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Regional restructuring in a transition economy: the process of tertiarisation in Slovakia

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Abstract

The transformation process brought after the year 1989 a remarkable change in economic structure. One of the crucial problems is high rate of unemployment namely in the regions that collapsed in many branches of production. Despite dynamic economic changes, the rate of unemployment did not raise so high, as the increasing development of tertiary sphere absorbed the striking flow of unemployment in the primary and secondary sector.

The paper analyses how has changed the macroeconomic structure of Slovakia on the regional level with accent on the the expansion of the service sector. Transition process is closely connected with restructuring process. From managing of this process depends if Slovakia will capture the global wave of changes from industrial to advanced services, but not only on the country level but also in their regional dimension.

1. Introduction

Slovakia has experienced more transitional problems than other countries in the region following the downfall of communism, mainly as a result of it being more closely integrated into the CMEA economic area than the others had. Political and economic difficulties have delayed progress with privatisation and accession to the EU

During the pre-transformation period, the socialist system did not develop the tertiary sphere. The process of tertiarisation has been strongly inhibited by the practices of extensive industrialisation. The central planning system has not required many of tertiary activities therefore share of tertiary sphere was so low. The transformation process brought after the year 1989 a remarkable change in the economic structure. One of the crucial problems is high rate of unemployment namely in the regions that collapsed in many branches of production.

The plan of the paper is as follows: the 2nd section describes restructuring process of Slovak economy. The 3th chapter is dealing with the dynamic of structural change looking at the gross value-added data (comparison the years of 1996 and 2000). The 4th chapter is focusing on the role of knowledge economy and education level. Finally the 5th chapter is oriented on Information and Communication Technology (ICT) and transition to Information Society in Slovakia.

The structural reforms in Slovakia have the following objectives:

- The restructuring of a property rights structure.

- Stable development of the economy and healthy fiscal development.
- Strengthening and efficient functioning of markets.
- Reduction of the high unemployment rate.
- Increased and competitiveness of the economy.
- The restructuring on the internal enterprises level; specific in the agriculture, industry and services:
    1) Disintegration of big socialist enterprises to more market oriented SMEs (restructuring of the size).
    2) A modification of production structure for demand oriented production and service, including new products, process and services (restructuring of products).
    3) A special process of "clearing" the production structure from activities not directly connected with production in the process of small and big privatization.

Slovakia has made progress with the implementation of structural reforms. The restructuring and privatisation process in the utilities and transport sector advanced as well. Further privatisation plans concern electricity distributors, bus transport, water and sewage, and health care facilities. In 2000, the private sector share in the Slovak economy reached around 83 % of GDP (European Commission, 2001).

In addition, reforms have been implemented in the government sector, notably in public finance management.

The sectoral restructuring process is used to increase the inflow of foreign investments, to support economic competition and to establish flexible markets. The SR government accepted a series of measures in promotion of investments in the years 2000 and 2001, and these had a positive impact upon increased inflow of foreign direct investments into Slovakia's economy. Over the year 2000 foreign direct investment increased from SKK 92.9bn to SKK 165.7bn (circa 2,1bn to 3.7 bn) at the end of the year. Additional investments promotion has been provided for example in the field of taxation of investors, passage of the law on promotion of establishing industrial parks, elimination of administrative barriers of investment etc. (European Commission, 2001).

2. Basic steps in the restructuring process of Slovak economy

Despite of certain revival of industry development, Slovakia had for the long time been characterised as an agrarian, poorly developed country. The evidence of that is the change in the structure of population by economic activity. In 1910 belongs to the industry sector only 17,8 % of population, while to the agriculture and forestry till 62,6 % of population. In the next phases the share of employees in agriculture has descending tendency and increasing tendency in the industry /see table 1 /.

Table 1: Changes in the structure of population by economic activity

	Share of labour force	
	Agriculture and forestry	*Industry*
1910	62,6	17,8
1950	41,9	18,4
1960	33,8	28,4
1970	20,4	33,8
1980	15,3	35,8
1991	10,7	33,0
2000	6,7	34,5

Sources: Plesnik, 1989; Statistical Office of the Slovak Republic, 2000

Today the agricultural sector belongs to branches that are most marked by problems of the transformation process. These problems cause that share of agriculture on Slovakian GDP has decreased from 5,6 % in 1995 to 4,2 % in 1998. Concerning industry share on Slovakian GDP between the years 1995 and 1998 decreased from 32,2 % to 28,2 % but still it remains the crucial sector in the Slovak economy with more as 40 % share on the gross sales of SR and with determining influence on the growth of export performance (Karasz, 1999).

