

Silver economy as possible export direction at ageing Europe - case of Slovakia

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Abstract:

Aging of European citizens is a real threat for public finances of member countries, but also the demand by aging population could be taken as an opportunity for some sectors or economies. Under the term Silver economy we understand adaptation of the economy to future needs of growing population of those over 50 years. This phenomenon creates new market possibilities, which are not sensitive to economic crisis. It was reasonable to measure share of existing Slovak export into EU 15 directly or indirectly connected to fulfilling the demand of elderly. According to econometric simulations, 50 % specialization would lead to additional economic growth, 1.5 percentage points yearly during first decade. This strategy would make Slovak economy more profitable from export of silver economy goods and services into EU 15 / 27 countries. Consequently, Slovakia would be ready to face its own aging, which is to fully occur after year 2025. To enumerate effects of export potential, macroeconometric model developed at Slovak Academy of Sciences will be used. Potential export of country focused on silver economy will be incorporated as foreign demand shock.

Introduction

Ageing of the population is an inevitable fact concerning not only Slovakia, but also almost whole Europe. Demographic forecasts imply that we will face this phenomenon also in the future. Continuing growth of the number of elderly people can be considered as a side effect of a successful development of the population. It can be regarded as a negative concerning the pressure on the public finance or, on the other hand, as a challenge and an opportunity to create something new and valuable for the whole society.

First conference on the topic of "Silver Economy in Europe" was a result of the initiative of the government of the North Rhine-Westphalia. The notion of silver economy means the adaptability of the economy to the future needs of the growing number of elderly people. The participants of the conference emphasized a necessity to incorporate the silver economy into the policies on the national as well as European level and to include it to the Lisbon strategy and the 7th framework programme of the European Commission. It was followed by demonstrations and practical examples showing how Europe used challenges of the ageing of the society for its benefit and the best ones were awarded. Also, new concepts and approaches to the stimulation of such progress have been discussed. Besides that, 10 European regions (North Rhine-Westphalia, Andalusia, Burgenland, Gelderland, Limburg, Mid-East of Ireland, Midland of Ireland, Scotland and Midwest England) announced the constitution of the "Silver Economy Network of European Regions (SEN@ER)". A lot of experts took place on the conference, e.g. in the field of health, K. Smith, E. Freer (2005) raised an issue of the integration of the elderly people to the planning processes of the services with the contribution called "Nothing about us without us". From the area of finances, M. Hayday (2005) brought an inspirational opinion to the topic of flexible approach to the solution of financial needs of the elderly. L. South (2005) opened an issue of the self-employment of the seniors.

SEN@ER represents a common initiative of European regions that was arisen by the region North Rhine-Westphalia (Germany). This initiative does not consider the ageing of the population as a

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threat, rather as a challenge and an opportunity for regional economic growth and improving the competitiveness in Europe. To pursue these goals, SEN@ER was established as a network of European regions to support the development and the marketing of the innovative products and services oriented on this new market segment, which contributes to the regional development and the creation of new jobs. Specific objective of this network is to ensure the cooperation in matters concerning Silver economy and to fulfil these aims in concerned regions: to improve the quality of life of the ageing population, to stimulate the activities for improving the life standard of the elderly considering also the economic growth and increase of the employment, to broaden the basis of current knowledge of this field, to support the incorporation and cohesion of the European regions.

The 2nd European Silver Economy Conference took place in Kerkrade and Maastricht (the Netherlands) in November 2006 and was organised by the province of Limburg as a partner region of SEN@ER. The core of the programme was composed of 5 main issues covering all approaches and aspects of the Silver economy: health and lifestyle, living and home environment, work and income, tourism and culture, integration and communication. Experts as Stöcker, U. (2006), Fretschler, R., Zirkel, M., (2006), Kubitschke, L., (2006) participated on the conference.

The 3rd conference on Silver economics took place in Sevilla in Spain in November 2007. Similarly as the previous conferences in Bonn and Maastricht, its goal was to stimulate the companies and institutions to cooperate on the creation and implementation of the new products and services for seniors. Among others, three crucial areas of the interest were expressed: new technologies and an independent life (Petitot, Ch., (2007), Flöck, C. (2007)), tourism and culture (Fricke, A., 2007) and also nutrition and financial services.

