean, by his Spanish acronym) stressed that export activities in the region were incapable of absorbing the addition to labour force derived from technical progress in primary activities and the vegetative growth of the population. Manufacturing industries, instead, would absorb labour released from the agricultural sector.

⁷⁸ These views were challenged by other studies that did not see any evidence of a causal relation between the SET and the adoption of capital-intensive methods in retailing.

⁷⁹ Adam Smith considered the national product to be constituted solely of commodities, and the national income to be composed of wage, rents and profit (including interest) derived from the production of these articles (Studenski 1958 as quoted in Bos 2009: 18). This view was shared with Ricardo, Malthus, James Mill and Marx, but was opposed by Jean-Baptiste Say (see Gadrey 2000).

This is not the place to review the critiques to Latin American industrialisation that was better done elsewhere (Fajnzylber 1983; 1990). Suffice is to evoke Prebisch's criticism on the intrinsically unequal nature of Latin American capitalism that explained part of growth in services.⁸⁰ Inequality was not just a component of Latin American economies but its main foundation (Prebisch 1981: 15). Consumption of high-income classes based on demonstration effect from consumption in advanced countries, was behind some of the mismatch between the theory and practice of Latin American industrialisation including a larger than expected service sector. This conspicuous consumption of urban middle classes affected national savings capacity, the production mix of goods and services (particularly personal services), and indirectly the absorption of labour in the modern sector (Prebisch 1981: 92-94). Other critical reviews included the adoption of capital-intensive technologies as the result of inconsistent policies, the choice of durable goods with high import content, and the neglect of international trade.

In Latin America, differently from industrial countries, services accounted for a large share of employment even before domestic manufactures expanded under protected borders from the 1950s on. Jobs provided by manufacturing activities could not keep up with the pace of population growth. Most of the jobs created in services were and are low productivity jobs.

To illustrate the argument, table 5 and Figure 3 display the distribution of the economically active population of Brazil during the years 1940, 1950, 1960, 1970 and 1980. Between 1940 and 1960, the period of the first ISI (import substitution industrialisation) roughly composed of non-durable goods, the Brazilian economically active population increased from 14.8 to 22.8 million (54 per cent) while the number of persons employed in agriculture and extractive activities increased moderately from 9.8 to 12.3 million (25 per cent). Employment in manufactures increased from 1.1 to 1.9 (73 per cent) but starting from a low basis, and still insufficient to provide employment to the new 8 million searching for a job. More jobs were created in retailing (789 thousand) and services, including social services (2 million). If public administration and other activities are added to those service activities, it is evident that services of all nature were providing employment to the rapidly growing population. Between 1970 and 1980, the Brazilian economically active population doubled while employment in agriculture decreased in relative numbers. Employment in manufactures was multiplied by three but accounted for less than 16 per cent of total employment. Agriculture still provided

⁸⁰ "Tras larga observación de los hechos y mucha reflexión me he convencido que las grandes fallas del desarrollo latinoamericano carecen de solución dentro del sistema prevaleciente. Hay que transformarlo...Es un sistema excluyente" (Prebisch 1981: 14).

around 30 per cent of total employment, but services, in the aggregate, accounted for 46 per cent of the total.⁸¹

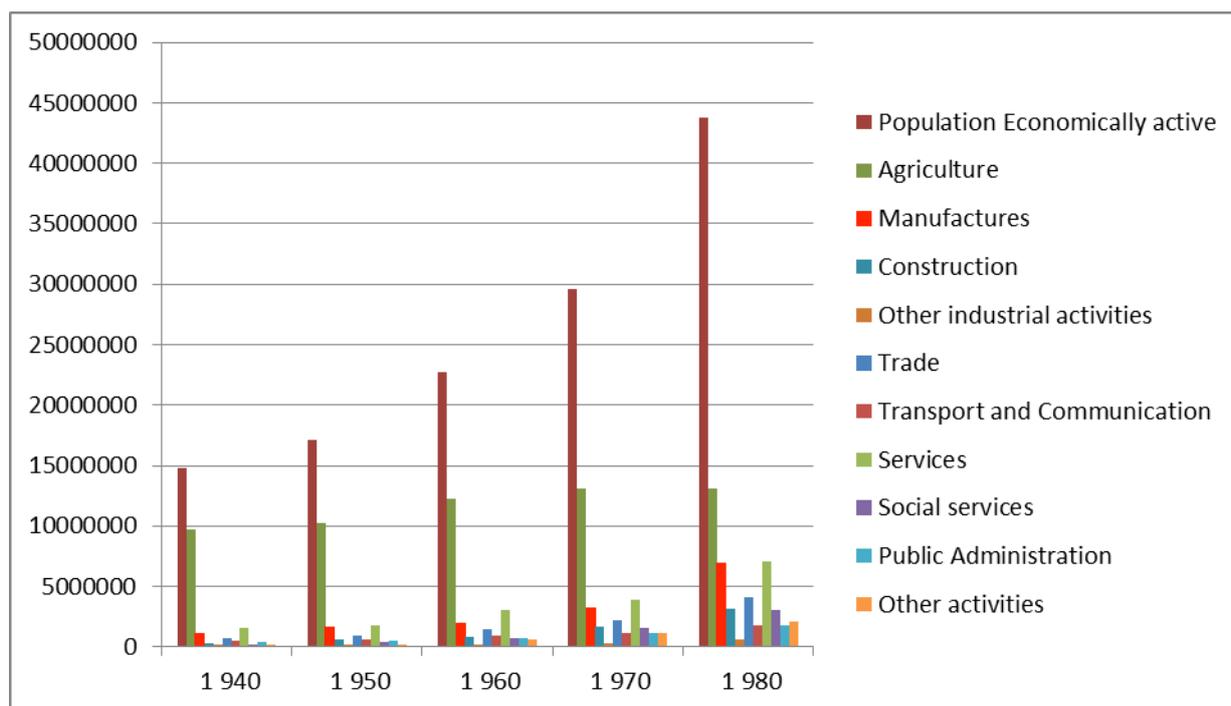
Table 5. Brazil Economically Active Population by Economic Activity, 1940-1980

Industry	Total Population above 10 years old				
	1°-9-1940	1°-7-1950	1°-9-1960	1°-9-1970	1°-9-1980
TOTAL	29 037 849	36 557 990	48 828 654	65 862 119	88 149 948
Population Economically active	14 758 598	17 117 362	22 750 028	29 557 224	43 796 763
Agriculture	9 723 344	10 252 839	12 276 908	13 087 521	13 109 415
Manufactures	1 099 509	1 608 309	1 954 187	3 241 861	6 858 598
Construction.	262 700	584 644	781 247	1 719 714	3 151 094
Other industrial activities	172 976	234 411	204 808	333 852	665 285
Trade	689 438	943 290	1 478 270	2 247 493	4 111 307
Transport and Communication	466 226	637 943	977 345	1 167 866	1 815 541
Services	1 548 769	1 781 041	3 028 933	3 925 001	7 089 709
Social services	234 215	398 673	755 043	1 531 563	3 044 909
Public Administration	404 248	512 644	712 904	1 152 341	1 812 152
Other activities	157 173	163 568	580 383	1 150 012	2 138 753
Population Non-Economically Active	14 279 251	19 440 628	26 078 626	36 304 895	44 353 185

Source: IBGE (Instituto Brasileiro de Geografia e Estatística) at (http://seculoxx.ibge.gov.br/seculoxx/arquivos_xls/trabalho.shtml).

⁸¹ See also Melo (1998).