Slovakia is a country whose regions are markedly differentiated. Considerable regional disparities are due to varying historical, cultural, political, geographical, and also economic and demographic development. Some regions have been severely disadvantaged.

At the regional level we must take into account some specific geographical and historical factors which influenced the development of the tertiary sphere in Slovakia. For example, in case of Bratislava region, which dispose with favourable age and qualification structure of the population. Agricultural sector is highly concentrated in Nitra and Trnava region. Trencin region was affected by the massive industrialisation process in the past. Presov region is characteristized with high under-capitalisation.

3. Structural analysis of the economic development in Slovakia – regional gross value added in 1996 and 2000

An important aspect of economic development in the less developed regions in Slovakia is the concentration of activity in the low value-added sectors. Basically business and financial services have relatively high value-added.

Table 2 below shows the proposal of the regional classification level in Slovakia elaborated by the Statistics Office of the Slovak Republic in collaboration with the European Commission in early 1998. In the field of regional statistics differences in the share of primary, secondary and tertiary sector can be expected, as the dynamics of tertiary sector development is high not only in Slovakia as a whole, but also on the regional level.

Table 2: The regional division of Slovakia according to NUTS

Classification Level		**No. of Territorial Units**
NUTS 1	Republic	1
NUTS 2	New regions aggregation	4
NUTS 3	New regions	8
NUTS 4	New districts	79
NUTS 5	Communities	2,871

Source: Statistical Office of the Slovak Republic, Bratislava 1998

In 1996 at the national level the primary sector share in the structure of gross value added was 5,2 %. The highest share at the regional level has achieved Nitra region with 11,1 % underlining its agricultural character, particularly in the south-situated districts. Naturally, the lowest share is reported by Bratislava region with only 1,4 %.

In secondary sector is as follows. Share at the national level is reported by 40,0 %. Trencin region shows the highest share of secondary sector with 53,1 %, being the result of massive industrialisation process in the past time. The lowest rate is in the Bratislava region with 32,1 %.

Table 3: Structure of gross value added by sectors in Mill. SKK in 1996

Region NUTS III	Total	Primary sector[1]		Secondary sector[2]		Tertiary sector[3]	
		Amount	Share	Amount	Share	Amount	Share
Slovak Republic	**555 726**	**29 062**	**5,2**	**222 210**	**40,0**	**304 454**	**54,8**
Bratislava	127 595	1 832	1,4	40 917	32,1	84 846	*66,5*
Trnava	62 318	5 607	9,0	31 030	49,8	25 681	*41,2*
Trencin	59 651	2 847	4,8	31 677	53,1	25 127	*42,1*
Nitra	60 217	6 711	11,1	22 559	37,5	30 947	*51,4*
Zilina	58 562	2 536	4,3	24 053	41,1	31 973	*54,6*
Banska Bystrica	61 919	3 835	6,2	25 183	40,7	32 901	*53,1*
Presov	51 396	2 934	5,7	19 612	38,2	28 850	*56,1*
Kosice	74 068	2 760	3,7	27 179	36,7	44 129	*56,6*

Code of economic activities (by NACE Rev.1)

[1] A+B Agriculture, forestry; fishing

[2] C, D, E, F Mining and quarrying; industry; electricity, gas, steam and hot water supply; construction

[3] G, H, I Trade; hotels and restaurants; transport, post and telecommunications

J+K Financial intermediation, insurance; real estate, renting and business activities

L, M, N, O, P Other market and non-market services, and FISIM

Source: Statistical Office of the Slovak Republic, Bratislava 1996, authors' own calculations.

