

# INGREDIENTS IN SERVICES SECTOR PROD-INN EXPANSION

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**Abstract:** *Services or better to say service sector is key engine of growth. Also services are becoming backbone of the economic growth in order to propel economy in more balance economic growth orbits through its impact on the unemployment issue. So in the volume the services will be highly addressed because of this sort of reason. Also, we live in age of highly and broadly diversified division of labour that at the same time sometime brings uncertainty and complexity. When we look at the appliances equipment, personal computers and cell phones we can find that many different nations have been involved in the making of these products.<sup>1</sup>*

*The services sector in terms of employment growth has the dominance. Reflecting the emphasis on the services sector in the EU 2020 strategy highlights some key features of the services sector, including productivity and innovation in market services. One important observation is that the services sector accounts for as much as three quarters of cross-country differences in economic growth. Productivity growth is generally lower in the services sector than in manufacturing, it nevertheless accounts for a large share of aggregate growth in output per employee because of its large size. Countries with high aggregate productivity growth also tend to have relatively higher productivity growth in services. But the services sector consists of a very disparate group of subsectors. Three key ingredients in services sector productivity expansion are:*

*The first is tangible fixed investment. On average, market services have as much fixed capital per employee as manufacturing, but this capital stock is more skewed towards buildings and information and communications technology. These investments have been shown to contribute substantially to productivity growth in several key services subsectors.*

*A second element is intangible capital. Services industries attain higher productivity by combining investment in fixed capital, new computer software and human capital so as to create new organisational structures and business models, and sometimes entirely new service products.*

*A third element is that services sector innovation, in contrast to that in manufacturing, draws less on in-house knowledge creation in the form of R&D. Services industries tend to innovate in interaction with customers, suppliers and competitors. There is also substantial scope for productivity improvements by adopting best practice, both within and between certain service industries. The lower level of in-house knowledge creation partially reflects smaller average firm size in services industries. This greater reliance on external sourcing of new knowledge suggests that cluster formation fostering knowledge transfers and spillovers is an important element in supporting services sector innovation.*

**Key words:** *Services; Technology; Market; European integration; Innovation; Productivity.*

## 1. Introduction

Services are intangible, invisible and perishable, requiring simultaneous production and consumption. Goods, in contrast, are tangible, visible and storable. However, there are exceptions to each of these characteristics of services: a software program on a diskette or an architect's design on paper are both tangible and storable, many artistic performances are

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<sup>1</sup> Hiroshi Teraoka, Small and medium sized enterprise policy in Japan, vision and strategy for the development of SMEs, Osaka international center, JICA, pg. 167.

visible, and automated cash-dispensing machines make face-to-face contact between producers and consumers unnecessary. These exceptions do not however, detract from the usefulness of the general definition of services presented above.

## 2. About services

For services it is required physical proximity between the user and the provider. Services with the development of electronic means of delivery – proximity is not necessary, though it may enhance the quality of the service. A variety of financial, entertainment, information and communication services can be produced in one country and delivered, either electronically or stored in some medium (paper, disk, cassette), to consumers in another country. The introduction of new technology, one will reduce the physical strain, will have more free time and will be able to make better ideas. In this concept, new techniques of management need to be developed in which the basic task of governing elites would be to create an innovational atmosphere where ideas will be generated and adopted by employees who will implement them in practice.<sup>2</sup> Trade in these services is not much different from trade in goods.

Services including construction services, where the supplier moves to the location of the consumer, tourism, where the consumer moves to the location of the supplier and hair cuts or surgical operations, where either the supplier or the consumer moves. The movement of the supplier could involve the flow of capital, i.e. foreign direct investment (FDI), labor, or both. FDI has its certain impact on the GDP growth, also there is very important role of the economical policy. Economical policy of the development can be a two-edged sword because on one hand increasing consumption is needed to stimulate demand but on other there is need for saving and investment. Also credit lines are strongly needed too, for that system banking network should work perfectly and for that purpose it needs high level of the information. Significant information is necessary for successful making of the job.<sup>3</sup>

Let us to mention various types of services what can be listed like following, by the General Agreement on Trade in Services (GATS):

1. Business services
2. Communication services
3. Health-related and social services
4. Construction services
5. Financial services
6. Tourism and travel-related services
7. Distribution services
8. Recreational, cultural and sporting services
9. Educational services
10. Transport services
11. Environmental services
12. Other services not elsewhere included

Thus, there are four ways in which international service transactions take place (four modes of delivery) which can be categorized as follows:

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<sup>2</sup> Scott, W. and Maliard, D. D.: Skill of winning a man”, translation, Stylos, Novi Sad, 1999.