The meeting, supported by 17 European regions, served as the international forum for discussions, exchange of the ideas and inspirations in the field of Silver economy with the aim to improve the quality of life and the independence of the "silver generation" and to take the opportunity for the economic growth, employment and regional competitiveness.

This topic is still up-to-date, as the 4th conference Silver Economy in Europe was held in Limoges in France in January 2010. The conference included a roundtable on "Regional silver economy and strategies - examples and lessons learned" with experts from different European regions. Ageing of the population was identified, together with the globalization and global warming, as three main challenges that societies will face in the next 20 - 50 years (Munoz, T, (2010), Labatut, A., Garci, M., (2010)).

In the Institute of Economic Research, RNDr. Viliam Páleník, PhD., h.doc. devotes himself to the issues of the Silver economy. In his contribution called "Actual questions of European Union economic policy, possible implications for Slovakia." (2008) he writes that in a small economy as the Slovak one, ageing of the population of EU can be a source of growth. Ageing as an economic challenge in the conditions of Slovak Republic as a part of EU is a good example of a cross-sectional strategy fulfilling the condition of speeding up the real convergence and incorporating to the renewed Lisbon strategy. This study followed the work Aging, health status and determinants of health expenditure under Slovak conditions (Páleník, V., Kvetan, V., Mlýnek, M., Radvanský M., 2007), in which authors concern themselves with the analysis of the current condition of the population health and its development in the last ten years as well as the projection of the development of the financing of the health care system. The study was created within the project AHEAD - , Health Status and the Determinants of Health Expenditure No. SP21-CT-2003-502641. To the inspiring contributions to this topic belongs certainly a work Economic and social aspects of actual demographic trends - Slovakia in context of European development (Hvozdíková, V., 2008a), where the author considered also the issue of population ageing and its influence on the labour market as well as its impact on public finances and the reform of the pension system.

The anticipated demographic development is connected with a significant growth of the number of people in the post-working age. To discover the opportunities and the amount of the demand that can be generated by this part of population, it will be inevitable to explore the creation of their income. The amount and the structure of the rents and financial payments conducted by elderly people forms a scope for the consumer behaviour. Structure as well as the volume of the costs of the inhabitants on the consumption of goods and services represents segments of interest of

various companies and institutions. A few of relevant works were published, e.g. about the income situation (Edmond, E.V., Mammen, K., Miller, D.L. (2005)) and the formation of the consumer habits of the inhabitants (Pauhofová, I., 2001, 2005, 2007).

A publication most relevant to the proposed project is considered to be Silver economy as expert potential for Slovak Republic (Páleník, 2009). In this publication, author handles with the ageing of the population, with particular aspects of the Silver economy as health and lifestyle, housing and home environment, work and income, tourism and culture, integration and communication as well as with the potential of the Slovak economy to export to the Silver economy of EU15 and with the consequences of the population ageing on the economic growth. In the conclusion, there is a statement that it will be desirable to design our export towards the demand of the elderly people in EU15. According to the simulation econometric scenarios, optimal appeared to be a specialization of 50 % of our export, which would produce additional 1.5 percentage points to our GDP.

Currently, two researchers of IER SAS, M. Radvanský and V. Páleník (2010), has studied some partial problems of the silver economy in the research project of the 7th framework programme ANCIEN. The aim of this project is to identify and future needs and costs of the provision of long-term care (health and social). Long-term care is a specific need mainly of the oldest people.

The notion of Silver Economy means the adaptation of the economy to the future needs of the increasing number of elderly people. Phenomenon of the ageing of population is connected also with the creation of new market opportunities and the economy should be able to use them in a suitable way according to its capacities and sources. Originality of the project objectives is based on the point of view on the ageing as an economic challenge, namely considering Slovak export potential. Innovative is simply the formulation of the hypothesis that Slovakia has a potential to export to the countries of EU15. The ageing population in these countries forms a large group of inhabitants who, considering the application of the principle of an active life, create a new increasing group of consumers with specific requirements. Even though the ageing of the population is quite frequently discussed term, its causes and consequences are usually studied only in the relationship with the public finances. The view proposed in the submitted project has not yet been carried out by any single institution in Slovakia.

