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# **THE ROLE OF SERVICES IN GLOBAL VALUE CHAINS**

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## INTRODUCTION

My dissertation aims at describing the increasing role and importance that today services play in international trade.

Specifically, the first chapter of the thesis analyses the phenomenon of the globalization, making a difference among the first (1870-1914), the second (1945-1980) and the third (1980-present) wave of globalization and trying to identify the causes, the consequences, and the pros and the cons of this huge and complex process.

The second chapter, instead, focuses on the value chains of companies and explains why in the current globalized world the latter can be considered global in both the scope and the organization. Then the chapter continues by listing the different types of global value chains and by illustrating the concept of “value chain governance” and “industrial upgrading”, which refers to different categories of shifts (product upgrading, process upgrading, functional upgrading, inter-chain upgrading, etc.) that companies often undertake to improve their competitive position in global value chains.

The following third chapter represents the core chapter of the project since it develops the main argument of the thesis which is the “servicification” of the economy that indicates the current pervasiveness of services in every activity of the economy. More in details, the chapter distinguishes between two different categories of services (services as “enablers” and services as single “tasks”) and clarifies the main difficulties encountered in the statistical identification of services (because of their intangibility) and the role of the policymakers to promote the entry of countries (especially developing economies) into the modern global value chains.

Finally, the fourth chapter examines the impact of global value chains on the labour market going to investigate the effects of international trade and foreign direct investments (FDI) on the rate of employment and on the level of wages of companies (both the exporting companies and the importing ones) and countries taking part to GVCs.

The dissertation ends with an in-depth analysis of some case studies concerning examples of countries that have been able to take advantage from their participation into global value chains for entering international markets and boosting their economy (Costa Rica, Cina, Cile and Singapore).

## CHAPTER I

### Globalization: history and future perspectives

#### 1. INTRODUCTION

Globalisation has become a catchword for the international economy in the late twentieth century.

It can be defined as the process of interaction and integration among cultures, people, companies and governments of different nations around the world which is driven by international trade and investment and aided by technological change and financial liberalization.

More specifically, globalization has created a “new economy” where the free flow of capital, labour, goods and services within free trade regions, the development of new financial instruments and institutions, the instantaneous access to information and communication through the new digital networks, and the merger of historically distinct and separate self-contained national economies, have created a fully integrated global economic system <sup>1</sup>.

Modern analyses divide globalization into three great waves:

- 1870-1914;
- 1945-1980;
- 1980-present

#### 2. THE FIRST WAVE OF GLOBALIZATION:1870-1914

During the first wave of globalization, from 1870 to 1914, international trade and foreign investment expanded when some trade barriers declined (pioneered by an Anglo-French agreement) and new transportation and communication technologies were developed.

In particular, the first wave of globalization was triggered by the discovery of the steam engine.

In the pre-globalization world, in fact, each village produced most of what it consumed, since production and consumption were linked together by a poor transportation technology.

The steam revolution, instead, especially railroads and steamships, promoted an important reduction in transportation costs and made it possible to spatially separate production and consumption.

<sup>1</sup>Constantine E. Passaris, *The business of globalization and the globalization of business*, “Journal of comparative international management”, 2006, volume 9, number 1, pp. 3-18.

This transformed the world and determined some significant and relevant implications<sup>2</sup>.

First of all, it opened up the possibility of using new areas in North America, Australia, Argentina, New Zealand and United States, providing huge opportunities for land-intensive commodity exports exchanged for European manufactures.

Secondly, it produced significant flows of migration. The production of primary commodities, in fact, required people: sixty million migrated from Europe to North America and Australia to work on new available land. Simultaneously, south-south labour flows were also extensive: Peter Lindert and Jeffrey Williamson demonstrate that the migration from densely populated China and India to less densely populated Sri Lanka, Burma, Thailand, the Philippines, and Vietnam was of the same order of magnitude as the movements from Europe to the U.S.A.

This means that the total labour flows during the first wave of globalization were nearly 10 percent of the world's population.

Third, the first wave of globalization favoured the participation of developing countries in financial markets. The production of primary commodities for exports, in fact, required not just labour but also a large amount of capital. About that, as of 1870 the foreign capital stock in developing countries was only about 9 percent of their income. However, institutions necessary for financial markets were copied. These institutions, combined with improvements in information allowed by the telegraph, enabled governments in developing countries to tap into the major capital markets. As a consequence, by 1914 the foreign capital stock of developing countries had risen to 32 percent of their income.

The economical result of these 3 processes was that at a global level growth accelerated sharply. For example, per capita incomes, which had risen by 0.5 percent per year in the previous 50 years, rose by an annual average of 1.3 percent.

At the same time, the first “unbundling” created a double phenomenon of income divergence/convergence.

The divergence was due to the fact that countries participating in globalization, both the exporters of manufacturers, people and capital, and the importers, took off economically by exporting primary commodities while importing people, institutions and capital, and left the rest of the world behind.

The convergence, instead, was due to a mass migration, which represented the major force equalizing incomes between countries. In this respect, Lindert and Williamson showed, for example, that emigration raised Irish wages by 32 percent, Italian by 28 percent and Norwegian by 10 percent while immigration is estimated to have lowered Argentine wages by 22 percent, Australian by 15 percent, Canadian by 16 percent and American by 8 percent.

<sup>2</sup>Deborah K. Elms and Patrick Low, *Global value chains in a changing world*, WTO publications, pp.14.

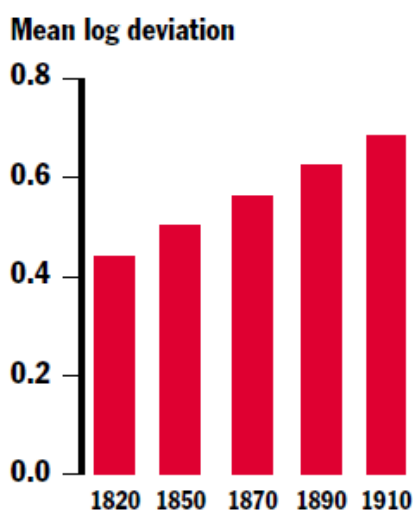
Globalization had even an impact on the level of inequality within countries, which depended mainly on the ownership of land.

More in details, in developing countries, the regions exporting land-intensive goods (Argentina, US, Australia, New Zealand), globalization benefitted especially the people who owned the land. Since most were colonies, land ownership itself was subject to the power imbalance inherent in the colonial relationship: where land ownership was concentrated, as in Latin America, increased trade could be associated with increased inequality; where land was more equally owned, as in West Africa, the benefits of trade were spread more widely.

On the contrary, in Europe, the region importing land-intensive goods, globalization ruined landowners.

So, the final outcome was that during this first phase of globalization world income inequality, which had started to increase dramatically 50 years before globalization, continued to raise drastically (figure 1).

**Figure 1: Worldwide household inequality, 1820-1910**



Source: Bourguignon and Morrisson (2001).

Nevertheless, the huge increase in growth reduced poverty as never before. Just to have an idea, in the 50 years before 1870, the incidence of poverty had been constant, stabilizing at a rate of just 0.3 percent per year. During the first globalization wave, instead, the rate of decline more than doubled to 0.8 percent<sup>3</sup>.

<sup>3</sup>Globalization, growth, and poverty-Building an inclusive world economy, A co-publication of the World Bank and Oxford University Press, pp.24-26.

### 3. THE RETREAT INTO NATIONALISM: 1914-1945

The inter-wars period (1918-1945) was characterized by a retreat into nationalism.

The twentieth century, in fact, began with the terrible damages caused by the First World War and with the dramatic consequences of the Great Depression started after the stock market crash of October 1929 (known as “Black Tuesday”).

In order to react to these situations, trade policy went into reverse as governments naively responded to depression by resorting to protectionism, in the vain attempt to divert demand into their domestic markets.

The United States led the way into the abyss: the Smoot-Hawley tariff was the first: between 1929 and 1933 U.S. imports fell by 30 percent and exports fell even more, by almost 40 percent.

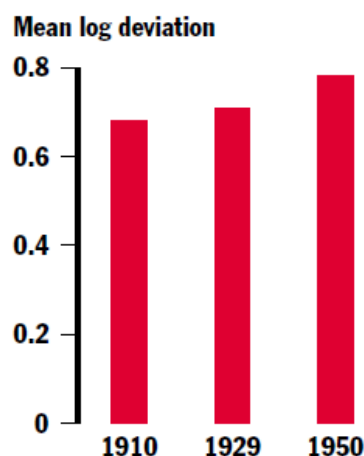
Globally, rising protectionism drove international trade back down: by 1950 exports as a share of world income were down to around 5 percent— back to 1870.

Negative consequences also affected the financial markets that performed worse than merchandise markets. This was due to the fact that the majority of rich countries imposed controls preventing the export of capital, and many developing countries defaulted on their liabilities. Consequently, by 1950 the foreign capital stock of developing countries was reduced to just 4 percent of income.

Unsurprisingly, the retreat into nationalism produced also an anti-immigrant sentiment for which governments imposed drastic restrictions on newcomers. That’s the reason why the immigration to the United States, for example, declined from 15 million during 1870–1914 to 6 million between 1914 and 1950.

The massive retreat from globalization, finally, increased world inequality: by 1950 the world was far less equal than it had been in 1914 (figure 1.1).

**Figure 1.1: Worldwide household inequality, 1910-1950**



*Source: Bourguignon and Morrisson (2001).*

The only positive aspect was that the reduction in growth and the increase in inequality drastically reduced the decline in the incidence of poverty-back to what it had been in the period from 1820 to 1870<sup>4</sup>.

#### **4. THE SECOND WAVE OF GLOBALIZATION:1945-1980**

After the horrors and the mistakes of the retreat into nationalism, there was a second wave of globalization (from 1945 to 1980) characterized by a return to internationalism that induced governments to promote a new trade liberalization by lowering the trade barriers erected in the period 1914-1945.

The fall in trade barriers was accompanied by new reductions in transportation costs that determined the fact that trade doubled as for world income, recovering the level it had reached during the first wave of globalization.

However, the liberalization was very unbalanced. In fact, most developing countries built severe barriers for agriculture and manufacturers against each other and against developed countries. For this reason, they remained dependent mainly on primary commodities.

Developed countries, instead, took advantage from a new type of trade: specialization in manufacturing niches that gained productivity from agglomerated clusters. This new kind of economy was called “economy of agglomeration” and referred to a localized economy in which a large number of companies, services, and industries existed in close proximity to one another and benefitted from the cost reductions and gains in efficiency that resulted from this proximity.

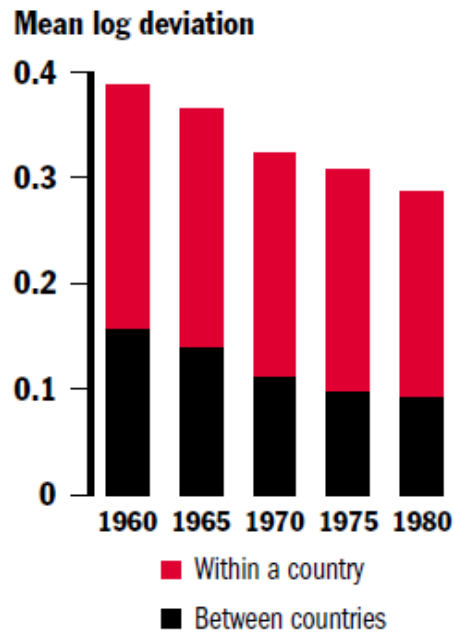
Specifically, the major benefits of localization included the ability to draw skills from the same skilled group of workers, the so called “labour pooling”, and a quicker exchange of ideas among firms within the same industry, a concept known as “knowledge spillovers”.

The main problem with these agglomeration economies was that they created a “divided world”, because they were good news for developed countries in the clusters but bad news for developing countries left out.

Despite everything, the second wave of globalization for the industrial world is often referred to as the “golden age”, because it was a period extremely successful in reducing poverty but also a phase in which there was a dramatic drop in inequality, not only between developed countries -maybe as effect of globalization- but also within countries, since it coincided with the growth and the diffusion of policies for redistribution and social protection (figure 1.2).

<sup>4</sup>*Globalization, growth, and poverty-Building an inclusive world economy*, A co-publication of the World Bank and Oxford University Press, pp.26-28.

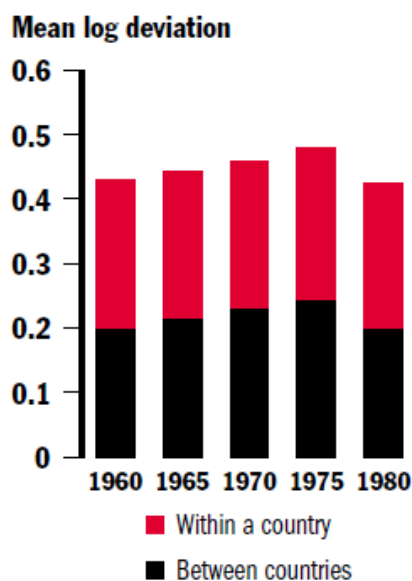
**Figure 1.2: Household inequality in rich countries, 1960-1980**



Source: Clark, Dollar, and Kraay (2001).

Unfortunately, it was not golden for developing countries. In fact, although per capita income growth in these economies had a recovery from the inter-war slowdown, it was substantially slower than in rich economies, as well as the number of poor people continued to rise and in terms of equity there was a little change either between countries or within them (figure 1.3)<sup>5</sup>.

**Figure 1.3: Household inequality in developing countries, 1960-1980**



Source: Clark, Dollar, and Kraay (2001).

<sup>5</sup>Globalization, growth, and poverty-Building an inclusive world economy, A co-publication of the World Bank and Oxford University Press, pp.28-31.

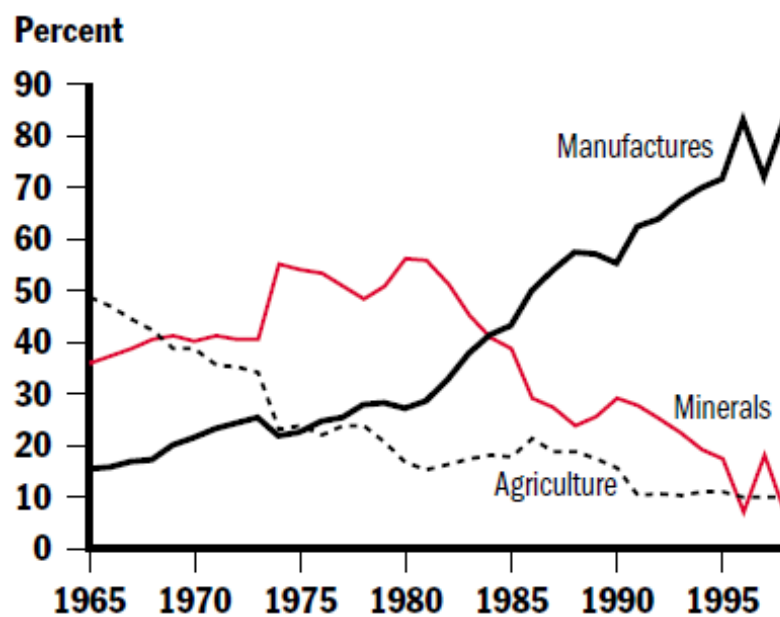


## 5. THE THIRD WAVE OF GLOBALIZATION: 1980-present

The third wave of globalization, which began about 1980, is a distinctive period during which a large number of developing countries (that we will call “new globalizers” or “more globalized countries”) successfully entered the global markets while another group of developing countries (that we will call “less globalized countries”) became extremely marginalized in the world economy.

The growth of new globalizers was triggered by a substantial increase in exports of manufacturers and services. To have an idea, in 1980 only 25 percent of the exports of developing countries were manufactures; by 1998 this had risen to 80 percent (figure 1.4).

**Figure 1.4: Shares in merchandise exports in developing countries exports**



*Source: Martin (2001).*

At the same time, in the early 1980s services represented 17 percent of the exports of rich countries but only 9 percent of the exports of developing countries; during the third wave of globalization, the share of services in rich country exports increased to 20 percent while for developing countries the share almost doubled to 17 percent.

The reasons of such astonishing shift were related to a change in the economic policy, since tariffs on manufactured goods in developed countries declined (the new globalizers cut import tariffs significantly, 34 points on average, compared to 11 points for the countries that are less globalized) and many developing countries undertook big trade liberalizations to foreign investments.

Moreover, it was also due to a significant progress in transport and communication technologies that led to the “death of distance” (by a definition given in a famous book written by Frances Cairncross of *The Economist* in 1997) and undermined the advantages of

agglomeration characterizing the second wave of globalization. Among these improvements, we can mention the containerization and the airfreight, that brought to a considerable speeding up of shipping, allowing countries to participate in international production networks, and the advent of new information and communication technologies (ICT technologies), that helped the management and the control of geographically dispersed supply chains and the shipping of digitized information at virtually no cost.

Eventually, a determinant role in helping new globalizers break into international markets was played by the decisions taken by governments of these economies in improving the complementary infrastructures, institutions and skills which are required by the modern production needs. The enhancement of skills, in particular, was achieved through important gains in basic education: the average years of primary schooling for adults increased from 2.4 years to 3.8 years. The spread of basic education was fundamental to raise the productivity of workers and to reduce inequality.

Thanks to all these reforms, the “more globalized” developing countries (such as Argentina, China, Hungary, India, Malaysia, Mexico, the Philippines, and Thailand, which undertook reforms involving investment liberalization, macroeconomic stabilization and property rights) started to grow rapidly, accelerating from 2.9 percent in the 1970s to 5 percent through the 1990s and finding themselves in a virtuous circle of rising growth and rising penetration of world markets.

A completely different trend, instead, had the “less globalized countries”.

The latter are countries that have not succeeded in integrating the global economy and include most of Africa and many economies of the FSU (the “former Soviet Union”, to which the post-Soviet states belong).

To explain the causes of the drastic divergence between these countries and the “globalizers”, three different theories have been elaborated:

- **the “Join the Club” view**, according to which the weak globalizers have failed to exploit their availability of abundant labour because of poor economic policies, such as poor infrastructures, inadequate institutions, a low-quality educational system, a rampant corruption, high trade barriers, etc;

- **the “Geographic Disadvantage” view**, according to which the reasons of the delay are geographical, in the sense that many of these countries have failed to break into global markets because of an adverse geographical position and an inefficient network of transports, such as roads, rail, seaports, and telecommunications.

For example, in African countries the density of the rural road network is only 55 kilometres per thousand square kilometres, compared to over 800 in India; the number of per capita

telephones is only one-tenth the telephones per capita of Asia; the telephone system has triple the level of faults to Asia's ; the proportion of diesel trains in use is 40 percent lower; freight rates by rail are on average around double those in Asia; port charges are higher (for example, a container costs \$200 in Abidjan as opposed to \$120 in Antwerp);

- **the “Missed the Boat” view**, finally, accepts the argument of the “Join the Club” view according to which if these countries had had good policies and a good infrastructure they would have broken into global markets with success; however, it adds that the main problem is that they have now “missed the boat” because the majority of companies have already found satisfactory locations in labour-abundant countries and so the latecomers have nothing to offer to these firms in order to allow them to create industrial and technological clusters within their territory.

That said, the third wave of globalization has produced enormous movements of people from poor countries to rich countries, triggering a big relocation of the world's population that is still ongoing.

Much of this flows is driven by the desire and the will of workers from developing countries to find a better life in a more favourable location. In particular, the main economic rationale for migration is represented by the fact that wages for the same skills differ significantly in different nations of the world, especially between developing and developed countries. For example, the average hourly labour salary in manufacturing is about \$30 per hour in Germany and one-hundredth of that level (30 cents) in China and India.

As we can notice, the gap is particularly extreme and is primarily due to the fact that the typical German worker has more education than the typical Chinese or Indian worker, but also to a system of weaker social protection and respect of human rights in China and India compared to Germany.

Similarly, Mexican workers in Mexico earn \$31 per week compared to \$278 per week in the United States as well as Indonesian workers in Indonesia earn 28 cents per day compared to \$2 per day or more in Malaysia.

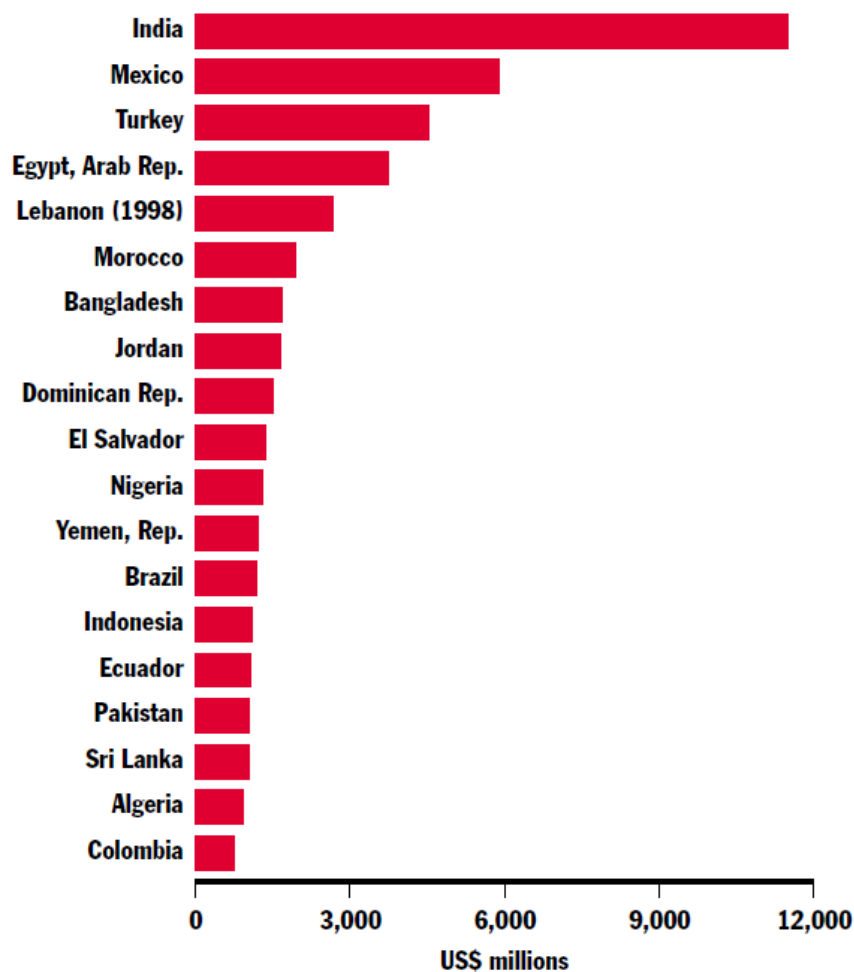
Clearly, it is not too difficult to understand that there are huge gains to individual workers who migrate to more developed economies.

Emigration has also important consequences on developing countries labour markets. It has been estimated, for instance, that it raises the wages of unskilled workers who remain behind. So, it is likely that emigration from Mexico has substantially raised Mexican wages as well as emigration from China and India has raised Chinese and Indian wages.