<sup>3</sup> Đurišić, B., Miladinović, M., Informative system for human resources and project management, International journal of economics and law, vol.1, No. 3, Novi sad, 2011.

## 2.1 Cross-border trade

Services supplied from the territory of one country into the territory of another. Examples include financial transactions conducted over the phone, and software services supplied by a supplier in one country through mail or electronic means to consumers in another country. Consumption abroad: services supplied in the territory of one country to the consumers of another. Examples are where the consumer moves, e.g. to consume tourism, education or medical services in another country. Also covered are activities such as ship repair abroad, where only the property of the consumer moves.

## 2.2 Commercial presence

Foreign direct investment means that services are supplied through any type of business or professional establishment of one country in the territory of another. According to the European law there is need for the harmonization of the law framework in the field of foreign direct investment (an insurance company owned by citizens of one country establishing a branch in another country).

## 2.3 Presence of natural persons

Labor movement is the basic condition for services supplied by nationals of one country in the territory of another. Professional services are regulated with the law framework. This mode includes both independent service suppliers, and employees of the services supplier of another country. Examples are a doctor of one country supplying through his physical presence services in another country, or the foreign employees of a foreign bank.

## 3. Service regulation

The highest quality ideas arise from a system of ideas.<sup>4</sup> Research of core regulation of national innovation system concept allowed being convinced in complexity, significance and ambiguity of as theoretical aspects of this problem as of practical aspects of innovation system management at the government level. The presence of different approaches and tools of monitoring.<sup>5</sup> Surprise in the theory of information is interpreted as a measure of our ignorance, which includes lacking of information and uncomfortable cognitive entropy.<sup>6</sup>

Let say that service trade differs from goods trade in two major ways. First, while the majority of goods trade involves shipping goods from one country to another; cross border trade accounts for less than half of trade in services. For services which require personal contact between customers and clients, trade is possible only via sales through a foreign affiliate or if either the customer or producer travels across borders. While foreign investment and labour

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<sup>4</sup> Radosavljević, M., Radosavljevic, D., Somina, I., *Innovation and motivation as the key factors of teh success*, International journal of the economics and law, vol.1, No. 3, Novi Sad, 2011, str.120

<sup>5</sup> Doroshenko, Y., Somina, I., Radosavljevic, Ž., *National innovation system: fundamental approaches to definition and evaluation*, International journal of the economics and law, vol. 1, No. 2, Novi Sad, 2011.

<sup>6</sup> Madzar, Lj., *Pitfalls on the road out of the socialist order – a long journey towards a market economy – institute of strategic research and development, Belgrade, International journal of the economics and law, vol.1, No. 3, Novi Sad, 2011.*

mobility are also issues affecting goods trade, they are fundamental aspects of trade for some services. Second, services tend to be highly regulated.

Many types of services are publicly provided or are produced by regulated monopolies. In contrast to goods, relatively few services are subject to simple discriminatory taxes on trade. Instead barriers to trade in services arise from domestic regulations that often serve the dual purpose of responding to market failures (such as ensuring quality standards for medical practitioners) and protecting local suppliers from foreign competition. This means that identifying and measuring trade barriers in the service sector is very complex. It also means that simple rules for trade liberalization that worked for goods trade (such as reducing all tariffs by 30%) are not available as an option for service trade liberalization. Instead service trade liberalization is organized around the notion of non-discrimination and is often linked with domestic regulatory reform.

Professional and sophisticated managers in modern terms of the business are using methods and concepts which are more aimed to the people and less to the material factors of the organizations. Innovative companies are trying to make any idea applicable, regardless of where it comes from, whether that will change or improve operations or will it be a radical innovation, which will have revolutionary impact on business.<sup>7</sup> Government policies that affect international trade in services. Although the analysis of barriers to service trade has much in common with the analysis of barriers to goods trade, trade policy in the service sector is much more complex.

