

GLOBALISATION IMPACT ON INFORMATION TECHNOLOGY
SERVICES IN THE EUROPEAN UNION IN THE PRE-CRISIS PERIOD

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The paper aims to present the impact of globalization on the IT services in the EU countries during the pre-crisis period. The analysis of the economic performance of the sector outlines certain development trends. The position of the EU computer services in the world trade has been examined. The study focuses on the territorial-organizational forms and the division of labour within the EU countries, underlining the intraregional specifics among the new and the old member states. Special attention has been paid to the analysis of the IT services in Bulgaria.

Keywords: globalisation, IT sector, division of labour, territorial organization.

ВЛИЯНИЕ НА ГЛОБАЛИЗАЦИЯТА ВЪРХУ
ИТ УСЛУГИТЕ В ЕВРОПЕЙСКИЯ СЪЮЗ
ПРЕДИ СВЕТОВНАТА ИКОНОМИЧЕСКА КРИЗАТА

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Абстракт: Статията представя важни аспекти на влиянието на глобализацията върху развитието на ИТ сектора в Европейския съюз в периода преди световната икономическа криза. В резултат на глобализацията се създават много нови подсектори и нови пазари в развиващите се икономики, а потреблението в световен мащаб бързо нараства. Засилената пространствена мобилност на тези услугите се съпровожда с интензификация на продуктовата специализация. ИТ секторът в ЕС е изправен пред предизвикателствата на силната конкуренция от страна на бързо развиващите се икономики. Обект на това изследване е подсекторът „компютърни услуги и софтуер“ и в статията са представени тенденциите в развитието им в ЕС и мястото им в световната търговия в годините преди кризата. Анализирани са и формите на териториална организация и развитието

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на компютърните услуги и софтуер в България. Изследването показва, че в периода преди кризата тези услуги в ЕС отбелязват значителен ръст в развитието си както по отношение на икономическите показатели, така и по отношение на заетостта. ЕС е лидер в световната търговия с компютърни услуги. Вътрешнорегионалното разпределение на заетостта показва висока териториалната концентрация във водещите западноевропейски икономики. Значителен ръст регистрират и новите страни-членки, които се нареждат на трето място в света по привлекателност за аутсорсинг след Индия и Китай.

Ключови думи: глобализация, ИТ сектор, разделение на труда, териториална организация

INTRODUCTION

The globalisation of the sector Information and Communication Technologies (ICT) has been unusually intensive in the last decade. ICT application have an economic impact on the increase of gross value added, gross domestic product, labour productivity, production efficiency, and labour cost formation. The globalisation has led to creation of new subsectors of production and markets of the sector in the developing economies and to their consumption increase on a world scale. The increased spatial mobility of the services is accompanied by a tendency of products specialization intensification. The ICT services in the EU face up more and more severe competition of the fast-developing economies, which seize whole sub-sectors.

The ICT sector consists of wide range of manufacturing and service activities, producing ICT products and ICT services separately or combined. According to the European Classification of Economic Activities, “computer and related activities“ (NACE 72) are a branch of business services and it has six sub-branches. According to the methodology of the World Trade Organization (WTO), computer services include services related to hardware and software and data processing. The main objective of this report is the computer services and software.

DEVELOPMENT TRENDS OF THE EU COMPUTER SERVICES

EU computer services registered significant growth of economic performance and jobs in the years before the crisis. The European computer services (NACE 72) are presented by 580 000 enterprises with turnover of €407,7 billion and about 3,01 million people employed in 2007 (Fig.1). The software (code 72.2) creates approximately 70 % from the turnover of the sector computer services and related activities. In 2007 the turnover has increased by €95.7 billion and the number of employed – by 442000 in comparison with 2004. Bulgaria and Romania contribute with 79,7 thousand people only to the increase of the employed during 2007.

Computer services companies account 70% of all firms of the ICT services, and the largest number of them is software companies. SME are 99% (micro and small are 95%) of total number of firms in the branch, and they have 69% of employment, 58% of turnover and one fifth of VA (value added) (FWC Sector Competitiveness Studies, 2009).

