



**Dipartimento di
Economia, Statistica e Diritto**

Università di Pavia

Serie Economia

n. 4/2011

Silvio Beretta, Renata Targetti Lenti

India in the Outsourcing/Offshoring Process:

A Western Perspective

QUADERNI DEL DIPARTIMENTO DI ECONOMIA, STATISTICA E DIRITTO
UNIVERSITÀ DI PAVIA

REDAZIONE

Claudia Banchieri
Dipartimento di Economia, Statistica e Diritto
Università degli Studi di Pavia
Corso Strada Nuova 65
27100 PAVIA
tel. 0039-0382-984406
fax 0039-0382-984402
E-MAIL banchier@unipv.it
I Quaderni sono disponibili sul sito: <http://www-5.unipv.it/webdesed/quaderni.php>

COMITATO SCIENTIFICO

Italo Magnani (coordinatore)
Luigi Bernardi
Silvia Cipollina
Paolo Giudici
Silvia Illari
Renata Targetti Lenti

I QUADERNI DEL DIPARTIMENTO DI ECONOMIA, STATISTICA E DIRITTO hanno lo scopo di favorire la tempestiva divulgazione, in forma provvisoria o definitiva, di ricerche scientifiche originali. La pubblicazione di lavori nella collana è soggetta a referaggio e all'approvazione del Comitato Scientifico.

Questa nuova edizione dei **QUADERNI** rappresenta la continuazione di tre serie di pubblicazioni pre-esistenti: Quaderni del Dipartimento di Economia Pubblica e Territoriale, Quaderni di ricerca del Dipartimento di Statistica ed Economia Applicate "L. Lenti" e Osservatorio dei contratti della P.A.

India in the Outsourcing/Offshoring Process: A Western Perspective

*Silvio Beretta, Renata Targetti Lenti**

UNIVERSITÀ DEGLI STUDI DI PAVIA

This paper examines India's pattern of development, on the basis of the hypothesis that India today reflects the legacy of a combination of policies simultaneously favouring and disfavouring domestic entrepreneurship. India differs from all other economic systems at the same development level in at least two respects, namely the skill intensity of exports and the variety of products. The paper discusses the challenges and opportunities which derive from India's position in the globalization process with particular reference to outsourcing/offshoring, to the "second unbundling" and to the rise of an international market of tasks.

JEL Classification: F41, L24, L80, O53, O57, P52.

Keywords: Europe, India, Italy, Globalization, Offshoring, Outsourcing, Unbundling.

1. Introduction

The paradoxes of India's current success can be seen as the outcome of what were once considered policy "failures". Compared with other fast-growing Asian economies, India's pattern of development is idiosyncratic. As a matter of fact, the Indian economy differs from any other at the same development level, in particular from China, in two respects, namely the skill intensity of its exports and the variety of its products. The importance of services relative to manufacturing is widely acknowledged. In addition to this, within manufacturing India emphasized skill-intensive rather than labour-intensive production. While China seems to be absorbing the labour surplus from agriculture into manufacturing, there is growing concern that India has failed to match its neighbour. Indeed, according to some scholars the prospects for employment growth in the skill-based sector are relatively limited. In contrast to other comparable developing countries, India has put emphasis on tertiary education. Combined with a wide range of policy distortions, this may account for the channelling of the manufacturing sector into more skill-intensive production. Furthermore, the government has attempted to develop capital goods production, mostly by involving the public sector. This has led to India having a leading role in a few industries requiring a larger scale of production than in other developing countries. However, regulatory penalties and constraints on big private businesses have meant that – in most private industries – the average firm size is relatively small. Finally, rigid labour laws, as well as constraints on the scale of private enterprises, might also have limited India's presence in labour-intensive manufacturing, i.e. the usual specialization pattern of a populous developing country. At the same time, protectionist policies have created an enormously diversified industrial sector, if compared with other similar economies. Furthermore, such diversification often turns out to be quite inefficient. The combination of these policy "mistakes" can be considered instrumental in shaping India's economy today.

India has not yet reverted to the pattern followed by other countries, despite several reforms which have removed some political obstacles shaping its distinctive path. The challenge now is to successfully combine a rapid rate of growth, while promoting employment and poverty reduction. Such a virtuous path could result not only from national policies, but above all from the globalization process and outsourcing and offshoring in the service sectors. In particular, a shift away from outsourcing of business services ("first unbundling") to outsourcing of tasks ("second unbundling") could be very important. A theory of global production focusing on tradable tasks

* silvio.beretta@unipv.it; targetti@unipv.it;

Dipartimento di Economia, Statistica e Diritto, Università degli Studi di Pavia.

would be especially suitable to investigate how the falling costs of offshoring affect factor prices and employment in industrialized countries as well as in developing countries like India.

The paper discusses the challenges and opportunities which derive from India's position in the globalization process with particular reference to outsourcing/offshoring, to the "second unbundling" and to the rise of an international market of tasks. This aim will be pursued taking into account some features of the Indian development path and how national policies have contributed to explaining India's growth and its place in the international division of labour. Two important questions need to be answered. What prospects are there for the Indian economic system given the changing characteristics of offshoring, as well as the strengths and weaknesses of the system? What prospects are there for the integration between India, Italy and other European countries given the strengths and weaknesses of the Indian system, especially when faced with a competitor like China?

2. India's economic development: trends, policies and outcomes

2.1 Policy trends

India has a mixed economy, since the State has a significant regulatory role and is the owner of several public companies. Some scholars have argued that India's economy is the result of a true paradox (Banerjee, 2006), owing to the contrasting effects of the policy mix introduced shortly after independence and through reforms. Government-owned industries played a major role in starting the growth process. Different growth stages have been marked by significant political changes, namely the rise to power of leaders like the Nehru-Gandhi family and more recently Manmohan Singh. From the beginning Nehru promoted centralised industrial planning based on government intervention to regulate the economy and on state ownership of production factors. Therefore government gradually gained a dominant position in key sectors of the Indian economy (the "*Commanding Heights*"). The Indian government nationalized a few key industrial sectors, encouraged other sectors through huge investments and applied strict regulations to the private sector.

Shortly after independence until the early 80s customs duties were established to protect national industries. These policies generated low growth rates in the '80s, the so-called *Hindu rate of growth* (Rodrik, Subramanian, 2004; Srinivasan, 2005). This was largely due to an expansive budgetary policy, together with an increase in government subsidies, which in turn contributed to enlarging the public sector budget deficit. The latter had been partly financed through State bonds placed at the Central Bank. Monetary base and money supply increased. The deficit absorbed most of the savings available in the country, thus reducing the resources accessible to private investors. A growing public sector deficit significantly increased the national debt, which in turn led to high inflation rates, the need for foreign capital to finance investment and a large external debt. Central planning eliminated any kind of incentive, thus reducing the system's productivity and competitiveness. Severe and increasing trade restrictions were established to protect local industries and their low productivity. The Licence Raj, together with customs duties, seriously distorted the production system. They favoured production that replaced imports rather than encouraging exports. Domestic prices were much higher than international ones, while many people made money off the licence system. Planning policies and protectionist policies sought to achieve self-sufficiency in many manufacturing sectors. At the same time, they tried to encourage sectors producing capital goods (Kochhar *et al.*, 2006). The licence system and strict governmental control were tools to achieve the planned targets, while antitrust law tried to curb excesses of production concentration. The Indian planning system shared some characteristics with the Chinese one, chiefly because of the importance attributed to heavy industry. However, the Indian system was characterised by some peculiar features, namely the Gandhian principles which inspired economic policy. The simplicity

recommended to consumers found its justification in the quest for a better balance between man and nature, which in turn is a crucial issue in pursuing individual well-being. This message was translated into economic policies which discouraged the production of goods for export in favour of local, handmade products and traditional industries.