Government regulations can inhibit trade in services. For goods trade, analysts typically distinguish between tariff and non-tariff barriers to trade. Tariffs are discriminatory taxes on trade. An import tax is a tax levied on foreign goods but not domestic goods. Tariffs tend to be easy to measure and are very transparent. It is therefore quite straightforward to design an agreement to liberalize trade via tariff reduction (provided governments have the will to open up their economies to trade). Successive rounds of GATT negotiations were successful in achieving broad based reductions in trade barriers via across-the-board reductions in trade taxes. Another feature of tariffs is that it is fairly clear what is meant by free trade: zero tariffs. This means there is a clear focal point for negotiations, and this has been exploited in numerous regional free trade agreements such as NAFTA, which have eliminated substantially all taxes on trade flows.

Non-tariff barriers is any government policy that has the effect of favoring local producers over foreign producers or which restricts or raises the cost of access to domestic markets by foreigners. These can include delays at the border, quantitative restrictions on foreign products, government purchasing policies that give preference to local suppliers, subsidies, quality and certification requirements that favor local suppliers, etc.

Nontariff barriers are more difficult to measure and are less transparent than tariff barriers. Moreover, there is often not an obvious focal point for negotiations because the trade Regulation of Professional

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<sup>7</sup> Radosavljević, M., Radosavljevic, D., Somina, I., *Innovation and motivation as the key factors of teh success*, International journal of the economics and law, vol.1, No. 3, Novi Sad, 2011, pg. 168.

#### 4. Certification requirements

Most professional service providers, such as doctors, engineers and lawyers, have to be certified in order to practice their profession. The certification requirements can serve as barriers to trade because they raise entry costs for foreign service providers. Foreigners often have to take courses, exams, and sometimes establish a residence to meet local certification requirements. In some cases, such as in law, foreigners are sometimes completely shut out of the market.

Certification requirements, however, cannot simply be dismissed as a trade barrier because they are a response to problems of asymmetric information in these markets. The client often does not have enough information to judge the safety and quality of the service. Actually, Changes in the environment clearly indicate that business is entering a new era of competition which is increasingly called hyper competition.<sup>8</sup> Even if the client could determine quality and safety at some cost, it can be more efficient to require certification to economize on screening costs. To illustrate the interaction between trade policy and regulation of professional services, we consider an example where low quality service providers generate externalities.

For example, if a bridge collapses or if a public building is not constructed safely, then there will be costs to society at large, not just the contractor. Similarly, in countries with public medical systems, the costs of bad medical treatment will fall not just on the patient but also on taxpayers. We consider two scenarios. First we consider a case where the domestic regulatory system is initially inadequate. That is, screening is imperfect and there is a mix of good and bad service providers in practice. In this case, we show that trade liberalization without reforms the domestic certification system can lower welfare. Next we consider the effects of trade under a well-functioning certification system. In this case, trade will be welfare-improving. However, the magnitude of the gains depend on the way in which foreigners are screened.

Trade liberalization, accompanied by domestic regulatory reform raises welfare. A final issue is how foreigners should be screened. Trade liberalization in many service industries, and especially in professional services requires both that foreigners be given market access, and that they not be subject to discriminatory barriers. There are several ways of implemented non-discrimination rules. In a National treatment regime governments have the flexibility to implement their own regulations subject to the requirement that the same regulations apply to domestic and foreign suppliers. That is, national treatment regime essential requires nondiscrimination. Such as rule does not completely eliminate discrimination, however.

For example, an insurance company might be required to establish a local office before it can sell insurance. While both domestic and foreign firms are subject to the same requirement, it may be much easier for local firms to meet the requirement - such a rule essentially imposes a fixed cost that excludes foreign firms who might want to do only a small amount of business locally. Similarly, a requirement that engineers, doctors, or truck drivers obtain domestic licensing and certification can impose additional costs on foreigners who have already gone through a similar certification process in their own country.