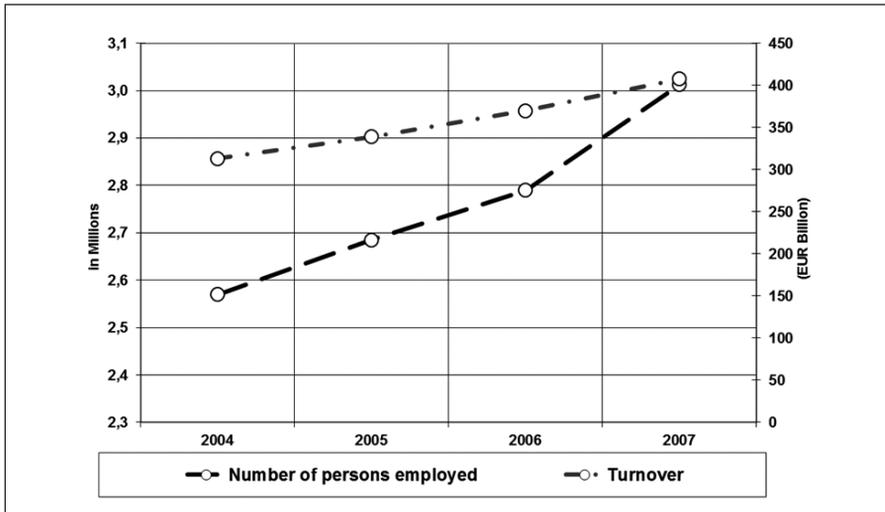


Fig. 1. Turnover (right scale) and employed persons (left scale) in computer and related services in EU27. Data source: *EUROSTAT, 2010*.

In EU27 computer services generate €199.3 billion value added at factor cost and it increased by €45.5 billion in 2007 in comparison with 2004, and Bulgaria and Romania participate with €1.106 billion. Its regional distribution shows that Great Britain generates 30 % from VA, Germany – 17%, France – 14%, Italy – 10% (FWC Sector Competitiveness Studies, 2009). NMS (new member states) participate with 17% from the employed and 5% from VA in the computer services of EU27.

The importance of computer services in EU 27 economy measured as a share of employees to the workforce and its share of national GDP are 1,23% and 2,65 % respectively. The countries with shares higher than the average ones of EU27 are Sweden, UK, Ireland, Netherlands and Finland, with shares around the average ones are Germany, France, Italy, Austria and Czech Republic. Spain, Portugal, Greece and the rest of NMS have much lower shares (PAC Report D2, 2009).

Computer services and software are knowledge intensive high tech services with intensive R&D investments in human resources. In 2007 about 3,01 million people were employed in computer services (fig. 1). The studies on the employment in ICT services show that approximately 50 % from the employed in the sector work in computer services and software. The regional structure of the EU computer services employment outlines that in the leading countries Great Britain, Germany, France, Italy work more than the half (or 61%) of the employed in the sector and when are added Spain, Netherlands, Sweden and Poland, their share increases to 82%. Although with small percentage from the total employment in the sector, the employment in this field marks significant rise in particular EU countries – Ireland, Romania, etc.

Labour cost is the primary driven force in the geographical shift of production and services. As for the variable “wage adjusted labour productivity“ almost all the NMS have values above the average for EU27 (130%), with the exception of Hungary and Estonia which have lower values. This fact contributes to NMS attractiveness as sourcing destinations. On the other hand, presence of highly skilled

specialists in these countries cuts the expenses for R&D investments in human resources.