In the early '80s and up to 1990, the development strategy was modified towards pronounced decentralization of the decision making process and increased privatization. The licence system (the *Hindu rate of reform*) was made more flexible, albeit selectively. Thanks to the measures adopted in the '80s, India experienced more sustained growth than in previous decades. Investments gradually flowed into the private sector. Domestic consumption grew. Organizational improvements in the industrial sector, together with a new positive attitude towards private enterprise, led to an increase in productivity. A breakdown of income growth rates shows that low growth before the '80s was due to an increase in factor endowment. On the other hand, post '80s growth was due to an increase in total factor productivity (Basu, 2007, p.9). Some scholars (Rodrik, Subramanian, 2004; Virmani, 2004) have argued that this increase was caused by a more efficient use of production factors in different sectors, rather than their reallocation from low productivity (agriculture) to high productivity sectors (industry and tertiary).

At the beginning of the '90s the Indian government began liberalising the economy, which involved a policy mix, namely stabilization policies as well as structural interventions. The Planning Commission was reformed into a consultative institution, while liberalisation concerned investments, exchange rates, market regulations, finance and taxation. At the very beginning of the process, high priority was given to the abolition of the Licence Raj, the complicated and detailed licence system that came into force shortly after 1947. Fiscal consolidation was a matter of utmost importance too. Direct foreign investments rose from 0.6 billion US dollars in 1992-3 to 4.1 billion dollars in 1993-4, showing a sharp acceleration around the end of 1993. Recovery was particularly significant in the secondary and tertiary sectors and in the demand for consumer goods. These trends were interpreted as a vote of confidence in the macroeconomic policy adopted. In addition to this, from 1994 the Reserve Bank of India acted in order to bring inflation under 5% in 1996. With no major interventions on taxation, this result was achieved through an increase in real interest rates. Economic reforms launched in 1991 and their positive effects on India's integration into the international system foregrounded the country's potential. GDP almost quadrupled in four years from 293 billion US dollars in 1988 to 1,159 billion in 2008. However poverty, which is still a major issue in several states, failed to be adequately reduced. Export promotion has become a major issue in India's economic policy. Depreciation in the real exchange rate led to exports of agricultural products and manufactured goods both increasing significantly. These increases, in turn, encouraged the import of capital goods and advanced technologies. Direct foreign investment has increased fifteen-fold since liberalisation, and 450-fold since 1988 (World Bank, 2009). Today India is very appealing to foreign investors. Foreign companies have been gradually allowed to increase their ownership stakes.¹

Broadly speaking, after several attempts dating back to the mid '80s, the reforms of the '90s allowed India to play a leading role in the international context, perhaps for the first time since independence. A number of important measures deregulated investments in most industries, removed several key industries from public control, gradually abolished quantitative restrictions on imports, progressively liberalised foreign exchanges and current account convertibility, and entailed tax relief and financial reforms. The decrease in quantitative restrictions on the textile trade and the entry into force of rules protecting intellectual property, on January 1, 2005, represent a further turning point in India's development.

¹ See the Indian Ministry of Finance website (http://www.finmin.nic.in/foreign_investment/int_finance_issues/index.html) and *Doing Business with India* (<http://www.madaan.com/investing.htm>)

2.2 The industrial sector and the legacy of past policies

The Indian economy presents three peculiar features: i) industry is highly diversified, mainly made up of medium and small private companies; ii) a relative high number of firms use skilled-labour and capital-intensive techniques; iii) the service sector is highly developed in comparison with the manufacturing sector. These features are mainly the result of the policies adopted before reforms began (Kochhar *et al.* 2006; Banerjee, 2006). They gave rise to a dual production system, not only in terms of technologies used, but also as regards the sector (industry vs. agriculture), size (small vs. big businesses), ownership (public vs. private companies). Public companies are usually big and make use of capital intensive technologies. In contrast, the private sector is dominated by small and medium-sized family businesses.

i) Thanks to the protectionist policies pursued in the early planning stage, a highly structured industrial system was established, mainly designed to meet the needs of the domestic market. At the same time this structure was established to absorb the abundant labour supply in rural areas, to achieve self-sufficiency in the production of some basic goods and to ensure a more equitable income distribution. Unlike what happened in other developing countries, the manufacturing sector that took shape in the first decades after independence entailed high-skilled labour and capital-intensive production, and this continues to be the case (Banerjee, 2006). On the other hand, there were few low-skilled labour industries, which were a common phenomenon in most developing countries. This environment did not change following the reforms of the '80s and '90s. On the one hand, it was easier to maintain specialization. On the other hand, the laws that had encouraged the use of capital rather than labour remained in force. Privatisation led to the development of some large family-owned businesses. However, small and medium companies continue to play an important role. Indeed, they account for about 40% of production, two thirds of which is for export, and provide 65% of employment. The Indian system favoured specific technological niches. In addition to this, subcontracting made up in many cases for the inadequate capacity of the internal market.

An apparent anomaly in industry is the small turnover, owing to plenty of funding being available to everybody, even the least productive companies (Topalova, 2007) because of a “conservative” credit policy (Banerjee, 2006). On the other side, under-lending has hindered the most productive companies from growing in size, thus affecting their efficiency (Banerjee *et al.*, 2003, p. 142; Banerjee, Duflo, 2008). In the most dynamic regions, however, changes are underway which will decrease the number of least efficient industries. The property sector might cause some companies to disappear, therefore reducing industrial diversification, as a consequence of selling industrial land for urban development to meet the growing demand for housing (Kochhar *et al.*, 2006).

ii) The factors which determined a more intensive use of capital and of skilled labour did not change with the reforms after 1990. First of all this was the result of labour market rigidities and relatively high expenditure on higher education. It has in fact been noted that: “Another related factor that assisted in establishing an industrial sector biased towards the skill-intensive activities was the creation of a scientific and a technical infrastructure, as well as the set up of institutes of higher education, especially in engineering and management” (Felipe *et al.*, 2010, p. 25). For a developing country India has a genuine peculiarity, i.e. its spending on higher education is much greater than on primary education (Kochhar *et al.*, 2006). This peculiarity not only accounts for some features of the social system, but above all of the economic one. On the one hand, the illiteracy rate is still high. On the other, skilled workers form a significant part of many industrial sectors. This policy has produced ambiguous results. It encourages highly-qualified workers to emigrate to English-speaking countries. On the other hand, it has helped to create technology-intensive firms in advanced services. Within a strict antitrust legal framework entailing high tariff protection and subsidies to public enterprises, the large supply of qualified workers leads to very competitive industries (Kochhar *et al.*, 2006). As Banerjee states (2006, p. 1022): “The combination made for many interesting experiments that probably would not have happened in a less dirigiste

economy”. Despite the successes of the education system, new problems linked to the *quality* of graduates are emerging².

iii) The service sector in India is larger than in other developing countries. Some sectors, such as banking, are characterized by low efficiency. Other sectors, such as software producers, are very dynamic and competitive. Their evolution is due to past structural reforms or specific policies. They are strategic sectors for India’s position in the international arena. Reforms of the banking system followed a parallel path to the transformation of the real economy. This system, which was initially private, was nationalized starting in 1969. High levels of dirigisme, obligations to finance top priority sectors, as well as reserve and liquidity requirements reduced the banks’ independence and competitiveness. A third stage began in 1992, aimed at liberalising the system and promoting its reorganization, autonomy and competitiveness. (Banerjee *et al.*, 2003, 2004). Banks were once again privatized by reducing the public stake in state banks, by allowing takeovers and by encouraging foreign banks to enter the market. Prudential regulations were implemented to comply with international standards. However, banks’ efficiency remains lower, if compared to other emerging countries. The State still plays “a major role in the ownership of banks, and the consolidation of India’s banking industry is still very low” (Chiarlone, 2008, p. 108). Despite these limits, banking has played and will play a major role in the economy. Indeed it is the system’s main source of funding.