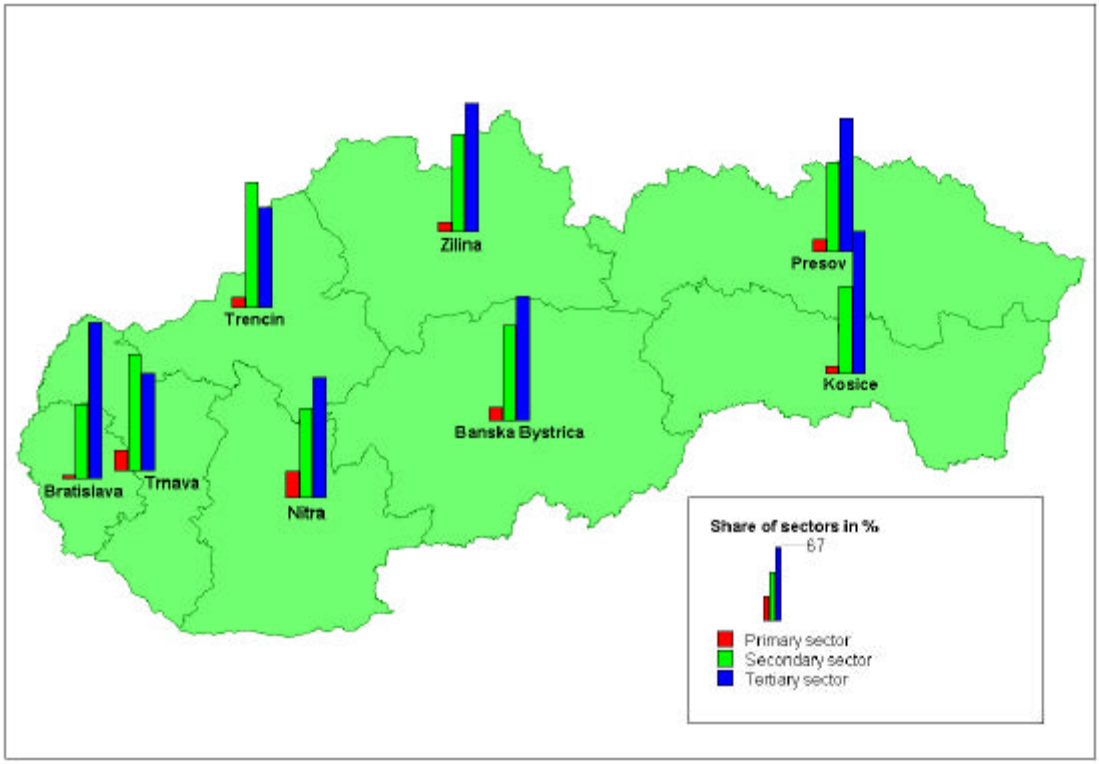
On the national level tertiary sector accounts for 54,8 % of the gross value added. Here the markedly dominating position of Bratislava region can be observed with 66,5 % share, clearly documenting the tertiary character of this region. The lowest rate is found in Trnava region with 41,2 % (see table 3 and map 1).

In fact, in some of the regions substantial decline was reported especially in the primary sector in comparison with 1996. On the contrary the moderate growth was in the tertiary sector.

In 2000 at the national level the primary sector share of gross value added decreased to 4,5 %. At the regional level the highest share has achieved Nitra region with 9,1 %, pointing to the agricultural character of this region. Naturally, the lowest share was reported by Bratislava region with only 1,1 %.

At the national level secondary sector share of gross value added was 34,6 %. The highest share in secondary sector was recorded in Trencin region with 48,0 %, with the lowest rates found in Bratislava and Kosice region with 28,9 %.