Another important economic consequence of migration is the large volume of remittances that migrants send back to relatives, which represents an important source of capital inflows

for less developed economies. In this respect, India receives, for example, six times as much in remittances from its workers overseas every year as it gets in foreign aid (figure 1.5).

**Figure 1.5: Workers' remittances, 1999**

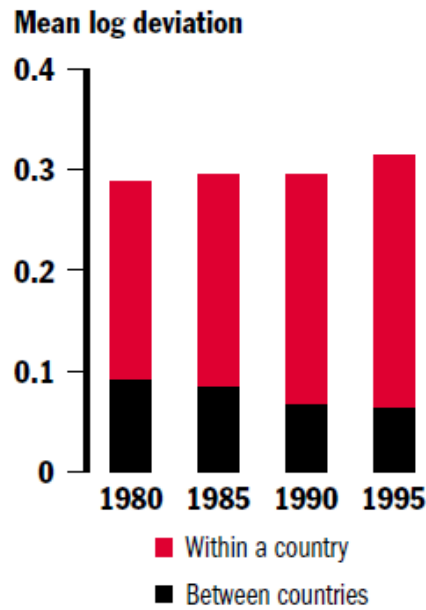


Source: World Bank (2001d).

The third wave of globalization has also had a considerable impact on inequality. Data show that among the OECD economies and the new globalizers the third globalization has continued to generate the convergence of the first and second waves, thanks mainly to immigration; by 1995 inequality between countries was less than half it had been in 1960 and substantially less than it had been in 1980.

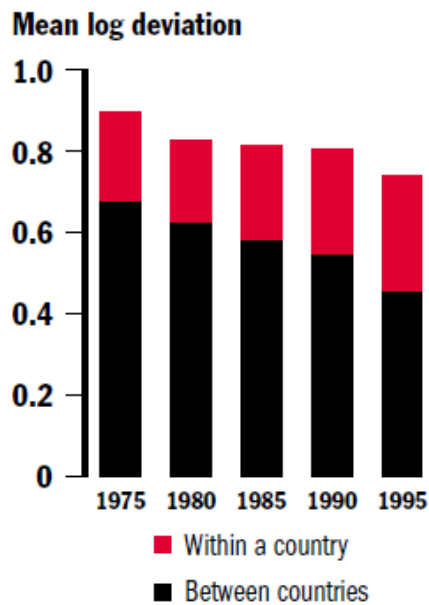
It's also true, however, that within singular countries there has been a serious increase in inequality, differently from the trend seen during the second wave (figure 1.6 and figure 1.7).

**Figure 1.6: Household inequality in rich countries, 1980-1995**



Source: Clark, Dollar, and Kraay (2001).

**Figure 1.7: Household inequality in the globalizers, 1975-1995**



Source: Clark, Dollar, and Kraay (2001).

This has been entirely due to the rise in inequality in China (especially between the rising urban agglomerations and the rural areas) which alone accounted for one-third of the population of the new globalizers<sup>6</sup>.

<sup>6</sup>Globalization, growth, and poverty-Building an inclusive world economy, A co-publication of the World Bank and Oxford University Press, pp. 31-51.

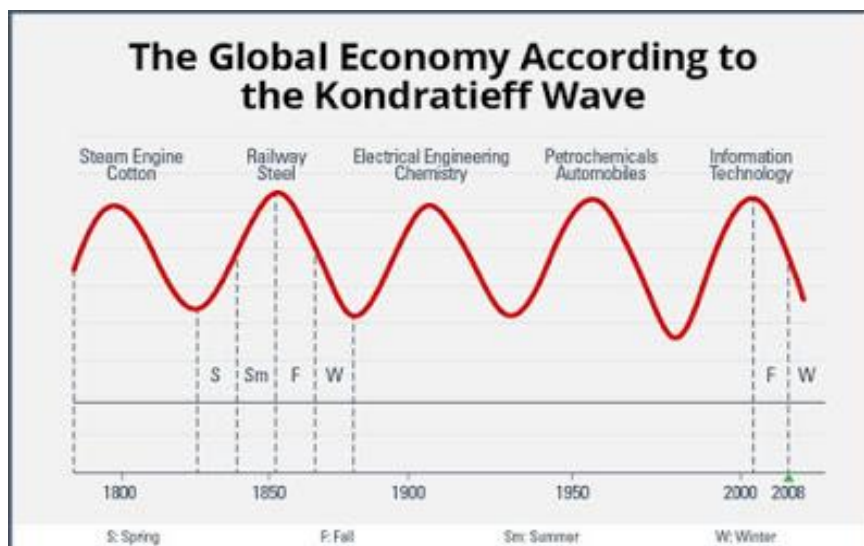
## 5. THE EFFECT OF TECHNOLOGY ON GLOBALIZATION

Technology is considered to be one of the driving forces of the process of globalization that began in the 18<sup>th</sup> century and continued until the 21<sup>st</sup> century, going through three different industrial revolutions.

The first industrial revolution was in the 18<sup>th</sup> century and took place in the manufacturing industry; the second industrial revolution was in the services industry; the third industrialization of the 21<sup>st</sup> century is still ongoing and is known as the “information age”, since it is associated with the digital revolution that we are living over the last years.

This technological development is well described by the “Kondratiev long wave process”, which is a diagram elaborated by the Russian economist Nikolaj Kondrat’ev (1892-1938) describing the different “Kondratiev waves” or technological “super cycles” that have taken place since the first industrial revolution (figure 1.8).

**Figure 1.8: "Nikolai Kondratiev' Long Wave": The Mirror of the Global Economic Crisis" - by Alexander Aivazov and Andrey Kobayakov**



In particular, according to the chart the main technological changes at the base of the first process of industrialization were the discovery of the steam engine in 1796 by James Watt and the following diffusion of the steam locomotive and the railway steel. These innovations, along with the advent of the containerization in 1956 and the introduction of the propulsion technology and the “Jet Aircraft” in 1950s, were dramatically important because they produced a drastic reduction in transportation costs and promoted a “global shrinkage” in terms of distances, allowing countries to ship goods from place to place and from continents to continents and to exploit their comparative advantages in trade.

The revolution we are living today, instead, is called “Information Age” and corresponds to the fifth cycle of the “Kondratiev Wave process”.

The most important driving factor of this new wave of technological change is the invention of the Internet and the World Wide Web that have revolutionized the way through which information is passed and transferred and have brought to the creation of an economy based on knowledge.

The main advantages of the Internet -generally described as "a decentralized and global medium of communication comprising a global web of linked networks and computers"<sup>7</sup> - are constituted by the fact that in many different forms (video calls, emails, social media) it favours a real-time communication faster than any other device available and it represents a huge source of knowledge easily accessible by anyone all over the world.

Besides, the Internet has given growth to the E-commerce (i.e. business activities conducted by means of electronic networks) bringing new dynamics to the globalization of businesses, since by now virtual economic activities can be set up and traded on a global scale ignoring boundaries between states and since the new digital means provide companies with a cheaper and more instantaneous way of communication between each other and their consumers globally. So, for example, monsters like Amazon, eBay and Alibaba have sprung up thanks to the Internet that has made the world smaller and brought people closer regardless of where they are in the world.

Then, another sector that has been subject to a big impact because of the technological globalization occurred after the breakthrough represented by the ICT technologies is the financial sector, where the spread of information based on technology has allowed people around the world who use electronic devices to exchange money 24/7 without leaving their house.

Finally, technology has also had an effect on the process of globalization with inventions like the telephone and the television: the telephone has made it feasible for anyone to talk to each other regardless of their geographical position, thanks to the help of satellites and mobile phones; the television, instead, has connected different parts of the world giving the chance to people to explore different worlds on different channels by simply touching a button on a remote control.

## **6. THE PROS AND CONS OF GLOBALIZATION**

It's very complicated to come to a general agreement on the issue of globalization.

Every process, in fact, has its advantages and disadvantages, and globalization is no exception. So, today we have two categories of people in the world: those supporting globalization and those opposing it.

<sup>7</sup>ACLU v Reno 929 Fsupp 824 (ED Pa 1996).

The supporters of globalization argue that:

- it opens the borders between the nations and increases the awareness about the differences between us (racial, religious, traditions); this means that globalization helps us become more open and tolerant towards each other and people living in other parts of the world;
- it increases mobility of persons, goods, capital, data and ideas;
- it offers a global market for companies and consumers who can have access to goods and services from different countries;
- it promotes free trade, which is a driver for global economic growth: creates jobs, helps firms to be more competitive and lowers prices for consumers;
- it generates employment opportunities for those people who don't have a job, especially in less developed economies;
- it reduces the amount of population that lives below the level of poverty through the effect of job creation, helping citizens in developing nations get a job and ensuring the survival of their family improving their living standard;
- it provides poor countries, through infusions of foreign capital and technology, with the chance to develop economically; besides, it brings more job opportunities in these countries when multinational companies move their production operations within their borders;
- it raises the rate of education;
- it offers people products with a higher quality thanks to the introduction of more technological means of production;
- it enables the development and the transfer of advanced technologies, triggering "spillovers effects";
- it helps the diffusion of knowledge through the Internet.

The opponents of globalization, instead, argue that:

- it makes the rich richer and poor poorer;
- it generates a wider gap in wealth distribution, since free trade kills competition by letting the developed countries surpass the poor ones;
- it makes multinational corporations flourish and kills the small companies and the middle-class; giants like Google, McDonald's, Exxon, Chevron, in fact, have the power to make the rules and small firms can simply follow the trends;
- it represents a big problem for developed countries because of the fact that their jobs are lost and transferred to lower cost countries;
- it leads to exploitation of labor, because to produce cheap products workers are obliged to work in inhumane conditions, safety standards are ignored and there is an increase in human trafficking;



- it has a negative impact on taxation because multi-national corporations can exploit tax heavens in other countries such as Switzerland, Luxembourg and Honk Kong to avoid paying taxes;
- it determines a loss of culture since it has destroyed traditions of hundreds of nations and tribes;
- it provokes the spread of diseases due to the increasing flow of people;
- multinational corporations are accused of social injustice, unfair working conditions, lack of attention for environment, mismanagement of natural resources, and ecological damage;
- multinational companies are obtaining a lot of power to influence political decisions;
- building products overseas in countries like China entails the risk that our technologies are copied or stolen;
- governments of developing countries start to compete with each other by deregulating their policy to attract foreign direct investment (FDI) and multi-national corporations (MNCs);
- because of globalization nations lose their individual sovereignty in favour of supranational political structures<sup>8</sup>.

<sup>8</sup> Mike Collins, *The pros and cons of globalization*, Forbes.

## CHAPTER II

### Global Value Chains

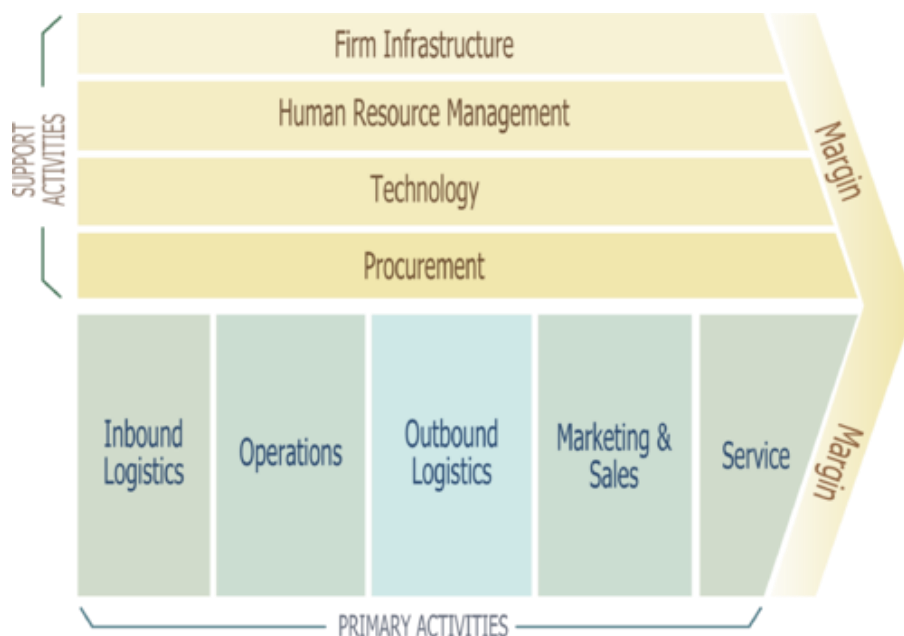
#### 1. THE DEFINITION OF VALUE CHAIN

In the current globalized world, economic activities are international not only in the scope but also in the organization, which is represented by the “value chain”.

The value chain describes the full range of productive value-added activities that firms and workers perform to bring a good or a service from its conception to its end use and beyond<sup>9</sup>.

This includes two main categories of activities: **primary activities** and **support activities** (figure 1.9).

**Figure 1.9: Value Chain**



At the primary level, the functions of the value chain are inbound and outbound logistics, operations, marketing and sales, and finally, service.

**Inbound logistics** includes all the activities relating to procuring and receiving inputs, such as inbound shipping, warehousing, and inventory management;

**Operations** include any activity that adds value to the inputs, such as assembling and manufacturing the finished goods;

<sup>9</sup>Daria Taglioni-Deborah Winkler, *Making Global Value Chains work for development*, World Bank Group, pp.12.

**Outbound logistics** involves warehousing the finished goods, maintaining inventories, fulfilling orders, and shipping goods to customers;

**Marketing and sales** is any activity performed to get customers to purchase the product;

Finally, **service** includes activities such as warranty repair service and customer support.

The support activities, on the contrary, facilitate the efficiency of the primary activities. The four support activities of the value-chain are procurement, technological development, human resource management and company infrastructure.

**Procurement** is what the organization does to get the resources it needs to operate;

**Human resource management** refers to how well companies recruit, hire, motivate, reward and retain their workers, keeping in mind that people represent a fundamental source of value for firms;

**Technological development** includes all the activities relative to managing and processing information, minimizing information technology costs, and maintaining technical excellence as sources of value creation;

**Infrastructure**, eventually, includes all the company support systems and the functions that allow it to maintain daily operations. Among these tasks we can list accounting, legal, administrative and general management which are examples of infrastructures that businesses can use to their advantage<sup>10</sup>.

Now, while in the past all these activities were located within a single geographic area or even a single firm, today the globalization induces companies to optimise their production processes by locating the different stages across multiple countries and geographical sites. For example, a car can use labour and materials from different suppliers in different countries, can be designed in Germany, assembled in China and ultimately sold in other places.

Hence the term “global value chain” to identify a production structure that includes steps, processes and actors from two or more countries, in which tasks and business functions are distributed among several companies, globally or regionally, and characterized by cross-border movements of know-how, investments, and human capital<sup>11</sup>.

## 2. TYPES OF VALUE-CHAINS

There is a large variety of overlapping definitions for value-chain, each of which has an emphasis on a particular aspect of the chain:

- **Supply-chains**: a generic definition for an input-output structure of value-added activities, beginning with raw materials and ending with the finished product;

<sup>10</sup>Value Chain, Available at <https://www.investopedia.com/video/play/value-chain/>. Accessed 6 December 2017.

<sup>11</sup>Daria Taglioni-Deborah Winkler, *Making Global Value Chains work for development*, World Bank Group, pp.12.

- **International production networks:** it puts an emphasis on the international networks in which multinational companies act as “global network flagships” (Borrus et. Al. 2000);
- **Global commodity chains:** the emphasis is on the internal governance structure of the value-chain and on the role of different lead firms in the GVCs (Gereffi and Korzeniewicz 1994);
- **French filière approach:** an approach that uses the *filière* (chain) of activities as a method to study primarily agricultural export commodities as rubber, cotton, coffee, and cocoa ( Raikes et al. 2000);
- **Global value chain:** the focus is on all those activities that are necessary to bring a good or a service from its conception to the final consumer, including the design and the assembly of the product, the marketing strategy, the delivery to the consumer and the final disposal after use<sup>12</sup>.

### 3. VALUE CHAIN GOVERNANCE

A central concept to the value chain analysis is the governance of GVCs.

The idea of governance refers to the fact that some firms in the chain (called “lead firms”) directly or indirectly influence the activities of other firms in the chain. Specifically, governance may be defined as the “non-market coordination of economic activity”<sup>13</sup>. This coordination is achieved through the setting and enforcement by some lead firms of product and process parameters under which other actors in the chain operate.

This lead role can be played by a big variety of firms and leads to Gereffi’s distinction between “producer-driven” and “buyer-driven” global value chains (Gereffi 1994).

Precisely, in producer-driven chains, the key parameters are set by firms which control key products and process technologies - like for example in the car industry; in buyer-driven chains, on the contrary, the key parameters are set by retailers and brand-name firms which focus on design and marketing.

In particular, the four key parameters set in a value-chain are the following:

1. **What is to be produced;**
2. **How it is to be produced;**
3. **When it is to be produced;**
4. **How much is to be produced.**

Among these parameters, we may say that the principal criteria for value chain governance are those at the first two points: what is to be produced, and how it is to be produced.

Regarding the product definition, the buyer can provide different levels of specification.

<sup>12</sup>Gary Gereffi—John Humphrey-Raphael Kaplinsky-Timothy J.Sturgeon , *Introduction: Globalisation, Value Chains and Development*, Institute of Development Studies, pp.3-4.

<sup>13</sup>John Humphrey- Hubert Schmitz, *Governance in Global Value Chains*, Institute of Development Studies, pp.1.

For example, it can set a design problem for the producer, which the producer then solves by providing its technology and design. At the same time, it can provide a particular design for the producer to work on or even provide detailed drawings for the producer.

The second point, instead, involves the definition of production processes, which include elements such as the technology to be used, quality systems, labour standards and environmental standards.

Now, over the last decades the role and the importance of governance and lead companies are becoming really crucial in global value chains. The reasons are various, but we want to underline the following:

- **Market access**: through the governance structures they create, lead firms take decisions that have important consequences for the access of developing country companies to international markets. The dismantling of trade barriers, in fact, doesn't allow poor country companies to automatically gain market access because the chains which producers feed into are often governed by a limited number of buyers;

- **Fast track to acquisition of production capabilities**: producers from developing economies that have the opportunity to have access to global value chains and international networks tend to find themselves on a steep learning curve. Lead firms, in fact, usually transmit best practices and provide hands-on advice to these firms on how to improve layout, production flows and raise skill. This explains why relatively underdeveloped regions sometimes become major export producers in a short period of time, such as in the case of the Brazilian shoe industry in the early 1970s and the Vietnamese garment industry in the late 1990s;

- **Distribution of gains**: understanding the governance of a chain helps to clarify the distribution of gains along the chain. In this respect, the ability to govern often refers to intangible skills and competencies (R&D, design, branding, marketing ) which are characterized by high barriers of entry and high returns – normally acquired by developed country firms. On the contrary, developing country firms tend to be locked into tangible production activities and competencies, producing the parameters set by the lead firms, suffering from low barriers of entry and reaping low returns;

- **Funnel for technical assistance**: the governance system imposed by lead firms of value-chains represents the entry point for reaching out to a multitude of distant small and medium sized suppliers. This is made, for example, by means of TMC-SME partnerships (Transnational Companies-Small Medium Enterprises partnerships) that are undertaken with the objective of providing effective technical assistance to developing country producers;

- **Leverage points for policy initiatives**: global value chains can offer new leverage points for government initiatives. For instance, the fact that some chains are governed by lead firms

from developed countries provides leverage for influencing what happens in suppliers from developing countries<sup>14</sup>.

That said, the power of governance can be operated by lead firms through several forms. More in details, we may distinguish among five different GVC governance patterns (figure 2):

- **MARKETS**: markets are the simplest form of global value chain governance. GVCs governed by markets contain companies and people that buy and sell products to one another with little interaction beyond exchanging goods and services for money. That's the reason why it's said that the central governance mechanism in this kind of model is price;

- **MODULAR VALUE CHAINS**: the modular value chain is the most market-like among the different governance patterns. Typically in this type of structure suppliers make products or provide services to a customer's specifications, taking full responsibility for process technology and often using generic machinery that spreads investments across a wide customer base. This determines the fact that switching costs are kept low and transaction-specific investments are limited, even though buyer-supplier interactions can be very complex. Linkages (or relationships) are more substantial than in simple markets because there is a high volume of information that flows across the inter-firm link but ,at the same time ,codification schemes can prevent interactions between value chain partners from becoming highly complicated and difficult to manage;

- **RELATIONAL VALUE CHAINS**: in this governance structure, interactions between buyers and sellers are characterized by a transfer of information and services based on mutual reliance regulated through reputation, social and spatial proximity, family and ethnic ties. However, despite mutual dependence the lead firm controls the highest valued activity in the chain and thus has the ability to exert more control over the supplier. About producers, instead, they are more likely to supply products differentiated in the marketplace as a result of their complexity, quality, origin or other desirable characteristics. So the result is that dense interactions and knowledge sharing occur, but unlike modular networks, this knowledge cannot be codified, easily transmitted or learned. Furthermore, relational linkages need time to be built, so the costs and difficulties involved in switching to new partners tend to be high;

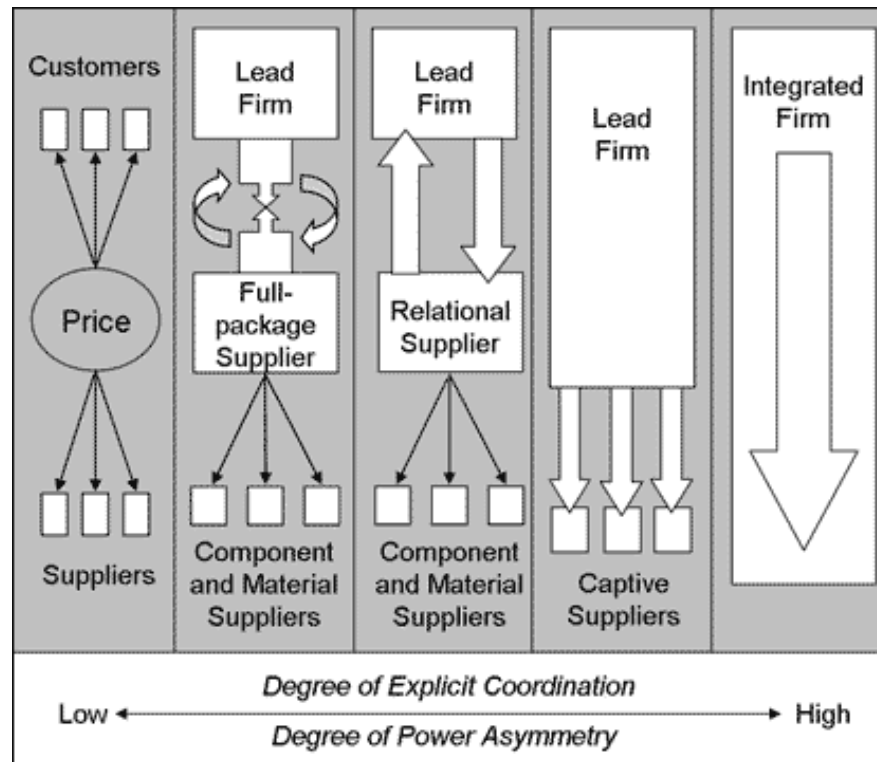
- **CAPTIVE VALUE CHAINS**: in this GVC governance pattern, small suppliers tend to be dependent on larger and dominant buyers because these networks are frequently characterized by a high degree of monitoring and control by the lead firm. This raises switching costs for suppliers (which are "captive") and leads to tight linkages all around in the structure;

- **HIERARCHICAL VALUE CHAINS**: this governance pattern is characterized by vertical integration (i.e. "transactions" take place inside a single firm). So, the dominant form of governance is the managerial control<sup>15</sup>.