Figure 3. Brazil Distribution of Economic Active Population by Economic Activity, 1940-1980



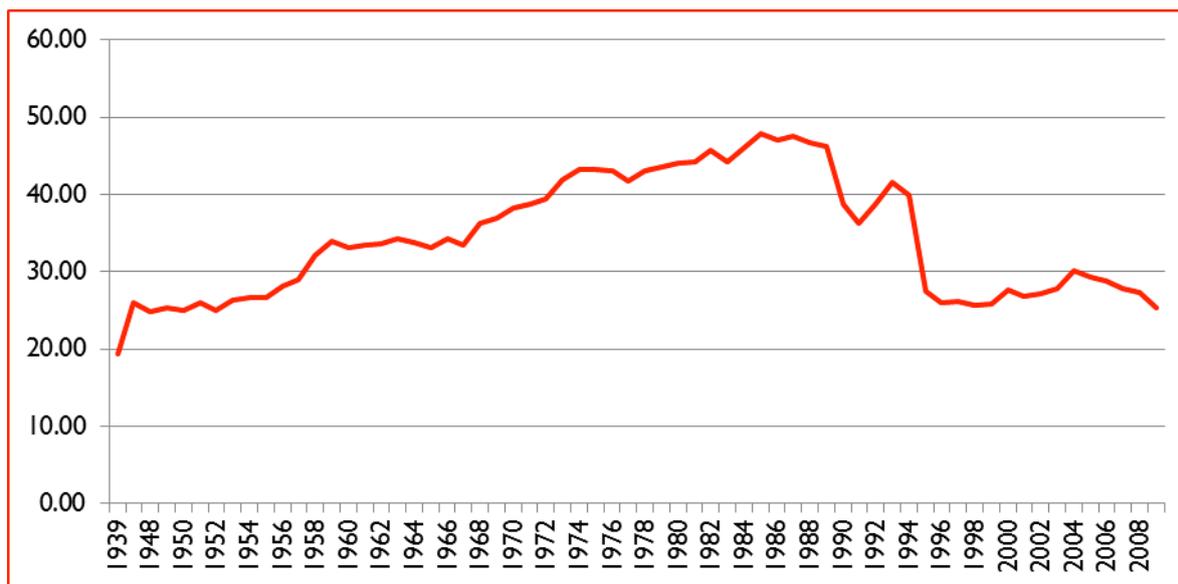
Source: See table 5.

Conversely, in Brazil, the share of industries (manufacturing, utilities and construction) in total value-added increased continuously from 1939 to 1985-1988, when it reached almost 48 per cent of total, to decrease abruptly in the 1990s in consequence of macroeconomic policies introduced in the period (see Figure 4). External factors were determinant both for the expansion as well as for the contraction of manufacturing activities in Brazil and in other Latin American countries. In the 1980s, CEPAL sponsored a set of studies on the structure and performance of producer services in selected Latin American countries. One of the findings of the Brazilian case was that the majority of goods-producing enterprises had internalised within the control of each economic group all service providers.⁸² The instability derived from a high inflationary context led capitalised enterprises to buy service providers to guarantee the internal stability of costs. After 1994, stabilisation policies were introduced that drastically reduced the inflation. However, the combination of stable prices with the liberalisation of trade and overvalued currency was fatal for many inefficient manufacturing enterprises.⁸³

⁸² See Ventura-Dias (1988a) and (1988b) for a study on producer services in the Brazilian textile industry. See also Ventura-Dias (1994) for a detailed description of the evolution of large Brazilian enterprises in the late 1980s and early 1990s.

⁸³ For a review of the impact of Brazilian macroeconomic policy on the economic structure see Motta-Veiga and Ventura-Dias (2004).

Figure 4. Brazil Evolution of Share of Industry in National Value Added, 1939-2009



Note: Industry includes manufacturing, utilities, mining and construction.

Source: IBGE (Instituto Brasileiro de Geografia e Estatística) at

<http://serieestatisticas.ibge.gov.br/series.aspx?vcodigo=CCN12&t=valor-adicionado-va-da-industria-em-do-va-total>

It should not be forgotten that in Latin America, domestic governments played a crucial role in the mobilisation of resources for investment in finance, telecommunications and transport infrastructure. Until the wake of privatisation of the late 1980s and early 1990s, water, electricity and telecommunications were state-owned.

Table 6 displays data on the distribution of employed labour force in 16 Latin American countries. With few exceptions, in particular Panama, which has specialised in services, the average of employment in manufactures is below 15 per cent. A few small economies that are engaged in export processing activities present a rate a little over the average. Trade and Personal, Communal and Social Services provide the bulk of employment for the population. The average for Latin America of the share of these sets of services is more than 60 per cent. Although “personal, communal and social services” contains both low and high level productivity services, in many countries it is mostly in low productivity personal services that a large part of the population finds job opportunities. Cruz et alia (2008: 12) analysed the educational level of employees of different service subsectors in Brazil. They did not find that there significant differences between the educational levels demanded by distributive and producer services when compared to social and personal services.⁸⁴

⁸⁴ See also De Negri and Kubota (2006); Kon (2004).

Table 6. Distribution of employed labour force Latin America, 2009

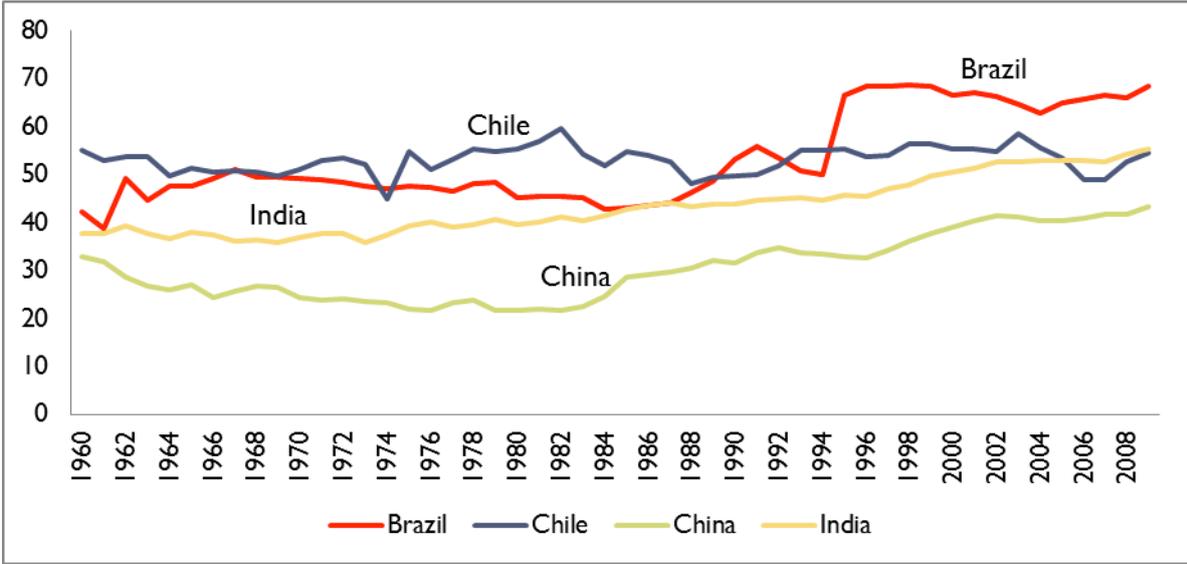
	Agriculture, fisheries and mining	Electricity, gas and water	Manufactures	Construction	Commerce	Transport, storage and communications	Financial establishments	Personal, communal and social services
Latin America	5,8	0,5	15,3	8,0	25,4	5,8	3,8	35,1
Argentina	1,9	0,5	13,5	8,8	23,0	6,6	10,1	34,8
Bolivia*	6,0	0,4	16,4	7,9	30,0	8,9	6,8	23,5
Brazil	6,6	0,5	15,4	8,3	24,9	5,5	3,5	35,2
Chile	12,6	0,5	12,9	8,3	20,1	8,3	9,5	27,7
Colombia	5,4	0,5	15,4	6,0	30,2	10,0	9,2	23,2
Costa Rica	3,4	1,3	12,8	6,4	27,0	8,5	11,4	28,9
Dominican Republic	5,6	0,9	12,0	6,5	30,7	7,9	7,7	28,8
Ecuador f/	8,2	0,8	13,1	8,0	32,7	7,7	7,2	22,4
El Salvador g/	7,5	0,3	17,7	5,1	34,4	5,2	6,4	23,4
Honduras*	7,4	0,6	19,7	8,7	29,3	5,9	6,1	22,1
Mexico h/	1,0	0,6	15,7	7,3	29,5	6,6	2,3	36,1
Nicaragua i/	5,9	0,7	18,3	6,5	30,2	5,4	5,6	27,2
Panamá	2,4	0,6	8,6	11,2	27,3	9,6	10,3	30,0
Paraguay j	5,1	0,7	13,8	7,2	32,6	6,4	6,2	27,7
Peru k	1,2	0,5	16,6	6,3	31,6	10,7	9,9	23,3
Uruguay	5,5	0,9	13,7	7,4	23,0	5,9	9,1	34,4
Venezuela (Bolivarian Rep.) l/	9,4	0,5	12,0	9,0	23,4	8,8	5,3	31,4

Notes: * 2006 for Bolivia and 2007 for Honduras.

Source: CEPAL (2010) Anuario Estadístico de América Latina y el Caribe 2010, based on ILO data.