EU COMPUTER SERVICES IN THE WORLD TRADE

EU was still a leader in the world trade of computer services in 2008. The world trade of computer services marks a growth and in 2008 it reported a turnover of 232.5 billion dollars, as the export is rated at 157.5 billion dollars, and the import – at 75 billion dollars (WTO, 2010). The world structure of computer services trade shows that the main participants of the world market do not change their positions significantly during 2005–2008. EU takes the leading position with share of 60%, as about two

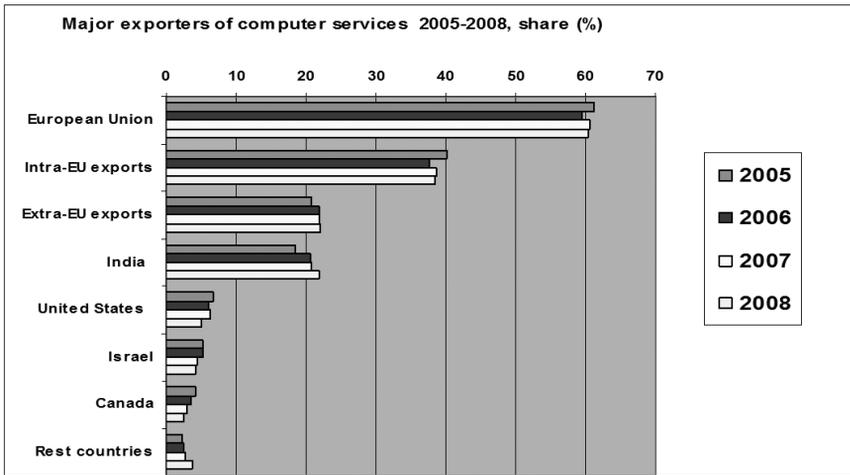


Fig. 2. World export structure of computer services. Source: *WTO data, 2010*

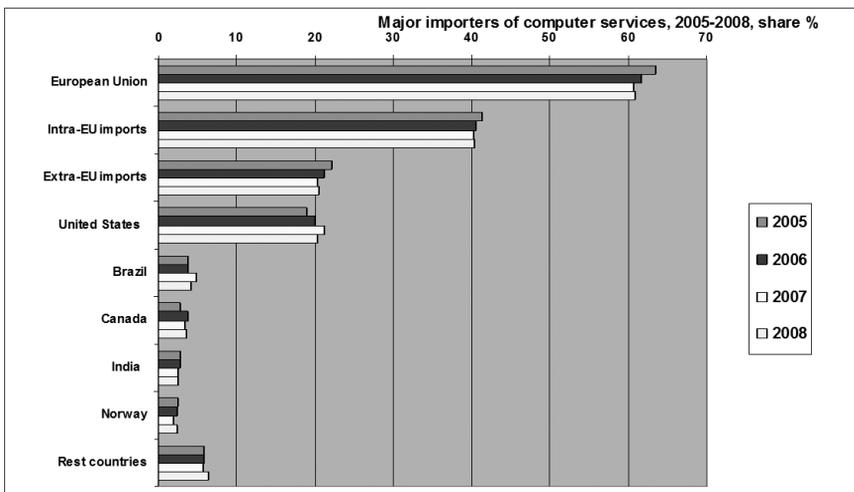


Fig. 3. World import structure of computer services. Source: *WTO data, 2010*

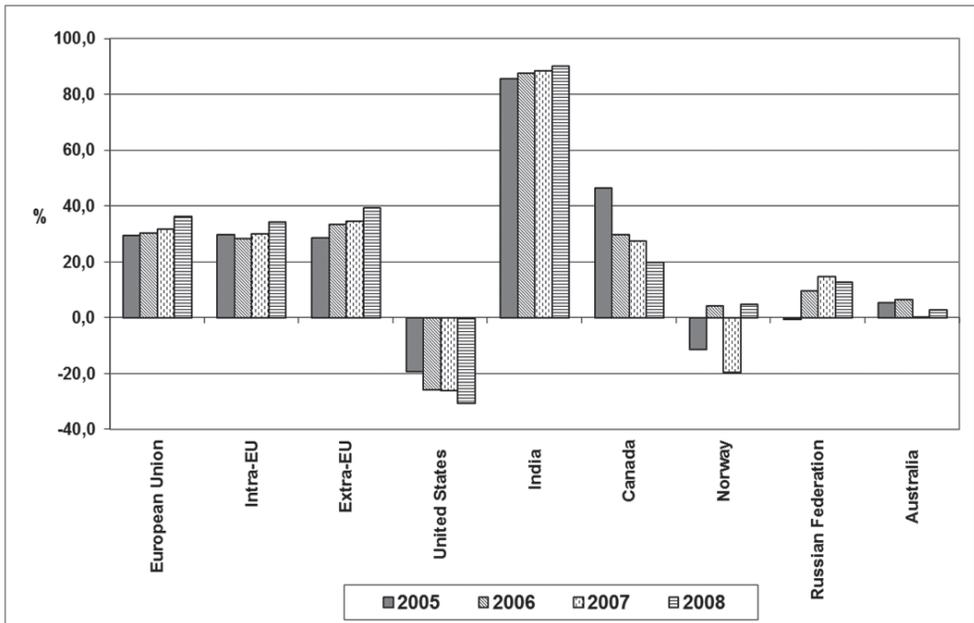


Fig. 4. Asymmetry of trade of computer services. Source: *WTO data, 2010*

thirds of them is due to the intra-EU trade. Till 2008 the absolute values show that computer services export increases in almost all countries, except for the USA where some decrease occurs (fig. 2). India, which ranks second world exporter, diminishes the difference with extra-EU export from 2.1 billion dollars in 2004 to 0.2 billion dollars in 2008.

In the structure of world import insignificant changes are registered in 2004–2008 (fig. 3). Hence, the absolute values evidence that import increase for EU is about 1.6 times, for USA, Brazil and Canada – about twice. The lowest is the increase for India – only 0.7.

The importance of intra-EU trade in terms of value and of weight of computer services confirms the statement of strong integration of the regional European market in the sector.

In 2008 the active trade balance of EU 27 increases with 127% (51.6 billion dollars), as intra-EU trade balance grew with 100%, and extra-EU trade balance with 152% compared to 2005. The asymmetry of trade of main world regions and countries is presented on figure 4.

TERRITORIAL ORGANIZATION: CLUSTERS AND HUBS

Some scholars define the area of regional concentration of ICT services in West Europe as ‘blue-banana of Europe’. It includes South UK, BENELUX, and Denmark, the region of Ile-de-France, France and West parts of Germany, North Italy and Spain. ICT services industry has formed clusters around large cities, and powerful TNC are the core of these clusters. Well developed ICT clusters in OMS (old member states)