3. Globalization and alternative forms of outsourcing and offshoring.

3.1 Traditional models of “offshore outsourcing”.

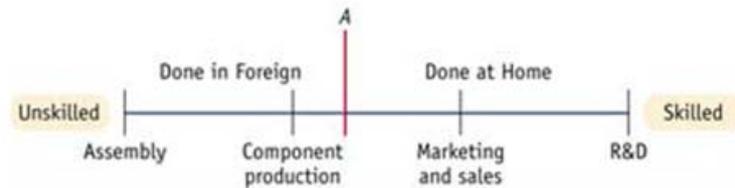
What new prospects are there for India’s economy in the light of the changing characteristics of offshoring, and of the country’s strengths and weaknesses? This question can only be answered by analysing how outsourcing and offshoring are changing. Outsourcing, or in Krugman’s words, “*offshore outsourcing*” (2007, p.1), can be defined as international trade of intermediate inputs, which cross borders several times before being incorporated into final goods. This is a recent phenomenon, which becomes economically profitable because of the reduced costs of transport and communication, which facilitate the combination of inputs from different countries, in order to produce specific goods or services (Sharma, 2005). According to Blinder (2005, p. 2) “economists who interpret offshoring as nothing more than international business as usual are greatly underestimating both its importance and its disruptive impact on Western societies”.

GRAPH 1A
STAGES OF PRODUCTION ON A TIMELINE



² Nasscom (the employers’ association of IT-BPO industries in India) has stated that today only one engineer out of four is really useful to Indian IT. In the words of Nandan Nilekani, the 27-year-old cofounder and CEO of Infosys: “It is true: quality is a bottleneck for growth that we must eliminate”.

GRAPH 1B
STAGES OF PRODUCTION ACCORDING TO WORK QUALIFICATION

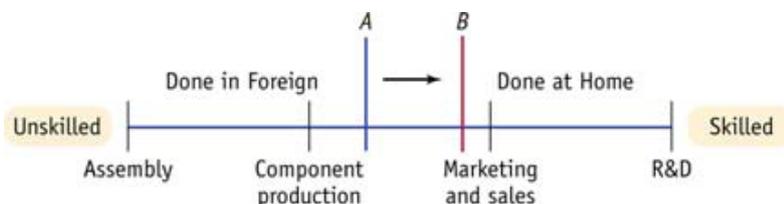


Source: Feenstra, Taylor, 2008, p. 232.

Feenstra (2007) developed a model to analyze the effects of outsourcing. This model can account for an increase in the relative demand for skilled labour, resulting in higher wages. The model was conceived to explain wage dynamics between skilled and unskilled workers, both in the country of origin and in that of arrival, which originated from transferring production. “The provision of services or the production of various parts of a good in different countries that are then used or assembled into a final good in another location is called *foreign outsourcing* or more simply *outsourcing*” (Feenstra, Taylor, 2008, p. 228). The model concerns traditional production relocation when a manufacturing process and/or product components are produced in countries other than where the production process is organized and the final goods marketed.

In order to explain outsourcing’s effects in the chain of value production, we shall distinguish among different stages, starting from R&D up to marketing (Graph 1a). If we classify the same stages according to work qualification, it is quite easy to identify those that will be likely to undergo relocation. See Graph 1b from Feenstra and Taylor (2008, p. 232). The stages that will be relocated are situated to the left of boundary A. They require greater use of unskilled labour, whose cost is lower in developing countries. Generally speaking, these stages include the production and assembly of a few components of the final good.

GRAPH 2
THE BOUNDARY LINE MOVES TO THE RIGHT



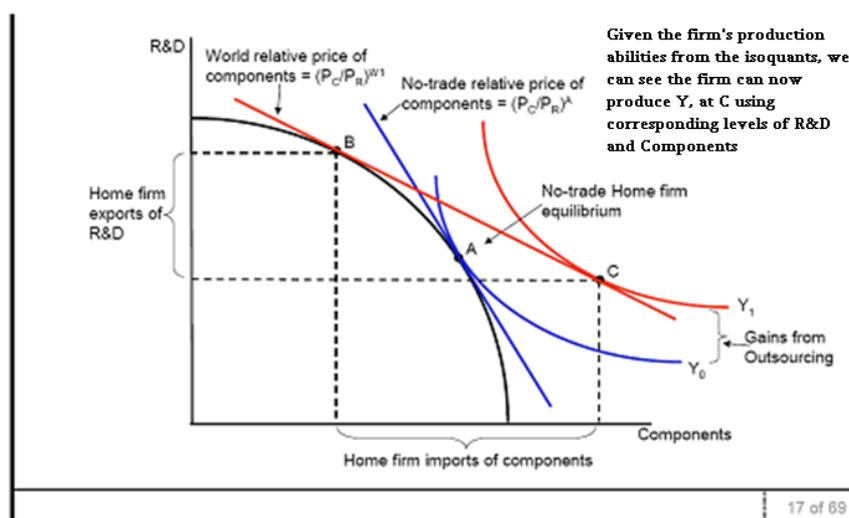
Source: Feenstra, Taylor, 2008, p. 236.

As transport and capital costs decrease in the foreign country, a greater number of activities will be relocated there. The boundary line between relocated activities and those remaining in the country of origin moves to the right, from A to B (Graph 2). The first effect is to decrease the use of unskilled labour, entailing an increase in the relative price of skilled labour in the country of origin, i.e. “the relative wage of skilled labour will increase because of outsourcing” (Feenstra, Taylor, 2008, p. 236). At the same time, relocating high-skilled labour activities results in an increased demand for skilled labour in the foreign country. As a consequence, the relative price of this type of

work increases too. The empirical evidence collected by Feenstra and Taylor (2008) using the NBER database confirms this hypothesis.

The relative costs of labour are reflected in relatively lower prices of the components produced abroad, when contrasted with the prices of high-skilled labour components produced in the country of origin. We shall then observe a reduction in the terms of trade between the two types of activity, entailing a production shift outside the borders. This given, the production levels will move from Y_0 to Y_1 (Feenstra, Taylor, 2008, p. 250, see Graph 3).

GRAPH 3
A SIMPLIFIED MODEL OF OUTSOURCING



Source: Feenstra, Taylor, 2008, p. 250.

There are various effects from outsourcing in the country coordinating the production process (usually the industrialised one). First, a cost reduction, entailing a reduction of the selling price of the product. Second, a change in the relative weight of different types of jobs depending on the degree of specialization, as well as a change in their wage levels. These are the same effects that would occur by employing immigrant workers. “When a good or service is produced more cheaply abroad, it makes more sense to import it than to make or provide it domestically” (Mankiw, 2004, p. 229).

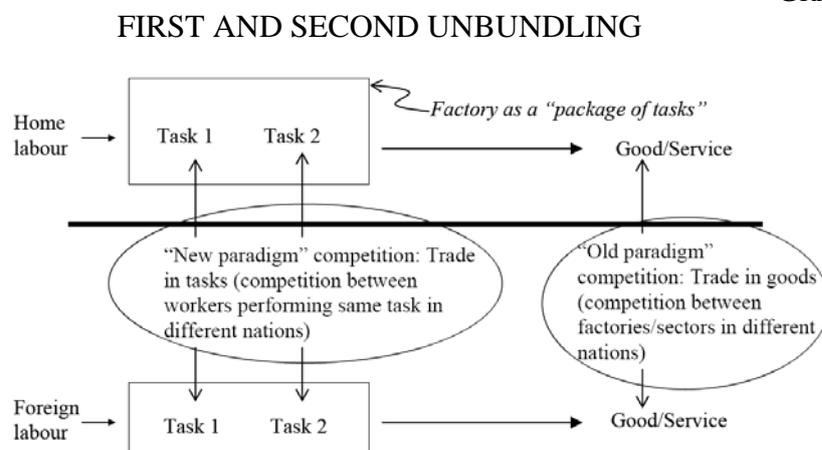
Over time, component outsourcing, i.e. within the manufacturing sector, has gradually intensified. At the same time, outsourcing of business services has intensified as well. However, production services demanded a higher quantity of high-skilled labour than the manufacturing sector. According to some scholars, outsourcing of business services has fallen within the traditional model of international trade. In a Ricardian model, this phenomenon would therefore affect those countries with a comparative advantage in the production of services. “The growing outsourcing of services in industrial countries is simply a reflection of the benefits from the greater division of labour and trade...” (Amiti, Wei, 2004, p. 37). According to Amiti and Wei, this led to a new phenomenon i.e. the fear of unemployment among categories of workers previously protected against international competition, such as professionals, accountants and designers. However, empirical evidence collected by Amiti and Wei (2004, 2005a, 2005b) did not confirm these concerns, at least up to 2003. “Drawing on the experiences of the United States and the United Kingdom, we can say that, in the aggregate, outsourcing does not appear to be leading to net job losses, that is jobs lost in one