It is interesting to contrast the evolution of services in two leading Latin American economies, Brazil and Chile, with that of India and China over a long period (1960-2008). In all four cases the trend is of increasing the share of services over time, although it is smoother in the case of India. Nevertheless, it is remarkable the discontinuities in the contribution of services to domestic value added in Brazil and Chile, which denote the importance of macroeconomic shocks and the critical role of national policy environment in inter-sector movements of resources (see Figures 1 and 5). For instance, Rocha (1997) concluded that in the period 1985 to 1992 the growth of the services sector in Brazil was due to the expansion of outsourcing of services by the public sector from the private sector.

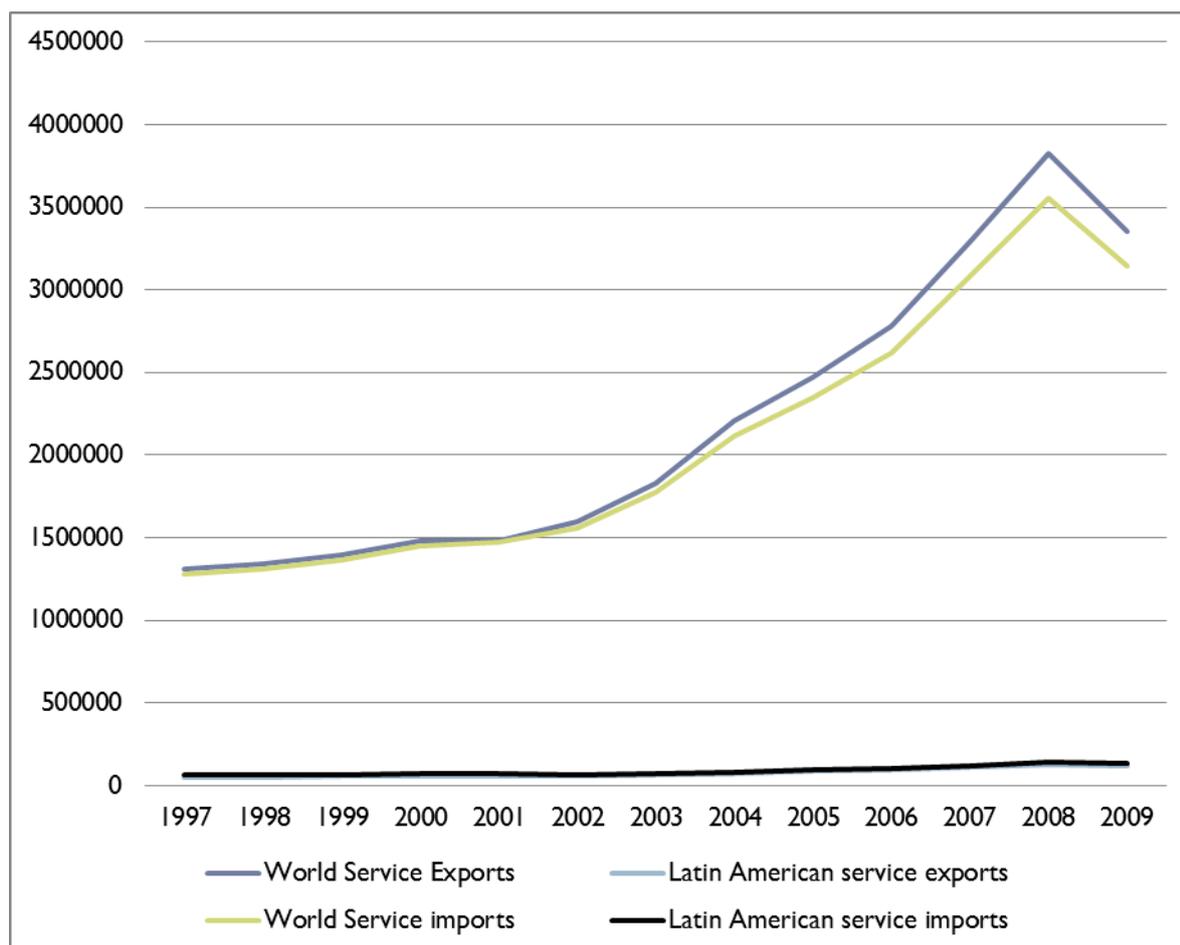
Figure 5. Evolution of Share of Services in Total Value added Brazil, Chile, China and India, 1960-2008.



Source: World Bank, Databank, Services value added (% of GDP) at (<http://data.worldbank.org/indicator/NV.SRV.TETC.ZS/countries/1W?display=graph>).

Problems with productivity in the production and delivery of services is reflected in the low participation of Latin American countries in services trade (see Figure 6). Three characteristics of this participation are worthwhile to mention. Firstly, the region accounts for roughly 3.3 per cent of world services exports and close to 4 per cent of world imports, or much below their already reduced participation in merchandise trade. Secondly, services exported by the region contains less than the world average of business services, or of services classified as “other commercial services”. Actually, there is a high concentration services exported by the region in travel services (tourism). Thirdly, services trade in Latin America is more concentrated than merchandise trade. Mexico, in travel services, and Brazil, in “other services”, account for a substantial part of regional exports of services (WTO, 2010).

Figure 6. Exports and Imports of Commercial Services World and Latin America, 1997-2009



Source: WTO (World Trade Organization) 2010, *International Trade Statistics 2010*, tables A8 and A9.

Evidently, aggregated data hide more than they reveal. As mentioned before, until recently, services as productive industries were not part of development concerns that for many writers and decision-makers remain focused on the industrial resurgence of the region and on manufactures as the engine of growth.⁸⁵

Brazil became a leading exporter of business services although it is a net importer of services. The exports of financial and legal services is associated to the internationalisation of Brazilian enterprises, the inflow of foreign direct investment in the Brazilian service sector; and growth of Brazilian investment abroad (particularly within the region) in services industries (Pereira, Sennes and Mulder 2009; López, Ramos, and Torre 2009). Argentina,

⁸⁵ It is important to highlight the important contribution of CEPAL and UNCTAD, since the early 1980s, to a better understanding of the economy of services and the role of services in development. See the web sites (<http://www.cepal.org>; and <http://www.unctad.org>). Unfortunately, most of the studies by CEPAL that were published in the 1980s, are not available on line.

Costa Rica and Uruguay have also benefit from human capital investment and successfully emerged as efficient exporters of information services.⁸⁶

Various Latin American countries have received large inflows of foreign direct investment, particularly in information technology. According to CEPAL, from 2003 and 2010, the region received 6 per cent of all software world foreign investment projects distributed between Brazil (36 per cent); Mexico (23 per cent); Argentina (16 per cent) Chile (14 per cent); Colombia (4 per cent); Costa Rica (2 per cent) and Uruguay (2 per cent) (CEPAL 2011). However, due to lags in investment in human resources and physical infrastructure, the region remains marginally integrated to global supply chains in services. Moreover, that integration is restricted to segments of low or moderated technological complexity with limited spill-over to domestic economies (López, Ramos and Torre 2009).

To be competitive in services production and trade is a major challenge faced by Latin American societies. In general, low, moderate and high-technology services have evolved under benign neglect from the public sector (itself part of services), being relegated to be a residual in national account. Growing awareness of the potential that services have for growth and development should lead to the formulation of public policies to foster the integration of the region in the dynamic flows of trade in services. In particular, efforts should concentrate on services ancillary to the production and trade of products in which the region has had natural advantage such as food, raw material, mining and energy while build new skills, infrastructure and other capacities. López, Ramos and Torre (2009) have also added that special attention should be given to strengthening the capacity of domestic enterprises for service exports as well as to the promotion of forward and backward linkages of the new services with the rest of the economy.

5. Final considerations

This short review of the literature on services has shown that a lot of ground was covered but many gaps in our knowledge on services still remain. There is a considerable amount of literature on services covering specific issues in services production, consumption and trade.⁸⁷ Although we keep talking of services, it should be clear now that a services sector, in the aggregate does not make any analytical sense. In particular, productivity and innovation in

⁸⁶ See Berlinski and Soifer (2002); Lopez and Ramos (2009); Mulder and Sáez (2007); Nicholson and Sahay (2009); UNCTAD (2007); Vaillant (2008). In particular, Nicholson and Sahay (2009) documented institutional problems faced by the software industry in Costa Rica.

⁸⁷ There is also a large literature on productivity and innovation that was not included in the review due to lack of time and space.

services cannot be studied in the aggregate. Capital intensive services such as water, electricity, and telecommunications as well as construction are singled out in statistics as part of the industrial sector. Each sub-group of the remaining services, such as financial services, information technology, health, education, entertainment, etc., has a dynamics of its own that should be better understood. Consequently, more studies at a more disaggregated level should be undertaken.

In the global market the complementarities between services and manufacturing have been expressed in a model of service-oriented manufacturing in which services and physical products can be integrated into one product- service system. Manufacturing will remain important for trade and productivity but highly integrated to services.