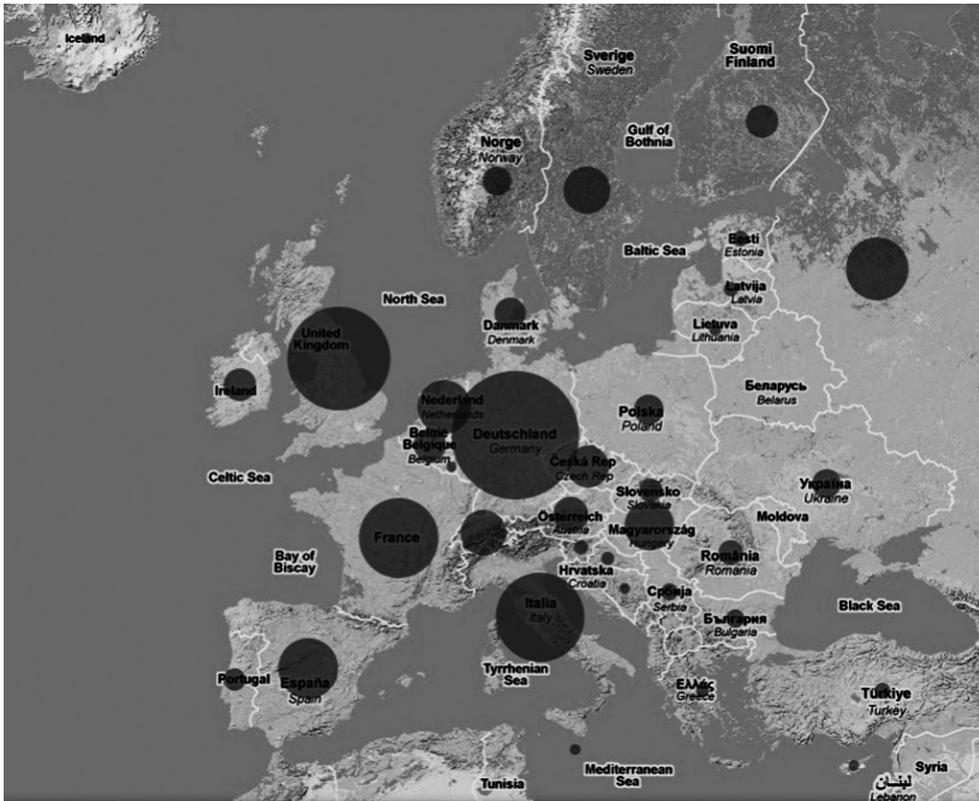


Fig. 5. Distribution of employees in European IT services in 2009
 Source: European Cluster Observatory, 2010

are KISTA, Stockholm (Sweden), Baden Württemberg (Germany), London, Oxford and Cambridge (UK), the regions of Madrid and Barcelona (Spain), Oulu (Finland). The largest software cluster is the area of Dublin in Ireland (Irish cluster). In recent decade new ICT clusters have been established in the NMS and often they are in the regions of capital cities (FWC Sector Competitiveness Studies, 2009). The map shows the distribution of employees in IT services in Europe (fig. 5).

The recent trends in space organization of some global industries are hubs, which ‘are open to the full force of global economy, both positive and negative, in ways that clusters are not. Hubs learn faster and more broadly, but experience the turmoil of globalisation more actually than places that are less connected to the global chains.’ (Gereffi *et al.*, 2004).

The sector is highly labour-price sensitive. It needs R&D protection and data security, political stability and national security (PAC Report D2, 2009). In this context the CEE (Central and East European) countries are attractive as sourcing region. Although they have small shares in EU27 software industry, experts have foreseen better growth rate of almost 100% than in OMS in next couple of years ranking NMS attractiveness at the third place after India and China (PAC Report D2, 2009). Hungary was excluded of some of these prognoses because of its fiscal problems during the period.

COMPUTER SERVICES AND SOFTWARE IN BULGARIA

IT development is one of the priorities in social-economic development of the country in the last decade. Bulgaria is among the preferable East-European countries for off-shoring of software services. The country ranks eighth in the world on the index absolute number of certified IT specialists and third on relative share at the beginning of 21st century. In 2006 Bulgaria for the first time was listed in A. T. Kearney Global Services Location Index. The study includes 40 countries, selected on the basis of corporate input, current remote services activity, and government initiatives to promote the sector. Bulgaria is ranked 15 for 2005, and 17 for 2011. Despite this lowering of position, Bulgaria retains its better indexes in comparison with CEE countries similar in economic development. It leaves behind countries like Poland, Hungary and the Czech Republic, which have already won recognition. The gradual trend of assessment change compared to sharp fluctuations for the rest countries shows a relative stability of this sector.

The comparison of key economic indexes shows a significant growth in the sector development for the period 2000–2007. The number of enterprises in the sector has increased with 54%, and of the employed with 222%. The turnover has increased almost 5 times, and value added at factor cost has risen 8 times (EUROSTAT data). As a consequence from the global financial crisis, in 2008-2009 the sector reported a decrease in turnover and revenues. According to an expert evaluation, in the sector export structure based on destinations the EU share is 74%, and US share is 26%. The software services are more than a half of the export, and the software products are over ¼ from the export of the computer services. The largest investments in the