Demand potential of Silver economy

Dynamics of silver economy demand is based on dynamics of older inhabitants in economy and on dynamics of their average income. Respectively to differences in ageing and population dynamics in EU countries and Slovak export orientation, we will focus on demand of elders in EU15 countries. Main assumption is based on average personal income presented in Table 1.

Table 1

Data about population, mean equivalised net income (EUR/pop), and mean net income (Eur) of EU15 population at 1995 – 2007 by selected age groups 0-49, 50+ and total

	Population (thousands)			Mean equivalised net income (EUR/pop)			Mean net income (mil. Eur)		
	0-49	50+	total	0-49	50+	total	0-49	50+	total
1995	252 392	119 838	372 230	11 934	12 242	12 033	3 012 038	1 467 111	4 479 149
1996	252 586	120 668	373 253	12 239	12 700	12 388	3 091 455	1 532 423	4 623 878
1997	252 081	122 141	374 223	12 663	13 257	12 857	3 192 186	1 619 248	4 811 434
1998	251 227	123 844	375 072	13 270	13 884	13 472	3 333 719	1 719 406	5 053 125
1999	250 415	125 526	375 941	13 651	14 404	13 902	3 418 366	1 808 110	5 226 475
2000	250 003	127 235	377 238	14 426	15 231	14 697	3 606 509	1 937 939	5 544 448
2001	249 812	128 993	378 805	15 401	16 022	15 612	3 847 405	2 066 666	5 914 070
2002	249 930	130 680	380 610						

2003	250 312	132 486	382 798						
2004	250 922	134 180	385 103						
2005	251 382	136 116	387 498	17 703	17 679	17 694	4 450 185	2 406 397	6 856 582
2006	251 595	137 959	389 554	17 747	17 604	17 697	4 465 184	2 428 647	6 893 831
2007	251 758	140 021	391 779	19 063	18 990	19 037	4 799 239	2 658 983	7 458 222

Source: Eurostat

There is updated methodology since 2005 and that is beginning of updated time series. We have still only three years of data availability since then.

Table 2

Data about growth rate of population, mean equivalised net income and mean net income of EU15 population at 1995 – 2007 by selected age groups 0-49, 50+ and total

	Population (in %)			Mean equivalised net income (in %)			Mean net income (in %)		
	0-49	50+	total	0-49	50+	total	0-49	50+	total
1995	-	-	-	-	-	-	-	-	-
1996	0,08	0,69	0,28	2,56	3,73	2,95	2,64	4,45	3,23
1997	-0,20	1,22	0,26	3,46	4,39	3,79	3,26	5,67	4,06
1998	-0,34	1,39	0,23	4,79	4,73	4,79	4,43	6,19	5,02
1999	-0,32	1,36	0,23	2,87	3,75	3,19	2,54	5,16	3,43
2000	-0,16	1,36	0,35	5,68	5,74	5,72	5,50	7,18	6,08
2001	-0,08	1,38	0,42	6,76	5,19	6,23	6,68	6,64	6,67
2002	0,05	1,31	0,48						
2003	0,15	1,38	0,57						
2004	0,24	1,28	0,60						
2005	0,18	1,44	0,62						
2006	0,08	1,35	0,53	0,25	-0,42	0,01	0,34	0,92	0,54
2007	0,06	1,49	0,57	7,41	7,87	7,57	7,48	9,48	8,19

Source: Eurostat

Table 3

European population forecast by Eurostat: EUROPOP2008 – Convergence scenario, EU 15