In a mutual recognition regime, each country agrees to accept services providers who meet the certification requirements of their home country. For example, under a mutual recognition regime, a US resident can be permitted to drive in Canada as long as he or she holds a valid US

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<sup>8</sup> Martinović, M., *Globalization and environment impact on business enterprises*, International journal of the economics and law, vol.1, No. 3, Novi Sad, 2011.

driver's license. Under a national treatment rule, the US resident could be permitted to drive in Canada only if a Canadian drivers license is obtained. The advantage of mutual recognition regimes is that they can economize on regulatory costs. The disadvantage is that it can be more difficult for a government to meet its regulatory objectives. If the trading partner has weaker certification requirements, then the average quality of service provision may fall when imports increase.

For this reason, mutual recognition is not appropriate for many types of services, and may also only be feasible for countries with very similar approaches to regulation. However, in countries with very different standards, the country with the weak standard can agree to recognize certification from the country with the high standard, but not vice versa. Harmonization of regulatory standards is another option. In this case, countries agree on common regulatory standards. Engineering as a set of the intellectual activities necessary to optimize the investment of the path realization of the concept selection and model design to the practical application of the conclusion, i.e. solutions that we obtained based on the certain models and methods.<sup>9</sup>

For example, countries may agree on a common set of rules to regulate insurance companies, and this then may facilitate easy access by insurers to markets in each country. The advantage of harmonization is that it removes the ability of governments to unilaterally adjust standards to favor local suppliers. The disadvantage is that it can add inflexibilities into the system that make it more difficult to change regulations when conditions merit changes. As well, harmonization by its nature eliminates diversity in regulatory approaches.

Regulations appropriate for one country need not be the best solution for other countries. Each of these approaches constrains government flexibility in some ways, and so may raise regulatory costs. They may also conflict with other government objectives. For example, a government may choose to have an exclusively public education or health system. In cases of cultural services, a government may prefer to explicitly favor local providers. For some types of services, governments may see value in having them provided by producers with a long term vested interest in a local community. The literature on social capital suggests that this can strengthen communities and provide both economic and non-economic benefits. Consequently, for some types of services the conflicts between regulatory objectives and trade liberalization may be difficult to circumvent.

Under this regime, output is higher and price is lower. The gains from trade will be larger if the government chooses the most efficient screening regime. D. Protection to preserve local product variety Much of the above analysis of trade barriers assumed that local and foreign products are essentially the same. However, in some cases, local and foreign products may be very different. This is particularly true in the cultural sector, where a foreign movie or television program is often very different from a local production. Hence while foreigners may object to local content rules in broadcasting and other media as protectionist, the motivation for such policies may be to preserve distinctly local cultural products. The issue of the preservation of distinctly local services arises other contexts as well: for example, allowing foreign restaurant franchises (such as fast food chains) may squeeze out local restaurant selling indigenous cuisine. There are two ways to analyze protective policies in the case where locally produced services are distinct from

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<sup>9</sup> Mikić, S., Doroshenko, Y., *Economy reengineering at the beginning of 21st century*, International journal of the economics and law, vol.1, No. 3, Novi Sad, 2011.

foreign-produced services: the first allows for externalities in service provision, and the second is to confront the larger issue of optimum product variety.

Suppose that a trade agreement eliminates local content preferences, and more foreign firms enter the local market. Because foreign services are imperfect substitutes for the domestic service, the local demand curve shifts. Foreign movies, television programs and music squeeze out domestic products. Now it might be thought that these products should be squeezed out because domestic demand is below average cost. However, this is not necessarily correct.

## 5. Innovation in the services sector<sup>10</sup>

We have earlier presented evidence that the services sector is becoming increasingly important for economic growth, in terms of both employment and productivity. It also accounts for a substantial portion of the outperformance of fast-growing advanced countries in recent years, disregarding for now any repositioning that the economic downturn may cause. A better understanding of the drivers of productivity growth in services is therefore important if Europe as a whole is to improve its productivity performance. We have seen above that investment in both tangible and intangible capital plays a role. Investment in ICT, in particular, is instrumental in facilitating productivity enhancing innovation in services. But there is also strong evidence in the economics literature that these productivity gains arise only when the new ICT hardware and software is accompanied by organizational changes. In a recent study of the US economy, Oliner *et al.* (2007) observe that ICT and intangible capital deepening accounted for a large share of US productivity growth in the second half of the 1990s. But they also show that this influence diminished in the first half of the 2000s in favor of total factor productivity (TFP), i.e. the increased efficiency with which factor inputs are used. This shift is consistent with the view that productivity enhancing organizational changes may lag the investments that enable them. Hence there is more to innovation -- not least in services -- than installing more and better machinery. This chapter therefore takes a closer look at how the services sector innovates.