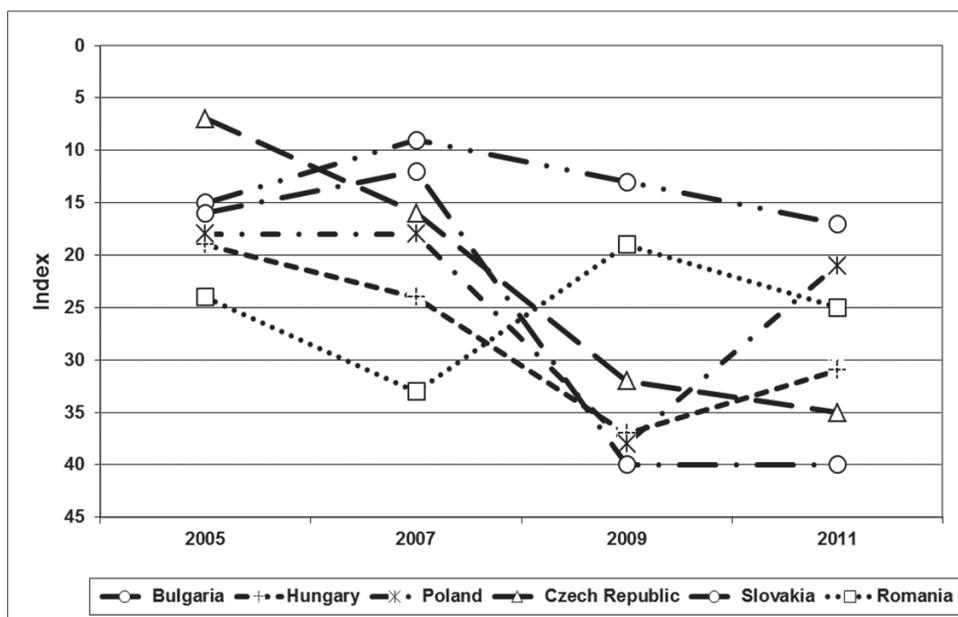


Fig. 6. Annual Global Services Location Index of selected CEE countries for 2005–2011.

Source: Bulgarian Software Industry, 2008

sector were done by Germany (SAP, Software AG, Nemetschek AG) and the USA (HP, IBM, and Tumbleweed).

In 2007 the number of companies operating in software (NACE 72.22) was 275 and 38% of them are off-shore companies. There were 25 local R&D centers of foreign companies and only 15 firms sold their own products abroad. Revenue from software industry accounted for €57 million in 2007 and it increases twice in comparison with revenue in 2001. The prevailing part of Bulgarian firms for software and computer services are small and medium of size and more of them have been set up in 90s, whereas the foreign firms are big – HP (more than 1200 employees), SAP (over 500 employees). According to the national statistics, the number of employees in IT services are 14 800 and the employees in software are 5 600 persons (2009). In this sector there is a large number of temporary employees who are unregistered by the statistics, thus the experts have assessed the real figures with about of 25-30% higher.

Findings from firm survey 2005. A survey shows that USA, Germany, Great Britain and Netherlands off-shored the largest orders to Bulgaria. FDI were concentrated in big towns – Sofia, Plovdiv and Varna. The most important reasons of off-shoring to Bulgaria were the highly qualified specialists, their innovative and creative way of thinking, as well as the certified firms having capacity to accomplish big and full-scale projects.

More than half of the firms exported software at 100% subcontracting base. Software firms were dominated by SME, working as second and third layer subcontractors to bigger software firms in the country. The survey showed that 63,8% of the firms were part of international subcontracting networks and 27,6% were part of national subcontracting networks. Firms estimated their own advantages in getting orders from foreign partners ranking the reasons as they follow: 1 – Expertise, 2 – Reliability, 3 – Appropriate technology/equipment and 4 – Low labor costs. Continuous improvement of quality and decrease of expenditures were envisaged by firms as a response to the global competition. Due to the foreign orders 62% of firms increased their revenues and profits, and there were no change for 28% of the respondents (Roukova et al., 2010).

Despite the significant increase of labor costs in the branch during the recent years, the Bulgarian software firms still gain from globalisation.

Bulgaria is a preferable partner for accomplishment of custom software and software applications, requiring highly qualified expertise and secure reliability. The domestic market of IT services is fast developing.

CONCLUSIONS

EU computer services registered significant growth of economic performance and jobs. EU was still a leader in the world trade of computer services in 2008. The regional structure of the EU computer services employment outlines that in the leading countries Great Britain, Germany, France, Italy work more than the half (or 61%) of the employed in the sector and when are added Spain, Netherlands, Sweden and Poland, their share increases to 82%. The sector is highly labour-price sensitive. It needs R&D protection and data security, political stability and national security (PAC Report D2, 2009). In this context the CEE countries are attractive as sourcing region.

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