There are however, aspects of service production and trade that remain opaque because they involve intra-firm relations on which few empirical data is available. The same lack of data is associated with outsourcing and offshoring within the corporation borders. It seems that trade in business services is highly dependent on the movements of multinational enterprises in goods and services. Judging from the experience of Latin American countries, outflows of foreign direct investment and the internationalisation of their enterprises allowed for a greater participation in trade of business services. A better knowledge of the creation and expansion of global value chains is required to promote a higher quality of integration of Latin American services enterprises.⁸⁸

Furthermore, offshoring is part of a firm strategy to reduce costs and better compete in the global market. It is not clear how good individual firm strategies are for social welfare. In other words, while large multinational enterprises can arbitrate labour prices globally to their benefit the costs and benefits of localisation and de-localisation of productive activities are yet to be fully assessed. Greater efficiency for individual firms may not result in greater efficiency for individual economies. The outcome of moving resources from lower to higher productive activities in developing countries may not be a sustainable path of development if these activities are pursued through *foot-loose* types of investment. Likewise, exporting service “tasks” may induce the creation of exporting enclaves without productive linkages to other sectors in the economy.

Ultimately, the discussion on the net social benefits of offshoring leads to re-evaluating the costs and benefits of globalisation. Due to specific aspects of service provision and of trade in services that were reviewed in this paper, in spite of the need to increase the integration of

⁸⁸ See Jabbour (2009) for data on French firms, and Robert-Nicoud (2008) for the costs and opportunities of offshoring of routine tasks.

Latin American countries in global value chains, it is not clear that the gains from trade in services can be asserted as loudly and convincingly as in traditional trade in goods.

Services are everywhere and in many ways one can say that physical products are carriers of services. We still need to be clothed, fed, transported and entertained, but services will satisfy these needs both directly and indirectly. While we will be dressed by physical clothes, these clothes will have a high proportion of services in terms of design, marketing, distribution, and the logistics of sending back and forth clothes to be cut, sewn and assembled throughout the apparel supply chain, among others. Goods and services are complementary in production as much as alternative means to satisfy the same consumption need: one can go the theatre or see a rented movie in our home theatre; one can do our own laundry at home using a home washing machine and/or send the clothes to a professional laundry; one can prepare his or her own meals or eat in a restaurant; so on and so forth.

Ambiguity and complexity surround the study of services. Services in the age of internet contributed to reduce the information asymmetry that is predominant in the production of services. Nevertheless, through mergers and acquisitions the global information market has reached concentration levels never attained in the production of goods. Firstly, information markets are global by nature. Secondly, market structures are strongly oligopolistic, as in the case of operating systems and mobile entertainment dominated by three major companies Apple, Google and Microsoft. Questions on market structure of services industries reinforce the need for detailed industrial studies.

In Latin America, only recently there has been more research on services as dynamic industries where innovation takes place and without which there is no transformation of goods-producing industries. Many writers, however, still perceive services and manufactures as competitors for limited resources that will result in the expansion of services and the de-industrialisation of the country.⁸⁹ In the region, there are many examples of erroneous policies that based on inaccurate evaluation of the relation between hardware and software penalised services in the promotion of manufactures. The most remarkable and little known occurred in the late 1980s when the Brazilian government did not protect indigenous research and production of software programming in the area of Disk Operating Systems (DOS), and prefer to protect the production of computers. The National Law of Informatics in Brazil did not

⁸⁹ Bhagwati called it a “manufacturing fetish” (“There is no proof that economic health depends on manufacturing”, *The Guardian*, August 30, 2010 (<http://www.guardian.co.uk/commentisfree/2010/aug/30/manufacturing-economic-health>)).

create successful innovative enterprises as in Asian countries, and made the access to computers more expensive to the whole population.⁹⁰

It is true that structural change in Latin America did not emulate that in industrial countries, in which gains in productivity in one sector would gradually release labour to less productive sectors. A three stage growth is an overly simplified allegory for structural change, since agriculture, manufacturing and services always co-exist in human societies. Yet, as Kuznets pointed out, it is the rates of growth and the magnitude of changes that make the shifts of resources from one sector to another a reasonable metaphor for structural change. In Latin America, manufactures could never provide enough jobs for a growing population that were released from agriculture, and that were not necessarily released due to improved agricultural productivity. The discontinuities in the evolution of the shares of services in national value added over the past fifty years show the effects of erratic macroeconomic policy, and the historic vulnerability of Latin American economies to external shocks.

Latin America can benefit from the knowledge already accumulated in the production and trade of goods in which the region has natural and absolute advantages to develop competitiveness in related business services. Agribusiness has also become global with Latin American investments in land and resources in Africa, among other regions. There are opportunities for Latin American business services enterprises associated to agro-industries to become also global. The conclusion in general studies on global competitiveness is that basic manufacturing tends to be more affected by international competitiveness than specialised manufacturing. Hence, Latin American enterprises have to identify special areas in which there is indigenous knowledge and build up on it.

Accordingly, there are also broad opportunities for employment creation in services “as an end in themselves”, such as those known as creative industries. Creative industries include advertising, architecture, art and antiques market, crafts, design, fashion, film and video, music, performing arts, publishing, television and radio, video and computer games.⁹¹ They comprise tangible products and intangible intellectual or artistic services with creative content, economic value and market objectives. Creativity is part of the resources of Latin American countries. Most of these creative activities are under the management of culture

⁹⁰ For a detailed history of the episode in which the United States exercised immoderate pressure on the Brazilian government to defend Microsoft DOS see Ventura-Dias (1989). It is also ironic that it was during the negotiations for the FTAA (Free Trade Agreement of the Americas) that the Brazilian private sector had a better knowledge of the importance of services as industries. The United States Coalition of Services Industries (CSI) was instrumental for the creation of similar business associations in Brazil.

⁹¹ See UNCTAD (2004) for references.

departments, but they need to attract the attention from economy and planning decision-makers.

The basics of development have not been altered, in spite of all the drastic changes in the nature of international trade and in the international organisation of production of goods and services. Latin American societies will have to invest more in physical, human and institutional infrastructure to become competitive in the new industries of the 21st century, as well as to provide knowledge to traditional industries of the 20th century. During the last decade, the region witnessed the emergence of a middle class avid for goods and services. Latin American enterprises must equip themselves to attend to a booming market for education, health, home, leisure and entertainment services.

Bibliographical References

- A. T. Kearny (2009), *The Shifting Geography of Offshoring*. The 2009 A. T. Kearney Global Services Location Index <http://www.atkearney.com/images/global/pdf/Global_Services_Location_Index_2009.pdf>.
- ADB (Asian Development Bank) (2007), *Growth Amid Change in Developing Asia* <<http://www.adb.org/documents/books/growth-amid-change>>.
- Adlung, Rudolf and Aaditya Mattoo (2008), 'The GATS,' in Robert M. Stern and Gianni Zanini Aaditya Mattoo (Ed.), *A Handbook of International Trade in Services* (Oxford: Oxford University Press), pp. 48-83.
- Aguiar, Mark and Erik Hurst (2006), *Measuring Trends in Leisure: The Allocation of Time Over Five Decades* <http://www.immagic.com/eLibrary/ARCHIVES/GENERAL/US_FRS/F060131A.pdf>.
- Akehurst, Gary (2008), 'What Do We Really Know About Services?' *Service Business*, Vol. 2, No. 1, March, pp. 1-15.
- Apte, Uday M., Uday S. Karmarkar and Hiranya K. Nath (2007), *Information Services in the US Economy: Value, Jobs and Management Implications* <http://www.ifm.eng.cam.ac.uk/ssme/references/Karmarkar_ref2_cambridgessme07.pdf>
- Autor, David H. (2010a, April), *The Polarization of Job Opportunities in the U.S. Labor Market. Implications for Employment and Earnings* <http://www.americanprogress.org/issues/2010/04/pdf/job_polarization.pdf>.
- Autor, David H. (2010b, October), *U.S. Labor Market Challenges Over the Longer Term* <<http://econ-www.mit.edu/files/6346>>.
- Baldwin, Richard (2007), 'Globalisation: The Great Unbundling(s),' in Secretariat of the Economic Council (Ed.), *Globalisation Challenges for Europe* (Helsinki: Finish Prime Minister's Office), p. Chapter 1.
- Baldwin, Richard and Frédéric Robert-Nicoud (2010), *Trade-in-Goods and Trade-in-Tasks: An Integrating Framework* <<http://www.nber.org/papers/w15882.pdf>>.
- Bauer, Peter (1984), 'Remembrance of Studies Past: Retracing First Steps,' in Gerald M. Meir and Dudley Seers (Ed.), *Pioneers of Development* (Oxford: Oxford University Press), pp. 27-43.
- Baumol, William (1967), 'Macroeconomics of Unbalanced Growth: The Anatomy of Urban Crises,' *American Economic Review*, Vol. 57, No. 3, June, pp. 415-426.
- Baumol, William (2010), 'Foreword,' in Faïz Gallouj and Faridah Djellal (Ed.), *The Handbook of Innovation and Services. A Multi-Disciplinary Perspective* (Cheltenham, UK: Edward Elgar Publishing Inc), pp. xviii-xxi.
- Berlinski, Julio and Ricardo J. Soifer (2002), *Dimensiones del Comercio de Servicios de Argentina. Negociaciones Internacionales, Ventaja Comparativa y Experiencias Sectoriales*, (Buenos Aires, Argentina: Siglo Veintiuno de Argentina Editores).
- BERR (Business, Enterprise and Regulatory Reform) (2008, February), *The Globalisation of Value Chains and Industrial Transformation in the UK* <<http://www.bis.gov.uk/files/file50584.pdf>>.
- Bhagwati, Jagdish (1984), "Splintering and disembodiment of services and developing nations" in *The World Economy*, vol. 7, n. 2, June, pp. 133-143.
- Bhagwati, Jagdish and Vivek Dehejia (1994), "Free Trade and Wages of the Unskilled – is Marx Striking Again?" in J. Bhagwati and Marvin Kosters (eds.) *Trade and Wages. Leveling Wages Down?* (Washington, D.C.: American Enterprise Institute Press), pp. 36-75.