industry are often offset by jobs created in other growing industries” (Amiti, Wei, 2004, p. 37). Perhaps business outsourcing has some innovative features when compared to the traditional comparative cost model, as a consequence of the growing complexity of the social and economic world. We shall use the expression *second globalization* to refer to the latter process.

3.2 Globalization and New Outsourcing Patterns: the Second Unbundling.

Second globalization is marked by the growing importance of outsourcing of *tasks*. It is a different process from that described in the previous section (Grossman, Rossi-Hansberg, 2006, 2008; Blinder, 2006). In this case, the unbundling and relocation abroad no longer affect the various stages of production but business *organization*, structured on its different tasks (Baldwin, 2006; Baldwin, Robert-Nicoud, 2010).

GRAPH 4



Source: Baldwin R., 2006, p. 25.

Such a process results in *global tasks markets* comprising transversal competences units, which belong to diverse productive sectors in terms of both geography and productivity levels (Graph 4). The correspondence between endowment of skilled labour and *winner*s in globalization (and symmetrically, between unskilled labour and *loser*s) is therefore outdated. Many professions related to the information society and the knowledge economy play a relevant role in this kind of outsourcing. Within this new paradigm, the second globalization differs from the first because it functions at a greater level of disaggregation. In fact, it *fragments* industrial production processes within firms, and tertiary processes into offices. This process is determined and sometimes encouraged by falling costs of communication and coordination, as well as wage differentials not compensated by adequate productivity gaps.

Demand for and remuneration of different types of work can be further bolstered by a new concept of relocation. This no longer refers to the *stages* in a single production process but to specific *tasks* related to multiple areas simultaneously. Known as “*the Princeton Paradigm*,” this kind of outsourcing focuses on the growing importance of international competition among single tasks, rather than among businesses or productive sectors. It in fact revolves around the so-called *second unbundling* (Grossman, Rossi-Hansberg, 2006, 2008). This phenomenon has occurred as a result of the practical zero setting of communication costs, entailing almost perfect inter-country transferability of codified tasks (Baldwin, 2006). This is of particular relevance when we consider India and its relations with the rest of the world today, but above all in the future.

In this regard, there is an immediate and significant difference between the *new paradigm* (as

defined by Grossman, Rossi-Hansberg, 2006, p. 1) and the *old paradigm*. According to Blinder (2005, 2006), task outsourcing can even be considered a second industrial revolution. Component outsourcing originated from differentials in the cost of skilled and unskilled labour, being encouraged by a reduction in transportation costs that affected all productive sectors equally (Harrison, McMillan, 2007). On the other hand, task outsourcing can only be implemented in certain cases (Sako, 2006; Sako, Tierney 2005) depending on the nature of the job rather than on the quantity of unskilled labour required. The best example is that of drivers of vehicles. This task demands a high quantity of unskilled labour but it cannot be transferred abroad (Baldwin, 2006). In general, we can assume that it is not possible to transfer abroad those tasks requiring a face-to-face relationship with the customer. However, “As information technology improves, more and more personal services will migrate over the line and become impersonal services. At this point, we cannot even guess the ultimate dimensions of the migration. But it is likely to be large” (Blinder, 2005, p. 14).

Amiti and Wei (2004) documented that, between 1992 and 2000, manufacturing enterprises in the USA increased their business outsourcing by 6%. However, export of services had also increased in the same period, thereby creating a net surplus (Garner, 2004). We can observe a similar phenomenon in industrialised countries like the United Kingdom or Switzerland. The developing countries that saw a net surplus in services include India, Singapore and Hong Kong (Amiti, Wei, 2004; IMF, 2003).

At a glance, task outsourcing abroad has three effects in the country of origin (Grossman, Rossi-Hansberg, 2006). First, the relative price of goods produced by workers with lower wages decreases. Second, demand for labour and employment decreases. Third, the average productivity of workers increases, given that high-level productivity functions remain in the country. Grossman and Rossi-Hansberg (2006) stated that the most advanced technology of the domestic economy combined with less expensive labour abroad. The process would be similar to the introduction of technological progress. In both cases, the effects should be positive in terms of increased well-being.

Some scholars have classified tasks into two categories: *routine* and *non-routine*. “The idea is that routine tasks, which include ‘routine manual’ and ‘routine cognitive’ categories, could be offshored to educated workers in low-wage nations” (Baldwin, 2006, p. 34). Spitz (2004) in particular observed that a contraction in employment of routine tasks occurred in Germany, together with an increase in non-transferable tasks. He also pointed out the role of IT in different tasks, given that “computer technology is complementary to workers in executing analytical and interactive activities, whereas it substitutes for workers in performing manual and cognitive routine tasks” (Spitz, 2004, p. 1). In addition to this, we must not forget that actual relocation would depend on the coordination costs of *complementary* tasks. Therefore, there should be a threshold, above which the transfer is not convenient (Baldwin, 2006).

With reference to task transferability, the relevant distinction is between those tasks which can or cannot pass through an optical fibre, rather than on workers’ education level (Blinder, 2005). Analysing the US context, Bardhan and Kroll (2003), Jensen and Kletzer (2005), Van Welsum and Reif (2006) identify a considerable number of transferable jobs, such as financial analysts, medical technicians, IT or maths specialists. Mann (2005) calculated that between 1999 and 2004 in the US approximately one third of low-skilled jobs in the computer industry (mostly telephone and computer operators) were transferred abroad. At the same time, the numbers of skilled workers increased.

A few studies have pointed out, both theoretically and empirically, the benefits companies get from business outsourcing (Abramovsky *et al.*, 2004). Glass and Saggi (2001), and concluded that by reducing costs, outsourcing increases profits, and thus expenditure on research and development. Other studies, making use of data on individual companies and/or facilities, showed how business outsourcing is generally associated with increased productivity in the enterprise using imported services (Hijzen *et al.*, 2006; Gorg *et al.*, 2008; Tomiura, 2007; Olsen, 2006). According to Sako

(2006), the increase in productivity is attributable to a combination of three factors: 1) standardisation of service supply, 2) greater specialisation, accompanied by incentives to improve performance, 3) internal use of high-skilled labour services.

In general, an increase in productivity entails a reduction in product cost, this being an advantage to the companies using those products as input. Moreover, if the company experiences a loss of employment in the sector using outsourcing, this will usually be offset by an increase in employment in other sectors (Amiti, Wei, 2004). On the whole, there is no significant reduction in the demand for labour, with no negative effects on human capital accumulation (Crinò, 2009).

A recent study makes use of Irish plant data in order to assess the relationship between business outsourcing, profits and innovation. The results confirm expectations, i.e. a positive correlation between outsourcing and innovation. According to this interpretation, “outsourcing allows a plant to restructure activities towards more skill intensive (innovative) activity” (Gorg, Hanley, 2009, p. 5). The technological frontier moves outwards. This is an important result, which allows us to reduce the negative effects produced by outsourcing in terms of employment reduction. Moreover, it suggests that the technological gap between industrialised and emerging countries will remain, and that business outsourcing is a long-term strategy (Gorg, Hanley, 2009).