### 5.1 Innovation has recently been redefined to better fit its role in services

Analysis on innovation has always tended to center on manufacturing. Both statistical services and economic research have historically underplayed the role of innovation in services. The realization that services play a substantial role in growth makes this stance untenable, however. Efforts have recently been made to better account for innovation in services.

One prominent example of this is the third edition of the “Oslo Manual” (OECD, 2005) which provides a revised definition of innovation which is better tailored to its role in service industries. Specifically, it has been obvious for some time that innovation in services is more geared towards organizational changes than towards the development of new products and processes. Indeed, it is an inherent feature of services that the final product is difficult to distinguish from the organization that provides it, or from the manner in which it is provided. To account for this, the revised Oslo Manual broadens the definition of innovation to mean “the implementation of a new or significantly improved product (good or service), or process, a new

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<sup>10</sup> Kristian, Uppenberg and Hubert, Strauss, Innovation and productivity growth in the EU service sector, OECD, July 2010, str. 36-56.

marketing method, or a new organizational method in business practices, workplace organization or external relations.“

This implicitly identifies the following four types:

- **Product innovation:** the introduction of a good or service that is new or significantly improved with respect to its characteristics or intended uses.
- **Process innovation:** the implementation of a new or significantly improved production or delivery method.
- **Marketing innovation:** the implementation of a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing.
- **Organizational innovation:** the implementation of a new organizational method in the firm's business practices, workplace organization or external relations.

The first two are traditionally more closely related to technological innovation. The last two are non-technological in nature.

Manufacturing and services focus on different types of innovation

The revised definition of innovation has been applied in recent surveys, providing improved measurement of innovation in services. The latest Community Innovation Survey (CIS-2006, conducted by Eurostat on behalf of the European Commission) shows clearly that a too narrow definition of innovation (limited to technological innovation) would underestimate the occurrence of innovation in services. The survey identifies “in-house” innovation as that which is mainly developed within the firm. On this score, the number of firms engaged in in-house *product innovation* (products that are new to both the firm and the market) is on average around one-third lower in services than in manufacturing.

The gap between services and manufacturing is somewhat smaller (one quarter) as regards the percentage of firms engaged in *process innovation*. The gap between manufacturing and services virtually disappears, finally, in the percentage of firms that engage in *non-technological innovation* such as a marketing or organizational innovation (chart 17 below). Note that the percentage of firms involved in such innovation is also much higher across the board than in the case of product or process innovation.

Average firm size in services is smaller, and they benefit from clustering

The CIS-2006 also shows that a lower percentage of SMEs engage in innovation than do large firms. This should be born in mind when assessing the lower incidence of innovation in services. Most firms in the services sector are relatively small. On average in the EU-27, around three quarters of service sector value added are generated by firms with less than 250 employees (i.e. SMEs and micro- sized firms). In manufacturing, the SME/micro share of total value added is only around one- half. Smaller firms tend to devote less resource to in-house innovation, whether in the form of scientific R&D or other types of intangible investment. Typically lacking the resources for substantial internal innovation, they are more dependent on externally generated innovation and technology, for example off-the-shelf software and IT hardware. They also benefit from sharing the costs of innovation and infrastructure with other similar firms, which suggests that they are prone to clustering.

The European Cluster Observatory (financed by the Commission in the framework of its Europe INNOVA initiative) has shown that clustering in services is highly correlated with GDP per capita. This is most evident for clusters in business services, financial services and information technology. Evidence for positive effects from clustering in services is indicative of what “eco-systems” allow innovative services to flourish. Figure 18 illustrates this point. The 2006 Innobarometer survey showed that a larger portion of services sector firms gave their cluster credit for their own innovation (dark blue) than did industrial firms.