Map 1: Structure of gross value added by sectors in Mill. SKK in 1996



Source: Based on statistical data from table 3

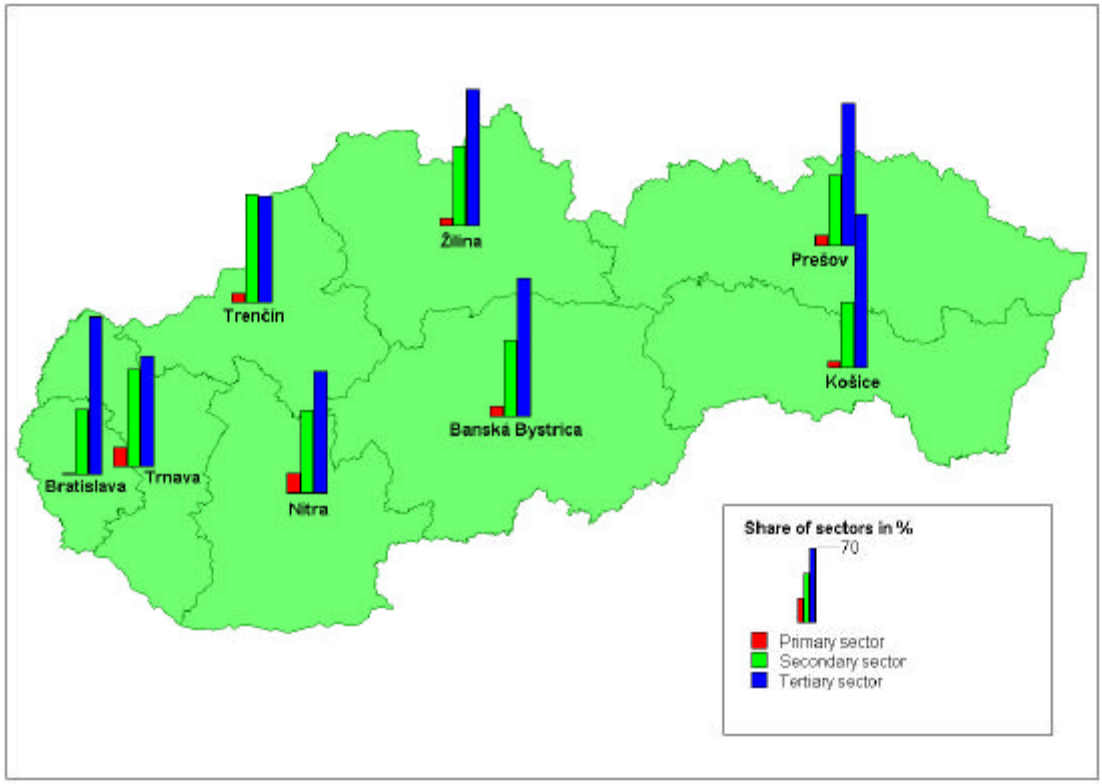
On the country level the tertiary sector share of gross value added increased to 60,8 %. At the regional level still dominated Bratislava region with 70,0 %. The lowest rate shows Trencin region with 47,2 % (see table 4 and map 2).

Table 4: Structure of gross value added by sectors in Mill. SKK in 2000

Region NUTS III		Primary sector		Secondary sector		Tertiary sector	
	Total	Amount	Share	Amount	Share	Amount	Share
Slovak Republic	**795 171**	**36 003**	**4,5**	**275 426**	**34,6**	**483 742**	**60,8**
Bratislava	187 726	2 119	1,1	54 198	28,9	131 409	*70,0*
Trnava	82 403	6 915	8,4	35 175	42,7	40 313	*48,9*
Trencin	76 941	3 672	4,8	36 940	48,0	36 329	*47,2*
Nitra	91 656	8 316	9,1	34 014	37,1	49 326	*53,8*
Zilina	85 194	3 210	3,8	30 463	35,8	51 521	*60,5*
Banska Bystrica	86 912	4 572	5,3	29 270	33,7	53 070	*61,1*
Presov	72 605	3 744	5,2	23 047	31,7	45 814	*63,1*
Kosice	111 734	3 455	3,1	32 319	28,9	75 960	*68,0*

Source: Statistical Office of the Slovak Republic, Bratislava 2000, authors' own calculations.

Map 2 : Structure of gross value added by sectors in Mill. SKK in 2000



Source: Based on statistical data from table 4

4. New trends: knowledge economy and education level

Looking at the balance of the economic activity of population by education, there is clearly domination of Bratislava region at the tertiary education level. Basically it creates the basis for predominance of tertiary activities in this region (see table 5).

Slovakia has made progress with reforming its education and training system. In May 2001, the Government approved a strategic document entitled „Milenium – National Programmen for Education and Training“ which defines the primary, secondary and tertiary education systems objectives for the next 15 years. A gradual increase of funding for education aims at reaching 5 % GDP in 2006 (European Commission, 2001).