Some clear indications have emerged as to the policies industrialised countries should implement in order to make up for the job losses resulting from outsourcing. The consequences of the first unbundling were quite evident. Relocation mainly affected traditional, low-tech sectors. Highly educated, skilled workers took advantage of the relocation of low-skilled labour intensive stages of production abroad. Support policies to compensate for job losses sought to improve the education of less skilled workers, as well as promote the development of highly technological businesses.

In contrast, it is much more difficult to design appropriate policies to cope with the negative effects of the second unbundling (Winkler, 2009). European labour re-training policies oriented to skills upgrading would raise the number of workers likely to suffer as a result of offshoring/outsourcing, if these policies result in a higher number of tasks that can be easily outsourced. Paradoxically, low-skilled workers whose jobs are non-transferable are less exposed to international competition (Blinder, 2005). We have already observed that some tasks in the field of personal services, cleaning and transport are by definition “local”. In the past, Krugman had already drawn attention to the risks that could arise from having too many high-skilled workers in the so-called knowledge economy. In an article for the centenary of the New York Times, as if writing in 2096, Krugman said (2006, p.1): “... ultimately an economy must serve consumers - and consumers don't want information, they want tangible goods A world awash in information will be a world in which information per se has very little market value”. Blinder (2006), too, pointed out how the demand for material goods is likely to increase even in developing countries. The rate of growth in demand for information could instead be slower than its supply. As Baldwin observed (2006, p. 42): “If ten or twenty percent of the two and a half billion people in China and India learn how to manipulate information online, the reward to ‘information society’ jobs could plummet”. Krugman added (2006, p. 5): “So over the course of this century many of the jobs that used to require a college degree have been eliminated, while many of the rest can, it turns out, be done quite well by an intelligent person whether or not she has studied world literature”. It follows that the level of education will not be crucial in increasing the demand for skilled workers. On the contrary, their capacity to face and solve new challenges in the workplace will be determined by other factors.

This context is by definition *unpredictable*, subject to *sudden changes* and more *individual-oriented* (rather than focused on a particular sector, company or company group). In such a context, European policy makers should carefully evaluate whether and where to switch investments in training. Blinder (2005, p. 23) warned that “...simply providing more education is probably a good thing on balance, especially if a more educated labour force is a more flexible labour force that can cope more readily with non-routine tasks and occupational change...education is far from a panacea ... In the future, *how* children are educated may prove to be more important than *how much*”.

The problem is to promote a system of social protection that is more individual-oriented than job-

oriented, i.e. a system targeted more to social protection than to preserving existing production structures. Baldwin (2006) pointed out how difficult it could be to predict which tasks are more likely to be relocated. The convenience of the transfer might spring from an unexpected event, related to single tasks rather than to industry sectors. It will therefore have individual consequences. Baldwin in particular observed (2006, p. 44): “Given the unpredictability of adjustment needs, it may not be wise to establish lists of tasks that are eligible for globalisation-adjustment-assistance. Rather, the new paradigm suggests that some of the money spent on helping sectors adjust would be more effectively spent on helping workers adjust”.

4. The prospects for integration between India, Italy and other European countries.

What is likely to be India’s place in the international economy, taking into account its evolution as a system, and its interaction with the globalization process? Moreover, what are the features of its past development, which can alternatively promote or hinder India’s integration into the international economic arena? What prospects are emerging for the Indian economic system given these new features of off-shoring, as well as the strengths and weaknesses of the system? What prospects are there for integration between India, Italy and other European countries?

The Indian economy has opened itself up more and more to foreign countries (Bensidoun *et al.*, 2009), though we still cannot describe it as a truly open system. India’s openness, measured by the trade of goods and services on GNP, increased from 20.4% in 2000 to 29.9% in 2005, reaching 38.6% in 2008³. The annual growth rate of imports (8.6% in 2007, 17.9% in 2008) has always exceeded that of exports (average annual value being 7.5% in 2007 and 12.8% in 2008). The share of imports on GNP (22% in 2005, 29% in 2008 and 25% in 2009) has always been higher than the share of exports (19%, 24% and 21% respectively), thus generating a persistent trade deficit (54 billion US dollars in 2007 and almost 70 billion in 2008). United States, Germany, Japan, United Kingdom, Saudi Arabia and China are India’s main trading partners (Qureshi, Wan, 2008, p. 4). A decrease in export flows to Europe and Japan has been compensated by an increase to the USA. Exports to industrialized countries fell from 55% in 1990 to 44% in 2006. In contrast, the share going to underdeveloped countries rose.

The paradoxes which affected the growth of the manufacturing sector, also after liberalisation and reforms, have determined its relative position in the globalization process. India’s trade growth is one of the most striking of the last decade. It is explained not only by national policies, but also by the globalization process. This process will affect not only worldwide geopolitical equilibria but also the inequality trends both at the international level and within each country (Topalova, 2007). More specifically, the composition of world production and of trade flows will vary significantly, insofar as the size of the middle classes in developing countries is set to rise and to weigh on the composition of the global middle class. Pro-globalization policies will become more popular and widespread because of the enlargement of its social supporters, as well as of their political weight. India is most likely to experience a significant increase in the size of its middle class, thus also experiencing its implications.

India has recently seen a new and numerous middle class dealing with national but also international business. The increasing openness in India was stimulated by establishing Special Economic Zones, which are particularly advantageous in terms of taxation, custom duties, regulations and procedures. Foreign investments to India increased and in 2008 they amounted to 41 billion dollars. This is the result of policies intended to boost foreign participation in national firms. During the 1980s Indian entrepreneurs had learnt how to cope with the first wave of liberalisation. From 1990 onwards and shortly after the reforms, they began to export and to exploit the potential offered by globalization. “With the rise in foreign exchange balance and the

³ <http://data.worldbank.org/indicator/NE.IMP.GNFS.ZS>; http://devdata.worldbank.org/AAG/ind_aag.pdf; World Bank, 2009a, 2009b

confidence of success in the software and pharmaceuticals sector, Indian corporations have gone on a spree of buying international companies, an activity unheard of ten years ago” (Basu, Maertens, 2007, p. 21).

The composition of Indian exports does not reflect the comparative advantages typical of an emerging country. Unlike in most of these countries, both internal production and exports consist of products with a high content of skilled labour (Banerjee, 2006, p.1022). “By making heavy machinery a focal point of the industrial development strategy, India was able to establish a presence in core commodities and build up capabilities in producing and exporting sophisticated products..... The stock of capabilities and technologies that were built as a part of heavy machinery-led industrialization provided India with a foothold in the core of the product space and the building blocks to exploit other nearby products once the license-permit raj was gone... In other words, India gained revealed comparative advantage in a variety of products, which in turn led to the accumulation of a diverse set of capabilities, making it easier to acquire revealed comparative advantage in other products” (Qureshi, Wan, 2008, p. 4).

And what prospects does offshoring hold for the Indian economic system given its strengths and weaknesses? According to Blinder (2005, p. 2) “economists who interpret offshoring as nothing more than international business as usual are greatly *underestimating* both its importance and its disruptive impact on Western societies”. India has an advanced tertiary sector, which could provide European companies (especially Italian ones) with important services. Indian industrial and IT products have reached quality standards comparable to Western ones, and are high in added value, innovation and design. In the global market of tasks with unbundling features (such as call centres, technical drawing, data handling), there is no doubt that India is a supplier with significant potential. As Blinder pointed out (2005, p. 13) “...the fraction of service jobs in the United States and other rich countries that can potentially be moved offshore is thus certain to rise inexorably as the technology improves and as countries like India and China continue to modernize, prosper, and educate their workforces”. India, for instance, enjoys a comparative advantage in the production of services with respect to manufacturing. The costs in this sector are low when compared to those prevailing in the US (Feenstra, Taylor, 2008).