- Bhagwati, Jagdish, Arvind Panagariya and T. N. Srinivasan (2004), 'The Muddles Over Outsourcing,' *Journal of Economic Perspectives*, Vol. 18, No. 4, Fall, pp. 93-114.
- Blinder, Alan (2006), 'Offshoring: The Next Industrial Revolution?' *Foreign Affairs*, Vol. 85, No. 2, March-April, pp. 113-128.
- Bos, Frits (2009), The National Accounts as a Tool for Analysis and Policy; History, Economic Theory and Data Compilation Issues <http://mpra.ub.uni-muenchen.de/23582/1/MPRA_paper_23582.pdf>.
- Brender, Anton, Agnès Chevalier and Jean Pisani-Ferry (1980), *États-Unis: Croissance, Crise et Changement Technique dans Une Économie Tertiaire*, CEPII (Centre d'Economie Prospective Internationale, n. 2, April.
- Buera, Francisco J., and Joseph P. Kaboski (2008, February), Scale and the Origins of Structural Change <<http://www.philadelphiafed.org/research-and-data/events/2008/macro-economics-across-time-and-space/papers/Kaboski.pdf>>.
- Buera, Francisco J., and Joseph P. Kaboski (2009, March), The Rise of the Service Economy <<http://www.nber.org/papers/w14822>>.
- Burda, Michael C. and Barbara Dluhosch (2000, June), Fragmentation, Globalization and Labor Markets <<http://edoc.hu-berlin.de/series/sfb-373-papers/2001-41/PDF/41.pdf>>.
- Carter, Anne P. (1970), *Structural Change in the American Economy*, (Cambridge: Harvard University Press).
- Caves, Richard E., Walter B. Wriston, and James R. Schlesinger (1980), 'The Structure of Industry' in Martin Feldstein (Ed.), *The American Economy in Transition* (The University of Chicago Press/ National Bureau of Economic Research (NBER)).
- Chandler, Jr., Alfred D. (1977), *The Visible Hand (The Managerial Revolution in American Business)* (Cambridge, Massachusetts: The Belknap Press of Harvard University Press).
- Chandler, Jr., Alfred D. (1990), *Scale and Scope: The Dynamics of Industrial Capitalism* (Cambridge, Massachusetts: The Belknap Press of Harvard University Press).
- Christen, Elisabeth and Joseph François (2010), 'Modes of Delivery in Services,' *CEPR Discussion Paper Series*, Vol. Centre for Economic Policy Research, July.
- Clark, Colin (1940), *Condition of Economic Progress* (London: Macmillan).
- Clark, Colin (1984), "Development Economics: The Early Years" in Gerald M. Meir and Dudley Seers (Ed.), *Pioneers of Development* (Oxford: Oxford University Press), pp. 59-77.
- Coase, Ronald H. (1937), 'The Nature of the Firm,' *Economica*, Vol. 4, No. 16, pp. 386-405.
- Coase, Ronald H. (1960), 'The Problem of Social Cost,' *The Journal of Law and Economics*, No. 3, October, pp. 1-44.
- Coase, Ronald (1992), 'The Institutional Structure of Production,' *American Economic Review*, Vol. 82, No. 4, September, pp. 713-719.
- Cohen, Stephen S. and John Zysman (1987), *Manufacturing Matters. The Myth of Post Industrial Economy* (New York: Basic Books).
- CEPAL (United Nations Economic Commission for Latin America and the Caribbean) (2011), *Foreign Investment in Latin America and the Caribbean 2010*, (Santiago de Chile: CEPAL).
- Corrado, Carol, Charles Hulten and Daniel Sichel (2005), 'Measuring Capital and Technology: An Expanded Framework,' in Carol Corrado, John Haltiwanger and Daniel Sichel (Ed.), *Measuring Capital in the New Economy* (The University of Chicago Press/ National Bureau of Economic Research (NBER)), pp. 11-45.
- Corrado, Carol, Charles Hulten and Daniel Sichel (2009), 'Intangible Capital and U. S. Economic Growth,' *The Review of Income and Wealth*, Vol. 55, No. 3, September, pp. 661-685.

- Corrado, Carol, John Haltiwanger and Daniel Sichel (2005), 'Introduction,' in Carol Corrado, John Haltiwanger and Daniel Sichel (Ed.), *Measuring Capital in the New Economy (Studies in Income and Wealth Volume 65)* (Chicago and London: The University of Chicago Press/ National Bureau of Economic Research (NBER)), pp. 1-10.
- Cruz, Marcio José Vargas da, Gabriel Porcile (2008), Structural Change and the Service Sector in Brazil, available at <http://www.economiaetecnologia.ufpr.br/textos_discussao/texto_para_discussao_ano_2_008_texto_05.pdf>.
- De Negri, João Alberto and Luis Claudio Kubota (eds.) (2006), *Estrutura e Dinâmica Do Setor de Serviços No Brasil* (Rio de Janeiro: IPEA).
- De Vries, Jan (1994), 'The Industrial Revolution and the Industrious Revolution,' *The Journal of Economic History*, Vol. 54, No. 2, pp. 249-270.
- Deardoff, Alain, V. (2000, August 30), International Provision of Trade Services, Trade and Fragmentation <<http://www.fordschool.umich.edu/rsie/workingpapers/Papers451-475/r463.pdf>> (Accessed 23.01.2007).
- Deardoff, Alan, V. (1998, January 8), Fragmentation in Simple Trade Models, *University of Michigan, School of Public Policy* <http://www.fordschool.umich.edu/rsie/workingpapers/wp.html>.
- Deardorff, Alan V. (1984) Comparative Advantage and International Trade and Investment in Services, paper presented at the Third Annual Workshop on US-Canadian Relations, October, Ann Arbor, University of Michigan.
- Djellal, Faridah and Faïz Gallouj (eds.) (2010), *The Handbook of Innovation and Services. A Multi-disciplinary Perspective*, (Northampton, Massachusetts: Edward Elgar Publishing Inc).
- Ecalfe, F. (1986), "La Revolution Tertiaire aux États-Unis», *Notes et Études Documentaires*, La Documentation Française n. 4 814.
- Edvardsson, Bo, Andres Gustafsson and Inger Roos (2006), 'Service Portraits in Service Research: A Critical Review,' *International Journal of Service Industry Management*, Vol. 16, No. 1, pp. 107-121.
- Ehret, Michael and Jochen Wirtz (2010), 'Division of Labor Between Firms: Business Services, Non-Ownership-Value and the Rise of the Service Economy,' *Service Science*, Vol. 2, No. 3, pp. 136-145.
- Ewen, Stuart (1976), *Captains of Consciousness*, (New York: McGraw-Hill Book Company).
- Fajnzylber, Fernando (1983), *La Industrialización Trunca de América Latina*, (Mexico, D. F.: Editorial Nueva Imagen).
- Fajnzylber, Fernando (1990), Industrialización en América Latina: de la Caja Negra al Casillero Vacío, serie Cuadernos de la CEPAL n. 60 (Santiago de Chile: CEPAL).
- Feenstra, Robert C., (1998), "Integration of trade and disintegration of production in the global economy", in *Journal of Economic Perspectives*, vol. 12, n. 4, Fall, pp. 31-50.
- Feenstra, Robert C. and Gordon H. Hanson (2001, July), Global Production Sharing and Rising Inequality: A Survey of Trade and Wages, NBER Working Paper n. 8 372, <<http://www.nber.org/papers/w8372>>.
- Feketekuty, Geza (2008), 'Appendix: A Guide to Services Negotiations,' in Robert M. Stern, Gianni Zanini and Aaditya Mattoo (Ed.), *A Handbook of International Trade in Services* (Oxford: Oxford University Press), pp. 542-592.
- Fisher, Alan G. B. (1939), 'Production, Primary, Secondary and Tertiary,' *Economic Record*, Vol. 15, No. 1, June, pp. 24-38.
- Fisher, Alan, G. B. (1933), 'Capital and the Growth of Knowledge,' *Economic Journal*, Vol. 43, September, pp. 379-389.
- Fisher, Allan G. B. (1935), *The Clash of Progress and Security* (London: Macmillan & Co).