<sup>14</sup>John Humphrey- Hubert Schmitz, *Governance in Global Value Chains*, Institute of Development Studies, pp.3-6.

<sup>15</sup>*Concept and tools*, Available at <https://globalvaluechains.org/concept-tools>. Accessed 6 December 2017.

**Figure 2: GVCs governance patterns**



#### 4. INDUSTRIAL UPGRADING

Typically global value chains are not something static since companies within GVCs have both economic reasons (increase in profitability) and non-economic reasons (increase of skills and competences) to perform a greater quantity of tasks.

With regard to that, Gereffi and Rossi introduced the concept of “upgrading” to indicate several kinds of shifts that firms or groups of firms very often undertake to improve their competitive position in global value chains.

Precisely, they define the upgrading as “the movement towards productive activities with higher value, technology, knowledge and skills and increased profits derived from participation in global production chains” (Barrientos Gereffi, ROSSI, 2011).

The types of industrial upgrading that firms can undertake are:

- **PRODUCT UPGRADING:** it consists of upgrading a product by moving into more sophisticated product lines characterized by a higher product quality and an increasing value for consumers. Normally this kind of upgrading arises from changes in consumer preferences and from their desire of higher quality goods or services; this means that to remain competitive in rapidly changing markets companies have to be able to upgrade their products continuously in order to adapt to new trends and achieve higher standards;
- **PROCESS UPGRADING:** this is when companies upgrade their processes by transforming inputs into outputs more efficiently through a better technology or reorganising the production

systems. The main goal of the process upgrading, in particular, is to cut the per-unit cost of production achieving a superior productivity of the company on the market;

- **FUNCTIONAL UPGRADING:** functional upgrading occurs when companies enter a new and higher value-added function or level in the value chain, such as moving from production to design or marketing. There are two ways through which a functional upgrading can take place: 1) a level of firms is eliminated, changing the structure of the chain and improving the quality of information that flows to the MSE producer; 2) a MSE producer acquires a productive capacity in higher-value stages to capture a higher product value;

- **VERTICAL INTEGRATION:** it occurs when firms move backward or forward to different stages in the value chain, such as moving from the production of finished goods to intermediates or raw materials;

- **NETWORK UPGRADING:** this is when firms try to diversify their buyer-supplier linkages within a value-chain; an example is an apparel maker that adds different types of lead firms ,such as an upscale retailer or a brand-name client to expand or raise the price points of its orders;

- **INTER-CHAIN UPGRADING OR INTERSECTORAL UPGRADING:** inter-chain upgrading is when a company uses the competences, knowledge or technologies acquired in a particular function of a chain to a new sector;

- **CHANNEL UPGRADING:** channel upgrading, finally, occurs when firms enter one or more new markets (domestic, regional or global) in the same basic product-. This provides MSE producers with more effective risk management options and the capacity to enter new channels. Besides, channel upgrading is also a response to changing market conditions, as when new markets open up, old ones shut down, consumer preferences change, and prices fluctuate in existing markets<sup>16</sup>.

## 5. MEASUREMENT OF GLOBAL VALUE CHAINS

A fundamental aspect of researches about GVCs is the way they are measured.

In general, there are three main metrics that are used to measure the value of a global value chain:

- **PROFITS:** the profitability, especially the return on capital employed, is the most important indicator used to assess the value of global value chain. The main limit with this criterion is that capital (whose reward is profit) is just one factor of production; as a consequence, it doesn't tell us anything about the productivity of labour or the economy at large. At the same time, it's really difficult to get public data about profit rates for many firms and very often these data are not sufficiently disaggregated to allow us to measure value at the different stages of the global value chain;

<sup>16</sup>Gary Gereffi-John Humphrey-Raphael Kaplinsky-Timothy J.Sturgeon, *Introduction: Globalisation, Value Chains and Development*, Institute of Development Studies, pp.6.



- **VALUE ADDED**: the distribution of value added along the value chain is another indicator used to measure the value of a GVC. It can be calculated into two different ways.

The first way is calculating the value-added for different links in the chain. For example, a dress selling at \$100 in the USA might be divided into \$6 going to workers, \$22.50 for fabric, \$12.50 for the manufacturer, and \$50 to the retailer.

The second way is to look at the distribution of the value added by countries or regions, by using, for example, import-export data, industry reports and primary researches:

- **PRICE MARKUPS**: the price mark-up is probably the most unreliable indicator of the value added due to the different actors of the chain. It says that, for example, the higher the margin on sales, the higher the share of value chain rents. This indicator is clearly imperfect because it means very little unless it is related to the volume of transactions or to the activities at the base of the increments in price. For instance, mass or discount retail value chains have very low price mark-ups per item, however their high volume of sales may generate high rates of profitability<sup>17</sup>.

## 6. STARBUCKS: AN EXAMPLE OF GLOBAL VALUE CHAIN

An example of a company with a really global value chain is Starbucks.



<sup>17</sup>Gary Gereffi—John Humphrey-Raphael Kaplinsky-Timothy J.Sturgeon, *Introduction: Globalisation, Value Chains and Development*, Institute of Development Studies, pp.7.



Starbucks supply chain was subjected to a huge restructuring in 2010 when Howard Schultz returned to the role of CEO. This revolution has involved both primary and support activities of the value-chain and has led to the creation of a global logistics system.

In particular, the principal features of primary activities in Starbucks value-chain are:

**Inbound logistics:**

The inbound logistics for Starbucks aims at selecting the finest quality of coffee beans from coffee producers in Latin America, Africa and Asia. These coffee beans are brought to the US and Europe in containers via sea and then delivered to six regional distribution centres ranging from 200,000 to 300,000 square feet in size, where they are roasted ,packaged and taken to dozens of central distribution centres all over the world;

**Operations:**

Starbucks operates in 65 countries in the form of direct stores operated by the company and as licensed stores. It has more than 21,000 stores at international level, which includes Starbucks Coffee, Teavana, Seattle’s Best Coffee and Evolution Fresh retail locations;

**Outbound logistics:**

There is very little or no presence of intermediaries in product selling. The majority of the products are sold by Starbucks in their own or licensed stores only. Besides, the company has launched a new range of single-origin coffees which will be sold through some leading retailers in the U.S.; these are Guatemala Laguna de Ayarza, Rwanda Rift Valley and Timor Mount Ramelau;

**Marketing and sales:**

Starbucks invests in superior quality products and higher level of customer services rather than using aggressive marketing activities. However, marketing campaigns are carried out by the company during new products launches in the form of sampling in areas around the stores;

**Service:**

Starbucks aims at building customer loyalty through high level of customer service at its stores. The retail objective of Starbucks is “to be the leading retailer and brand of coffee in each of our target markets by selling the finest quality coffee and related products, and by providing each customer a unique *Starbucks Experience*”.

**The main characteristics of support activities in Starbucks value-chain, instead, are:****Infrastructure:**

This includes all departments like management, finance, legal, etc, which are required to keep the company’s stores operational;

**Human Resource Management:**

The workforce is considered a key factor in the company’s success and growth. Starbucks employees are motivated through generous benefits and incentives and there are many training programs created for employees with the clear objective of keeping the staff motivated and efficient;

**Technology Development:**

Starbucks is well known for the use of technology not only for coffee related processes but to connect to its customers. For instance, many customers use Starbucks stores as a meeting place because of the free and unlimited wi-fi availability;

**Procurement:**

This involves procuring the raw materials for the final product. In this respect, the company agents travel to Asia, Latin America and Africa for the procurement of high grade raw materials to bring the finest coffee to its customers. In order to do that, the agents establish strategic relationship and partnership with a supplier which is built up after communication about the company standards<sup>18</sup>.

<sup>18</sup>*Starbucks as an example of the value chain model*, Available at <https://www.investopedia.com/articles/investing/103114/starbucks-example-value-chain-model.asp>, Accessed 6 December 2017.

## CHAPTER III

### The role of services in global value chains

#### 1. THE CONCEPT OF SERVICIFICATION

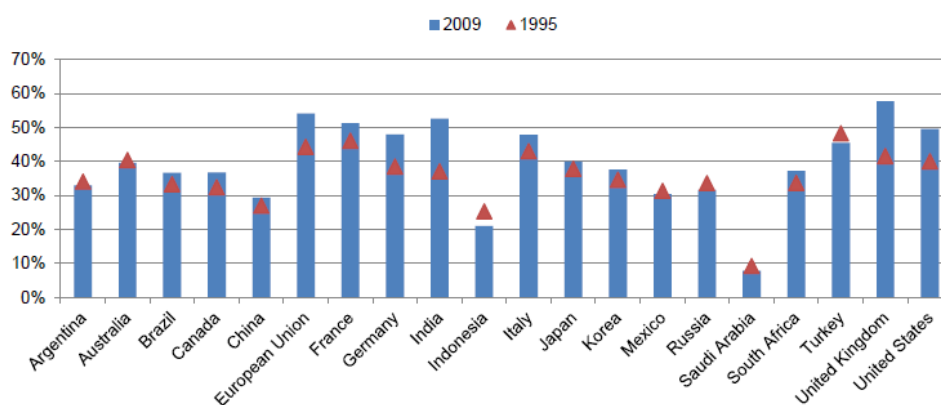
The predominance of global value chains is one of the most important factors characterizing international trade today.

A key role within these international networks has been played over the last years by the increasing use of services in manufacturing, both in terms of production processes and sales/exports<sup>19</sup>.

For a long time, in fact, trade in services has been considered as contributing only about one-fifth of world trade.

The average services content of exports for G20 economies in 2009, instead, raised to 42%, while it was at or above 50% for countries such as the United States, the United Kingdom, India, France, and the European Union as a whole, as shown by the figure 2.1.

**Figure 2.1: Services value-added in gross exports (%)**



Source: OECD/WTO TIVA database, May 2013 release.

Specifically, data represented in the diagram show that many services are embodied in the production of goods that are then exported, and therefore the services content of goods trade is much higher when accounting for all the value-added originating in the services sector<sup>20</sup>.

To indicate the current pervasiveness of services in almost every activity of the economy, it has been coined the term “**servicification**” or “manuservice economy”.

<sup>19</sup>Patrick Low, *The role of Services in Global Value Chains*, Fung Global Institute, pp.5.

<sup>20</sup>OECD, WTO and World Bank Group report 2014, *Global value chains: challenges, opportunities, and implications for policy*, pp.15-16.

In particular, there are two features of services that merit special focus and attention.

One is that the very existence of GVCs is due to improvements in services as transport, communication, and computing that have made it possible to fragment and coordinate production activities globally.

Another is the evidence that when global value chains include finance, communications, transport, professional and other business services, companies perform better. These services, in fact, enable firms to invest in new business opportunities and better production technologies, to exploit economies of scale by concentrating production in fewer locations, to efficiently manage inventories, and to make coordinated decisions with their suppliers and customers. The result is represented by an increased total factor productivity and by the possibility of exploiting the gains of the comparative advantage theory<sup>21</sup>.

Just to have an idea of the importance of services in the current economical transactions, there is a case study by the Swedish multinational “Sandvik Tooling“(Kommerskollegium, 2010b) revealing that in order to manage the supply chain and deliver goods, the firm had recourse to 40 discrete services, while a further 12 services were required to handle customer delivery (figure 2.2).

**Figure 2.2: Services necessary to the Sandvik Tools supply chain**

<p><i>Services for operating the supply chain</i></p> <p>Legal services; Accounting, book-keeping etc.; Taxation services; Medical services; Computer services; Research and development; Rental/Leasing; Advertising; Market research; Services incidental to manufacturing; Placement of personnel; Maintenance and repair; Security services; Packaging; Printing; Publishing; Design; Building-cleaning services; Photographic services; Courier services; Logistic services; Postal services; Telecommunications; Audio-Visual services; Educational services; Environmental services; Banking services; Insurances; Health related services; Hotels and restaurants; Travel agency services; Maritime transport – freight; Inland waterways – freight; Inland waterways – freight; Air transport - freight/passenger; Road transport – freight/passenger; Cargo-handling services; Storage and warehouse services; Freight transport agency services; Feeder services; Energy services.</p>
<p><i>Services for customer delivery</i></p> <p>Computer services; Research and development; Rental/leasing; Maintenance and repair; Management consulting; Technical testing and analysis services; Services incidental to manufacturing; Design; Environmental services; Financial services; Logistics; Warehouse services.</p>

<sup>21</sup>Cecilia Heuser-Aaditya Matoo, *Services Trade and Global Value Chains*, Policy Research Working Paper 8126 by World Bank Group, pp.3.

This large variety includes high value-added and low value-added activities, tradable and not tradable services, in-house and arm's length services, and outsourced and offshored activities<sup>22</sup>.

All these different types of services can be classified into two general categories corresponding to two big roles that services can play to promote the transformation of international trade:

services as *enablers* of GVCs and as *tasks*.

## 2. SERVICES AS ENABLERS IN VALUE CHAIN

The enabling services in GVCs are those services that support the creation of value chains in both goods and services and include a wide range of key services such as communications, insurance, finance, computer and information services, and other business services<sup>23</sup>.

These services belong to the category of "other commercial services" that has registered the most rapid growth in world services, increasing from 40% to 53% of total services trade between 1995 and 2010, and has been the single fastest growing component of all world trade over the past years.

UNCTAD (United Nations Conference on Trade and Development), for example, estimated in 2009 that almost half of cross-border trade in services was enabled by commercial services and ICT technologies that have allowed global value chains to emerge, making it possible for firms to manage production processes that are geographically split.

An example of GVC in which services work as enablers is the production of the Texas Instruments' high-speed telecommunications chip TCM9055, which involves the following steps and professionals:

- Information technology experts undertaking design quality improvement strategies for digital phone equipment (Sweden);
- Designers creating blueprints for the chip (France);
- Subsidiary firms producing prototypes (Japan);
- Production dispersed in various locations (worldwide);
- Telecommunications System (Taiwan);
- Firms packaging the finished chips (Southeast Asia);
- Chips implanted into Ericsson phone switches (U.S., Mexico, Australia);
- Chips shipped to global outlets (insurance and transport);
- Chips distributed to sellers worldwide (distribution).

<sup>22</sup>Patrick Low, *The role of Services in Global Value Chains*, Fung Global Institute, pp.5-6.

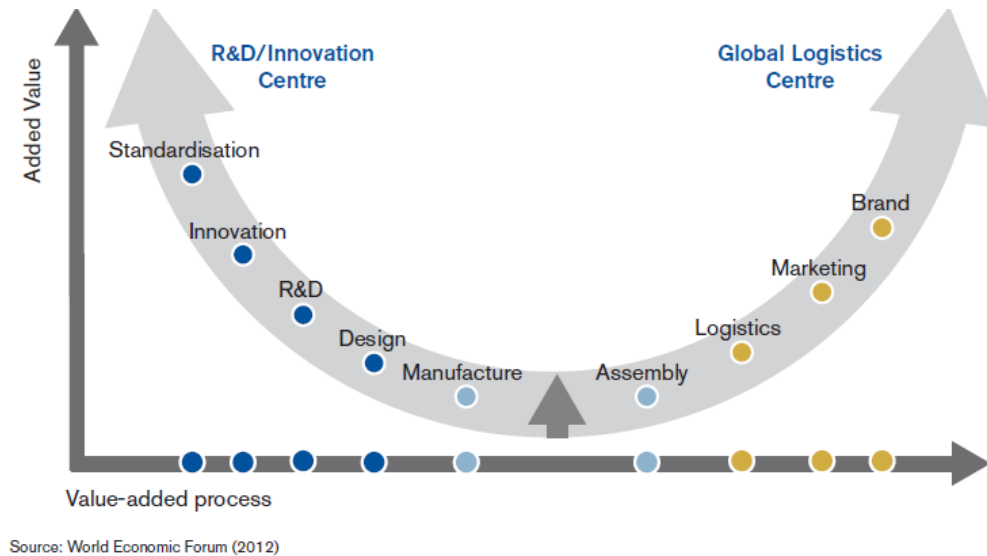
<sup>23</sup>*Global Value Chains and Services-An introduction*, Kommerskollegium, pp.6.

### 3. SERVICES AS TASKS IN VALUE CHAIN

Beyond their role as enablers of GVCs, services can work and be traded as separate tasks with high value-added. Regarding that, many companies operating at national or international level are outsourcing not only the assembly of goods but also many services as single tasks, creating a pure services value chain.

A good representation of this new value chain where services are in the foreground is the “smiley model” (figure 2.3).

**Figure 2.3: “Smiley Face”**



This diagram is a stylised conceptual model created by Stan Shih, the founder of Acer, describing the opportunities that exist on a value chain to produce higher value-added components upstream and downstream of manufacturing and assembly. In particular, in the model the value chain begins with upstream activities such as R&D and design, continues via manufacturing and assembly and finishes with downstream activities such as marketing, brand management and after sales services. The most value-added activities are usually found at the beginning and at the end of the chain where intellectual property is created and where services dominate over manufacturing. Besides, standardized services are also used in the middle of the chain, but here they generate less value. This relationship between services and value chains can be depicted in the shape of a “smiley face”.

Now, researches about pure services chains show that they are present in many different service sectors, such as banking, tourism, education, health, audiovisual, IT and business processing services. For example, this kind of chain can be found in Mojang, a company operating in the game industry, where the majority of value-added along the chain is concentrated in the brand and the innovation, followed by design, R&D, manufacturing and assembly, while distribution creates less value.

That said, it is right to underline that the distinction between services as enablers and as task is not so clear because some of services normally classified as enabling can be also seen as tasks, like for instance design and engineering services<sup>24</sup>.

#### 4. THE IMPERFECT STATISTICAL IDENTIFICATION OF SERVICES

Identifying and measuring the value of services in global value chains is troublesome. The reasons are various and mainly are associated to the heterogeneous nature of many service transactions and to the lack of a generally accepted nomenclature for services.

For example, services can be classified into “embodied” and “embedded”.

The first are those services whose products constitute an input for the production of a good, such as transport, telecommunications, financial services and business services; the latter, instead, are those constituting an input into the sale of a good, such as after-sales support, retail, and inventory management.

The distinction between these two categories is not clear first of all because it cuts key service sectors and does not match fully with some kinds of services such as management, administration and back office functions or information technology systems, which might be both embodied or embedded.

Secondly, these categories do not distinguish between arm’s length (i.e. a transaction in which the buyers and sellers of a product act independently and have no relationship to each other) and non-arm’s length transactions<sup>25</sup>.

Moreover, the statistical identification of services is not easy due to five features of services that make difficult the computation:

- Lack of ownership;
- Intangibility;
- Inseparability;
- Perishability;
- Heterogeneity;
- Variability.

**Lack of ownership** is a basic difference between a service industry and a product industry; it means that you cannot own a service and you cannot store a service the way you can store a product, given that services are used or hired for a limited period of time. For example, when you buy an aeroplane ticket to fly everywhere, you are buying a service which will start at the beginning of the flight and finish at the end of the flight;

The concept of **intangibility** of services, instead, refers to the fact that a service cannot be seen, smelled, tasted, touched, or stored because it is something that customers experience, and

<sup>24</sup>*Global Value Chains and Services-An introduction*, Kammerskollegium, pp.6-9.

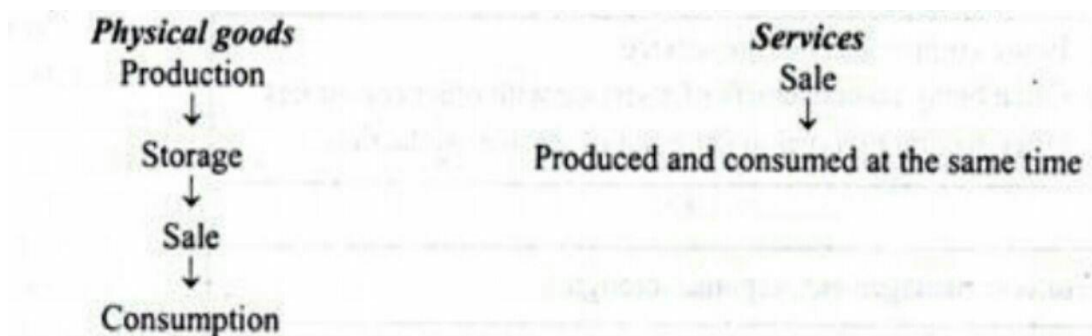
<sup>25</sup>Patrick Low, *The role of Services in Global Value Chains*, Fung Global Institute, pp.11.



experience is not a physical product. This determines the fact that the potential customer is unable to perceive the service before (and sometimes during and after) the service delivery;

The **inseparability** means that services cannot be separated from service providers. In fact, unlike a product that can be taken away from the producer, a service cannot be taken away as it involves the service provider or its representatives. Specifically, there is a significant distinction between physical goods and services in terms of the sequence of production and consumption, as the graph below shows (figure 2.4):

**Figure 2.4: Sequence of production and consumption**



The diagram says that while goods are first produced, then stored, and finally sold and consumed, services are first sold, then produced and consumed simultaneously;

The **perishability** is the characteristic for which services last a specific time and cannot be stored like a product for later use. An example could be represented by an interior designer that can design a property once, but if you would like to redesign the house you will need to purchase the service again;

The **heterogeneity** means that firms have systems and procedures to ensure that they provide a consistent service even though it is very difficult to make each service experience identical. For example, two identical plane journeys may feel different to the passengers due to circumstances beyond the airline's control such as weather conditions or other passengers on the plane;

The **variability** of a service, finally, is an unavoidable consequence of simultaneous production and consumption. The quality of the service, in fact, may vary depending on who provides it, as well as when and how it is provided. For example, one hotel can provide a fast efficient service while another one, short distance away, a slow and inefficient service<sup>26</sup>.

All these factors translate into the fact that it is not easy to identify separately all the individual services that constitute the value of a product. The figure 2.5 is a good graphical representation of the difficulties encountered to disaggregate the range of services making up the value chain for a coat.

<sup>26</sup>Service marketing, Available at <http://www.learnmarketing.net/servicemarketing.htm>. Accessed 13 December 2017.