At the same time “the costs of outsourcing relatively unskilled manufacturing activities to India are much greater than the costs of outsourcing skilled service activities” (Feenstra, Taylor, 2008, p. 260). In fact, transport costs are relatively high in India due to an inadequate infrastructure network. On the other hand, India has an excellent telecommunications network. The latter, together with the availability of skilled and educated labour, accounts for the type of specialization and outsourcing to India (Blinder, 2005). As Blinder also pointed out (2005, p. 27): “Americans, and residents of other English-speaking countries, probably need to start thinking less about the challenge from China, which is largely about manufactured goods, and more about the challenge from India, which is in services. In today’s world, speaking English is already a notable source of comparative advantage when it comes to providing services electronically. And this advantage seems destined to grow in importance as impersonal services account for relatively more international trade and manufactured goods account for relatively less”. These services include not only call centres but also “accounting and finance, writing software, R&D...” (Feenstra, Taylor, 2008, p. 265).

The expansion of the service sectors has also boosted exports of service products, particularly in IT. This pattern of specialization in high-skilled labour industries may be difficult to sustain in the immediate future because of rising costs of skilled labour. Such effects have already occurred, with an increase in wage levels, entailing in turn an increase in wage inequality. According to recent estimates, the wage gap between workers with higher education and workers with secondary education has increased from 34% to 50% (Azam, 2009, p. 2). Two reasons may account for this growth. According to some scholars, changes in relative wages were attributable to increased demand for skilled labour (Chamarbagwala, 2006), especially in some branches of industry (Kijima, 2006; Chamarbagwala, 2006). “Skill biased technological change is the most probable reason for a shift in demand in favour of tertiary graduated workers” (Azam, 2009, p.14). According to other

scholars, such gaps are due to growing higher education yields (Kijima, 2006). These yields, which were concentrated between the late 1990s and 2004, were caused by stunting the relative growth of the *supply* of graduate workers. Changes in education policy, which concentrated more on primary and secondary than on higher education, combined with an increase in demand for skilled labour and therefore put a premium on skill (Azam, 2009).

According to Banerjee and Duflo (2000) the share of exports on total production of IT goods and services has been lower than expected relative to the development of the sector. However, success in the export of these kinds of products depends more on the level of reputation than on price. Only by introducing rating systems on companies' reliability will exports increase. The success of high-tech customized software exports will increase as their reputation rises. The sustainability of this pattern of specialization (successful to date) could however be threatened in the software sector by other South Asian countries such as Pakistan (Banerjee, 2006). However, it is likely that the best Indian companies in the IT sector will be ready to relocate part of their operations to other countries, where labour costs are lower. In this case, India itself would create a new form of outsourcing. Already in 2003, the share of services that India had moved abroad and then imported amounted to 2.5% of GDP, significantly higher than the 0.4% of the US. In 2003 India was the fourth country (after the UK, USA and Hong Kong) with a net surplus in trade in services of about \$ 10 billion (Amiti, Wei, 2004). The biotech sector could follow a similar path to that of the computer industry.

In an increasingly interdependent world, the Asian area is gaining an independent role within the framework of USA-Pacific-Europe relations. At present, China's performance in the East Asia and Pacific region, and India's performance in South Asia, are key factors in determining the GDP growth rate of each country (both current and expected), which happens to be consistently higher among developing countries, when compared to the world average value. Such an effect would be even greater if we considered growth rates according to population in order to arrive at average regional values. On the one hand, integration continues to be driven by commercial flows. On the other hand, it also involves investment flows and outsourcing. It is worth analysing these and their consequences not just from a merely Indian perspective. Indeed, we believe they represent major challenges and opportunities which Europe and Italy must meet.

With reference to Italy, some scholars have highlighted a significant complementarity between the economic structure of Italy and India (the latter still experiencing regulatory constraints on foreign direct investment, particularly in the areas of financial services, insurance and micro-enterprises). There are some analogies about the role of small and medium family businesses. However, the Italian-Indian partnership is relatively young in terms of trade and direct investments, even though the Italian industrial presence in India is qualitatively significant (Gaiha, Kulkarni, 2007). If we apply to the partnership some of the reliability indicators already mentioned, we find that Italy requires fewer days (or years) to register a property (27 days against 67 in 2005), start a business (13 days against 71) or resolve insolvency (1.2 years against 10). On the other hand, India requires fewer hours (or days) to fulfil tax obligations (264 hours against 360) and to enforce a contract (425 days against 1,390).

The EU is India's largest economic partner. As already mentioned, within the European Union Italy does not play a relevant role, although the Indian market could be a substantial one. In fact, the high-tech sector and those producing specific consumer goods such as house-wares should be able to intercept the increased spending power of India's growing middle class. Indian imports from Italy increased by 44.1% between 2005-6 and 2006-7, but their relative weight on total Indian imports rose from 1.2% to 1.4% only. The growth rate of Indian exports to Italy in the same year was 42.2%, but the share of Indian exports to Italy rose from 2.4% to 2.8%. Within the EU, Italy is the fifth partner after Germany, France, United Kingdom and Belgium, although the most recent rate of increase in Indian imports from Italy (44.1%) was much higher than that recorded by any other EU country. Today Italy is not a primary trading partner for India, from a comparative perspective (one need only consider that Indian imports from Switzerland accounted for 4.9% of

Indian imports overall in 2006-7, against 1.4% of those from Italy). However, the trade complementarity index between India and Italy (Qureshi, Wan, 2008) was quite high in the 1990-2005 period, also indicating the potential trade expansion between these countries. This index is however lower than the one for trade relations between Italy and China (0.32 against 0.43). In the strategic technology transfer sector, India's biggest partner is the USA, followed by Germany and Japan. Italy ranks fifth with a share of 6%. Indian direct investments in Italy have themselves been very limited until recently.

As for the Italian system and its internationalisation, we note that the loss of market share recorded up to 2002 is attributable to systematically “wrong” specialization. It focused on traditional industries, which are most exposed to competition from countries with relatively low labour costs (Barba Navaretti *et al.*, 2007). Such a strategy seems to be based more on a *first globalization* rationale, marked by the dominance of the manufacturing sector. In contrast, *second globalization* is marked by the growing importance of skills upgrading and the tendency to geographical fragmentation, not only of the factory but also of the office.

Since 2002, Italy has again become competitive in sectors where it had previously lost market share. It is important to note that these sectors are heterogeneous. In fact, they include traditional industries whose weight in world trade is declining (textiles), as well as expanding industries with intensive human capital and technology. “Major exporters” played a significant role in determining this improvement, thanks to features (like size, available funding, ownership structure, ability to withstand high fixed costs of entry) which gave them a competitive advantage in the internationalisation process (Mayer, Ottaviano, 2007). In other words, the factor of competitiveness which seems to have great importance for companies today is not the sector they belong to nor their technological development. Rather, it is *size* which provides the strategic means to participate in the process of internationalization.