Some services are more innovative than others,

One problem with assessing innovation in services is that it includes a very heterogeneous group of activities. Some types of services are particularly uninnovative, which pulls down the average. Services with high levels of technological opportunity, such as computer services, telecommunications, transport and R&D and engineering services stand at the core of what Eurostat calls “Knowledge Intensive Services” (KIS). Eurostat’s definition of KIS is relatively broad, which has the effect that it covers around half of total service sector employment and one-third of total employment in the EU.

Unlike the services sector as a whole, the KIS segment is not that different from manufacturing in terms of R&D intensity or the share of output that comes from new products. The KIS segment is important for aggregate productivity growth, and there is a strong positive correlation between the employment share of the KIS and GDP per capita. The causality here likely goes in both directions, i.e. rich countries may have higher aggregate demand for KIS services. However, we have seen earlier that services contribute very differently to aggregate productivity growth across countries, and the employment share of KIS is also strongly correlated with overall innovation scores. This suggests that knowledge intensive services do play a non-negligible part in overall services sector innovation, and in its contribution to aggregate productivity growth. Figure 20: Employment share in knowledge-intensive services vs. GDP per capita

How do service sector firms innovate? Results from the NESTA innovation survey Because of the heterogeneity of service industries, it is difficult to generalize too much about their innovative process. We therefore now turn to take a closer look at how a sample of individual service industries conducts their innovation. This section draws on a UK survey, which usefully distinguishes between different stages of the “innovation value chain”, from the formation of knowledge all the way through to commercial applications and value creation, which in turn is the basis for measuring productivity. This is helpful, as different industries with similar overall levels of innovation may focus on different stages of the value chain. That innovation should be reflected in value creation was first suggested by Joseph Schumpeter, who argued that innovation is not just a new idea or invention, but the increased productivity that stems from its application. Innovation is thus inseparable from the economic value that it generates. This is a very serviceable definition of innovation, since it makes it measurable in quantitative/monetary terms. By any other measure, how could one possibly compare two different inventions? The study, by the UK National Endowment for Science, Technology and the Arts (NESTA, 2009), draws on a survey of 1500 UK companies. It covers nine sectors, selected to provide a representative cross-section of the economy. These include both industries that are believed *ex ante* to be

knowledge-intensive and those that are not. The nine sectors included in the survey are:

- Automotive sector
- Specialist design
- Construction
- Energy production
- Accountancy services
- Architectural services
- Consultancy services
- Legal services
- Software & IT services

Of these, the last five are in services (shown in blue in the list). Sectors innovate differently, emphasizing different stages of the innovation value chain. The NESTA survey identifies three distinct phases:

- **Accessing knowledge** (through in-house investment in knowledge, collaboration with other organizations, or acquisition of external knowledge);
- **Building innovation capacity** (as firms translate their knowledge investments into innovation outputs);
- **Commercialization/value creation** (as firms seek to exploit their innovations in the market place).

In order to measure the innovative capabilities of each sector, in each of the three stages, the survey identifies a number of metrics assessed at firm level. In order to measure each sector's innovativeness through the innovation value chain, the survey covers the 16 firm-level metrics. Many of these elements are particular to each of the three stages.

For example, the *Accessing Knowledge* stage includes metrics reflecting the firm's internal R&D and design expenditure. *Building Innovation* includes spending on process change and the extent of new products and services in total sales. *Commercializing Innovation* includes metrics relevant to successfully taking an innovation to market, such as the nature of involvement with customers and the use of IP protection.

Then there are also metrics that are common across all three stages. For example, the use of different internal skill groups and the use of external partners are not limited to a specific stage. In a second step, the firm-level metrics are weighed and translated into sectorial innovation indices. These are constructed with the aim of allowing for a comparison of the level and variability of innovativeness *across* sectors, and across the three stages of the innovation value chain. In addition, the *variation* of firms in each sector is used as a measure of the scope for knowledge transfer *within* sectors. These results are then used as an indication of the potential for productivity gains through the adoption of best practice, either within or across sectors. While some sectors have an evenly high level of innovative capacity across all three stages (most notably IT and Consultancy services), others are more uneven (Automotive and Specialist design, along with several service industries).