**Figure 2.5: value-chain of a suit made in China and sold in the USA**



Source: Fung Global Institute

The diagram shows that of the \$425 price for the jacket, only 9 per cent of this price is associated with the jacket, while the remaining 91 per cent is associated to some “invisible” assets. These invisible assets include both upstream sources of value, such as design, intellectual property, branding and so on, and downstream elements, like advertising, marketing and retailing.

It’s evident, however, that disentangling all these different sources of value is a formidable but complicated task<sup>27</sup>.

## 5. THE PROCESS OF UPGRADING

Services are becoming always more and more important in the process of upgrading by companies. As it has been already said in the previous chapter about the global value chains, Kaplinsky and Morris (2001) distinguish 4 different types of upgrading: process, product, functional and chain.

Process upgrading concerns the efficiency gains obtained by optimizing the production processes of the company;

Product upgrading involves the improvement of an existing product or the introduction of a new product on the market through the acquisition of technological skills and capabilities;

Functional upgrading is when a company decides to move to a segment of the value chain with more value-added;

Finally, chain upgrading means taking part to a different and higher value added value chain<sup>28</sup>.

<sup>27</sup>Patrick Low, *The role of Services in Global Value Chains*, Fung Global Institute, pp.4-5.

<sup>28</sup>Patrick Low, *The role of Services in Global Value Chains*, Fung Global Institute, pp.9.

In this context, the role of services is by now considerably significant since they are used throughout the value chain to upgrade the quality of products, differentiating and customizing them, to lower costs, and to enhance the overall efficiency of the firm.

For example, it has been demonstrated that only 9% of the value of a USD 450 men's suit jacket made in China and exported to the USA can be referred to direct manufacturing costs, while the rest is associated to various services, intellectual property, profits, and other "invisibles" that are difficult to quantify. At the same time, services are also used in agriculture through different stages of the value chain, such as agriculture-extension services and rental of equipment at the phase of the production, as well as packaging, warehousing and marketing in the phase of the distribution.

These are clear examples of the existence of a close relationship between services and intangible assets which raises the productivity of business processes without taking the form of normal physical capital<sup>29</sup>.

## 6. INTANGIBLE CAPITAL AND GVC PARTICIPATION

The changing nature of the world economy has given a considerable importance to intangible capital as a new source of growth.

Literally, intangible assets (or simply "intangibles") are non-monetary assets without physical substance.

They include corporate intellectual property, such as patents, trademarks, copyrights and business methodologies, but also goodwill, brand reputation, computerized databases, R&D design, firm-specific training and organizational efficiency, that represent long-term resources of a company deriving their value from intellectual or legal rights, and from the value they add to the other assets.

They exist in opposition to tangible assets, which include land, vehicles, equipment, inventory, stocks, bonds and cash which are characterized by the fact that they have a physical nature.

Intangible assets are generally classified into many different categories.

First of all, they can be divided into two big general groups:

**(1) Limited-life intangible assets**, such as patents, copyrights, and goodwill, and **(2) Unlimited-life intangible assets**, such as trademarks.

Then, they are classified into three more specific groups: computerized information, innovative property and economic competences.

**Computerized information** involves computer software and databases;

<sup>29</sup>OECD, WTO and World Bank Group report 2014, *Global value chains: challenges, opportunities, and implications for policy*, pp.16-17.

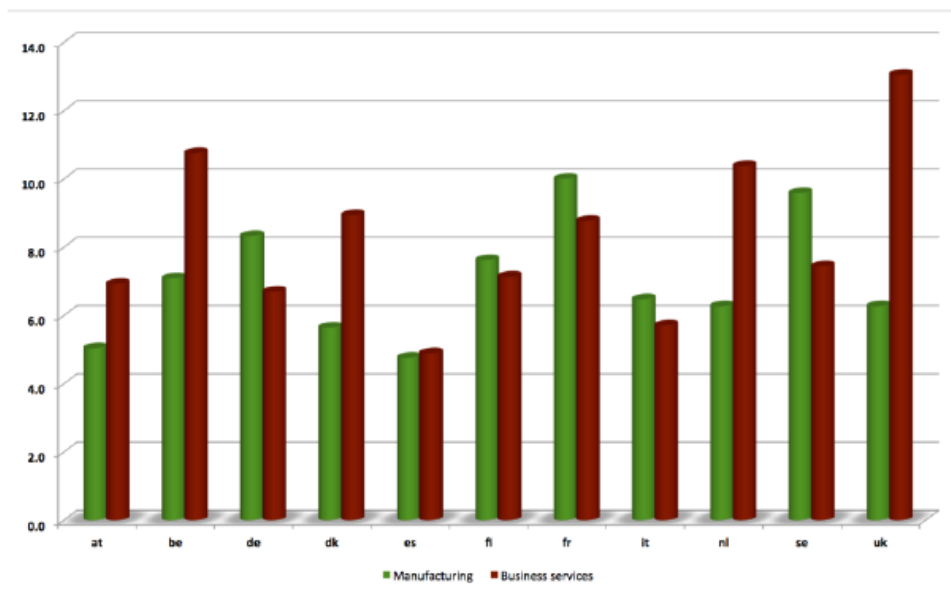
**Innovative property** refers to the innovative activity built on a scientific base of knowledge as well as to innovation and new products and processes created through the activity of R&D;

**Economic competences**, eventually, indicate spending on strategic planning, worker training, redesigning or reconfiguring existing products in existing markets, investment to retain or gain market share and investment in brand names.

Now, empirical evidence and data show that investments in intangible assets are strong drivers of growth and productivity since in advanced countries higher levels of intangible investments are associated with higher rates of productivity growth and a higher participation in global value chains. Some of these empirical studies indicate, for example, that many European countries are experiencing a shift from tangible to intangible investments, especially in sectors where they have a comparative advantage. This fast accumulation of intangible capital is driven by the rise of the digital economy, the global specialization in production, the general technological progress but, especially, the shift from industry to services.

In this respect, figure 2.6 shows that intangibles account for a higher share of value added in services (8.2%) than in manufacturing (7.0%) in six of eleven advanced European countries. This means that, in accordance to the graph, services are significantly more intangible intensive than manufacturing, especially in countries like the UK, the Netherlands, Denmark and Belgium, while in Austria and Spain the two sectors show relatively comparable shares.

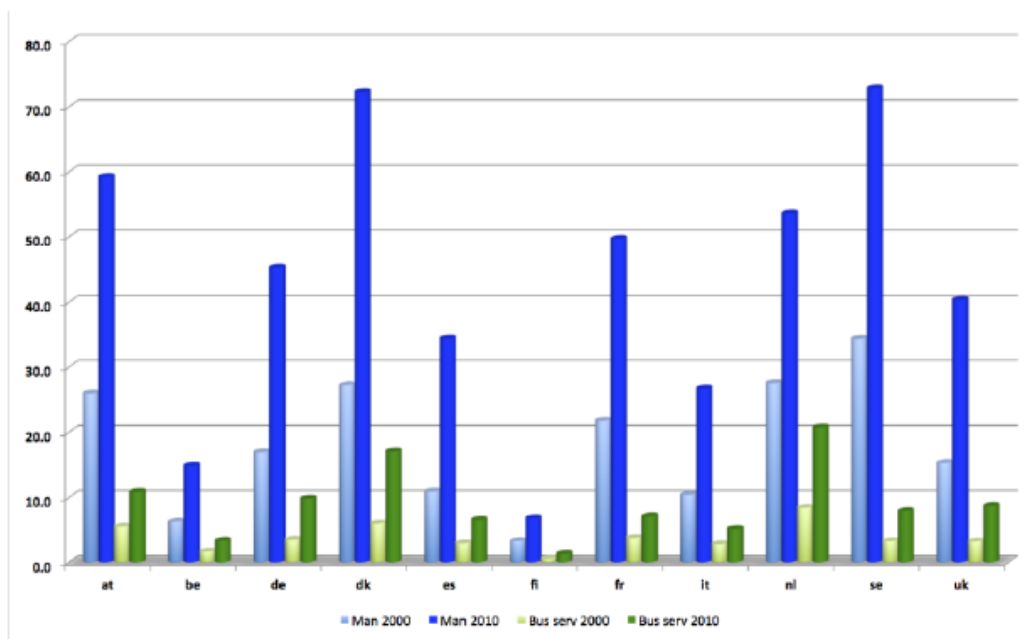
**Figure 2.6: Intangible investment 1995-2010: Average value added share**



Source: INTAN Invest ([www.INTAN-Invest.net](http://www.INTAN-Invest.net))

The graph in figure 2.7, instead, shows that participation in global value chains (standardized by hours worked) demonstrating that it is rather heterogeneous across countries with higher indexes for manufacturing compared to services. In particular, the diagram says that Northern and Continental EU economies (with the exception of Belgium and Finland) have relatively higher degree of participation compared to the Mediterranean countries.

**Figure 2.7: Participation in global value chains**



However, the index of participation does not tell us anything about the position of a country along the supply chain. On the contrary, to identify if a country is specializing in activities upstream or downstream in the value chain we need to look at its forward and backward linkages in GVC.

The first are those linkages where the country provides inputs into exports of other countries, generating domestic value-added which goes into other countries' gross exports;

The latter, instead, are those linkages where the country imports intermediate products to be used in its exports, leading other countries to generate foreign value added that goes into the domestic country gross exports.

A break-up of forward linkages and backward linkages in GVCs is useful since it provides an insight into the gains going to a country from its participation in GVCs.

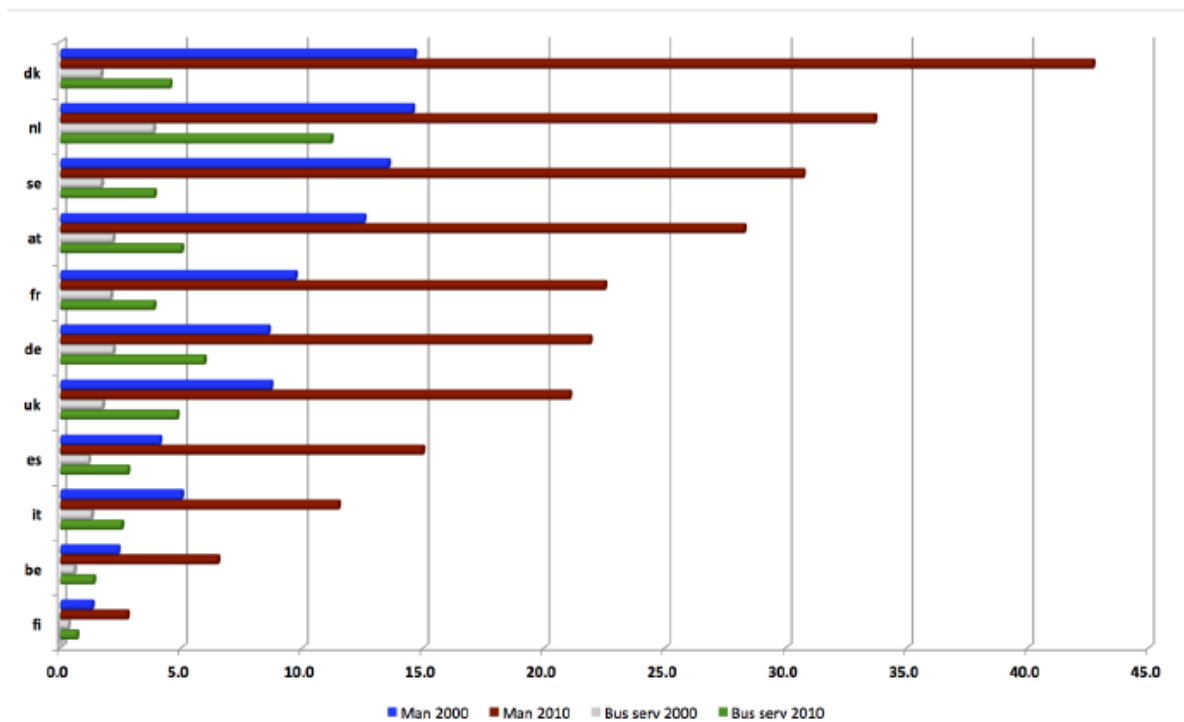
It has been demonstrated, in fact, that if gains are measured in terms of 'net value-added' by participation in GVCs, then the higher are the forward linkages compared to backward linkages, the higher are the gains. The consequence is that, by its participation in GVCs, a

country is creating and exporting more domestic value-added than the foreign value added which it is importing.

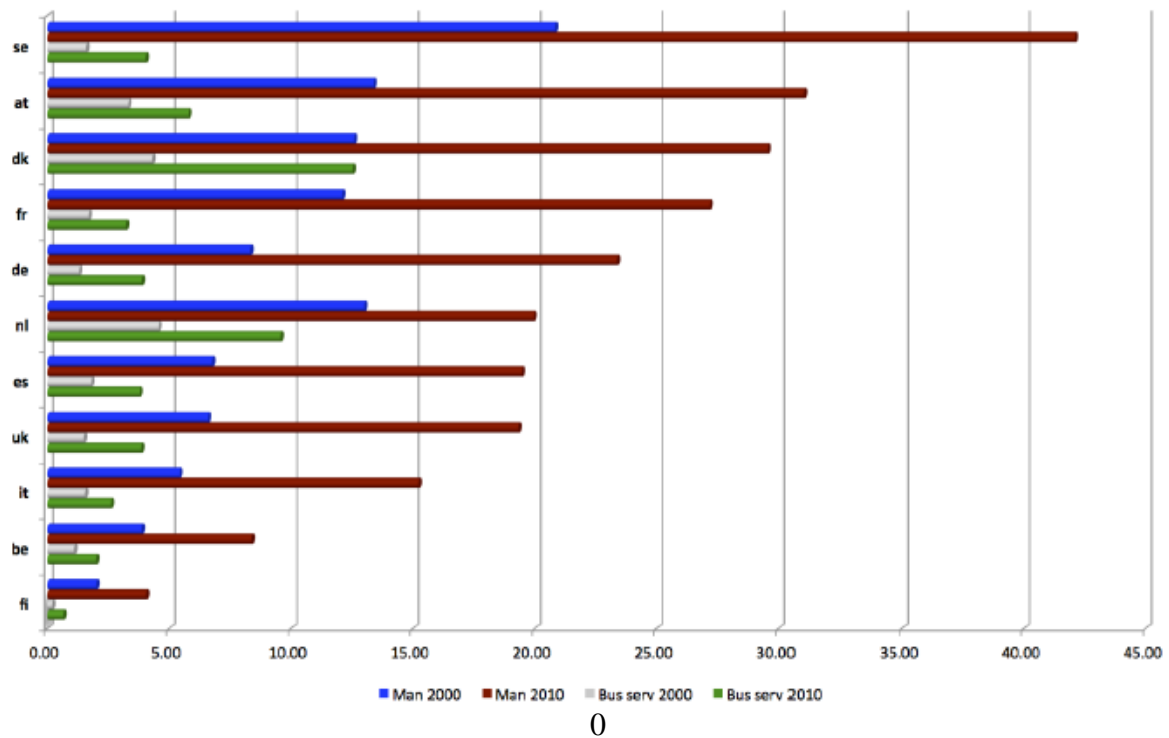
Using these two measures, Banga(2013) finds that, for example, in case of the USA, Japan and the UK, forward linkages are much stronger than backward linkages, indicating net value-added gains from linking into GVCs. China and Korea, on the other hand, have negative net value added gains.

About figures 2.8 and 2.9, they provide evidence of forward and backward participation in the EU economies. In particular, in 2010 Denmark, Sweden and the Netherlands had higher forward than backward participation in manufacturing because they are more upstream in the production network. Germany was instead more involved in downstream production as demonstrated by a higher backward than forward participation index, while France has comparable values for both forward and backward participation.

**Figure 2.8: Forward participation to GVCs**

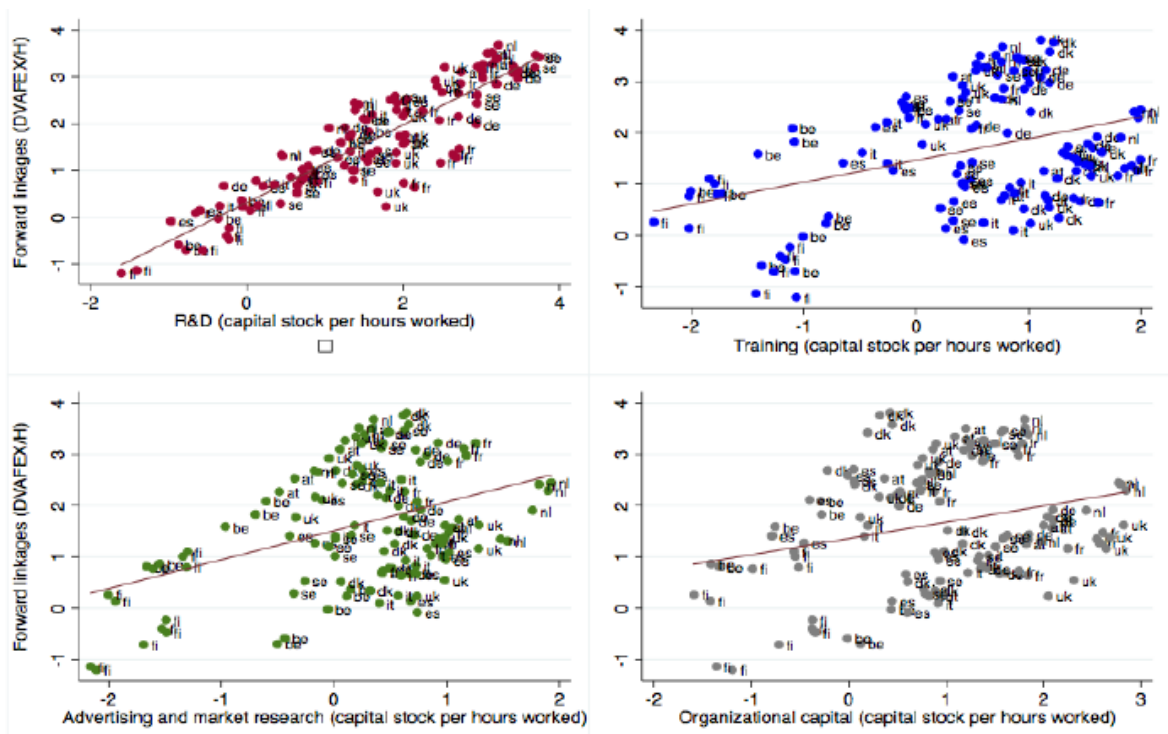


**Figure 2.9: Backword participation to GVCs**

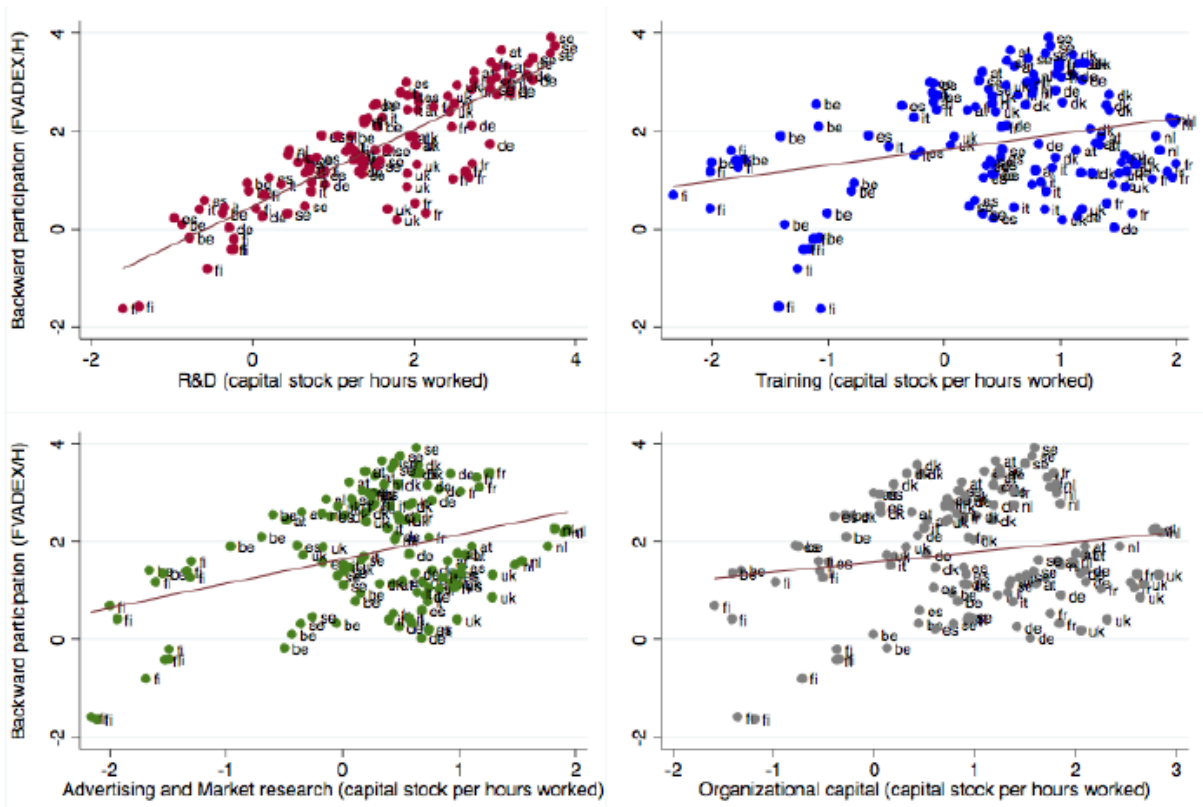


The following figures 3 and 3.1 show forward and backward measures of GCV participation referred to four different types of intangibles: R&D, Training, Advertising and Organizational capital.