REFERENCES

- ABRAMOVSKY L. - GRIFFITH R. - SAKO M., “Offshoring of Business Services and its Impact on the UK Economy”, AIM Said Business School, Oxford, 2004, available at <http://eprints.ucl.ac.uk/14741/1/14741.pdf>
- AMITI M. - WEI S.J., “Demystifying outsourcing. The numbers do not support the hype over job losses”, *Finance and Development*, December, 2004, pages 36-39.
- AMITI M. - WEI S.J., “Fear of Service Outsourcing: Is it Justified?”, *Economic Policy*, no. 20 (42), 2005a, pages 308-347.
- AMITI M. - WEI S.J., “Service Offshoring, Productivity and Employment: Evidence from the United States”, *IMF Working Paper*, WP/05/238, Washington D.C., 2005b, available at <http://www.imf.org/external/pubs/ft/wp/2005/wp05238.pdf>
- AZAM M., “India’s Increasing Skill Premium: Role of Demand and Supply”, *IZA, Discussion Paper* no. 3968, 2009 available at <http://ftp.iza.org/dp3968.pdf>
- BALDWIN R., “Globalisation: the great unbundling(s)”, *Prime Minister’s Office, Economic Council of Finland - eu2006.fi*, 2006, available at http://hei.unige.ch/~baldwin/AcademicPapers/AcademicPaperFiles/Baldwin_06-09-20.pdf
- BALDWIN R. - ROBERT-NICOUD F., “Trade-in-goods and trade-in-tasks: An Integrating Framework”, *NBER, Working Paper* no. 15882, 2010, available at <http://www.nber.org/papers/w15882.pdf>
- BANERJEE A.V., “The Paradox of Indian Growth: A comment on Kochar et al.”, *Journal of Monetary Economics*, no. 53 (5), 2006, pages 1021-1026.
- BANERJEE A.V.- DUFLO E., “Reputation effects and the limits of contracting: a study of the Indian software industry”, *The Quarterly Journal of Economics*, no. 115 (3), 2000, pages 989-1017.
- BANERJEE A.V. - DUFLO E., “Do Firms Want to Borrow More? Testing Credit Constraints Using a Directed Lending Program”, *MIT Department of Economics Working Papers* no. 02-25, 2008, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=316587

BANERJEE A.V. - COLE S. - DUFLO E., "Bank Financing in India", *MIT, Department of Economics*, 2003, available at <http://econ-www.mit.edu/files/507>

BANERJEE A.V.- COLE S.- DUFLO E., "Banking reform in India", *BREAD Policy Paper* no. 006, 2004, available at <http://ipl.econ.duke.edu/bread/papers/policy/p006.pdf>

BARBA NAVARETTI G. - BUGAMELLI M. - FAINI R. - SCHIVARDI F. - TUCCI A., "Le imprese e la specializzazione produttiva dell'Italia. Dal macrodeclino alla microcrescita?", in BALDWIN R.- BARBA NAVARETTI G. - BOERI T. (eds.), "Come sta cambiando l'Italia", Bologna, il Mulino, 2007, pages 39-98.

BARDHAN A. D. - KROLL C. H., "The New Wave of Outsourcing", *UC Berkeley: Fisher Center for Real Estate and Urban Economics*, 2003, available at <http://escholarship.org/uc/item/02f8z392>

BASU K., "India's Dilemmas: The Political Economy of Policy-Making in a Globalized World", *The first Sage-Madras School of Economics Endowment Lecture*, 2007, available at <http://www.arts.cornell.edu/econ/kb40/SageMSElecture5.doc>

BASU K. - MAERTENS A., "The Pattern and Causes of Economic Growth in India", *BREAD Working Paper* no. 149, 2007, available at <http://ipl.econ.duke.edu/bread/papers/working/149.pdf>

BENSIDOUN I. - LEMOINE F. - ÜNAL D., "The integration of China and India into the world economy: a comparison", *The European Journal of Comparative Economics*, no. 6 (1), 2009, pages 131-155.

BLINDER A.S., "Fear of Offshoring", *CEPS Working Paper*, no. 119, 2005, available at http://www.maineairtrade.org/pdf/blinder_fearoffshoring_2005.pdf

BLINDER A.S., "Offshoring: The Next Industrial Revolution", *Foreign Affairs*, March-April, 2006, pages 113-128.

CHAMARBAGWALA R., "Economic Liberalization and Wage Inequality in India", *World Development*, no. 34 (12), 2006, pages 1997-2015.

CHIARLONE S., "Evoluzione e prospettive del sistema bancario", in CALCHI NOVATI G. - BERETTA S. CASCI S. (eds.), "L'India tra i grandi. Politica, economia e società sessant'anni dopo", Roma, Carocci, 2008, pages 107-124.

CRINÒ R., "Services Offshoring and White-Collar Employment", *UFAE and IAE Working Papers*, no. 775.09, 2009 available at <http://pareto.uab.es/wp/2009/77509.pdf>

FEENSTRA R.C., "Globalization and Its Impact on Labor", *Vienna Institute for International Economic Studies, Global Economy Lecture*, 2007, available at <http://www.econ.ucdavis.edu/faculty/fzfeens/pdf/globalization.pdf>

FEENSTRA R. C. - TAYLOR A.M., "International Economics", New York, Worth Publishers, 2008.

FELIPE J., KUMAR U., ABDON A., *Exports, Capabilities, and Industrial Policy in India*, Asian Development Bank, Working Paper No.638, Manila 2010.

GAIHA R. - KULKARNI V.S., "Evoluzione e prospettive dei legami economici tra India e Italia", *Conferenza Italia-India: quale partenariato per il futuro?*, IPALMO, Torino, 22 Gennaio 2007.

GARNER C.A., "Offshoring in the Service Sector: Economic Impact and Policy Issues", *Economic Review, Federal Reserve Bank of Kansas City*, Third Quarter 2004, available at <http://www.kansascityfed.org/publicat/econrev/Pdf/3Q04garn.pdf>

GLASS A.J. - SAGGI K., "Innovation and wage effects of international outsourcing", *European Economic Review*, no. 45 (1), 2001, pages 67-86.

GORG H. - HANLEY A., "Services Outsourcing and Innovation: An Empirical Investigation", *IZA Discussion Paper* no. 4404, 2009, available at <http://ftp.iza.org/dp4404.pdf>

GORG H. - HANLEY A. - STROBL E., "Productivity effects of international outsourcing: Evidence from plant level data", *Canadian Journal of Economics*, no. 41 (2), 2008, pages 670-688.

GROSSMAN G.M. - ROSSI-HANSBERG E., "The Rise of Offshoring: It's Not Wine for Cloth Anymore", *Proceedings, Federal Reserve Bank of Kansas City*, 2006, pages 59-102, available at <http://www.kansascityfed.org/Publicat/sympos/2006/PDF/8GrossmanandRossi-Hansberg.pdf>

GROSSMAN G.M. - ROSSI-HANSBERG E., "Trading Tasks: A Simple Theory of Offshoring", *The American Economic Review*, no. 98 (5), 2008, pages 1978-1997.

HARRISON A. - MCMILLAN M., "Offshoring Jobs? Multinationals and US Manufacturing

Employment”, *IPC Working Paper Series* no. 48, 2007, available at <http://deepblue.lib.umich.edu/bitstream/2027.42/55762/4/IPC-working%20paper-048AHarrison.pdf>

HIJZEN A. - TOMOHIKO I. - TODO Y., “Does Offshoring Pay? Firm-Level Evidence from Japan”, *RIETI Discussion Paper* 07-E-005, 2006, available at <http://www.rieti.go.jp/jp/publications/dp/07e005.pdf>

IMF, *Balance of Payments Statistics Part I: Country Tables*, Yearbook, 2003.

JENSEN J.B. - KLETZER L.G., “Tradable Services: Understanding the Scope and Impact of Services Outsourcing”, *Institute for International Economics, Working Paper Series*, WP 05-9, 2005, available at <http://www.iie.com/publications/wp/wp05-9.pdf>

KIJIMA Y., “Why did Wage Inequality Increase? Evidence from Urban India 1983-99”, *Journal of Development Economics*, no. 81 (1), 2006, pages 97-117.

KOCHHAR K. - KUMAR U. - RAJAN R. - SUBRAMANIAN A. - TOKATLIDIS I., “India’s pattern of development: What happened, what follows?”, *Journal of Monetary Economics*, no. 53 (5), 2006, pages 981-1019.

KRUGMAN P. R., “Looking back to today, White collars turn blue”, *Economist’s Voice*, December 12, 2006.

KRUGMAN P. R., “Does Outsourcing Change Everything?”, *Fifth Luca d’Agliano Lecture in Development Economics*, Torino, 2007, available at http://www.dagliano.unimi.it/media/krugman_lecture_torino.pdf

MANKIW G., “Council of Economic Advisors, Economic Report of the President”, United States Government Printing Office, Washington D.C, 2004.