- Fisher, Allan G. B. (1952), 'A Note on Tertiary Production,' *The Economic Journal*, Vol. 62, No. 248, December, pp. 820-834.
- François, Joseph and Bernard Hoekman (2010), 'Services Trade and Policy,' *Journal of Economic Literature*, No. 48, September, pp. 642-692.
- Fuchs, Victor R. (1968), *The Service Economy* (New York: National Bureau of Economic Research/ Columbia University Press).
- Gadrey, Jean (2000), 'The Characterization of Goods and Services: An Alternative Approach,' *Review of Income and Wealth*, Vol. 46, No. 3, September, pp. 369-387.
- Gallouj, Faïz and Faridah Djellal (2010), "Introduction: filling the innovation gap in the service economy: a multidisciplinary perspective" in Faridah Djellal and Faïz Gallouj (eds.), *The Handbook of Innovation and Services. A Multi-disciplinary Perspective*, (Northampton, Massachusetts: Edward Elgar Publishing Inc.)
- Gershuny, Jonathan (1983), *Social Innovation and the Division of Labour* (Oxford: Oxford University Press).
- Gille, Bertrand (1973), 'Banking and Industrialisation in Europe,' in Carlo M. Cipolla (Ed.), *The Fontana Economic History of Europe - The Industrial Revolution* (London: Collins/ Fontana Books), pp. 255-357.
- Greenfield, Harry (1966), *Manpower and the Growth of Producer Services*, (New York: Columbia University Press).
- Greenfield, Harry (2002), "A Note on the Goods/ Services Dichotomy", *Service Industries Journal*, vol. 22, n. 4, pp. 19-21.
- Gregory, Mary, Wiemer Salverda and Ronald Schettkat (2007), "Introduction" in Mary Gregory, Wiemer Salverda and Ronald Schettkat (eds.), *Services and Employment* (Princeton, NJ: Princeton University Press).
- Grilliches, Zvi (1994), "Productivity, R&D, and the data constraint", *American Economic Review*, vol. 84, n. 1, pp. 23-48.
- Grossman, Gene M. and Esteban Rossi-Hansberg (2006a, July), The Rise of Offshoring: It's not Wine for Cloth Anymore <<http://www.kc.frb.org/PUBLICAT/SYMPOS/2006/PDF/Grossman-Rossi-Hansberg.paper.0728.pdf>>.
- Grossman, Gene M. and Esteban Rossi-Hansberg (2006b, August), Trading Tasks: A Simple Theory of Offshoring <<http://www.princeton.edu/~grossman/offshoring.pdf>>.
- Grossman, Gene M. and Esteban Rossi-Hansberg (2008, December), Task Trade Between Similar Countries <<http://www.nber.org/papers/w14554>>.
- Grunwald, J. and K. Flamm 1985. *The Global Factory: Foreign Assembly in International Trade*, (Washington, D.C.: Brookings).
- Gummesson, Evert, Robert F. Lusch and Stephen L. Vargo (2010), 'Transitioning from Service Management to Service-Dominant Logic,' *International Journal of Quality and Service Sciences*, Vol. 2, No. 1, pp. 8-22.
- Grossman, Gene M. and E. Helpman (2002). Outsourcing in a global economy. NBER Working Paper 8728. (Massachusetts: NBER) (<http://www.nber.org/papers/w8728>).
- Hartwell, R. M. (1973), 'The Service Revolution: The Growth of Services in Modern Economy 1700-1914,' in Carlo Cipolla (Ed.), *The Fontana Economic History of Europe - The Industrial Revolution* (London: Collins/ Fontana Books), pp. 358-396.
- Helleiner, G. K. 1981. *Intra-Firm Trade and the Developing Countries*. New York: St. Martin's Press.
- Helpman, E. 1998. The structure of foreign trade. NBER Working Paper 6572. Cambridge, MA: National, Bureau of Economic Research, (<http://www.nber.org/papers/w6752>).
- Hill, T. Peter (1977), 'On Goods and Services,' *Review on Income and Wealth*, Vol. 23, pp. 315-338.

- Hill, T. Peter (1999), 'Tangibles, Intangibles and Services: A New Taxonomy for the Classification of Output,' *Canadian Journal of Economics*, Vol. 32, No. 2, April, pp. 426-447.
- Hulten, Charles R. (2010, March), Decoding Microsoft: Intangible Capital as a Source of Company Growth <<http://www.nber.org/papers/w15799.pdf>>.
- IMF (International Monetary Fund) (2009), *Balance of Payments and International Investment Position Manual Sixth Edition (BPM6)* (Washington, D.C.: IMF).
- Jabbour, Liza (2009), "Slicing the Value Chain" Internationally: Empirical Evidence on the Offshoring Strategy by French Firms <<http://www.freit.org/WorkingPapers/Papers/FirmLevelTrade/FREIT011.pdf>>.
- Jones, R. 1980. Comparative and absolute advantage. *Schweizerische Zeitschrift Für Volkswirtschaft und Statistik*, 3, 235-260.
- Joskow, Paul L. (2003), 'Vertical Integration,' in Claude Ménard and Mary M. Shirley (Ed.), *Handbook of New Institutional Economics* (Berlin: Springer-Verlag), pp. 319-348.
- Kaldor, Nicholas (1966), *Causes of the Slow Rate of Growth in the United Kingdom* (Cambridge: Cambridge University Press).
- Knetter, M. M. and M. J. Slaughter (1999). Measuring product-market integration. NBER Working Paper n.6969. (Cambridge, Massachusetts: NBER) (<http://www.nber.org/papers/w6969>).
- Kirkegaard, Jacob Funk (2009, August), Structural and Cyclical Trends in Net Employment Over US Business Cycles, 1949-2009: For the Next Recovery and Beyond <<http://www.piie.com/publications/wp/wp09-5.pdf>>.
- Kon, Anita (2004), *Economia de Serviços: Teoria e Evolução No Brasil* (Rio de Janeiro: Campus).
- Krantz, Olle (1994), 'Service Production in Historical National Accounts,' *Review of Income and Wealth*, Vol. 40, No. 1, March, pp. 19-41.
- Krüger, Jens J. (2008), 'Productivity and Structural Change: A Review of the Literature,' *Journal of Economic Surveys*, Vol. 22, No. 2, pp. 330-363.
- Krugman, Paul (1995). Growing World Trade: Causes and Consequences. *Brookings Papers on Economic Activity*, 25th anniversary issue(1), pp.327-377
- Kuznets, Simon (1966/1973), *Modern Economic Growth. Rate, Structure and Spread* (New Haven and London: Yale University Press).
- Leamer, Edward E. (1996), 'The Effects of Trade In Services, Technology Transfer and Delocalization on Local and Global Income Inequality,' *Asia-Pacific Economic Review*, Vol. 2, No. 1, April, pp. 44-60.
- Levitt, Theodore (1976), 'Industrialization of Service,' *Harvard Business Review*, Vol. 54, No. 5, September/ October, pp. 63-74.
- Levitt, Theodore (1972), 'Production-Line Approach to Service,' *Harvard Business Review*, Vol. 50, No. 5, September/ October, pp. 20-31.
- Lipsey, Robert E. (2009), 'Measuring International Trade in Services,' in Marshall Reinsdorf and Matthew J. Slaughter (eds.) (Ed.), *International Trade in Services and Intangibles in the Era of Globalization* (Chicago: The University of Chicago Press/ National Bureau of Economic Research (NBER)).
- López, Andrés and Daniela Ramos (2009, Agosto), Exportaciones Imperceptibles: Qué Oportunidades Ofrece la Crisis para Insertar a al Argentina en el Comercio de Servicios? <http://www.oered.org/index.php?option=com_content&view=article&id=53%3Aexportaciones-imperceptibles-que-oportunidades-ofrece-la-crisis-para-insertar-a-la-argentina-en-el-comercio-mundial-de-servicios&catid=1%3Aarticulos&Itemid=3&lang=es>.