**Figure 3: Forward participation to GVCs and intangible assets**



**Figure 3.1: Backward participation to GVCs and intangible assets**

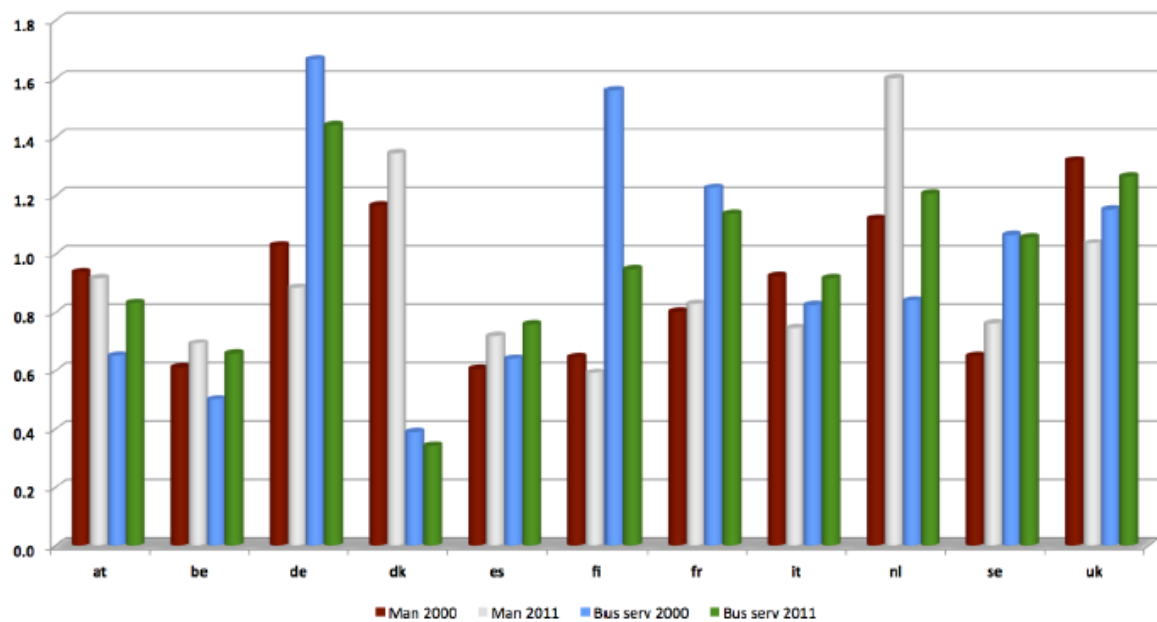




The diagrams indicate that the linkages with R&D are strong for both indicators while for the remaining assets the correlation is relatively stronger with forward than with backward linkages.

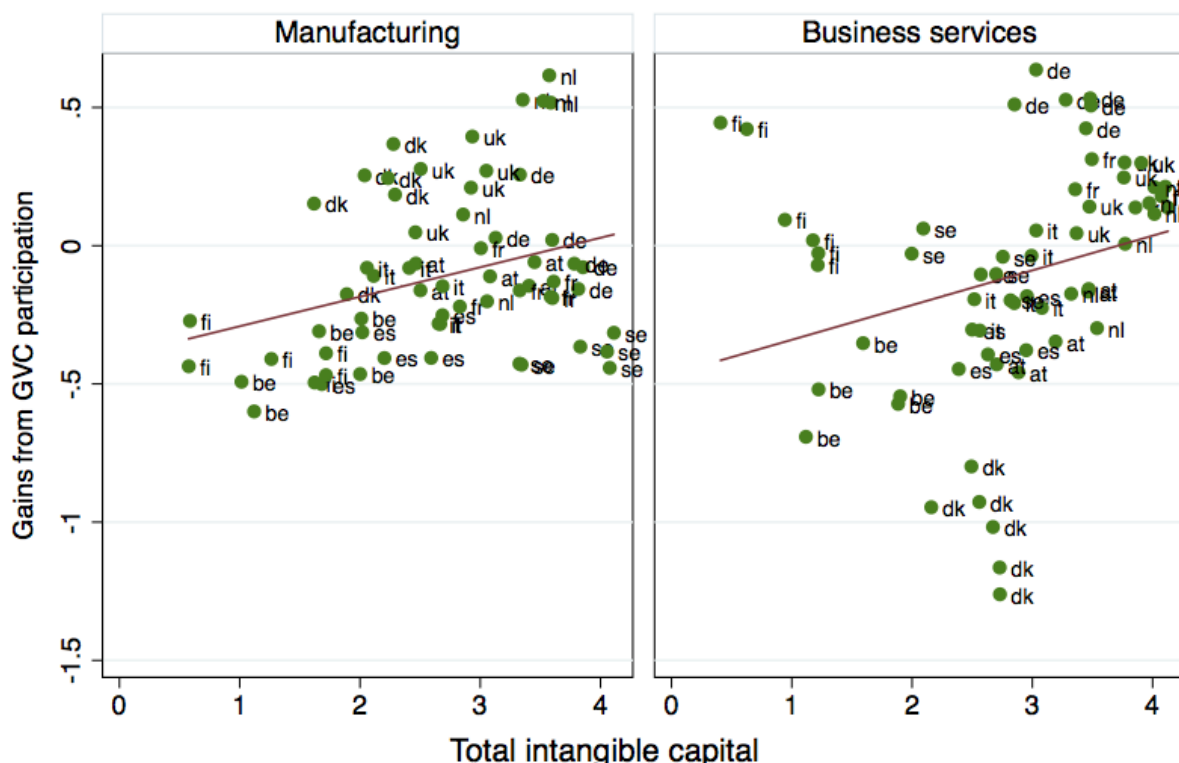
Other studies show that very often the participation in GVCs is linked to higher gains from participation (that represent the capability of a country to appropriate a large share of value added). In 2011, for instance, the UK and the Netherlands had relatively higher gains both in manufacturing and services, Denmark higher in manufacturing and Germany in services (figure 3.2).

**Figure 3.2: Gains from participation**



Finally, figure 3.3 is a representation of the correlation between gains from participation in GVC and per hour total intangible capital in manufacturing and services.

**Figure 3.3: Gains from participation to global value chains vs intangible capital**



As it is evident from the figure, gains from participation are positively related with intangible capital accumulation with services having a more widespread distribution across countries<sup>30</sup>.

## 7. THE ROLE OF POLICY

The involvement of companies and countries in GVCs is not the same since some firms and countries experience a big penetration, while some others experience a little penetration.

The degree of participation depends on many different factors, such as the openness to trade, the geographic location of the company and the availability of natural resources.

A fundamental importance is played by the institutional context and by the governments of the countries, which are responsible for enacting rules and policies aimed at attracting investments, to promote or to reduce the capabilities of firms to enhance their competitiveness and to insert themselves into the modern global value chains.

In particular, the main role of governments is not to create, subsidize, or tax GVCs, nor to regulate them more than it is necessary.

<sup>30</sup>Cecilia Jona-Lasinio-Stefano Manzocchi-Valentina Meliciani, *Intangible assets and participation in global value chains: an analysis on a sample of European countries*, LUISS Guido Carli Department of Economics and Business.

On the contrary, governments have to build welcoming environments and ecosystems that are favourable to production, investment, transportation, communication, and trade but, at the same time, they have to improve the access to finance for companies in order to allow them a better ease of doing business, they have to create a competent, transparent and honest public administration, and they have to guarantee political and macroeconomic stability within the borders of the country.

There are many different reforms that governments should undertake in order to improve GVC performance.

For example, they should raise the education and skills of the labour force and entrepreneurs.

Participation and upgrading within value chains, in fact, requires investment in innovation and knowledge-based capital, such as research and development, intellectual property, software, and data, as well as economic competences such as organisational know-how and branding.

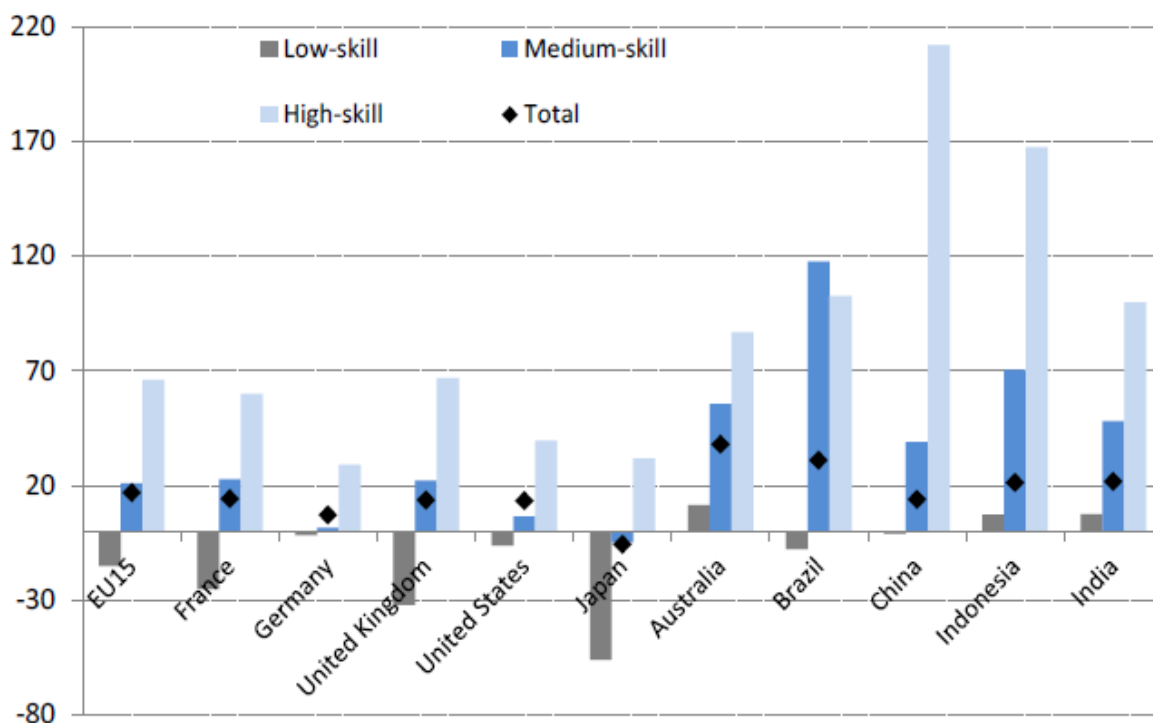
Data show that in the majority of OECD countries the share of high-skilled workers in total GVC manufacturing has increased much faster than the share of low-skilled workers.

Conversely, in developing economies the share of medium-low skilled workers is higher than the share of high-skilled workers because of the vertical specialisation of these countries.

The figure 3.4 represents the decline of low-skilled labour and the increase in high skilled labour that occurred over the period 1985-2008 in both OECD countries and emerging economies.

This reduction was due mainly to the increasing demand for high-skilled workers in services that is one of the trends characterizing the last years of globalization of the economy.

**Figure 3.4: Demand for low-medium-high labour across most countries over 1985-2008**



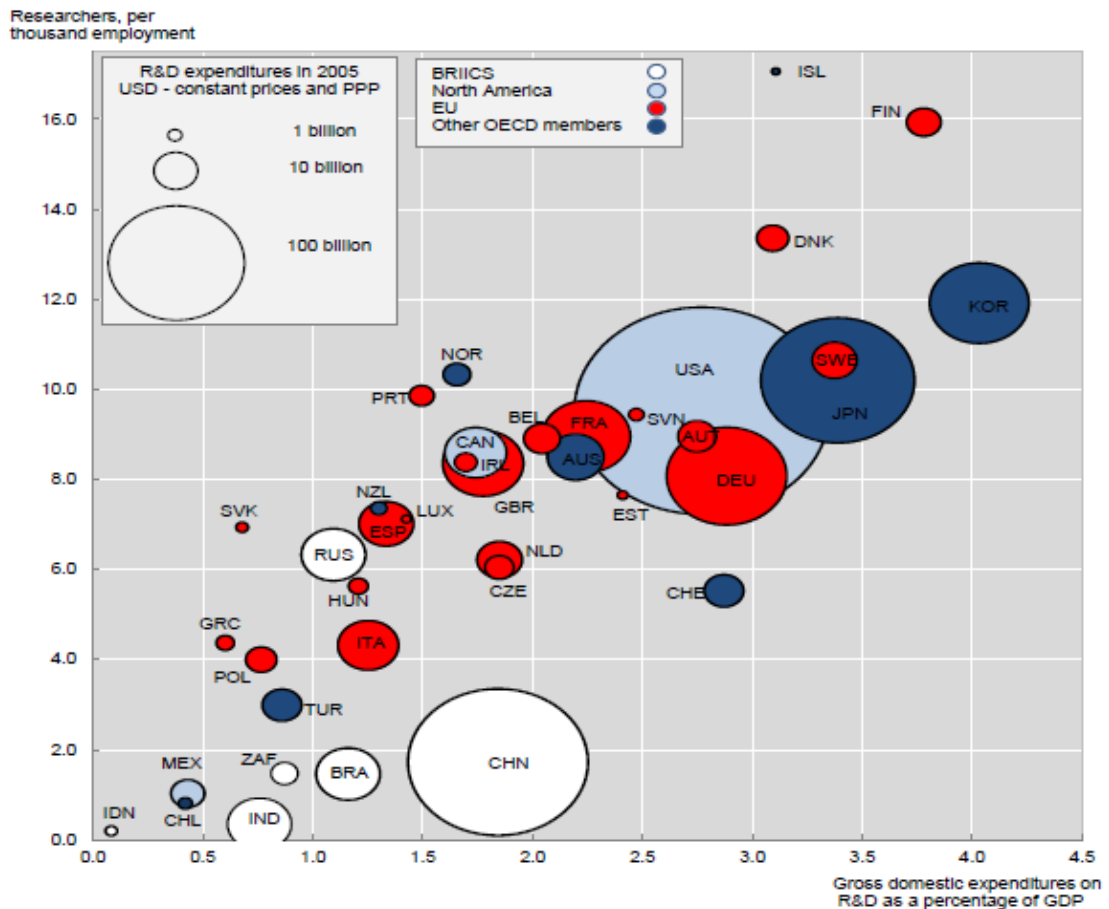
Source: OECD, 2014b.

The reasons of such trend refers to the fact that workers performing manual tasks are more likely to be affected by GVCs (since many of these tasks can potentially be offshored), while highly skilled workers are less likely to be affected by GVCs because they perform non-routine activities that complement information technology. That's the reason why the policymakers should invest strongly in education of workers in order to develop a labour force able to adapt to new jobs needed for the modern economy to grow in the context of increased integration of production activities.

Another important driver of GVCs is the investment in innovation, which includes the investment in upstream activities, such as new concept development, R&D or the manufacturing of key parts and components, but also in downstream activities, such as marketing, branding or costumer service.

This kind of investment is determinant today as it increases the productivity of companies and in general of the economy and determines the degree to which the final product can have a value added on the market(for example, much of the success of Apple is due to design features).

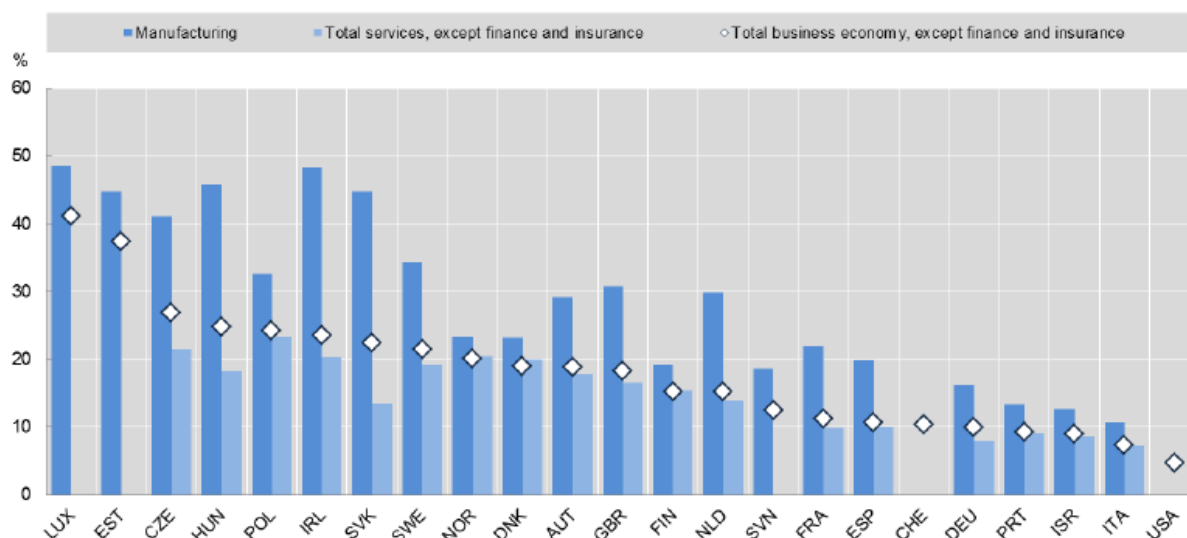
**Figure 3.5: R&D investment in OECD and G20 economies, 2011**



The investment in innovation has increased in both rich and poor countries, as we can observe in the figure 3.5. In the U.S.A., for example, the investment in KBC (“knowledge-based capital”, which includes software, data, R&D, organizational skills) has been greater than the investment in tangible assets since the 1990s. The same situation has characterized a lot of OECD economies, like the United Kingdom, but even several emerging economies, such as China, that has invested 7.5% of GDP in KBC, Brazil, that has invested about 4% of GDP, and India, where the level of investment in such assets accounts for 3% of GDP.

The presence of foreign direct investments is another pillar of GVCs and driver of growth. In this respect, the diagram 3.6 photographs the share of national employment by foreign affiliates and indicates that the share of national employment for OECD countries is greater than 20%, except for some economies like the U.S.A.

**Figure 3.6: Share of national employment under control of foreign affiliates, 2010**



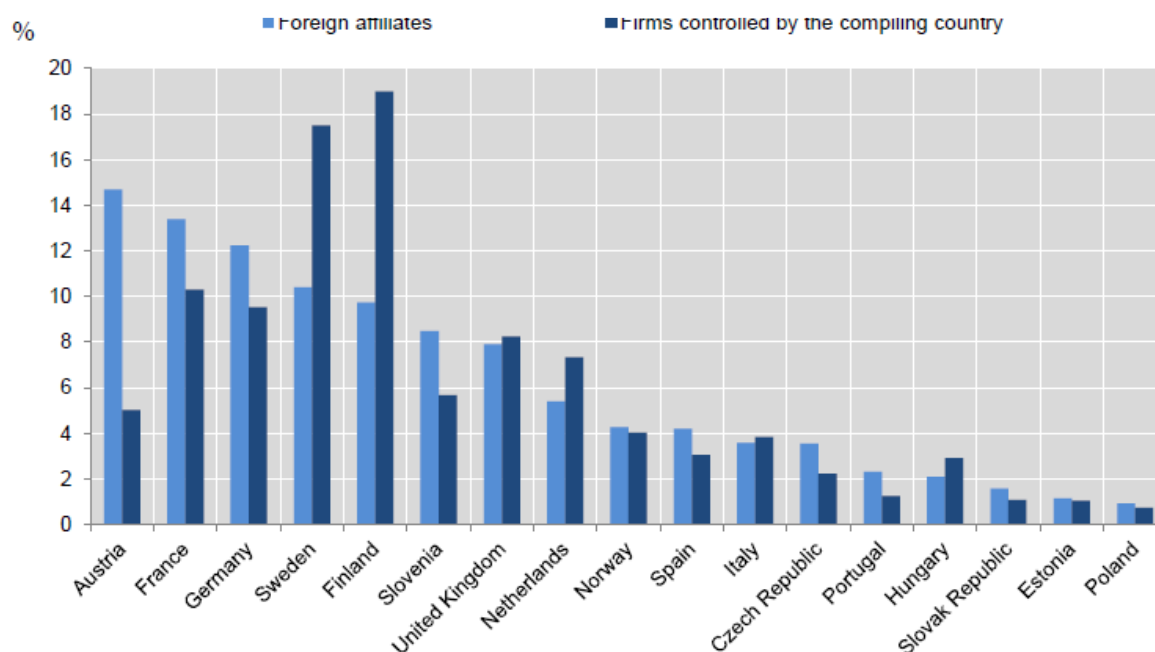
Source: OECD, AMNE database.

The presence of foreign direct affiliates, in particular, is important not only for the impact on the rate of employment, but also because they can potentially be vehicles for technology transfer across countries through the so called “spill-over effects” obtained by means of movements of workers from multinationals to local firms and through linkages with local firms, imitation and demonstration effects.

The spill-over effects, however, occur only if local firms invest in innovation and are willing to absorb foreign knowledge and capabilities.

Regarding that, the graph 3.7 shows exactly the intensity of research and development investments in the manufacturing sector by both foreign affiliates and firms controlled by the compiling country.

**Figure 3.7: R&D intensity in the manufacturing sector**



*Note:* R&D intensity = intramural R&D expenditures / value-added. 2007 data for Norway and Portugal; 2009 data for Austria, the Czech Republic, Estonia, Finland, Germany, Hungary, Poland, the Slovak Republic, Slovenia, Spain and Sweden; 2010 data for France and the United Kingdom; 2011 data for Italy and the Netherlands.

*Source:* OECD, AMNE database.

Again, another reform that should be promoted by governments in order to facilitate and accelerate the growth is the development of a well-functioning financial system that would increase the number of potential trading partners and the volume of trade by lowering the cost of trade, whose main share is represented by the financial costs. According to statistics, in fact, a good financial system (measured by the ratio of private credit to GDP) enhances significantly trade, particularly in goods whose production is strongly dependent on external finance.

Improving logistics is also important to improve the GVC participation. The main issue in this respect is the absence in all countries of a ministry of logistics responsible for implementing logistics-related reforms. However, a research by the World Bank Group has demonstrated that all top performing economies have developed and maintained a strong public-private partnership and a good cooperation between policymakers, practitioners, administrators, and academics, adopting a comprehensive approach in the development of services, infrastructure, and efficient logistics.

Besides, the simplification of product market regulations can have also a determinant impact on the performance of companies participating into global value chains. Indeed, a stricter labour regulation can be a big obstacle to growth and reduce the overall efficiency of a lot of industries, such as pharmaceuticals, electronics, hotels, and restaurants. For this reason,

the policymakers should work to promote a favourable job legislation aimed at reducing an excessive employment protection that, through its impact on hiring and firing costs, can affect specialisation by reducing the ease of reallocating workers across firms and sectors, with negative productivity effects.

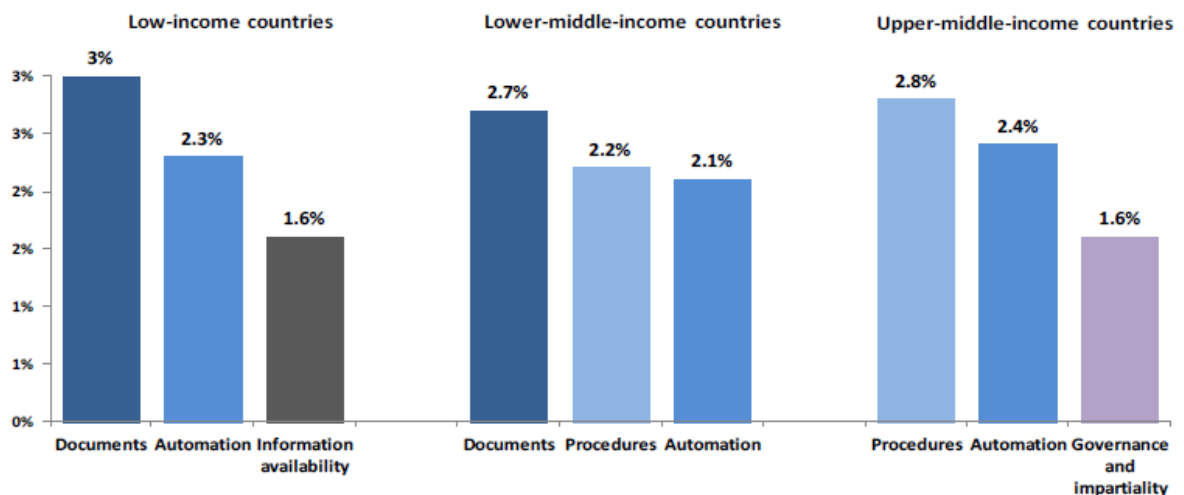
Finally, a substantial contribute to the improvement of the GVC performance is given by trade agreements and by policies of aid for trade.

