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# EDUCATION AND SUSTAINABLE DEVELOPMENT

## TERTIARY EDUCATION IN LATVIA TODAY AND TOMORROW

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**Key words:** Tertiary education, scenarios, regional development.

**Abstract:** The market economy principles are deeply implemented in the system of tertiary education in Latvia. The share of private sector and private funding is significantly big, as well as the variety of study programs. Nevertheless it is only one side of supply-demand dimension that might be seriously changed by economic crisis. The author draws tertiary sector development scenarios considering probable demographic, economical and political trends. The more efficient and effective interaction of tertiary and business sectors, the development oriented decentralisation of state macro economical and regional policy are the decisive success factors for sustainability both of the state and tertiary sector.

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### Introduction

Since regaining of the independence in the beginning of nineties of the previous century market economy principles in the tertiary education sector (TES) were partly implemented. Private higher education institutions (HEIs) take 35% of total number of students in 2009, 73% of all students pay tuition fee. These are significant numbers. There are about 800 tertiary education study programmes in Latvia and till 2009 there was a demand for these programmes. It is only one aspect of supply-demand dimension. Long term output and impact of the TES - sustainable economic development and competitiveness, level of wellbeing and employment - are not adequate to high participation indicators; neither the offer of graduates nor labour market demand do not meet the development objectives of the state. The social perception of job taker that was characteristic during occupation period still prevails in society.

The world economical crisis heavily hits public administration sector and internal market oriented low value added business sector makes problematic the sustainable development of the state. There are countries that have successfully overcome similar crises initiated by external factors (e.g. Finland), or have benefited from external factors (e.g. Ireland) having rapid development. Is such scenario possible in Latvia? It depends on the main driving force for development. Usually it comes from coordinated actions of different institutions (parliament, government) and sectors (entrepreneurship, education). In case of Latvia all these institutions and sectors need changes, however it is worth remember that in knowledge economy the main driving force is tertiary education. The survey "2008 State New Economy Index" that benchmarks economic transformation in the USA suggests: "...the keys to success in the New Economy now and into the future appear clear: supporting a knowledge infrastructure - world-class education and training; spurring innovation - indirectly through universities and directly by helping companies; and encouraging entrepreneurship (ITIF).

Key characteristics of the new economy - "it is global, highly competitive, technology based, dynamic" (Puukka and Marmolejo, p. 3).

The OECD survey (2008) concludes that the system of education will be influenced by several factors: ageing of society, global challenges (planet overcrowding, migration, and climate changes), globalisation of economics, changes in labour market, ICT, changes of social factors and values. Nevertheless the influence of these factors on a certain state or a sector might be different. The TES of Latvia has several short term (reducing of work places in public sector, reducing of state expenditures) and long term (ageing of society, free of charge tertiary education and job opportunities for graduates in EU countries, reducing the number of pupils at secondary level due to demographical reasons) risks. The influence of these risks on the TES can be evaluated in the future scenarios.

### Future scenarios of the TES in Latvia

For the building scenarios for the TES in Latvia several factors should be considered:

- de facto there is free market in the TES;
- the administrative structure will not change significantly or its influence will not be crucial for the TES;
- the share of private funding in the TES is significant (though during economic crises both public and private funding can decrease);
- the structure of the TES and the synergetic cooperation with business sector is inefficient;
- openness de jure exists, and HEIs of Latvia have to work carefully to attract foreign students.

The approach proposed by The Internet Centre for Management and Business administration will be applied for scenario building for the TES of Latvia.

**1. The scope.** The TES of Latvia, the period from 2009 to 2020.

**2. The departure point.** The 1st of July 2009. Main indicators:

- total number of students 125350, of which 103 898 (83%) full time students, including 67 547 (65%) in state HEIs and 36 351 (35%) in private HEIs;
- public funding students 33 355 (27%), private funding students 91 995 (73%);
- the number of full time students 72 661 (58%), part time students 52 689 (42%);
- 34 HEIs (19 state, 15 private), as well as 26 colleges (18 state, 8 private) in the beginning of 2009;
- more than 800 accredited study programmes on the 1st of December 2008.