Research and developmnet analysis shall be oriented to employment in R&D sector – researches, engineers and technical staff - and expenditures on R&D (operating and capital expenditures).

Table 5: Economically active population 15 years and over by education in 2000

Thous.

Region	Total	Of which			
		Primary education level and not terminated primary education	Apprentice	Upper secondary education	Tertiary education level
Bratislava	337,2	22,2	76,4	155,5	83,0
Trnava	273,0	28,4	117,9	104,1	22,6
Trencin	294,1	21,7	141,0	106,6	24,9
Nitra	335,3	40,3	150,4	117,4	27,2
Zilina	332,1	32,1	141,2	128,6	30,2
Banska Bystrica	317,4	31,5	121,8	134,9	29,2
Presov	362,4	27,2	159,8	144,0	31,5
Kosice	356,7	39,3	143,3	146,8	27,3
SR total	**2 608,2**	**242,8**	**1 051,7**	**1 037,9**	**275,9**

Source: Statistical Office of the Slovak Republic 2000, Bratislava

The specific problem in Slovakia is the changes in R&D base. The restriction of budget for research institutes, a drastic reducing of personnel and abolishing of many institutes, weak private sector, the emigration of excellent scientists and other factors led to general depression of R&D. A very low level of knowledge is just in the field of the regionally based technology transfer and the ways how to facilitate the transfer process. The practical consequence is that the transfer environments such as science parks, technology complexes or research centres are just in the process of learning how to manage the complexity of activities (Bucek, Sipikal, Skotta, 2000).

For the further development of the sector and for an effective integration of Slovakia into the European Research Area, it is important to increase the gross domestic expenditures on research and technological development.

There is significant the dominant role of Bratislava region as here is located 42 % of GERD. The similar situation we can see in case of comparison the number of R&D organizations and number of employees in these organizations where is again markedly predominance of Bratislava over other regions (see table 6).

Table 6: Research and development in 2000

Region	Total GERD[1] (Thous. SKK)	Share	Number of organisations	Share	Number of employees	Share
SR total	**6 085 506**	**100**	**303**	**100**	**22 256**	**100**
Bratislava	2 556 249	42,0	135	44,5	10 154	45,6
Trnava	569 789	9,4	19	6,3	1 669	7,5
Trencin	696 549	11,4	30	9,9	1 157	5,2
Nitra	434 410	7,1	20	6,6	2 016	9,1
Zilina	825 092	13,6	23	7,6	1 871	8,4
Banska Bystrica	324 086	5,3	23	7,6	1 509	6,8
Presov	185 609	3,1	17	5,6	858	3,9
Kosice	493 722	8,1	36	11,9	3 022	13,6

1/ GERD - Gross Domestic Expenditures on Research and Development

Source: Statistical Office of the Slovak Republic 2000, Bratislava, authors' own calculations.

5. ICT and transition to Information Society in Slovakia

ICT is the base of the knowledge economy. This makes it possible to store, process and circulate a growing amount of data rapidly and inexpensively and is an increasingly important source of productivity gains. Although the integration of ICT into the education has started, there is still long way to go.

The transition towards the Information Society, however, is not just about technology. The change involved is potentially the most far reaching since the Industrial Revolution and deeply affects the organisation of both the economy and society. The European Commission's 'eEurope-An Information Society for all' Initiative is aimed at increasing the rate of uptake of digital technologies and at ensuring that everyone has the necessary skills to use them (European Commission, 2001).

In 1992 Slovakia launched the National Programme of Informatisation, but his realisation stuck due to a lack of state backing and financial resources.