As for trade agreements, they can have regional, bilateral, regional, plurilateral, or multilateral configurations, and are basically means to give impulse to free international trade through the reduction of tariffs and the harmonization of rules and standards.

The trade facilitation, instead, are advantageous for countries since it helps them participate in GVCs by cutting costs, increasing speed, and reducing uncertainty. The economic gains from trade facilitation are enormous. OECD has developed a set of trade facilitation indicators that identify areas for action. These indicators cover the full spectrum of border procedures, from advance ruling to transit guarantees, for 133 countries across income levels, geographical regions and development stages.

Data and researches show that these facilitation measures can benefit all countries in their role as exporters or importers, allowing an easier access to inputs for production and a greater participation in GVCs. Figure 3.8, for example, shows the potential cost reduction in goods trade, while the graph 3.9 indicates the benefits for G20 countries arising from trade facilitation<sup>31</sup>.

**Figure 3.8: Trade facilitation measures: potential cost reduction in goods trade (%)**



Source: OECD (2013a).

<sup>31</sup>OECD, WTO and World Bank Group report 2014, *Global value chains: challenges, opportunities, and implications for policy*, pp.34-47.



**Figure 3.9: Estimated benefits for G20 countries from trade facilitation**

Percentage changes from a 2007 baseline

	Volume of non-oil and gas exports	Volume of non-oil and gas imports	Gross Domestic Product
Argentina	22	40	8
Australia	5	5	3
Brazil	37	99	6
Canada	7	7	5
China	53	65	10
France	10	9	4
Germany	2	7	5
India	90	64	10
Indonesia	36	50	8
Italy	34	43	6
Japan	12	9	2
Korea	15	17	6
Mexico	14	32	7
Russia	111	40	8
Saudi Arabia	30	7	5
South Africa	22	59	10
Turkey	29	42	8
United Kingdom	-9	3	3
United States	23	13	3
All Other EU-28	14	15	9

Source: Tsigas and Ferrantino, "Modeling the Benefits of Trade Facilitation for the G2," *USITC Working Paper* (forthcoming 2014).

## **CHAPTER IV**

### **The impact of GVCs on the labour market**

#### **1. THE RELATIONSHIP BETWEEN GVC AND LABOUR MARKETS**

The relationship between trade and labour is one of the most interesting aspects of a globalized world characterized by GVCs and is the subject of relatively recent research.

In particular, there are many ways through which GVC participation and labour markets can be linked.

A first link is represented by the demand for labour, which is strictly related to the degree of internationalisation of a company given that internationalised firms engaging in imports and exports or controlled by foreign investors normally are larger (sell more) and more productive than domestic companies.

A second link is the demand for skilled labour. More in details, if the segment of GVC to develop in a certain country is more skill intensive than others, then the relative demand for skilled labour will increase allowing skilled workers to earn higher wages, while the relative demand for unskilled labour will decrease, leaving unskilled workers in the status quo or worsening their economical and wage conditions. This determines an evident issue of wage inequality that has to be taken in strong consideration in examining the labour market effects of GVCs.

These effects, in particular, can be analysed by measuring the impact that two different factors have on employment demand and wages: trade and foreign direct investments (FDI)<sup>32</sup>.

#### **2. TRADE AND LABOUR MARKETS**

The impact of trade depends on the export side, which includes the exports of final consumer goods or services at a higher degree of value added, and on the import side, which includes the imports of intermediate goods (parts and components) and services.

As for the effects on the export side, evidence and data show that in general exporters are larger and more productive than firms selling only domestically. This is the result of two different mechanisms: productivity-based self-selection and learning-by-exporting.

Productivity-based self-selection means that companies decide whether or not to export on the basis of additional costs of doing so and their productivity.

<sup>32</sup>Ben Shepherd, *Global Value Chains and Developing Country Employment*, OECD Trade Policy Papers No. 156, pp.6.

Learning-by-exporting, instead, means that companies learn new production techniques or engage in upgrading following export market entry.

The implications of these mechanisms are that exporting firms tend to have higher sales than other firms, to be associated to a stronger labour demand, to employ more workers (since more workers are required to produce more output and to improve and optimize production processes) and to pay higher wages.

Regarding the salaries the economic theory says that in absence of market distortions or dysfunctions, workers should be paid in accordance to their marginal product. As a consequence, more productive workers should be paid more than less productive ones, all other things remaining equal. That's the reason why the exporter tends to pay higher salaries than a domestic company, because of the fact of employing more workers. In this respect, it has been demonstrated that, for example, exporters pay on average 40% more in wages than domestic firms (Van Biesebroeck-2005), Slovenian exporters pay wages 17.5% higher than non-exporters (De Loecker-2007) and exporters in Brazil pay wages 9% higher than non-exporters (Helpman et al.-2012).

Besides, other studies conducted by Dai et al. in 2011 on the Chinese market show that it is fundamental to distinguish between traditional exporters and those companies that assemble tariff-free imported intermediates into final goods for export (export processors). In fact, while traditional exporters in China pay salaries higher than those paid by domestic firms, companies engaged in export processing tend to pay lower wages and are less productive than non-exporters.

The higher salaries paid by exporting companies in comparison with those offered by other companies, however, can have also a negative effect on young people of a country, in the sense that they can affect the educational decisions of students who will become workers in the future because these wages can provide students with an incentive to leave school earlier and to start working before ending the academic education. For this reason, policies on compulsory education and for strengthening the incentives to education could be a significant complement to the development of value chains that change the wage structure of the economy.

About the implications of trade on the import side, instead, less data and direct evidence are available concerning the advantages of importing companies in terms of productivity and wages with respect to companies dealing only with domestic markets. There is, however, much indirect evidence about the fact, for example, that importers of intermediate goods tend to be more productive than domestic firms. This higher productivity, then, very often implies higher levels of employment and higher wages for workers, especially in well-functioning labour markets. Shepherd and Stone, for example, found in 2011 that an increase of 10% in

the proportion of imported goods in a firm total consumption of intermediates is associated with an increase of 2% in productivity that, in turn, can have a positive impact on wages in presence of a well-functioning labour market.

The two authors examined also the role and the importance of complementary policies in determining and promoting the link between imports of intermediate goods and productivity gains. They found, for instance, that importing intermediates increases the demand for skilled labour and, consequently, also wages in that area.

A similar evidence was found by Halpern et al. in 2011 about Hungarian economy, where these authors found that an increase in the proportion of imports in total use of intermediate goods from zero to 100% increases firm productivity by 12%, while the total benefit from imported intermediates for foreign companies is about 27% stronger.

This evidence and examples demonstrate that the access to a skilled labour force can be an important complement to liberalisation of trade in intermediate goods and that there is a positive correlation between importing intermediates and FDI, provided that governments undertake policies aimed at reducing tariffs on imports and that you are in presence of a labour market that works efficiently. It's not a coincidence, in fact, that this mechanism does not work very well in developing countries where labour markets work poorly.

Again, Bernard and al. in 2007 analysed the American market and showed that importing companies in the United States were more productive, payed higher salaries and were more skill-intensive than non-importing companies operating only at a local level. The same situation was identified also in Portugal by Martins and Opromolla in a study of 2012 in which they were able to demonstrate that companies importing intermediate goods tend to pay wages to workers 25% higher than those of non-importing companies<sup>33</sup>.

### **3. FDI AND LABOUR MARKETS**

For what concerns the impact of FDI on the labour market, data say that also companies engaging in foreign direct investments, like the exporting ones, are more productive than companies operating only domestically. This is particularly true in developed countries (OECD countries) which are obviously characterized by a superior degree of foreign investments, but also in developing countries, where Sheperd and Stone in 2001 by using a panel of data from 115 developing and transition economies found that foreign owned companies tend to be more productive than domestically owned firms.

<sup>33</sup>Ben Shepherd, *Global Value Chains and Developing Country Employment*, OECD Trade Policy Papers No. 156, pp.8-13.

At the same time, there is evidence that inward FDI trigger positive spillover effects for domestic companies and that, as demonstrated by Lipsey et al. in a research of 2010, foreign owned companies, especially those that switch from domestic to foreign ownership, present an employment growth rate faster and higher than that of domestic owned companies, while the same trend is not verified in the case of foreign companies switching from foreign to domestic companies.

Eventually, even in the case of FDI it has been seen through numerous researches and market surveys that foreign owned companies pay salaries higher than those paid by domestic companies. However, the same researches show that FDI tend also to increase wage inequality because they raise the relative demand for skilled labour versus unskilled labour, putting greater upward pressure on skilled wages than on unskilled wages<sup>34</sup>.

#### **4. GVC INTEGRATION AND DEVELOPING COUNTRIES**

The integration into global value chains represents for developing countries a big opportunity of growth and for entering international markets.

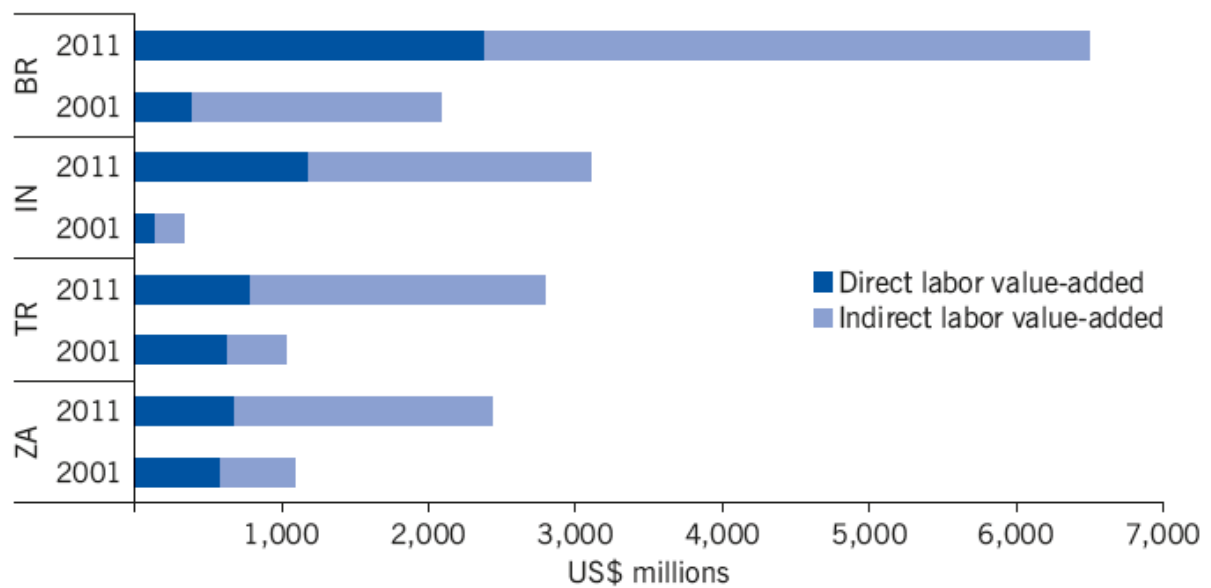
In particular, the impact of such chains on the labour market of less developed countries can be evaluated under four different aspects:

- the number of jobs;
- the returns to jobs;
- the wage effects;
- the working conditions prevalent in GVC jobs.

About the first aspect, the integration into global value chain and the capability of attracting GVC investments by developing countries in many cases has been a medium to increase the number of manufacturing jobs within these countries. In Bangladesh, for example, the emergence of the GVC-oriented export apparel sector led to the employment of more than three million people over the last two decades, as well as Lesotho's integration into the global apparel sector in the late 1990s generated more than 50,000 manufacturing jobs. However, the impact goes beyond the formal sector since GVC integration creates also a lot of indirect jobs and increases opportunities for subcontracting and other spillovers, as it happens in the sector of motor vehicles represented in the following graph 4.

<sup>34</sup>Ben Shepherd, *Global Value Chains and Developing Country Employment*, OECD Trade Policy Papers No. 156, pp.14-16.

**Figure 4: Faster growth of indirect jobs through GVC integration motor vehicles)**



Source: World Bank. *Factory Southern Africa? SACU in Global Value Chains*. Washington, DC: World Bank, 2016;

Regarding the second aspect, that concerning wages, evidence show that multinational companies pay higher salaries than similar companies in the same sector located in the host country. This is due to the fact that foreign owned firms present a higher productivity than domestic firms since they concentrate their labour-intensive activities in low-wage countries, they employ the most skilled workers in order to mitigate worker turnover, and they invest more on the training of workers.

Then, a third aspect through which it is possible to analyse the effects of the value chain on the labour market is the dimension of the “inclusion”, which is the concept for which the attraction of multinational companies by developing countries contributes to the creation within these countries of more “inclusive” jobs, such as the access to jobs for young people, lower-skilled workers and female (for this last case it has been coined the expression of “defeminization” of the labour force), especially in sectors like apparel, footwear, and electronics. Besides, another element of inclusiveness is the nature of companies taking part to GVCs since only multinational companies are able to bear strict standards and quality certification requirements that are difficult for small companies to satisfy( and for this reason SMEs very often find themselves locked out of GVC participation).

Eventually, a last aspect affecting the labour effects of global value chains concerns the working conditions prevalent in GVCs. In this respect, evidence shows that GVC integration tend to have negative consequences for developing countries in terms of working conditions,

worker safety and lack of benefits. Nevertheless, it is undeniable and proved by countless studies that companies which have better working conditions and pay higher wages are also more productive. In light of this awareness, the ILO (International Labour Organization) and the International Finance Corporation have made a partnership to improve labour standards and competitiveness in global value chains and to provide audits and technical assistance to help factories comply with improved standards and working conditions.

That said, exploiting the opportunities of GVCs for jobs by developing economies is not easy and depends on different factors and situations.

Extremely determinant, in particular, are the “absorptive capacity” of local companies and the labour market institutional environment.

The absorptive capacity indicates the ability of local firms and workers to absorb new knowledge and skills from GVC participation in order to convert this into productivity gains. This capacity is related to the share of skilled workers of domestic companies that are the only able to capture and to exploit foreign knowledge and technology.

The domestic institutional environment, instead, plays also a crucial role in determining the impact of GVCs on the labour market because rigid labour markets reduce the probability of foreign investments since they constitute a barrier to the acquisition of skilled labour and to a firm’s capability to absorb productivity spillovers from GVC participation<sup>35</sup>.

<sup>35</sup>Thomas Farole, *Do global value chains create jobs? -Impacts of GVCs depend on lead firms, specialization, skills, and institutions*, IZA World of Labour 2016 No. 291, pp.3-8.

## CASE STUDIES

### 1. CASE STUDY: COSTA RICA



Costa Rica is an interesting example of a small emerging economy that through the successful transformation of its industry and, above all, the participation in GVCs in goods and services has emerged as one of the faster growing economies in Latin America and has become one of the main actors in 21<sup>st</sup> century trade and investment patterns.

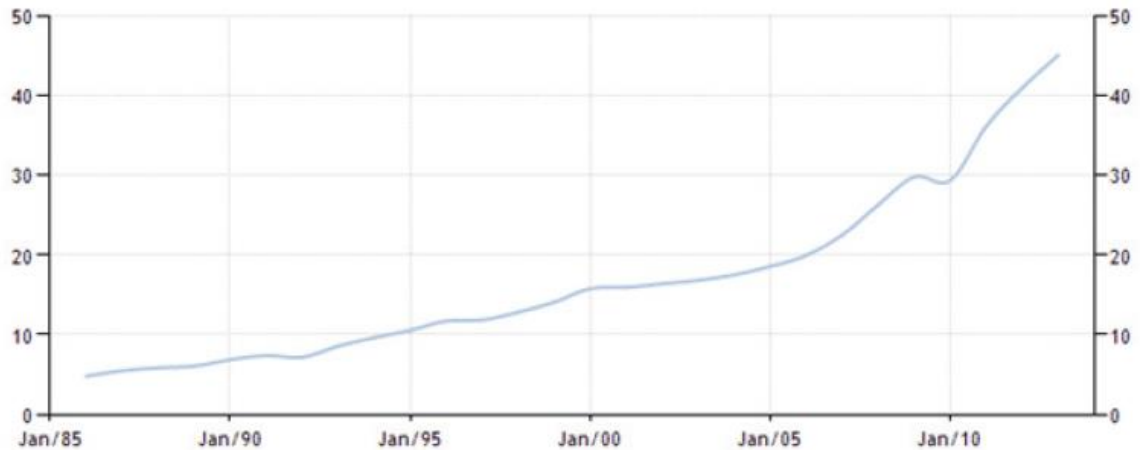
Costa Rica is a small Central American nation considered by the World Bank as an “upper-middle-income country”, even though it has classified itself as a developing country at the WTO (World Trade Organization) and has recently taken steps towards its admission in the OECD.

Until the 1960s, Costa Rica economy was dependent on the agricultural sector, mainly coffee, sugar and bananas. This dependence, however, made the economy vulnerable to external price and demand shocks and constituted a constraint on the growth perspectives of the country.

So, starting from the 1960s the government started a strong program of industrialization in order to diversify its economy and to reduce the excessive weight and importance of agricultural commodities for the growth and the development of the country. This policy was followed in the late 1980s by a trade and investment liberalization process that allowed the country to boost the overall trade activity and to increase GDP from US\$ 4.7 billion in 1985 to US\$ 45 billion in 2013 (figure 4.1).



**Figure 4.1: Costa Rica: GDP, 1985-2013**



Source: [www.tradingeconomics.com](http://www.tradingeconomics.com) from the World Bank.

Simultaneously, along with the raise in the GDP there was also a significant drop in the levels of poverty, since the share of the Costa Rican population living in poverty fell from 48% in 1982 to 20.3% in 2012.

The main intuition and ability of the Costa Rican government, however, was to participate GVCs for high tech and knowledge sectors, succeeding in this way to attract countless multinational companies and foreign investments in services.

Specifically, Costa Rica began to attract investments in services around 1995 but the principal growth started in 2005 and peaked in 2008 when there was the global financial crisis. The first big information and communication technology company that in the late 1990s decided to invest in Costa Rica was Intel that through its decision of delocalizing part of its activities in this country strengthened the reputation of Costa Rica as an attractive place for investment in Latin America. After Intel, the country was able to attract many other companies (mostly from the United States, Europe and Asia) specialized in high value added tasks, including software design and R&D, that were seeking lower operational and labour costs because of the economic crisis. In 2005, there were 33 multinational corporations in Costa Rica employing 10,802 people and exporting around US\$ 387 million worth of services.

Today, these figures have mostly tripled; by 2011, there were close to 100 foreign owned services corporations operating in Costa Rica, employing 33,170 workers and exporting US\$ 1,390 million worth of services. In 2012 alone, services represented 62% of the total employment generated, with 5,099 new direct jobs. According to PROCOMER, using data from the Costa Rican Central Bank, offshore services today accounts for 5.8% of GDP.

The reasons and factors of this boom are several. For example, the government financed a US\$ 200 million project with the support of the World Bank

to improve the educational system of the country; in this respect, universities played an important role in developing the technical education and language skills of the population that were fundamental to promote the growth and the development of the high-tech sectors.

Then, the government established a series of Free Trade Zones (FTZ), which are geographic areas where goods can be landed, stored, handled, manufactured, or reconfigured, and re-exported under specific customs regulation and generally not subject to customs duty. This enabled the country to open its borders to trade and to attract significant FDI, among which Intel, the United States micro-chip manufacturer that has been mentioned before.

Moreover, the country was benefitted from its geographical position, its strong telecommunications infrastructure and adequate data protection laws, its low labour and energy costs, its simplified bureaucracy, and its capability of building a stable economic, political and social environment.

The outcomes of all these measures over the last decades have been really significant. Recent government estimates show, for instance, that industrial sectors operating in a GVC context now represent 42.8% of total exports by value (about US\$ 3.5 billion), the country exported about 4.300 different types of goods to 150 different countries with a total value of US\$ 11.34 billion and US\$ 5.48 billion in services by 2012, and FDI net inflows reached US\$ 2.1 billion in 2011, up from US\$ 400 million in 2000. Besides that, market researches show that multinational companies that have invested in Costa Rica have produced also large and spread knowledge spillovers. For example, 32% of ex-workers of multinationals were hired by large and SME (small-medium enterprises) local companies, as well as the 47% of the domestic ICT companies that have been examined had at least one owner who previously worked for a foreign owned firm<sup>36</sup>.

<sup>36</sup>Andrea Marin-Odio, *Global Value Chains in services: a case study on Costa Rica*, International Trade Centre (ITC), Geneva 2014, pp.8-13.

## 2. CASE STUDY: ELECTRONICS IN ASIA

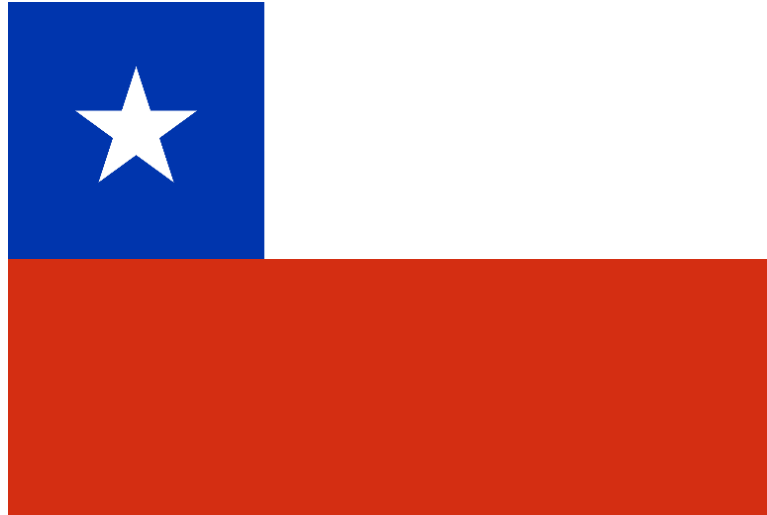


Another example of a successful emerging economy thanks to its participation in global value chains in the electronics industry is China. Since 1990s, in fact, Asia has emerged as a hub within the global ICT industry. The proof is the fact that big production clusters are present in China, Malaysia, and Thailand, while regional headquarters and small production facilities are present in Hong Kong, Singapore, Taipei and Japan. Within this context, China has distinguished as the location of large contract manufacturers but also small component manufacturers and assemblers who act as subcontractors. These contract manufacturers are a central element of the global electronic goods production network since they provide a lot of manufacturing services to consumer goods clients like Apple (such as product engineering, assembly of printed circuit boards, final assembly, and configuration of final goods for consumers) and represent the 15%/20% of global value-added in the IT manufacturing sector. In any case, the principal merit of these companies is the positive effect that they had on the labour market. Contract manufacturers, in fact, hire a big proportion of workers, both skilled and unskilled.