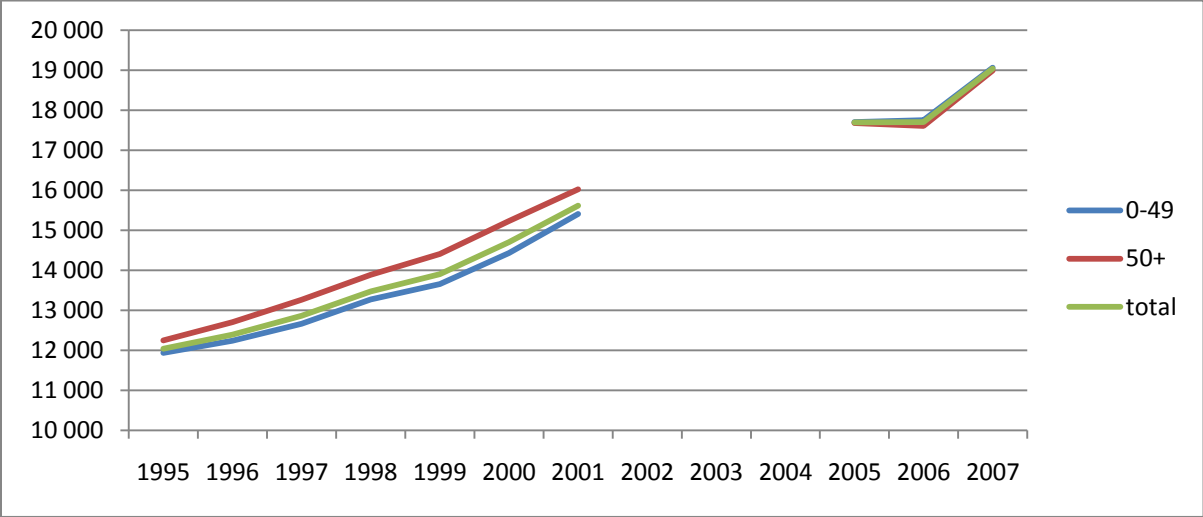
	Population (thousand.)			Population yearly growth (in %)		
	0-49	50+	total	0-49	50+	total
2008	250 529	141 693	392 222	-	-	-
2009	250 578	143 781	394 359	0,02	1,47	0,54
2010	250 394	145 994	396 388	-0,07	1,54	0,51
2011	250 028	148 274	398 302	-0,15	1,56	0,48
2012	249 521	150 615	400 136	-0,20	1,58	0,46
2013	248 896	152 988	401 884	-0,25	1,58	0,44
2014	248 076	155 472	403 548	-0,33	1,62	0,41
2015	247 080	158 045	405 126	-0,40	1,66	0,39
				-0,20	1,57	0,46

Source: Eurostat

This forecast is based on assumption that socioeconomic and cultural differences between EU member states, Norway and Switzerland will diminish at very long time horizon (f.e: next century).

We can observe at Table 1 and Table 2 that mean equivalised net income per inhabitant is at particular age groups different, but their differences are low and time dynamics stays similar. That can be also observed at Graph 1.

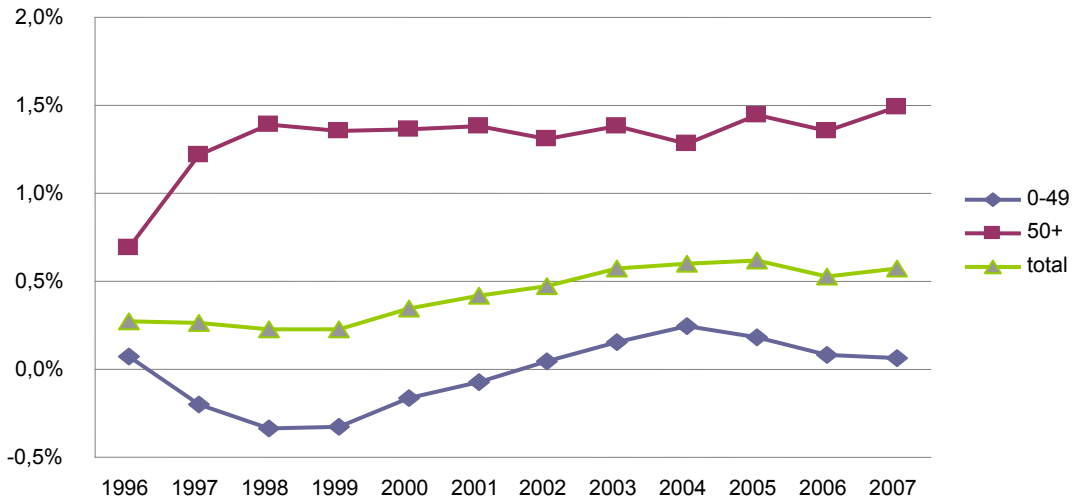
Graph 1
Personal income dynamics in EU 15 countries (EUR)