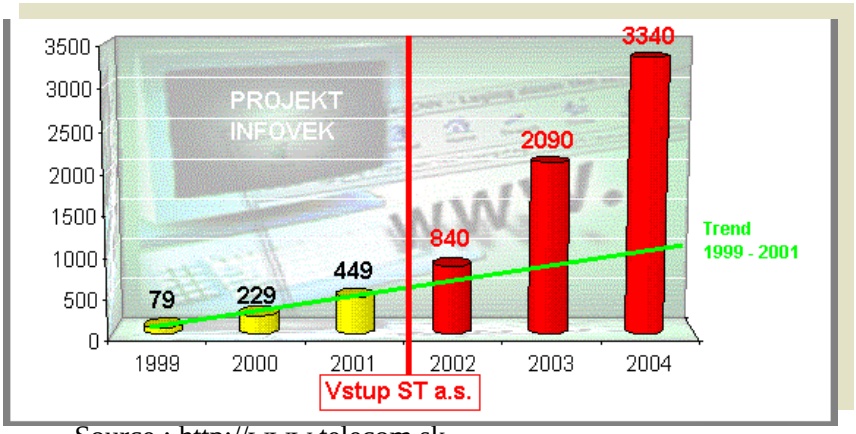
In June 2001, the Slovak Government approved the country International Policy and decided to join the eEurope+ Action Plan, which reflects the priority objectives of eEurope Action Plan but has taken into account specific situation of candidate countries. One of the priority activities involved in these multinational initiatives is directed to ensuring of electronic access to the public services.

Just up-to-date is so called eSlovakia initiative started in May 2002. The main pillars of this initiative are following:

- Extension of access to computers and to Internet (iAccess)
- Increase quality of WWW pages (iContent)
- Extension of skills for computers and Internet using (iEducation)

(http://www.telecom.sk)

Figure 1: The number of schools connected to the Internet



Source : http://www.telecom.sk

One of the objectives of this initiative is to complete the internetization of the Slovakian school system to the year 2004 (see figure 1).

Especially enormous potential we have to see in case of stimulating the use of the Internet and especially in accelerating electronic commerce (eCommerce). As it is expanding rapidly, forcing firms to rethink their business processes and creating new forms of organization, including new types of market and different kinds of relationships. Electronic Commerce, enabled by rapidly emerging new technologies, delivers global business interaction at the touch of a button. The Information Society technologies used to enable eCommerce have, traditionally, only existed in expensive and closed environments. Now connectivity using the Internet is potentially universal, prices have tumbled, and capabilities have grown, no business is isolated from the opportunities in the online world of the Information Society (European Commission, 1999).

Although Slovakians use eCommerce at work as much as other Central European countries, use elsewhere is low. Acceptance of eCommerce is hampered by relatively low PC penetration (11 %), expensive telecoms and the lack of broadband

services. Although 67 % of Executives say eCommerce is part of everyday business, they do not yet depend on it – only 47 % see it as vital for their business's survival. Executives are extremely enthusiastic about eCommerce. But adoption will remain limited unless here is a rapid improvement in the telecom infrastructure and greater inward investment.

Despite the enthusiasm for eCommerce, only 10 % of Slovakian executives describe their organisations as innovative leaders in eCommerce. This is a modest response, for many organisations have changed their ways of working: 70 % now network more with other businesses, 73 % collaborate more and 77 % encourage entrepreneurship within their organization. 93 % of businesses are supplementing new technology with investment in their people and organization, against a backdrop of skills shortages, which 73 % of executives report. Executives' attitudes and behaviour may be changing, but few feel the government is supporting this. 80 % say it is not doing enough and 70 % say it is not setting an example in eCommerce. The government is trying to change this perception with a proposed new law recognising digital signatures, and a general eCommerce act due to follow.

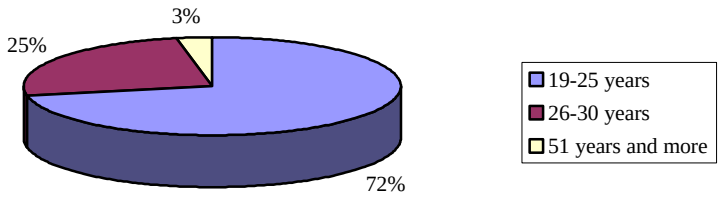
Since more than half of Slovakia's Internet users live in the west of the country and most citizens are inhabitants of cities with population greater than 50,000 there is much evidence of digital divide. 73 % believe eCommerce will help to narrow this divide, and 97 % think it is in business's interest to invest in doing so (http://www.accenture.com/).

According to the definition of strategic info-communication intentions, building-up of information society is one of the major priorities for Slovakia. Despite that it is included in the programme of the recent government, the process of informatisation of society was stopped by a lot of problems.