The first are workers from both China and overseas countries with high levels of education and training, such as managers and engineers; the latter, instead, are mainly Chinese workers and migrant workers (especially female) with a low level of education (typically a junior or senior high school qualification) that are engaged in simple assembly operations and are trained on the job. Now, this dualism between a small number of skilled workers receiving a good salary (for local standards but not for international standards) and a big number of unskilled workers (who represent the 70%/80% of the total labour force) receiving a very low wage has brought to the emergence of a serious wage inequality within the country. To have an idea, the initial salary for a skilled worker is 2.5 to 4 times higher than the salary for an unskilled worker.

The inequality is favoured by a highly flexible labour market characterized by a high turnover of employees (from 20% to 40% per year) that is due to the lack of a strong collective bargaining power by employees and by the fact that the layoff of workers is very easy and inexpensive<sup>37</sup>.

### 3. CASE STUDY: OFFSHORE SERVICES IN CHILE



Chile is another country that has been very good at attracting offshore services activities from abroad.

Chile, in particular, has been able to offer an efficient location for three different types of offshore export activities: information technology outsourcing (ITO), knowledge process outsourcing (KPO) and business process outsourcing (BPO).

Among these offshore services, those employing more workers (about 41% of the total offshore services labour force) are the BPO activities, which include customer service, marketing, and sales. All this has been possible thanks to a strong commitment and effort by the Chilean government in providing big incentives to develop local human capital.

Specifically, two programs are particularly important in the offshore services GVC: on the job training, and specialised training and recruitment.

The first program pays up to 50% of the annual salary of a new worker undergoing the job training, up to a maximum of USD 25000 per person;

The second program, instead, provides subsidies for the acquisition of specific knowledge or the recruitment of experts, again covering 50% of the cost up to a maximum of USD 100000. It is particularly important for companies involved in research and development activities.

<sup>37</sup>Ben Shepherd, *Global Value Chains and Developing Country Employment*, OECD Trade Policy Papers No. 156, pp.17.

These programs have been really decisive since they have determined the fact that the percentage of skilled and young workers in the Chilean offshore services sector is higher than the percentage present in other sectors. At the same time, they are responsible for the fact that Chile offshore services industry today manages at least USD 1 billion in annual exports, and employs 20000 people; it is thanks to these policies in 2009 Chile was ranked by A.T. Kearney as the world's eighth best services destination.

In conclusion, the Chilean case study demonstrates that the opening of markets for final goods is necessary but it is not sufficient to ensure economic and social upgrading along the GVC over time. On the contrary, developing human capital through investments in education, training, workforce development, and research and development, is probably more important to move into higher value added activities in GVCs<sup>38</sup>.

#### **4. CASE STUDY: MANUFACTURING OF OIL AND GAS INDUSTRY EQUIPMENT IN SINGAPORE**



The following case study taken by the oil & gas industry in Singapore is a relevant example of how services today play a dominant role in value chain.

The oil & gas industry is projected to be about 6 percent between 2014 and 2017.

The value chain of this industry is graphically represented below in the figure 4.2.

<sup>38</sup>Ben Shepherd, *Global Value Chains and Developing Country Employment*, OECD Trade Policy Papers No. 156, pp.18-20.

**Figure 4.2: Simplified Oil & Gas value chain**



As we can see in the diagram, the value chain of the oil & gas industry is divided into 3 stages:

The upstream stage (exploration & production) includes the exploration and production of crude oil & gas from onshore and offshore fields;

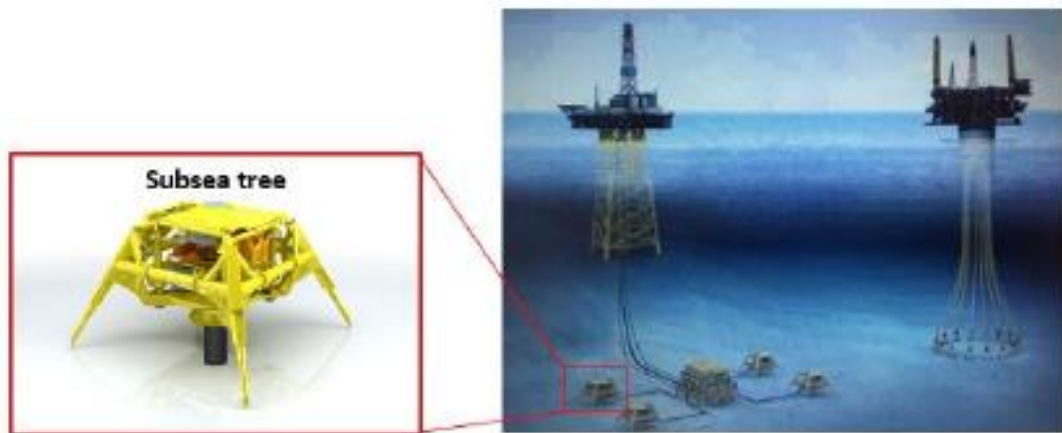
The midstream stage, in which companies collect the crude oil & gas before processing, storing, transporting and distributing the products as raw materials to the petrochemical plants and refineries;

Finally, the downstream stage where companies are responsible for marketing and distributing the final product to the gas stations as well as final consumers.

The case study focuses in particular on a firm in Singapore that has operations across six continents in both upstream applications and downstream processing plants. More in details, the study puts its attention on one product- subsea trees- that has the function of controlling and monitoring the flow of oil & gas out of the well.

These products are built on the sea floor and constitute part of a more complex underwater/bed production system (figure 4.3) including other products or structures like manifolds and workover systems, whose primary function is to extract oil & gas.

**Figure 4.3: Overview of subsea systems and the position of subsea trees within the system**



*Source: Courtesy of the firm.*

The value chain of this company is quite complex since it includes 5 different stages (from customer specification to submission of quote, pre-manufacturing, manufacturing, post-manufacturing, and after-sales) which start with a Request for Quotation (RFQ) from the customer and ends with the provision of after-sales services to the customer. These stages are shortly represented in the figure 4.4:

**Figure 4.4: Value chain of the company analysed by case study**



Note: Optional activities in the value chain are indicated by green boxes. Source: APEC Policy Support Unit based on firm interview

At the first stage (from customer specification to product engineering and design) the customer indicates the requirements that the product should have, such as the ability to bear a certain temperature range, water pressure, depth, etc. Then companies work with their design, engineering and sales departments to determine whether their product range can meet the requirements and to provide the best possible quote for the RFQ.

The second stage (manufacturing process) is the phase in which the company first of all controls the availability of all different inputs and processes necessary to manufacture the product in order to ensure that they meet the contract requirements, and then produces the product(s).

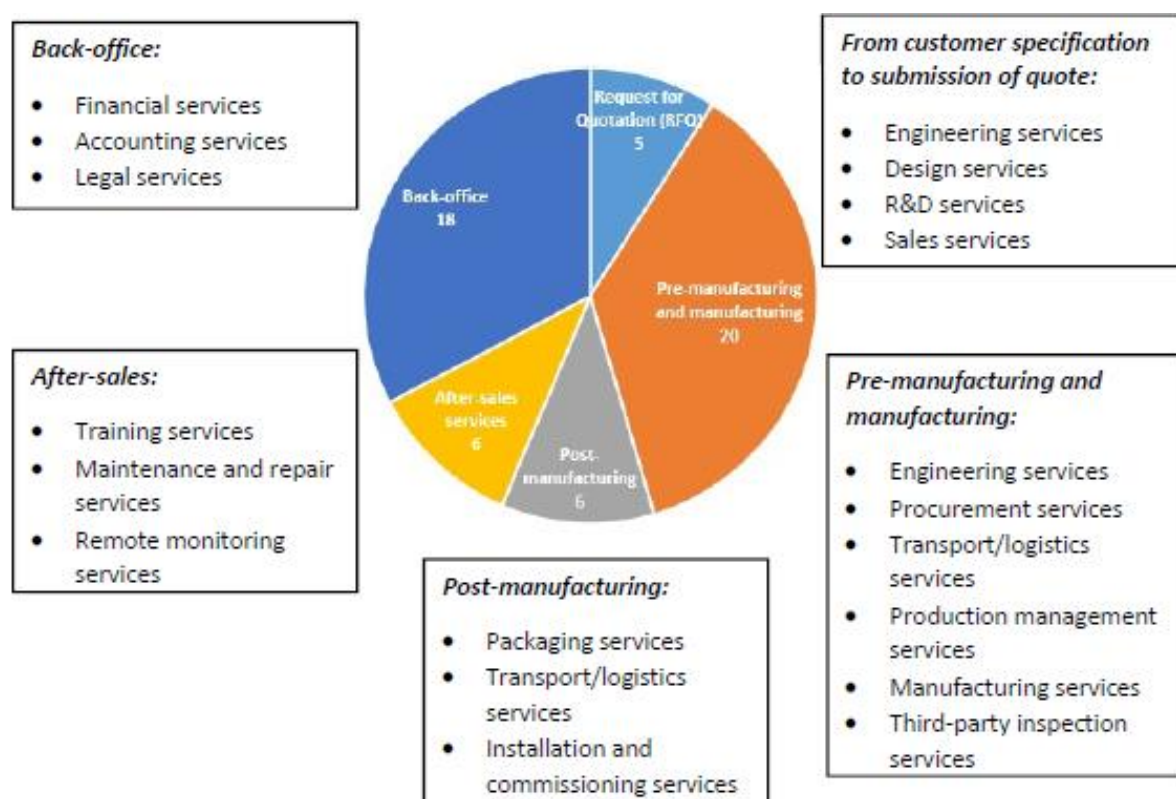


During the third stage (post-manufacturing) the finished product is packed and stored in a warehouse before it is delivered to customers.

Finally, the last stage involves the after-sales services (logistics, inventory management, routine, planned and unplanned maintenance, parts supply, etc) that are provided by the company for between 5 to 20 years depending on the contractual services agreements.

Now, within this value chain a total of 55 different services have been identified and grouped in accordance to the different stages within the chain (figure 4.5).

**Figure 4.5: Breakdown of services by stage and examples of key services**



*Source: Compiled by APEC Policy Support Unit*

These 55 services can be further disaggregated into other 94 services if we consider and count individually the sub-services that constitute a single service activity.

Among the 94 services, 38 services are supplied in-house, 11 are partially outsourced, while 45 are fully outsourced (Tables 4.6-5).

The reasons for the firm to outsource services vary, but can be grouped into the following:

- government services, such as company licensing, visa and immigration services and inspections pertaining to environmental, health and safety (EHS);

- services required by laws and regulations, such as the submission of RFQ by local sales agents in partnership or joint ventures with the firm, manufacturing training for staff for

professional certification, and third-party inspection services provided by inspectors certified by the American Petroleum Institute (API);

- a lack of expertise or specialization in-house to provide certain services, such as consulting services, legal services, medical services, catering services and cleaning services;
- the need to access to the best services, such as market research services and certain types of manufacturing services including basic metal and fabrication services;
- a lack of feasibility in supplying services in-house, such as freight insurance and utilities services;
- economies of scale, such as transport services;
- network economies, such as recruitment services;
- the need for strong relationships with government agencies, such as customs clearance services.
- the need to satisfy local content requirements, in particular if the customer is a state-owned-enterprise.

Services provided in-house, instead, include all those services that are provided in-house because they include the ownership of a technology or are essential to the quality of products. They include many core services, such as project specific design and engineering services, procurement and quotation services, prototyping services, production management, quality control and assurance services, installation and commissioning services, remote monitoring services, and maintenance and repair services, as well as non-core services, such as packaging services, and storage and warehousing services, that are provided in-house because they are continuing, repeated services for which the firm has established the requisite infrastructure to ensure low-cost provision.

To sum up, as we can notice from the analysis of this case study the number and nature of services entering the value chain of a “simple” subsea tree production is really significant and validates the view according to which services in the current globalized economic activities are ubiquitous, even in the case of companies that are pure manufacturing companies<sup>39</sup>.

<sup>39</sup>Andre Wirjo-Gloria O.Pasadilla, *Manufacturing of Oil and Gas Industry Equipment in Singapore*, chapter 8 in *Services in Global Value Chains: Manufacturing-Related Services*, 2016, pp.239-279.

**Figure 4.6: Services in responding to Request for Quotation (RFQ) from customer**

Service	Corresponding CPC Ver. 2 Code	Supplied in-house	Outsourced to affiliated companies and reasons	Outsourced to third-party suppliers/ and reasons
1 Project-specific research and development services to support quotation	8111 – Research and experimental development services in natural sciences	Yes	No	No
	8112 – Research and experimental development services in engineering and technology	Yes	No	No
2 Project-specific design services to support quotation	8314 – Information technology design and development services	Yes	No	No
	83920 – Design originals	Yes	No	No
	83912 – Industrial design services	Yes	No	No
3 Project-specific engineering services to support quotation	83310 – Engineering advisory services	Yes	No	No
	8332 – Engineering services for specific projects	Yes	No	No
4 Procurement and quotation services	83116 – Supply chain and other management consulting services	Yes	No	No
	85999 – Other support services n.e.c.	Yes	No	No
5 Sales and marketing services	8596 – Convention and trade show assistance and organization services	No	No	Yes, lack of expertise
	8370 – Market research and public opinion polling services	No	No	Yes, lack of expertise; need to access the best services
	8311 – Management consulting and management services (may include customer relationship management)	Yes	No	Yes, lack of expertise; need to access the best services

Source: Authors' own understanding of firm's value chain

**Figure 4.7: Services during pre-manufacturing and manufacturing process**

Service	Corresponding CPC Ver. 2 Code	Supplied in-house	Outsourced to affiliated companies and reasons	Outsourced to third-party suppliers/ government and reasons
6 Project-specific research and development services prior to manufacturing	8111 – Research and experimental development services in natural sciences	Yes	No	No
	8112 – Research and experimental development services in engineering and technology	Yes	No	No
7 Project-specific design services prior to manufacturing	8314 – Information technology design and development services	Yes	No	Yes, lack of expertise; need to access the best services
	83920 – Design originals	Yes	No	No
	83912 – Industrial design services	Yes	No	No
8 Project-specific engineering services prior and during manufacturing	83310 – Engineering advisory services	Yes	No	No
	8332 – Engineering services for specific projects	Yes	No	No
9 Government licensing and inspections on fire prevention, health hazards, environmental protection and other aspects)	91133 – Public administrative services related to mining and mineral resources, manufacturing and construction	No	No	Yes, government services
	91290 – Public administrative services related to other public order and safety affairs	No	No	Yes, government services
10 Prototyping services	887 – Fabricated metal product, machinery and equipment manufacturing services	Yes	No	No
11 Procurement services	83116 – Supply chain and other management consulting services	Yes	No	No
	85999 – Other support services n.e.c.	Yes	No	No
12 Training services for staffs	92919 – Other education and training services, n.e.c.	Yes	No	Yes, professional certification may be

					required by laws and regulations
13	Transport services of raw materials	651 – Land transport services of freight	No	No	Yes, efficiency; economies of scale
		652 – Water transport services of freight	No	No	Yes, efficiency; economies of scale
		6531 – Air transport services of freight	No	No	Yes, efficiency; economies of scale
		67910 – Freight transport agency services and other freight transport services	No	No	Yes, efficiency; economies of scale
14	Freight insurance of raw materials	71333 – Freight insurance services	No	No	Yes, not possible to supply in-house

15	Customs clearance services and logistics of raw materials	67110 – Container handling services	No	No	Yes, efficiency; strong relationship with government agencies
		85999 – Other support services n.e.c.	No	No	Yes, efficiency; strong relationship with government agencies
16	Storage and warehousing services of raw materials	67290 – Other storage and warehousing services	Yes	No	No
17	Technical testing of raw materials	83441 – Composition and purity testing and analysis services	Yes	No	Yes, required by laws and regulations
18	Production administration – Production management and shop ordering services	83115 – Operations management consulting services	Yes	No	No
19	Maintenance and repair of production equipment	87156 – Maintenance and repair services of commercial and industrial machinery	Yes	No	Yes, lack of expertise; by machine vendor
20	Utilities (electricity, gas and water supply)	691 – Electricity and gas distribution (on own account)	No	No	Yes, not possible to supply in-house
		692 – Water distribution (on own account)	No	No	Yes, not possible to supply in-house
21	Manufacturing services provided in-house and by suppliers of activities such as welding, coating, etc.	886 – Basic metal manufacturing services	No	No	Yes, efficiency; need to access the best services

		887 – Fabricated metal product, machinery and equipment manufacturing services	No	No	Yes, efficiency; need to access the best services
22	Testing services for quality control and assurance	8344 – Technical testing and analysis services	Yes	No	No
23	Third-party inspection services	990 – Services provided by extraterritorial organizations and bodies	No	No	Yes, required by laws and regulations
24	Product testing to obtain certification at export market	8344 – Technical testing and analysis services	No	No	Yes, required by laws and regulations
25	Sewage and waste treatment and collection services	94 – Sewage and waste collection, treatment and disposal and other environmental protection services	No	No	Yes, efficiency; not possible to supply in-house

Source: Authors' own understanding of firm's value chain

**Figure 4.8: Post-manufacturing services**

Service	Corresponding CPC Ver. 2 Code	Supplied in-house	Outsourced to affiliated companies and reasons	Outsourced to third-party suppliers and reasons	
26	Packaging services	83919 – Other specialty design services	Yes	No	No
		85400 – Packaging services	Yes	No	No
27	Storage and warehousing services of products	67290 – Other storage and warehousing services	Yes	No	No
28	Transport services of products	651 – Land transport services of freight	No	No	Yes, efficiency; economies of scale
		652 – Water transport services of freight	No	No	Yes, efficiency; economies of scale
		6531 – Air transport services of freight	No	No	Yes, efficiency; economies of scale
		67910 – Freight transport agency services and other freight transport services	No	No	Yes, efficiency; economies of scale
29	Freight insurance	71333 – Freight insurance services	No	No	Yes, not possible to supply in-house

30	Installation services for equipment and related wiring	5461 – Electrical installation services	Yes	No	No
		873 – Installation services (other than construction)	Yes	No	No
31	Certification and commissioning services of equipment	8344 – Technical testing and analysis services	Yes	No	No

Source: Authors' own understanding of firm's value chain

**Figure 4.9: After-sales services**

Service	Corresponding CPC Ver. 2 Code	Supplied in-house	Outsourced to affiliated companies and reasons	Outsourced to third-party suppliers and reasons
32 Training services for workers of customers	9291 – Other education and training services	Yes	No	No
33 Maintenance and repair services	87156 – Maintenance and repair services of commercial and industrial machinery	Yes	No	No
34 Telephone-based support services	85931 – Telephone call centre services	Yes	No	No
35 Information technology (IT) services for on-site and remote monitoring of equipment	8315 – Hosting and information technology (IT) infrastructure provisioning services	Yes	No	No
	8316 – IT infrastructure and network management services	Yes	No	No
36 Travel services for engineers and other staffs pertaining to after-sales services	8551 – Reservation services for transportation	No	No	Yes, lack of expertise
	85521 – Reservation services for accommodation	No	No	Yes, lack of expertise
37 Visa and immigration services for staffs	91290 – Public administrative services related to other public order and safety affairs	No	No	Yes, government services

Source: Authors' own understanding of firm's value chain

**Figure 5: Business processes (back-office support)**

Service	Corresponding CPC Ver. 2 Code	Supplied in-house	Outsourced to affiliated companies and reasons	Outsourced to third-party suppliers and reasons
38 Company registration and licensing services (obtaining permit to operate)	91138 – Public administrative services related to general economic, commercial and labour affairs	No	No	Yes, government services
39 Headquarter services	83118 – Head office services	No	Yes, economies of scale	No
40 Management services	83111 – Strategic management consulting services	Yes	Yes, economies of scale	No
41 Accounting, auditing and bookkeeping services	82210 – Financial auditing services	Yes	No	Yes, required by laws and regulations
	8222 – Accounting and bookkeeping services	Yes	No	No
42 Financial services	7113 – Credit granting services	No	Yes, economies of scale; not possible to supply in-house	Yes, economies of scale; not possible to supply in-house
	71512 – Corporate finance and venture capital services	Yes	No	Yes, not possible to supply in-house
43 Legal services	82120 – Legal advisory and representation services concerning other fields of law	No	No	Yes, lack of expertise
	82130 – Legal documentation and certification services	No	No	Yes, lack of expertise
	82191 – Arbitration and conciliation services	No	No	Yes, lack of expertise
44 Insurance services (commercial life and accident/health insurance, property insurance for the	7131 – Life insurance and pension services	No	No	Yes, not possible to supply in-house
	7132 – Accident and health insurance services	No	No	Yes, not possible to supply in-house

	factory compound, product quality insurance, management liability insurance)	71334 – Other property insurance services	No	No	Yes, not possible to supply in-house
		71335 – General liability insurance services	No	No	Yes, not possible to supply in-house
45	Social insurance for staffs	91320 – Administrative services related to government employee pension schemes; old-age disability or survivors' benefit schemes, other than for government employees	Yes	No	No
		91330 – Administrative services related to unemployment compensation benefit schemes	Yes	No	No
46	Corporate communications and public relationship	83121 – Public relations services	Yes	Yes, economies of scale	No
47	Human resources management	8511 – Personnel search and referral services	Yes	No	Yes, network economies
		8512 – Labour supply services	No	No	Yes, network economies
		83113 – Human resources management consulting services	Yes	No	Yes, lack of expertise
48	Information technology services	83132 – IT support services	Yes	No	Yes, efficiency; lack of expertise
		83151 – Website hosting services	No	No	Yes, efficiency; lack of expertise
49	Telecommunication services	841 – Telephony and other telecommunications services	No	No	Yes, not possible to supply in-house
		8422 – Internet access services	No	No	Yes, not possible to supply in-house
50	Transport services for staffs	641 – Local transport and sightseeing transportation services of passengers	No	No	Yes, efficiency; not possible to supply in-house
51	Property management services	72212 – Non-residential property management services on a fee or contract basis	No	No	Yes, efficiency; lack of expertise
52	Medical services	93121 – General medical services	No	No	Yes, lack of expertise
53	Catering services	63393 – Other contract food services	No	No	Yes, lack of expertise
54	Security services	85230 – Security systems services	No	No	Yes, lack of expertise
		85250 – Guard services	No	No	Yes, lack of expertise
55	Cleaning services	853 – Cleaning services	No	No	Yes, lack of expertise

Source: Authors' own understanding of firm's value chain

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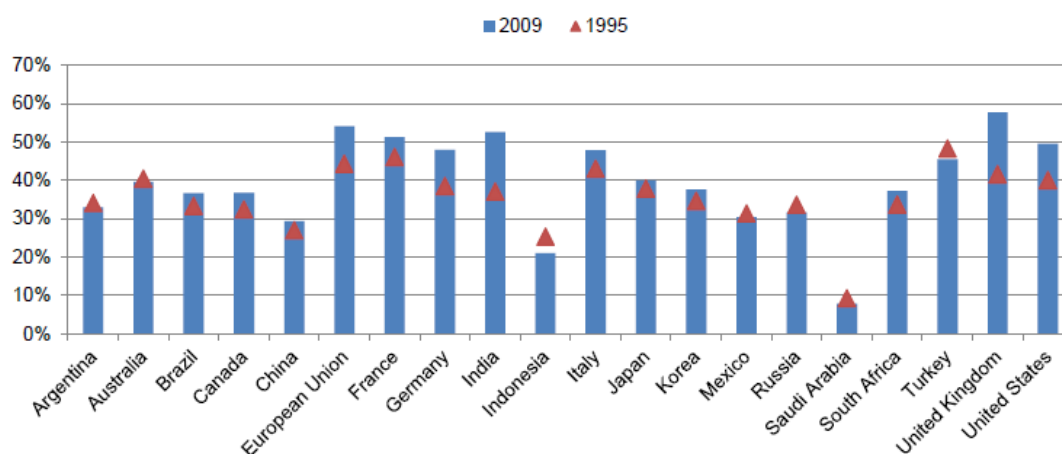
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## SUMMARY

My analysis focuses on the increasing role and importance that services today play in international trade and global value chains. For a long time, in fact, trade in services was considered as contributing only about one-fifth of world trade.