Source: Eurostat

We can see, that from the point of view of the silver economy demand dynamics, the dynamics of the population according to the age will be crucial. Following graph shows growth rates of age groups in the EU 15 population during the last decade.

Graph 2
EU 15 populaion growth



Source: Eurostat

Population growth rates for population over 50 in EU 15 were in past years by 1 p.p. higher in average, as for total population. More detailed data are presented in Table 2. According to convergence scenario of forecast, we should expect similar development also in next decades. European Commision published at 2006 following demographic forecast in EU².

² COM(2006) 571

Table 2

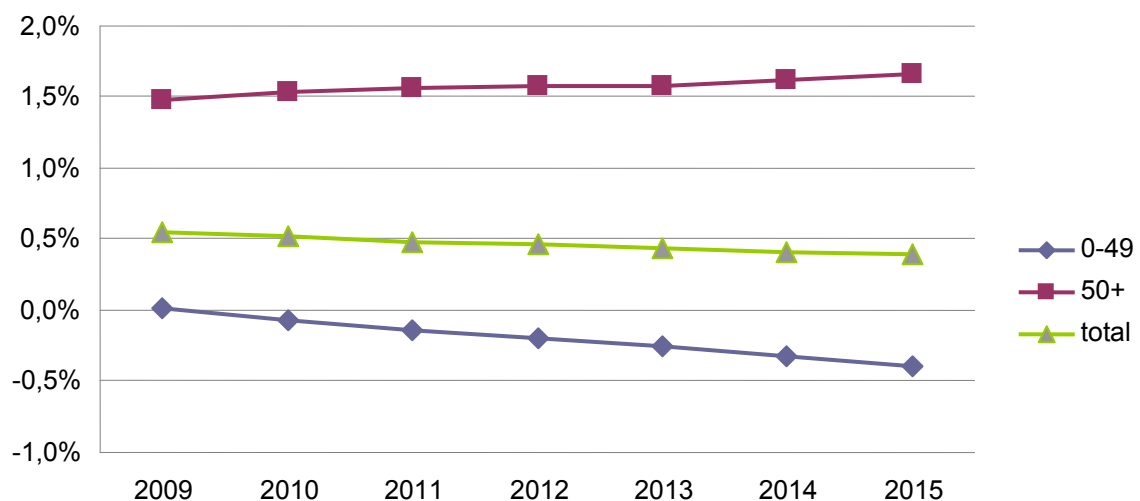
EU population forecast to years 2005 – 2050

<i>Projections for EU's population trend 2005 – 2050</i>				
	<i>2005 – 2050</i>	<i>2005 – 2010</i>	<i>2010 – 2030</i>	<i>2030 – 2050</i>
<i>Total population, %</i>	-1.9	1.2	1.1	-4.2
<i>in thousands</i>	-8659.0	+5563.0	+5312.0	-19534.0
<i>Children (0-14), %</i>	-18.6	-3.1	-8.5	-8.2
<i>in thousands</i>	-13811.0	-2304.0	-6080.0	-5427.0
<i>Young people (15-24), %</i>	-24.3	-4.1	-12.0	-10.2
<i>in thousands</i>	-14035.0	-2383.0	-6663.0	-4990.0
<i>Young adults (25-39), %</i>	-25.0	-3.9	-15.6	-7.5
<i>in thousands</i>	-24867.0	-3896.0	-14883.0	-6088.0
<i>Adults (40-54), %</i>	-19.0	4.1	-9.8	-13.8
<i>in thousands</i>	-18666.0	+4116.0	-10029.0	-12754.0
<i>Older people (50+), %</i>	36.9	7.3	24.6	2.3
<i>in thousands</i>	+58787.0	+11691.0	+42133.0	+4962.0
<i>Older workers (55-64), %</i>	9.1	9.5	15.3	-13.6
<i>in thousands</i>	+4721.0	+4973.0	+8717.0	-8969.0
<i>Elderly people (65-79), %</i>	44.5	3.4	37.3	1.8
<i>in thousands</i>	+25688.0	+1947.0	+22281.0	+1460.0
<i>Frail elderly (80+), %</i>	171.6	16.5	54.0	50.8
<i>in thousands</i>	+32311.0	+3109.0	+11969.0	+17233.0