- López, Andrés, Daniela Ramos and Iván Torre (2009, March), Las Exportaciones de Servicios de América Latina y Su Integración en las Cadenas Globales de Valor <<http://www.cepal.org/publicaciones/xml/3/35963/DocW37fin.pdf>>.
- Lovelock, Christopher and Evert Gummesson (2004), 'Whither Services Marketing? In Search Of a New Paradigm and Fresh Perspectives,' *Journal of Service Research*, Vol. 7, No. 1, August, pp. 20-41.
- Maddison, Angus (2004), Macromasurement Before and After Colin Clark <http://www.ggd.net/maddison/articles/colin_clark.pdf>.
- Maglio, Paul P., Cheryl A. Kieliszewski and James C. Spohrer (eds.) (2010), *Handbook of Service Science* (New York:Springer).
- Matsuyama, Kiminori (2000), The Rise of Mass Consumption Societies <<http://sticerd.lse.ac.uk/dps/de/dedps23.pdf>>.
- McMahon, C. W. and G. D. N. Worswick (1960), "The Growth of Services in the Economy" (Part I: Their Stabilising Influence", in *District Bank Review*. N. 136, December.
- Meier, Gerald M. and Dudley Seers (eds.) (1984), *Pioneers in Development* (Washington, DC: The World Bank).
- Melo, Hildete Pereira de, Frederico Rocha (1998, March), O Setor Serviços No Brasil: Uma Visão Global - 1985/95 <<http://www.ipea.gov.br/pub/td/td0549.pdf>>.
- Mokyr, Joel (1998), The Second Industrial Revolution, 1870-1914 <<http://faculty.wcas.northwestern.edu/~jmokyr/castronovo.pdf>>.
- Motta-Veiga, Pedro da and Vivianne Ventura-Dias (2004), "Brazil: the fine-tuning of trade liberalization" in Miguel Lengyel and Vivianne Ventura-dias (eds.), *Trade Policy Reforms in Latin America (Multilateral Rules and Domestic Institutions)*, (New York: Palgrave/Macmillan), pp. 98-124.
- Mulder, Nanno, Sebastián Sáez (2007), Trade in Services in Latin America and the Caribbean: An Analysis of Recent Trends <http://www.cepal.org/comercio/publicaciones/xml/9/32449/Trade_in_services_in_Latin_America_serie_84_dcii.pdf>.
- Nakamura, Leonard (1999), 'What Put the New in the New Economy?' *Business Review/ Federal Reserve Bank of Philadelphia*, July-August, pp. 3-16.
- Ngai, Liwa Rachel and Christopher Pissarides (2008), 'Trends in Hours and Economic Growth,' *Review of Economic Dynamics*, Vol. 11, No. 2, pp. 239-256.
- Nicholson, Brian and Sundeep Sahay (2009), 'Software Exports Development in Costa Rica: Potential for Policy Reforms,' *Information Technology for Development*, January, pp. 4-16.
- OECD (2007), Globalisation and Structural Adjustment. Summary Report of the Study on Globalisation and Innovation in the Business Services Sector <<http://www.oecd.org/dataoecd/18/55/38619867.pdf>>.
- Pereira, Lia Valls, Ricardo Sennes and Nanno Mulder (2009), Brazil's Emergence as the Regional Export Leader in Services: A Case of Specialization in Business Services <<http://www.cepal.org/publicaciones>>.
- Petit, Pascal (1985), *Slow Growth and the Service Economy*, (London : Frances Pinter Publishers).
- Pilat, Dirk and Anita Wölfl (2005), Measuring the Interaction Between Manufacturing and Services <http://www.oecd-ilibrary.org/science-and-technology/measuring-the-interaction-between-manufacturing-and-services_882376471514>.
- Pinto, Aníbal (1970), "Naturaleza e Implicaciones de la 'Heterogeneidad Estructural' de la América Latina", in *El Trimestre Económico*, January-March, vol. 37, n. 1.
- Prebisch, Raúl (1949/1962), "The Economic Problems of Latin America and its Principal Problems", in *Economic Bulletin for Latin America*, vol. VII, n. 1 February.

- Prebisch, Raúl (1981), *Capitalismo Periférico. Crisis y Transformación*, (México, D. F.: Fondo de Cultura Económica).
- Quesnay, François (1991), *Physiocratie. Droit Naturel. Tableau Économique et Autres Textes* (Paris: Flammarion).
- Raff, Horst and Nicolas Schmitt (2009, September), Imports, Pass-Through, and the Structure of Retail Markets <http://www.ifw-members.ifw-kiel.de/publications/imports-pass-through-and-the-structure-of-retail-markets/kwp_1556>.
- Ramey, Valerie A. (2009), 'Time Spent in Home Production in the Twentieth-Century United States: New Estimates from Old Data,' *The Journal of Economic History*, Vol. 69, No. 1, March, pp. 1-47.
- Ramin Rahimian (2011, March 4), "Armies of expensive lawyers, replaced by cheaper software", *The New York Times*.
- Rayment, Paul B. W. (1983), 'Intra-Industry' Specialisation and the Foreign Trade of Industrial Countries,' in Stephen F. Frowen (Ed.), *Controlling Industrial Economies, Essays in Honour of C. T. Saunders* (London: MacMillan).
- Reddaway, William Brian (ed.) (1973), *Effects of the Selective Employment Tax. Final Report*. (Cambridge: Cambridge University Press).
- Reed, Howard, Olga Mrinska and Miguel Castro Coelho (2008, December), Structural Economic Change and the European Union: Winners, Losers and Public Policy Options <<http://www.ippr.org/members/download.asp?f=/ecomm/files/Structural%20econ%20change%20and%20the%20EU.pdf&a=skip>>.
- Reinsdorf, Marshall and Matthew J. Slaughter (2009), 'International Flows of Invisibles: Trade in Services and Intangibles in the Era of Globalization. Editor's Introduction,' in Marshall Reinsdorf and Matthew J. Slaughter (eds.) (Ed.), *International Trade in Services and Intangibles in the Era of Globalization* (Chicago: The University of Chicago Press/National Bureau of Economic Research (NBER)).
- Robert-Nicoud, Frédéric (2008), 'Offshoring of Routine Tasks and (de)Industrialisation: Threat or Opportunity - and for Whom?' *Journal of Urban Economics*, Vol. 63, No. 2, pp. 517-535.
- Robbins, Carol A., Mary L. Streiwieser (2010), R&D and Other Intangible Assets in an Input-Output Framework: Experimental Estimates with U.S. Data <http://www.bea.gov/papers/pdf/rnd_intangibles_io_2010.pdf>.
- Rocha, Frederico (1997, October), Composição Do Crescimento Dos Serviços Na Economia Brasileira: Uma Análise Da Matriz Insumo-Produto 1985/ 92 <<http://www.ipea.gov.br/pub/td/td0522.pdf>>.
- Salvador, Soledad and Gabriela Pradere (2009, June), El Gasto en Servicios de Cuidado de los Hogares Uruguayos <<http://www.eclac.org/uruguay/>>.
- Salvador, Soledad and Vivianne Ventura-Dias (2011), La Producción y el Consumo de los Servicios de Cuidado en el Hogar: Marco Analítico y el Caso de Uruguay, (forthcoming at <http://www.latn.org.ar>).
- Schettkat, Ronald and Lara Yocarini (2003), The Shift to Services: A Review of the Literature <<https://www.econstor.eu/dspace/bitstream/10419/20200/1/dp964.pdf>>.
- Smith, Adam (1776/1976), *An Inquiry Into the Nature and the Causes of the Wealth Of Nations* (Chicago: The University of Chicago Press (Edwin Cannan edition)).
- Stigler George (1956), *Trends in Employment in the Service Industries* (Princeton, New Jersey: Princeton University Press).
- Stigler, George (1951), "The Division of Labor is Limited by the Extent of the Market", in *The Journal of Political Economy*, vol. 59, n. 3, June, pp. 185-193.
- Stigler, George J (1946), *Domestic Servants in the United States, 1900-1940* (Washington, DC: The National Bureau of Economic Research).