MANN C. L., “Offshore Outsourcing and Globalization of U.S. Services: Why now, How Important, and What Policy Implications”, in BERGSTEN C. F. (ed.) (2005), “The United States and the World Economy”, *Peterson Institute for International Economics*, Washington D.C., 2005, pages 281-311.

MAYER T. - OTTAVIANO G.I.P., “The Happy Few: The internationalisation of European firms. New facts based on firm-level evidence”, *Bruegel Blueprint Series* no. 3, 2007, available at http://aei.pitt.edu/8353/01/blueprint3_EFIM.pdf

OLSEN K.B., “Productivity Impacts of Offshoring and Outsourcing: A Review”, *STI Working Paper* no.1, 2006, available at <http://www.oecd-ilibrary.org/oecd/content/workingpaper/685237388034>

QURESHI M.S. - WAN G., “Trade Expansion of China and India: Threat or Opportunity”, *UNU-WIDER, Research Paper* No. 2008/08, 2008, available at <http://www.wider.unu.edu/stc/repec/pdfs/rp2008/rp2008-08.pdf>

RODRIK D. - SUBRAMANIAN A., “From ‘Hindu Growth’ to Productivity Surge: The Mystery of the Indian Growth Transition”, *NBER, Working Paper* no. 10376, 2004, available at <http://www.nber.org/papers/w10376.pdf>

SAKO M., “Outsourcing and Offshoring”, *Oxford Review of Economic Policy*, no.22 (4), 2006, pages 499-512.

SAKO M. - TIERNEY A., “Sustainability of Business Service Outsourcing: the Case of Human Resource Outsourcing (HRO)”, *Advanced Institute of Management Research Paper* no. 019, 2005, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1306985

SHARMA C.K., “The Political Economy of Global Outsourcing”, *South Asian Journal of Socio-Political Studies*, no. 5 (2), 2005, pages 76-82.

SPITZ A., “Are Skill Requirements in the Workplace Rising? Stylized Facts and Evidence on Skill-Biased Technological Change”, *Centre for European Economic Research, ZEW, Discussion Paper* no. 04-33, 2004, available at <http://econstor.eu/bitstream/10419/24039/1/dp0433.pdf>

SRINIVASAN T.N., “Comments on ‘From ‘Hindu Growth’ to Productivity Surge: The Mystery of the Indian Growth Transition’”, *IMF Staff Papers*, no. 52 (2), 2005, available at <http://www.imf.org/External/Pubs/FT/staffp/2005/02/srinivas.htm>

TOMIURA E., “Foreign outsourcing exporting, and FDI : a productivity comparison at the firm level”, *Journal of International Economics*, no. 72 (1), 2007, pages 113-127.

TOPALOVA P., “Trade Liberalization and Firm Productivity: the Case of India”, mimeo, 2007,

available at <http://www.etsg.org/ETSG2007/papers/topalova.pdf>

VAN WELSUM D. - REIF X., “We can work it out. The globalization of ICT- enabled services”, *NBER, Working Paper* no. 12799, 2006, available at <http://www.nber.org/papers/w12799.pdf>

VIRMANI A., “Sources of India’s economic growth: Trends in Total Factor Productivity”, *Indian Council for Research on International Economic Relations, Working Paper* no. 131, New Delhi, 2004, available at <http://www.icrier.org/pdf/wp131.pdf>

WINKLER D., “Services Offshoring and its Impact on the Labor Market. Theoretical Insights, Empirical Evidence and Economic Policy Recommendations for Germany”, Heidelberg: Physica, London, Springer, 2009.

WORLD BANK, “India at a glance”, World Bank, 2009, available at http://devdata.worldbank.org/AAG/ind_aag.pdf

QUADERNI DEL DIPARTIMENTO DI ECONOMIA, STATISTICA E DIRITTO

- n. 1/2011 Paolo Giudici, Emanuela Raffinetti, *A Gini concentration quality measure for ordinal variables*, Serie Statistica.
- n. 2/2011 Silvia Figini, Lijun Gao, Paolo Giudici, *Bayesian efficient capital at risk estimation*, Serie Statistica.
- n. 3/2011 Luigi Bernardi, *Tendenze dei prelievi tributari ed effetti fiscali della crisi finanziaria nell'Unione europea e in Svizzera*, Serie Economia.
- n. 4/2011 Silvio Beretta, Renata Targetti Lenti, *India in the Outsourcing/Offshoring Process: A Western Perspective*, Serie Economia.

COLLANE PRECEDENTI

QUADERNI DEL DIPARTIMENTO DI ECONOMIA PUBBLICA E TERRITORIALE

- n. 1/2010 Silvio Beretta, *Variabili finanziarie ed economia globale in tempo di crisi*
- n. 2/2010 Silvio Beretta, Renata Targetti Lenti, *L'India nel processo di integrazione internazionale. Dal primo al secondo unbundling e la posizione dell'Italia*
- n. 3/2010 Margarita Olivera, *Challenges to Regional Integration in Latin America*
- n. 4/2010 Italo Magnani, *Un economista liberale guarda alla economia dell'ambiente: impressioni e riflessioni*
- n. 5/2010 Italo Magnani, *A cinquant'anni dalla scomparsa di Benvenuto Griziotti: Riflessioni*
- n. 6/2010 Luca Mantovan, *Class-bias in Technology Adoption: Stagnation and Transformation of Subsistence Agriculture in the Ethiopian Northern Highlands*
- n. 7/2010 Marco Missaglia, Giovanni Valensisi, *A trade-focused, post-Keynesian CGE model for Palestine*
- n. 8/2010 Giovanni Valensisi, Marco Missaglia, *Reappraising the World Bank CGE model on Palestine: macroeconomic and financial issues*
- n. 1/2009 Giorgio Panella, Andrea Zatti, Fiorenza Carraro, *Market Based Instruments for Energy Sustainability*
- n. 1/2008 Italo Magnani, *Il pubblico e il privato nella economia della città*
- n. 2/2008 Italo Magnani, *Note a margine di una recente opera sull'indirizzo sociologico della scienza delle finanze italiana*
- n. 3/2008 Italo Magnani, *La riforma sociale nella formazione di Nitti economista*
- n. 4/2008 Marisa Bottirolì Civardi, Renata Targetti Lenti and Rosaria Vega Pansini, *Multiplier Decomposition, Poverty and Inequality in Income Distribution in a SAM Framework: The Vietnamese Case*
- n. 5/2008 Luca Mantovan, *A Study on Rural Subsistence in the Ethiopian Northern Highlands*

[per i Quaderni precedenti si rinvia a <http://www-5.unipv.it/webdesed/ept/quaderni.php>]

QUADERNI DI RICERCA DEL DIPARTIMENTO DI STATISTICA ED ECONOMIA APPLICATE "L. LENTI"

- Carla Ge Rondi, *L'après mariage en Italie au début du XXIe siècle* (2005, n. 27)
- Carla Ge Rondi, *Casalinga: popolazione attiva senza retribuzione* (2005, n. 25)
- Bruno Scarpa, David Dunson, *Bayesian Methods for Searching for Optimal Rules for Timing Intercourse to Achieve Pregnancy* (2005, n. 24)
- Bruno Scarpa, *Lo stress in azienda. Modelli di analisi di un'indagine per l'identificazione delle cause di stress* (2004, n. 23)
- Bruno Scarpa, *La Customer Satisfaction per un'azienda di servizi informatici. Impostazione e analisi di un'indagine via web* (2004, n. 22)

[per i Quaderni precedenti si rinvia a <http://www-5.unipv.it/webdesed/lenti/quaderni.php>]

OSSERVATORIO DEI CONTRATTI DELLA P.A.

[Si rinvia a <http://www.contratti-appalti.it/>]