Until now the informatisation of public administration has taken place spontaneously, lacking co-ordination and without strategic thinking. There are huge information barriers especially between public administration and citizens. The problem of rationalisation of efficiency of public administration is related to the non-existence of state information system. As integrating element, seems to be the nation-wide implementation of GIS in public administration (Sirak, 2002).

Figure 2:

Age structure of Internet users in Slovakia



Source: (http://www.education.gov.sk)

With regard to the question of Information Society, the Slovakian Government approved the Strategy for the Implementation of the Information Society Policy and the Report on the Implementation of Global Information Networks in April 1998. The general accessibility of computer and Internet information services continues to increase. By the end of 1998, 20% of adult Slovakians had access to a PC (www.europa.eu.int). Looking at the age structure of Internet users in Slovakia promising to the future is potential of young (see figure 2).

One of the problems that influence the informatization in Slovakia is fragmentation of executive competences for informatics (see table 7).

Liberalisation of the market combined with increasingly rapid technological innovation is favouring competition in telecommunication provision, bringing down costs and enhancing the choice and quality of services. The price of accessing Internet remains a barrier to more widespread in Slovakia.

The proposal of the informatisation strategy has mentioned some problems. Limiting is still monopoly position of Slovak Telecom as dominant operator. Another weaknesses are in system of education that is imperfect in competition with private sector. The biggest obstacle in informatisation of public administration is missing standard of information systems of institutions.

Table 7: Competences for informatics in Slovakia

Public administration body	Area of competences
Ministry of Transport, Post and Telecommunication	Telecommunication infrastructure
Ministry of Education	Education, Science, R&D, Informatisation of Public Administrations
Ministry of Home Affairs	Security and Defence
Ministry of Economy	eCommerce and Business
Ministry of Finance	eBanking
The Government Office	Informatisation of Public Administrations
National Office of Security	Security and Defence, eBanking
Statistical Office	Benchmarking

Source: Info Trendy, 2002

In a real sense, IT is tending to reduce the physical isolation and increase their "virtual" isolation, insofar as the key to development is access to the technology, rather then access to markets. The key barriers are, therefore, low education and social factors, rather then transport costs. Although the change is as yet more potential than actual, it is likely to become much more of a reality in the coming years.

Recently for example the new services like IT outsourcing services became the important part in the trend of "de-industrialisation".

6. Conclusions

The relative expansion of the service sector in Slovakia is a phenomenon typical for all developed economies. In terms of employment, the trend towards the service sector is even more pronounced than in terms of output. The service sector is the field in which additional jobs are supposed to be created to compensate for the employment losses in the primary and secondary sectors.

The transition from an industrial strategy based on labor intensive and standardized products to a more technology intensive path has to overcome many bottlenecks. Such bottlenecks include: access to risk capital and appropriate technologies, research and development facilities, and entrepreneurial readiness to change the output.

The present economic structure of Slovakia is more influenced by the expansion of services. Despite of this expansion, the compensating effects of employment generated in the tertiary sector are still insufficient, especially in the case of consumer services, than expected. Positive effect has the development inside of the tertiary sector where growing dynamic is forced by influence of business environment and government policy.

After the year 1989 the process of tertiarisation was really expressive. Afterwards the growth rate has reduced. Bratislava region is in outstanding position in comparison to other regions in Slovakia. The share of tertiary activities reached 70 % and the rate of unemployment is the lowest in Slovakia. Many factors underlying the regional difference and some specifics in the process of tertiarisation of Slovakia:

- Tertiarisation process takes place not only at sectoral but also at the regional level.
- Despite that global tertiarisation process continues, the dynamic of tertiarisation is unequal on the regional level. The regional disparities caused by transformation changes (changes in share of primary, secondary and tertiary sector, service sector development, etc. - all these changes are regionally relevant and different).
- The ‘driving force’ of Slovak export, e.g. automotive industry, has attracted related tertiary activities that are located in the established industrial parks.

In case of Slovakia is needed to look on our special conditions. First of all, it is necessary to use more effectually educational and intellectual potential. There are more positive examples how to do it and to adapt them on Slovakian specifics.

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