Source: Calculations of European Commission on EUROSTAT data, 2004.

As we told before, growth rates of older population will be more than 1 p.p. higher as in total population with simply observed trend of raising this difference (Graph 3). We could very reasonable expect, that population under 50 will decrease.

Graph 3

EU 15 population forecast

Source: Eurostat

Recently the Slovak export depends on the aggregated demand in EU 15. We showed, that the demand generated by an ageing population 50+ has a reliably higher dynamics by 1 p.p. If the Slovak export specialises in this growing demand, it would have a corresponding higher growth dynamics. This would also cause an accordingly higher growth of the GDP and the real convergence would accelerate.

A further additional source of the growth is the low development of the 50+ demand structure. Production for this group is not very specific recently and creates a natural space for innovations and new brands. This fact increases the potential significance of the export specialisation.

Export potential of the SR to the EU 15 silver economy

Estimating the SR export potential to the EU 15 silver economy it is needed to analyze following criteria according to the products and services of the silver economy:

- Commodity structure of the SR export and EU 15 import
- import to the EU according to the final consumption, production of intermediate consumption and re-export

Recent statistics of the production and the foreign trade does not enable such analysis. Producers and goods of the silver economy are not recorded statistically and concerning their sectional character it is not possible to use an adequate approximation. One possible solution is to observe the raising dynamics of the silver economy, which demand implicitly satisfies also a part of our recent export.

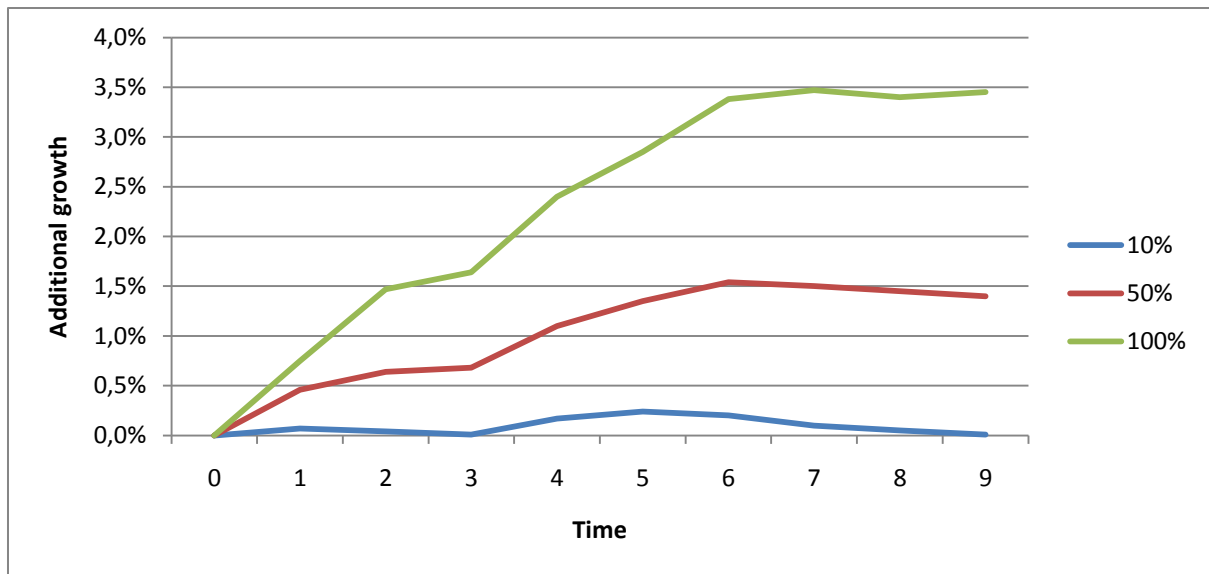
Lets consider a situation, when a part of our export, directly and also indirectly, satisfies a demand of the whole EU15 population. Let's consider a model situation, when the domestic economy is focused onto satisfying the demand of a part of the foreign population - with the highest growth dynamics. IN the case of the older EU 15 it is a 1 p.p. higher yearly growth. Ceteris paribus such export would have a higher dynamics and also the higher domestic GDP.