The average services content of exports for G20 economies in 2009, instead, raised to 42%, while it was at or above 50% for countries such as the United States, the United Kingdom, India, France, and the European Union as a whole (figure 1).

**Figure 1: Services value-added in gross exports (%)**



Source: OECD/WTO TIVA database, May 2013 release.

This significant growth in services has produced important consequences since it has enabled companies to invest in new business opportunities and better production technologies, to exploit economies of scale by concentrating production in fewer locations, to efficiently manage inventories, to make coordinated decisions with their suppliers and customers, and to increase their total factor productivity.

In particular, the thesis is organized in four different chapters and ends with the analysis of a series of case studies (Costa Rica, Cina, Chile, Singapore).

The first chapter of the thesis (“**Globalization: history and future perspectives**”) analyses the phenomenon of the globalization, which is defined as the process of integration among cultures, people, companies and governments of different nations of the world.

This is driven by international trade, technological change, and financial liberalization, and has created a new fully integrated global economic system.

Specifically, the process of globalization has been studied in the chapter through three main waves: the first, the second and the third wave of globalization.

The first wave of globalization (1870-1914) was triggered by the discovery of the steam engine that drastically reduced the transportation costs.

The implications of this discovery were enormous since the steam revolution opened up the possibility of using new areas in North America, Australia, Argentina, New Zealand and United States providing big opportunities for land-intensive commodity exports exchanged for European manufacturers, it produced huge flows of migration from Europe to North America and Australia to work on new available land, and it favoured the participation of developing countries in financial markets.

However, it also produced inequality because in developing countries, the regions exporting land-intensive goods, it benefitted mainly people who owned the land, while in Europe, the region importing land-intensive goods, it ruined landowners.

The second wave of globalization (1945-1980), instead, which followed a retreat into nationalism between the WWI and WWII, was favoured by a trade liberalization undertaken by governments and characterized by the fall in trade barriers erected in the period 1914-1945 and by new reductions in transportation costs. This liberalization, however, was very unbalanced since while developing countries built severe commercial barriers against each other and against developed countries and remained mainly dependent on primary commodities, developed countries took advantage from a new type of economy called “economy of agglomeration” that consisted of manufacturing niches gaining productivity from agglomerated clusters.

Nevertheless, this second process of globalization is very often referred to as the “golden age” since it coincided with a significant reduction in poverty and inequality due to the diffusion of policies for distribution and social protection.

The third wave of globalization (1980-present), finally, is a period during which a large number of developing countries( called “new globalizers” or “more globalized countries”) successfully entered the global markets while another group of developing countries( called “less globalized countries”) became extremely marginalized in the world economy.

The growth of new globalizers (Argentina, China, Hungary, India, Malaysia, Mexico, the Philippines, and Thailand), in particular, has been allowed by a huge increase in the level of exports favoured by important progresses in ICT (information and communication technologies), new liberalization policies, and improvement of infrastructures, skills and institutions.

The delay of less globalized countries, instead, has been due to three different points of view (“Join the Club” view, “Geographic Disadvantage” view, and Missed the Boat” view) which have been punctually explained and detailed in the chapter.

After this historical picture of globalization, the chapter has examined the fundamental impact that technology had as a driving force of the globalization remembering that since the 18<sup>th</sup> century we have had three different industrial revolutions.

The first industrial revolution was in the 18th century and took place in the manufacturing industry; the second industrial revolution was in the services industry; the third industrialization of the 21st century is still ongoing and is known as the “information age”, since it is associated with the digital revolution that we are living over the last years.

In the last paragraph of the chapter, eventually, the pros and the cons of the globalization have been studied.

It has been said, for example, that the supporters of the globalization argue that it can be considered positive since it opens the borders between the nations and increases the awareness about the differences between us, it increases mobility of persons, goods, capital, data and ideas, it promotes free trade (which is a driver for global economic growth), it generates employment opportunities for those people who don’t have a job (especially in less developed economies), etc.

On the contrary, according to its opponents globalization is negative because it makes the rich richer and poor poorer, it makes multinational corporations flourish and kills the small companies and the middle-class, it represents a big problem for developed countries because of the fact that their jobs are lost and transferred to lower cost countries, it determines a loss of culture, it allows multinational companies to obtain a lot of power to influence political decisions, etc.

As for the second chapter of the thesis (“**Global value chains**”), it focuses on the value chain of modern companies that because of the globalization are always more global in both the scope and the organization and for this reason are called “global value chains”.

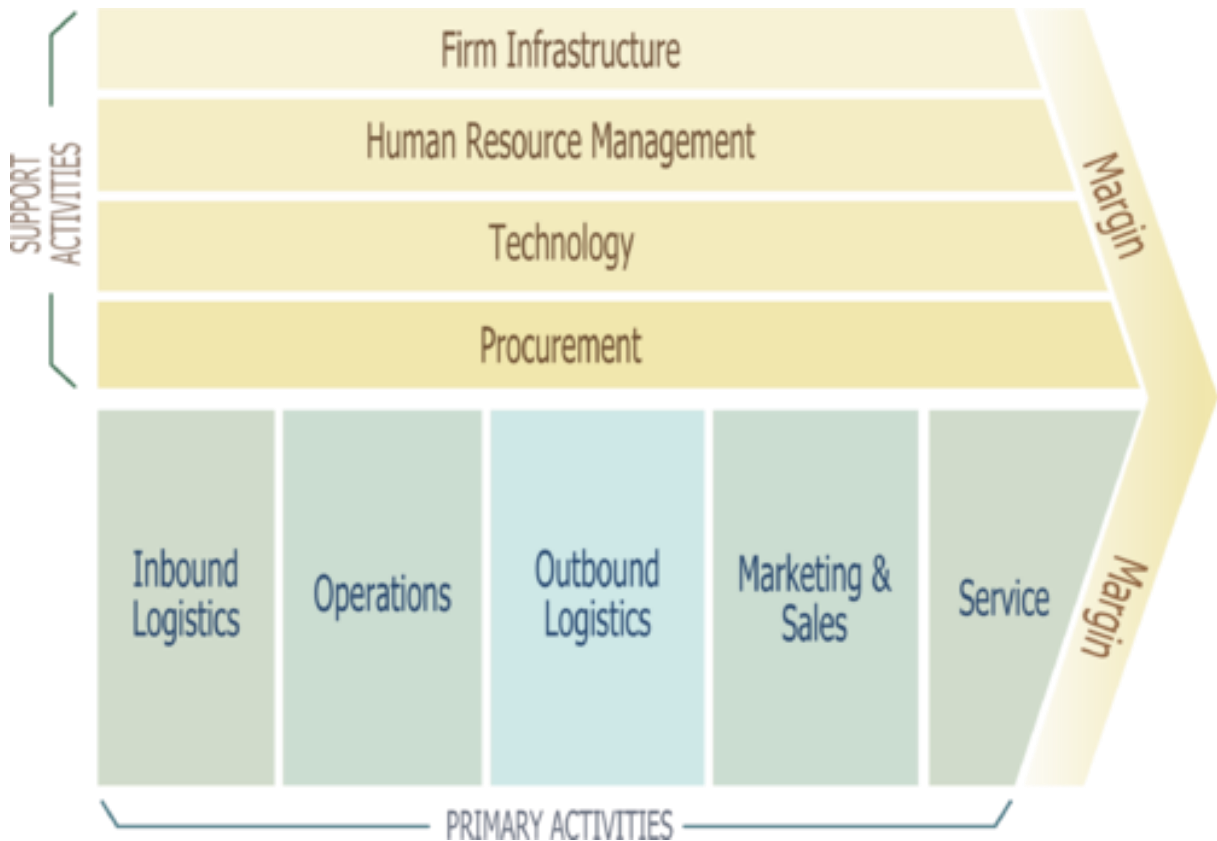
The value chain, in particular, has been defined in the chapter as” the full range of activities that firms and workers perform to bring a good or a service from its conception to its end use”, and includes two main categories of activities:

- **primary activities** (inbound logistics, operations, outbound logistics, marketing and sales, and services);

- **support activities** (firm infrastructure, human resource management, technology, procurement) (figure 1.1).

They have been widely described and explained in the chapter, even by means of a case study about Starbucks analysed in the last paragraph of the chapter.

**Figure 1.1: Value Chain**



The value chain has been distinguished in 5 different categories, i.e. *supply-chains*, *international production networks*, *global commodity chains*, *French filière approach*, and *global value chain*, each of which puts an emphasis on a particular aspect of the chain, as the chapter has tried to show.

Another aspect that has been underlined is the governance of GVCs, which refers to the fact that some firms in the chain (called “lead firms”) directly or indirectly influence the activities of other firms in the chain.

More specifically, the governance has been defined as the “non-market coordination of economic activity”, which is achieved through the setting and enforcement by some lead firms of product and process parameters under which other actors in the chain operate.

Governance has been divided into many different GVC governance patterns:

- markets,
- modular value chains;
- relational value chains;

- captive value chains;
- hierarchical value chain.

The chapter ends by listing 3 main indicators used to measure the value and the performance of the value chain (profits, value added and price mark-ups), with their pros and cons, and by examining the concept of “industrial upgrading”, which indicates different types of shifts that companies undertake to improve their competitive position in global value chains.

These shifts include:

- the product upgrading, that consists of upgrading a product by moving into more sophisticated product lines characterized by a higher product quality and an increasing value for consumers);
- the process upgrading, that is when companies upgrade their processes by transforming inputs into outputs more efficiently through a better technology or reorganising the production systems;
- the functional upgrading, that occurs when companies enter a new and higher value-added function or level in the value chain, such as moving from production to design or marketing;
- the vertical integration, that occurs when firms move backward or forward to different stages in the value chain, such as moving from the production of finished goods to intermediates or raw materials;
- the network upgrading, that is when firms try to diversify their buyer-supplier linkages within a value-chain;
- the inter-chain upgrading, that is when a company uses the competences, knowledge or technologies acquired in a particular function of a chain to a new sector;
- the channel upgrading, that occurs when firms enter one or more new markets in the same basic product- domestic, regional or global.

The third chapter (“**The role of services in global value chains**”) is the core chapter.

It focuses on the concept of “servicification”, which refers to the current predominance and pervasiveness of services in manufacturing.

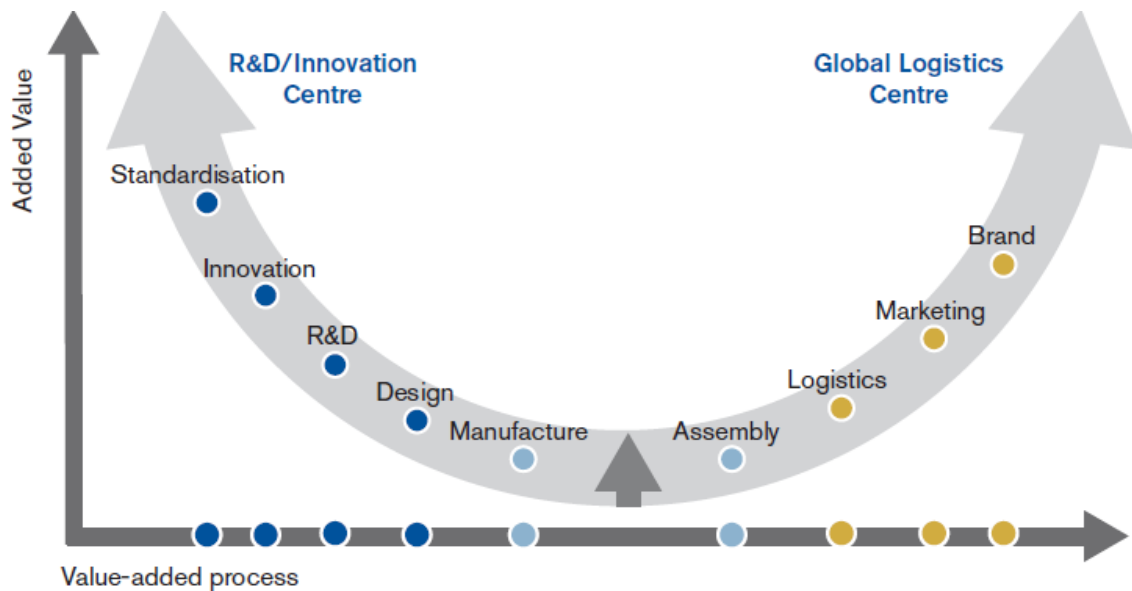
The chapter starts with a distinction between services “as tasks” and services “as enablers”.

The first are those services that support the creation of value chains in both goods and services and include a wide range of key services, such as communication, insurance, finance, computer and information services, and other business services.



The latter, instead, are those services that can be traded as separate tasks and that many companies today are outsourcing creating pure services value chains present in many different service sectors (such as banking, tourism, education, health, audiovisual, IT and business processing services) and well represented by the “smiley model”(figure 1.2).

**Figure 1.2: “Smiley face”**



Source: World Economic Forum (2012)

The diagram, specifically, describes the opportunities that exist on a value chain to produce higher value-added components upstream and downstream of manufacturing and assembly.

In particular, in the model the value chain begins with upstream activities, such as R&D and design, continues via manufacturing and assembly and finishes with downstream activities such as marketing, brand management and after sales services.

Typically, the most value-added activities are found in the beginning and in the end of the chain where intellectual property is created and where services dominate over manufacturing.

After in the chapter there have been listed some reasons for which the identification of services in global value chains is particularly complicated because of the heterogeneous nature of many service transactions and the lack of a nomenclature for services.

Regarding this last aspect, for example, it has been explained that services are normally divided into “embodied” and “embedded”.

The first are those services whose products constitute an input for the production of a good, such as transport, telecommunications, financial services and business services; the latter, instead, are those constituting an input into the sale of a good, such as after-sales support, retail, and inventory management.

The distinction between these two categories, however, is not so simple and immediate.

Besides, services are not easy to identify due to some specific features that make difficult the computation:

- lack of ownership, that means you cannot own a service and you cannot store a service the way you can store a product, as services are used or hired for a limited period of time;
- the intangibility, that refers to the fact that a service cannot be seen, smelled, tasted, touched, or stored because it is something that the customers experience, and experience is not a physical product;
- the inseparability, that is the feature for which services cannot be separated from service providers;
- the perishability, that refers to the fact that services last a specific time and cannot be stored like a product for later use;
- the heterogeneity, that means that firms have systems and procedures to ensure that they provide a consistent service even though it is very difficult to make each service experience identical;
- the variability, that means the quality of the service may vary depending on who provides it, as well as when and how it is provided.

Extremely important, then, is the sixth paragraph of the chapter that underlines the increasing role and importance that intangible assets (which are defined as “non-monetary assets without physical substance”), have acquired in the modern economic scenario and global value chains.

In particular, these assets have been classified into limited-life intangible assets( such as patents, copyrights, and goodwill) and unlimited-life intangible assets( such as trademarks) but, at the same time, into other three groups, i.e. computerized information, innovative property and economic competences, which have been well defined and detailed in the paragraph.

The last paragraph of the chapter, finally, focuses on the role that policy and institutions play to promote the participation of countries and companies into global value chains.

About that, it has been explained that the main role of governments is not to create, subsidize, or tax GVCs, nor to regulate them more than it is necessary.

On the contrary, governments have to build welcoming environments and ecosystems that are favourable to production, investment, transportation, communication, and trade, they have to improve the access to finance for companies, they have to create a competent, transparent and honest public administration, they have to guarantee political and macroeconomic stability within the borders of the country, and they should invest in research and development.

The fourth and last chapter (“**The impact of GVCs on the labour market**”) studies the impact of global value chains on the labour market.

The chapter starts by evaluating the impact that trade and foreign direct investments (FDI) have on employment demand and wages.

The impact of trade is evaluated by analysing the effects on the export side and the import side.

As for the effects on the export side, a lot of data mentioned in the chapter have demonstrated that in general exporting companies are larger and more productive than firms selling only domestically, they are associated to a stronger labour demand, they employ more workers, and they pay higher wages.

This is the result of two different mechanisms: productivity-based self-selection and learning-by-exporting.

Productivity-based self-selection means that companies decide whether or not to export on the basis of the additional costs of doing so and their productivity.

Learning-by-exporting, on the contrary, means that companies learn new production techniques or engage in upgrading following export market entry.

As for the implications of trade on the import side, instead, there is much indirect evidence that also companies importing intermediate goods tend to be more productive than domestic firms.

This higher productivity, then, very often implies higher levels of employment and higher wages for workers, especially in well-functioning labour markets.

For what concerns the impact on the labour market of foreign direct investments, researches and evidence indicate that companies engaging in foreign direct investments, like the exporting and the importing ones, are more productive than companies operating only domestically, especially in developed countries (OECD countries) but also in developing countries.

Moreover, it has been verified that foreign owned companies pay higher salaries, have a higher and faster employment rate and tend to trigger “spillover effects” for domestic companies.

A further interesting aspect taken into consideration is the relationship between GVC participation and developing countries.

It has been underlined, in fact, that the integration into global value chains represents for less developed economies a big opportunity of growth and for entering international markets.

More specifically, the impact of GVCs on the labour market of poor countries has been studied under different aspects, such as the number of jobs, the wage effects, and the working conditions in GVCs.

The last part of the thesis is dedicated to an in-depth analysis of some case studies concerning examples of countries that have been able to take advantage from their participation into global value chains for entering international markets and boosting their economy.

The first case study, in particular, is about Costa Rica, which is a country that thanks to its participation in GVCs in goods and services has emerged as one of the faster growing economies in Latin America and has become one of the main actors in 21st century trade and investment patterns.

All this has been allowed by a strong industrialization and liberalization policy (including the improvement of educational system and infrastructures, the simplification of bureaucracy, the reduction in labour and energy costs, etc.) that have been widely discussed within the thesis.

The second case study is about China that over the last years has emerged as a hub within the electronic industry, as shown by the high presence of large contract manufacturers but also small component manufacturers and assemblers who act as subcontractors.

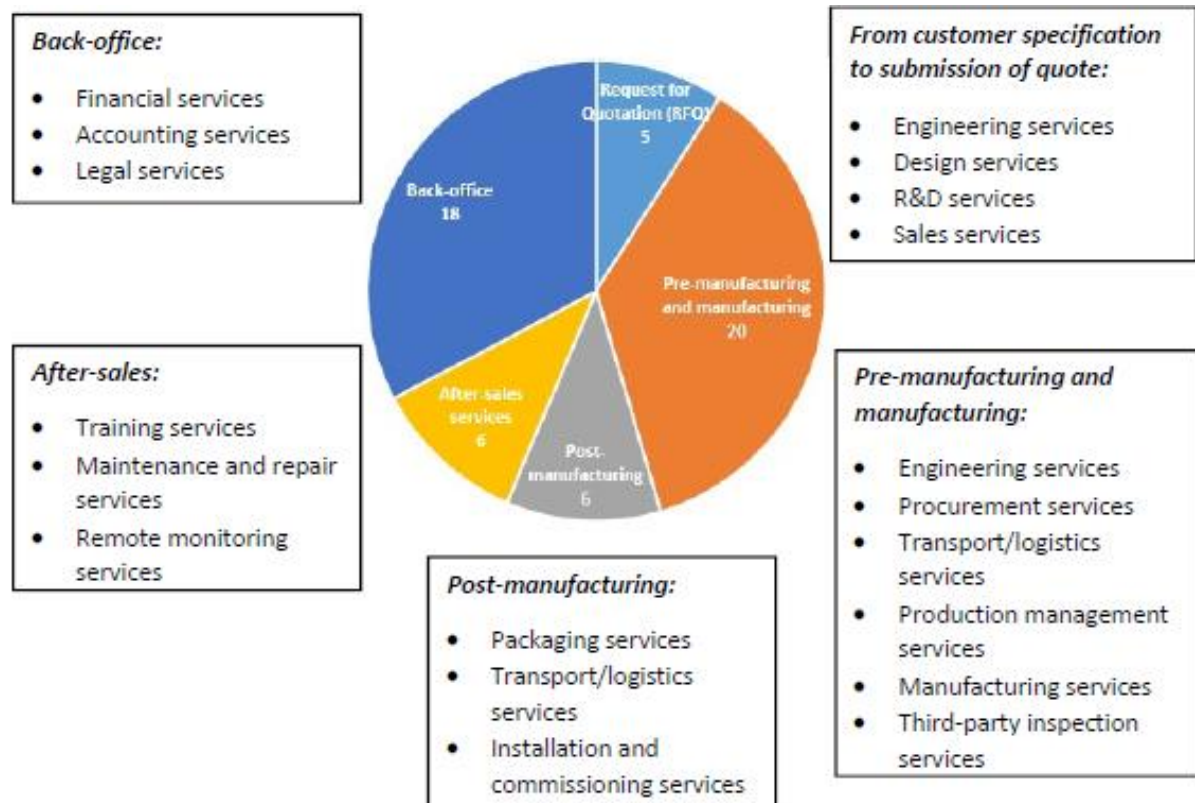
The third case study is about Chile, another economy that has been really able to attract countless offshore services thanks to two programs undertaken by the Chilean government to develop local human capital:

on the job training, and specialised training and recruitment.

The fourth case study, eventually, concerns the oil and gas industry in Singapore and is an example of how services today play a dominant role in the value chain.

The case, in fact, focuses on one specific product realized by the company, the subsea tree, which has basically the function of controlling and monitoring the flow of oil and gas out of the well and whose value chain includes an amount of 55 services that can be disaggregated into other 94 services (figure 1.3).

**Figure 1.3: Breakdown of services by stage**



Source: Compiled by APEC Policy Support Unit