- Syrquin, Moshe (2005, May), Kuznets and Modern Growth Fifty Years Later <<http://www.rrojasdatabank.info/devplan/Syrquin.pdf>>.
- Studenski, P. (1958), *The Income of Nations*, (New York: New York University Press).
- Tokman, Victor (1992), *Beyond Regulation: The Informal Economy in Latin America* (Boulder, Colorado: Lynne Rienner Pub.).
- Triplett, Jack E. and Barry P. Bosworth (2000, January 9), Productivity in the Services Sector <<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.23.3257&rep=rep1&type=pdf>>.
- Triplett, Jack E. and Barry P. Bosworth (2004), *Productivity in the U.S. Services Sector. New Sources of Economic Growth* (Washington, D. C.: The Brookings Institution).
- UNCTAD (2004), World Investment Report: The Shift Towards Services <http://www.unctad.org/en/docs/wir2004_en.pdf>.
- UNCTAD (2007), Contribución de los Servicios al Comercio y Desarrollo de la Economía Salvadoreña: Realidades, Perspectivas y Oportunidades <<http://www.unctad.org>>.
- United Nations, DESA (Department of Economic and Social Affairs) (2008), International Standard Industrial Classification of All Economic Activities. Revision 4, (New York: United Nations) <<http://unstats.un.org/unsd/cr/registry/regdntransfer.asp?f=135>>.
- United Nations Statistical Commission (2010), Manual on Statistics of International Trade in Services 2010 (MSITS 2010) Draft Unedited Version <<http://unstats.un.org/unsd/tradeserv/TFSITS/MSITS/MSITS2010%20%20for%20the%20OSC%202010%20at%202.22.2010.pdf>>.
- United States Department of Labor (2006, May), 100 Years of U.S. Consumer Spending. Data for the Nation, New York City, and Boston <<http://www.bls.gov/opub/uscs/report991.pdf>>.
- United States, GAO (Government Accountability Office) (2004), *Private Health Insurance: Number and Market Share of Carriers in the Small Group Health Insurance Market in 2004*, available at (<http://www.gao.gov/new.items/d06155r.pdf>).
- Vaillant, Marcel (2008, Noviembre), Oportunidades de una Economía Pequeña y Remota en el Mundo Global: Uruguay Como Exportador de Servicios <http://www.cepal.org/comercio/publicaciones/xml/4/34894/Uruguay_exportador_servicios_LCL2978_SERIE_89.pdf>.
- van Ark, Bart and Charles Hulten (2007), Innovation, Intangibles and Economic Growth: Towards a Comprehensive Accounting of the Knowledge Economy <<http://robertoigarza.files.wordpress.com/2008/11/art-towards-a-comprehensive-accounting-for-knowledge-economy-van-ark-2007.pdf>>.
- Vargo, Stephen L. and Robert F. Lusch (2004), 'Evolving to a New Dominant Logic for Marketing,' *Journal of Marketing*, Vol. 68, January, pp. 1-17.
- Ventura-Dias, Vivianne (1987) "Producción y Comercio de Servicio: Notas Conceptuales", *Integración Latinoamericana*, n. 125, pp. 3-15 (also published in Portuguese in the *Revista Brasileira de Comércio Exterior*, November-December).
- Ventura-Dias, Vivianne (1988a), O Papel dos Serviços na Modernização da Indústria Textil Brasileira, document LC/R.698, Santiago de Chile, CEPAL.
- Ventura-Dias, Vivianne (1988b), "Notas sobre o Crescimento dos 'Serviços às Empresas'", *Anais do XVII Encontro Nacional de Economia (ANPEC)*, vol. III, pp. 433-452.
- Ventura-Dias, Vivianne (1989), "The Old Logic of the New International Economic Order" in *CEPAL Review*, n. 37, April, pp. 115-132
- Ventura-Dias, Vivianne (1994), As Empresas Brasileiras: Internacionalização e Ajuste à Globalização dos Mercados, document LC/BRS/R.44/Rev.1, Brasília, D. F., CEPAL.

- Ventura-Dias, Vivianne (2003, June), What Can We Say About Trade and Growth When Trade Becomes a Complex System?, *Serie Comercio Internacional* n. 27 <<http://www.eclac.org/publicaciones>>.
- Wheeler, Christopher H. (2005, July), Employment Growth in America. Exploring Where Good Jobs Grow <http://www.immagic.com/eLibrary/ARCHIVES/GENERAL/US_FRS/F051019W.pd>.
- Williamson, Oliver E. (1986), *Economic Organization. Firms, Markets and Policy Control*, (Brighton, Sussex: Wheatsheaf Books Ltd).
- Williamson, Oliver E. (1975), *Markets and Hierarchies. Analysis and Antitrust Implications*, (New York: The Free Press).
- World Bank (1992), *Statistical Handbook. States of the Former USSR. Studies of Economies in Transformation*, 3 (Washington, DC: World Bank).
- WTO (World Trade Organization) (2010), *International Trade Statistics*, (Geneve: WTO).
- Wood, Adrian (2001), "Value chains: an economist's perspective, in *IDS Bulletin*, vol. 32, n. 3, July, pp. 41-45.
- Wölfl, Anita (2005), The Service Economy in OECD Countries <http://www.oecd-ilibrary.org/science-and-technology/the-service-economy-in-oecd-countries_212257000720>.
- Zeithaml, Valarie A., A. Parasuraman, and Leonard L. Berry (1985), "Problems and Strategies in Services Marketing" *Journal of Marketing*, vol. 49 (Spring), pp. 33-46.

Appendix: System of National Accounts (SNA) and ISIC (International Standard Industrial Classification)

Most of the concerns with the heterogeneity of services were taken into consideration in the process of continuous revision of the International Standard Industrial Classification of All Economic Activities (ISIC), a multilateral effort coordinated by the Statistical Commission of the United Nations. ISIC (Rev. 4) is divided into 21 major divisions at one-digit code, four more than the ISIC (Rev. 3.1.) and eleven more than the ISIC (Rev. 2.).⁹²

The System of National Accounts (SNA) was also revised as the result of the work of all development multilateral organisations in the light of significant changes in production and in productive activities, thereby bringing the national accounting framework in line with the needs of data users.⁹³ The 2008 SNA was adopted by the Statistical Commission as the international statistical standard for national accounts, in the same year (United Nations 2009).⁹⁴

Table A
High-level SNA/ISIC aggregation

	ISIC Rev. 4 sections	Description
1	A	Agriculture, forestry and fishing
2	B, C, D and E	Manufacturing, mining and quarrying and other

⁹² The original version of ISIC was adopted in 1948. Every ten years it has been subjected to a revision although the Rev. 2 lasted from 1968 to 1989, when the Rev. 3 was issued. The fourth revision of ISIC resulted in an ISIC structure that is more detailed than the previous version, responding to the need to identify many more new industries separately. This was particularly the case of services. The structure of the fourth revision of ISIC was considered and approved by the United Nations Statistical Commission, in March 2006, as the internationally accepted standard. It replaced the third revision of the classification and its update, Revision 3.1., which were in use since 1989 and 2002, respectively (United Nations/ DESA 2008).

⁹³ The international organisations responsible for the 2008 SNA were: United Nations, European Commission, OECD (Organisation for Economic Co-operation and Development), IMF (International Monetary Fund) and the World Bank.

⁹⁴ The classification of production activities in the SNA is based on the ISIC (Rev. 4). In the high-level SNA/ISIC aggregation, which is used for international comparability, these 21 sectors were grouped into ten sets with the intention of distinguishing between the various stages of production, from production of raw materials to processed goods, separately from the services producing activities (United Nations/ DESA 2008: 274) (see table 1). For instance, a new one-digit code section, Information and communication (J) was created combining the activities of the production and distribution of information and cultural products; the provision of the means to transmit or distribute these products, data or communications; information technology activities; the processing of data and other information service activities. Similarly, other classes were introduced in Finance and insurance activities; a section on Professional, scientific and technical activities (M) was created, covering activities that require a high degree of training and make specialised knowledge and skills available to users; and a section on Administrative and support service activities (N) was defined, covering activities that support general business operations and do not focus on the transfer of specialised knowledge (United Nations 2008). The new SNA guidelines represent a significant step forwards, although it will take some time for most countries to integrate the new recommendations into their national system of statistics.

		industrial activities
2a	C	Of which Manufacturing
3	F	Construction
4	G, H and I	Wholesale and retail trade, transportation and storage, accommodation and food service activities
5	J	Information and communication
6	K	Financial and insurance activities
7	L	Real estate activities
8	M and N	Professional, scientific, technical, administrative and support service activities
9	O, P. and Q	Public administration and defence, education, human health and social work activities
10	R, S, T and U	Other service activities