For estimating these macroeconomic effects we experimentally applied the model BIER_ECM, built on quarterly time series for years 1995 - 2008. It contains of 47 exogenous and 18 endogenous variables. Model comprises 47 equations, from that 29 stochastic are constructed by the ECM methodology and 18 identities.

Particular behavioural equations have a relatively complex form and the explored effect is influenced by more equations. We do not discuss them here individually, but we go through an alternative scenario for the influence of a supplementary higher EU 15 demand dynamics onto the Slovak GDP. Results are in the Graph 4.

Graf 4

Additional GDP growth induced by higher foreign demand of EU 15 countries



Source: Authors

Graph 4 shows results of three alternative scenarios:

- Minimalist scenario: 0,10% of additional foreign demand - if one tenth of the Slovak economy specializes onto the silver economy - it would have only temporal and weak additional growth of the GDP. It is caused by the dynamics of the applied econometric model and absence of the synergic effects by a low specialisation.

- Optimal scenario: 0,50% of additional foreign demand - if the half of the Slovak economy specializes onto the silver economy³, the additional economic growth in the midterm horizon would be on the level of 1,5 p.p.

- Maximal scenario: in extreme, fictive case, if the whole Slovak economy specializes onto the silver economy, the additional growth would be 3,5 p.p. It is a marginal scenario showing the maximal limit of the observed effect. We will not deal with it anymore.

Next additional source of growth is a low difference of 50+ demand structure. The production for this group is too little specific and creates a natural space for innovations and new brands. This increases a potential significance of the export.

Here comes a question if the EU15 silver economy has a capacity to absorb an increased export from the SR.

The Slovak export to the EU 15 creates 55,5% of our total export in 2008. On the other hand, our export to the EU 15 creates 0,6% of their total import. If our export even redoubles, it would be on the level of 1% of the EU15 import and it would not bounce the volume barrier⁴.

Simulation calculations of a potential significance of the silver economy demand specialisation onto the Slovak additive economical growth showed, that it is needed to overcome a critical mass of specialisation. As optimal we recommend specialisation of a half of the Slovak economy, which in a mid-term horizon would lead to an additive growth of the GDP at the level of 1,5 p.p.

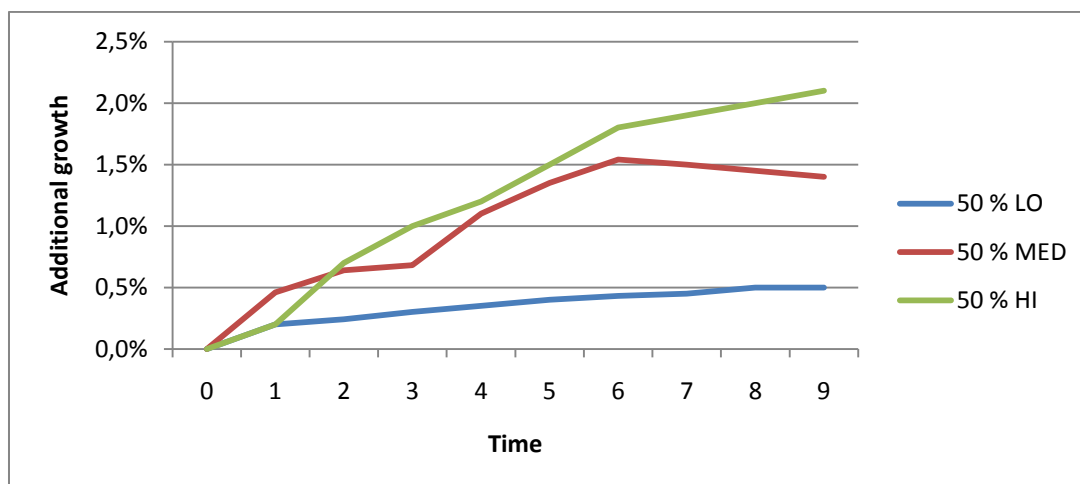
³ Consider following example. Let EU15 economy have 50 % of total population under 50 years and 50 % over 50 years. Let our export to EU15 be 100 %. This export is widely satisfying exact part of EU population demand. It is the same, as if 50 % of export satisfy population widely, 25 % satisfy population under 50 and last 25 % over 50. If 25 % of export will be transferred from younger to older, there will be same 50 % export focused widely and 50 % will be focused on population over 50, This is how are we considering 50% concentration on Silver economy.