## 5.2 Improving innovative capabilities by learning from best practice

The guiding principle of the NESTA survey was that the innovation capability of individual sectors can be enhanced by learning from best practice, whether residing inside the sector or in other sectors. If such learning does not occur spontaneously, there may be a role for the government to serve as a facilitator. The approach taken by NESTA is consistent with the view that technological innovation plays a secondary role in services sector innovation, as implied by the CIS results discussed earlier. If true, the allocation of resources (whether public or private) to the creation of new scientific knowledge is likely less effective in the context of fostering services sector innovation than the dissemination of best practice and knowledge spillovers, for instance through cluster formation. In the NESTA framework, the scope for *inter-sectorial learning* is proxied by the gap of each sector and stage relative to that with the highest score, which is assumed to represent economy-wide best practice for each stage of the innovation value chain. The scope for learning from best practice *within* each sector is represented by the standard deviation of firm scores within each sector. This mapping provides a guide to sector specific strategies for lifting innovative capacity through the adoption of best practice. On this basis, four sectors stand out as having rather extreme profiles. Accountancy and construction display very large inter-sectorial gaps for each stage of the innovation value chain, suggesting greater scope for inter-sectorial learning of innovation best practice. At the same time, however, accountancy and construction firms have relatively low intra-sectorial variability, which implies limited scope for learning from other firms in their own sectors. At the other extreme, consultancy and software/IT services have small or non-existent gaps to best practice for each element of the value chain. Consultancy firms also have relatively low intra-sector variability, which implies limited scope also for intra - sector learning. Firms in the software and IT services sector, on the other hand, display a greater degree of intra-sector variability in their innovation capability. Here there is greater scope for learning from best practice within the software and IT services sector itself. Other sectors fall in between these extremes. Architectural services display low variability within the sector but a relatively large inter-sectorial gap. If this sector is to improve its innovative capabilities, it would have to draw on best practice in other sectors, for instance consultancy and specialist design. The latter stands to gain relatively more from intra-sector learning, on account of its greater intra-sector variation. One key observation made in the NESTA study is that the need to learn from and adopt best innovation practice is not always equal across all three stages of the innovation value chain. Relatively few sectors have large gaps to best practice in the first and third stages of the innovative value chain. In the second stage, however (“Building Innovation Capacity”), only two sectors have small gaps to best practice. This suggests that particular policy attention is needed in improving the ability of firms to build on their knowledge investments to generate more commercially viable innovative products and services.

## 5.3 Innovative firms grow faster

One final finding of the NESTA survey is that firms with high innovative capacity expanded substantially faster on average than non-innovative firms (Figure 22). The gap is also visible in services (except in architecture,

where the innovative lead is relatively small). To the extent that the UK can serve as a role model for the rest of Europe, this suggests that broadening the innovative capability of firms in the services sector holds the key to faster service sector-led growth. Possible methodological shortcomings notwithstanding, the NESTA study does provide a telling illustration of how individual service industries differ, not only in their overall innovative capacity, but also in their focus on the different stages of the innovation value chain. One lesson here is for instance that sectors suffering from structural weaknesses in the commercialization of knowledge would enjoy limited benefits from increased investment in the *creation* of new knowledge. These results point to an alternative role for public policy in the context of service sector innovation, as a facilitator of learning from best practice, as opposed to supporting investment in R&D and in-house generation of new knowledge.

### Summary

The various sections of this survey paper have individually made some striking observations. Services account lead to highly innovative economies. While Europe on average does not lag behind in terms of fixed tangible investment in the services sector, the shift towards ICT equipment has been even more pronounced in the US than in Europe. Academic literature points to strong synergies between tangible fixed capital, investment in knowledge and in human and organizational capital. An imbalance in the resources allocated to tangible vs. intangible capital may therefore hamper the final productivity-payoff. But innovation in services is not just about the resources allocated to ICT and intangible investment. In order to boost productivity, service industries must draw on these investments to reshape the way they conduct business, and to invent entirely new services.

Appropriate framework conditions must be in place, including product and labor market flexibility, competition, and free trade of services across borders. In services survival and the ambition to out run the competition is the most powerful incentive to innovate. A final conclusion that emerges from the literature and data surveyed above is that the nature of knowledge formation itself is different in services. Although some service industries do invest substantial amounts in scientific R&D, many do not. Average firm size in most service industries is small and the resources devoted to in-house knowledge creation are limited. Instead, surveys show that services rely extensively on external sources for new knowledge, most notably through their ties with customers and other firms. Yet the widespread lack of patenting of non-technological innovations tends to limit the dissemination of such knowledge. As discussed in Chapter 5, many service industries would stand to gain substantially from learning from best practice in other firms and even in other sectors, yet many are relatively closed to information sharing and cooperation, partly for competitive reasons.

Best practice and the formation of knowledge intensive service clusters are attractive complements to traditional R&D subsidies in fostering more innovation in the services sector. There are likely to be substantial gains from liberalizing trade in services, immediately and in the longer term provided the regulatory framework is adequate. Strong institutions in the globalization process are the basis prosperity and economic development in the world. Technological progress has caused the destruction of the sophisticated processes of globalization. Crisis is an inevitable phase of business cycles and its overcome also is driven by

technological progress and successful economic policy. Continuous improvement in order to keep up with modern processes is essential.

New knowledge and new competitive skills are necessary to handle obstacles for integration and prosperity. Nobel Laureate Paul Krugman notes that there is a recession not only because of bad legislation or negligence in the stock market but also due to an error in the theoretical models. America needs to find solution in monetary policy to regulate the issue of unemployment, inflation and growth. Finally, we need a modern theoretical model that will help us to explain these changes and to understand their meaning.

## **BIBLIOGRAPHY:**

1. Deardorff, A. V. "Comparative Advantage and International Trade and Investment in Services," in Robert M. Stern, (ed.), *Trade and Investment in Services: Canada/US Perspectives*, Toronto: Ontario Economic Council, 1985.
2. Krugman, P., "Scale Economies, Product Differentiation, and the Pattern of Trade," *American Economic Review*, 70 (1980), 950-959.
3. Sapir, A. and C. Winter, "Services Trade," in D. Greenaway and L. A. Winters (eds.), *Surveys in International Trade*, Oxford: Basil Blackwell, 1994.
4. Radosavljević, M., Radosavljevic, D., Somina, I., *Innovation and motivation as the key factors of the success*, *International journal of the economics and law*, Vol. 1, No. 3, Novi Sad, 2011.
5. Martinović, M., *Globalization and environment impact on business enterprises*, *International journal of the economics and law*, Vol. 1, No. 3, Novi Sad, 2011.
6. George, Soros, *The new paradigm for financial markets, the credit crisis 2008 and what it means*, Perseus books group, USA, Philadelphia, 2008.
7. Mikić, S., Doroshenko, Y., *Economy reengineering at the beginning of 21st century*, *International journal of the economics and law*, Vol. 1, No. 3, Novi Sad, 2011.
8. Drašković, M., Vujičić, J., Smiljić, S., *Elektronic banking models*, *International journal of the economics and law*, Vol. 1, No. 3, Novi Sad, 2011.
9. Drenovak, M., Urosevic, B., *Exchange traded funds of the eurozone sovereign debt*, *Economic anals*, vol.4, no. 187, October – December 2010, Faculty of economics, University of Belgrade
10. Botric, V., *Foreign direct investment in western Balkans: Privatization, institutional change and banking sector dominance*, *Economic anals*, vol.4, no. 187, October – December 2010, Faculty of economics, University of Belgrade
11. Osintsev, Y., *Venture financing of start – up: A model of contract between VC fund and entrepreneur*, *Economic anals*, vol.4, no. 187, October – December 2010, Faculty of economics, University of Belgrade
12. Markovic, P., Urosevic, B., *Market risk stress testing for internationally active financial institutions*, *Economic annals*, vol.4, no. 187, October – December 2011, Faculty of economics, University of Belgrade
13. Laseen, S., Svensson, L.E.O., *Anticipated alternative policy rate paths in policy simulations*, *International journal of central banking*, UCB, vol. 3, no. 3, USA, September 2011.
14. Markovic, P., Urosevic, B., *Market risk stress testing for internationally active financial institutions*, *Economic annals*, vol.4, no. 188, Faculty of economics, University of Belgrade, 2011.