⁴ Similar is lookout from employment point of view. At present, there is EU15 main export territory of Slovak export, where implicitly directly and indirectly satisfying part of EU15 silver economy demand.. Considering small size of Slovak economy we assume that additional export to silver economy must succeed at rising competition at this market, but did not meet volume barriers. Slovak export is only small part of EU15 import. (Export of Slovak economy with cca. 2 mil. workers to EU15 countries with cca 150 mil. of population over 50+).

Additional scenarios are based on middle concentration (50 %) of Slovak economy on Silver economy of EU15 countries (Graph 5). Low scenario is based on concentration on manufacturing services, which are low efficient and additional foreign demand can be utilized with total efficiency lower than 1 (based on lowest estimated foreign demand multiplier at used econometric equation at Slovakia for last 10 years). Mid scenario is based on currently used model. High scenario is based on highest estimated multiplier and is comparable to focus on more sophisticated services for older people incl. labour demanding long term services.

Graph 5

Additional GDP growth based on middle concentration on Silver Economy (50 %) and alternative efficiency according to different key production sectors (goods and services)



Source: Authors

Conclusion

Population ageing defines the conditions for a new framework of economic development. This framework means not only fiscal or social risks, but also creates new opportunities in various aspects. For example, considering the issue of aggregate consumer behaviour, we come to the conclusion that as the consumption pattern over the life cycle varies, we witness changes in the structure of demand towards goods and services consumed mostly by older consumers connected with the growth of proportion and absolute amount of older age groups. There is a scope for development and production of specific goods, particularly in the provision of services (usually, elderly population spends more on social services, the costs associated with housing, energy and the field of health and long-term care, etc.). In this context, it appears to be a very perspective and promising market. There is a necessity of its particular examination and a timely identification of its potential. This issue is new for Slovakia and up to now it is has not been given enough attention that would ensure the creation of original and innovative outputs.

Ageing as economic chance at Slovak conditions as part of EU is good cross-section strategy filling conditions of accelerating the real convergence. Under term of Silver economy we are understanding adaptation of economy to further needs of growing number of seniors and people over 50. This phenomenon is creating new market opportunities. To Slovak economy is one of possible opportunity to export specialized goods and services of Silver economy to EU15 countries, which already makes Slovak main export territory.

According to simulation econometric scenarios and achieving convenient results is necessary to target significant part of Slovak export to this market. As optimal is apprehended 50 % level of specialization, which could lead to 1,5 p.p additional GDP growth.

Demand of silver economy will be less sensitive to conjuncture development. This is result of high reliability of demographic forecasts, height of pensions and partially also property income. Type of non-conjuncture sensitive demand is needed as one of additional pillar of Slovak economy⁵.

Specialisation of the Slovak economy would request a massive social research, mainly an observing and applied research of ageing processes, in perspective of dynamics and demand differentiation of elder EU15 inhabitants. Reasonable economical policy measures of the state and informing and involving of the business are inevitable conditions.

In the first decade of such strategy, the Slovak economy would gain from the goods and services export to the EU15 countries. In following decades the SR would be prepared to face its own ageing, which, caused by a demographic development, would fully manifest after 2025.

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