**3. Elements that are virtually certain to occur and that will be driving forces. Funding of HEIs.** In 2009 due to economic crisis the funding of public administration has significantly decreased due to budgetary restrictions though deflation has made an impact. At the time being two opposite trends collide - the decrease of funding and decrease of number of pupils/students. As a result funding per pupil/student might stay at the same level, but the efficiency of the system (that is one of the lowest in EU) would be even lower. The funding of TES in Latvia as % of GDP is one of the lowest in EU (EUROSTAT: EU-27 average is 1.13%, Latvia 0.90%, Estonia 0.91%). The share of public funding during previous years makes about 70% of total, while the share of private funding (30%) is comparatively high - only in six OECD countries it is higher than 30% (Vincent-Lancrin, 2004). That might mean that public funding though very important might not be a crucial factor. Nevertheless private funding goes mostly to social science study programmes, so public funding is an essential factor in other fields.

Thus, concerning the amount of funding there are two probable outcomes:

- status quo retains, that means that inefficient and unsustainable self regulating system considering the decrease of funding would become less and less competitive;
- rationalisation of public HEIs network, as well as rationalisation of secondary school network in order to concentrate resources.

**Internationalisation of tertiary education.** The internationalisation of tertiary education (ITE) is many faceted phenomenon that per se is worth exploring. Knight and de Wit (1997) define ITE as "the process of integrating an international, intercultural and/or global dimension into the goals, functions and delivery of higher education" (p.8). The topics of immigration and emigration that make long term influence on the sector will be analysed in more detail.

Tertiary education becomes an export service not only in traditional centers of the international education (the USA, UK, France), but also in other EU countries. Thus the attraction of qualified labour force partly solves another problem of EU - ageing of society (Eglitis, 2008). Meanwhile also new EU member countries have become rivals, for the time being they are competing with each other. The leading

countries in number of foreign students are Australia, New Zealand, United Kingdom, Switzerland, Austria (share of foreign students is bigger than 10%). In Scandinavian countries this number is 2-5%, among new EU member states leading is Czech Republic (5%), Hungary (3%); Estonia counts about 1%. There are two decisive factors that determine the choice of students: language of instruction and tuition fee. English speaking countries have undoubtedly competitive advantage, opportunities to study in English promoted significant increase of foreign students in Scandinavia. Foreigners in general have to pay (except EU citizens in other EU countries) tuition fee. ITE has become a reason for softening immigration policy in EU due to ageing society - many countries are interested in naturalisation of well educated foreigners.

The offer of Latvia in ITE is not quite competitive due to several reasons:

- low foreign language (except Russian) skills however considering the academia's age structure and fiscal restrictions for retired persons, a lot of ambitious young scientists with excellent language skills might appear in 2010;
- out-of-date infrastructure in engineering and nature sciences, however the essential improvements are possible via implementing EU funded projects;
- relatively poor libraries, though internet libraries become more and more popular;
- comparatively high tuition fee in social sciences and humanities versus free of charge education in neighbouring EU countries;
- complicated and bureaucratic immigration procedures.

According statistics Latvia, Lithuania and Slovakia are less attractive for foreign students between all EU countries. Even considering probable softening of EU migration policy in the future, Latvia will become neither destination nor major transit country due to strict immigration policy and its careful implementation, comparatively severe climate, language that is not spoken outside Latvia, low salaries and social benefits (Eglitis, 2008). Even joining Shengen zone has not change the situation.

**4. The critical uncertainties. EU funding.** Out of total amount (3.18 billions Ls for the period 2007-2013), the share of education is 359 millions (11%), including 167 millions (5%) for science and 143 millions (4%) for innovations. These are certainly significant investments in human resources and infrastructure that could provide a strategic breakthrough. There is an opportunity either of establishing infrastructure that in some fields could be competitive with old EU HEI's infrastructure or creating of unique niches of specialisation.

**E-Learning.** Certainly, the number of e-study courses and e-materials increases, but even Estonia, claiming itself as one of the leaders in ICT in Eastern Europe, recognizes that e-learning has not become very popular (Mihailova, 2006). It is not so easy to forecast how e-learning would change TES in nearest future, nevertheless the internal impact due to the number of population and country area should not be significant. Considering the scale and accessibility of e-learning, particularly in English, there is no reason to suppose

that the number of foreign students would increase or that TES structure would change significantly.

**Climate change.** The hardly predictable risks of global climate change and climate refugees should be considered as uncertainty, however due to the above mentioned reasons it might not significantly influence TES of Latvia.

#### 5. The more important drivers. Number of students.

The number of students in Latvia rapidly decreases (131 thousand in 2004/2005 academic year, 125 thousand in 2008/2009 academic year), this negative dynamics might even increase (IZM, 2008). The number of students might be influenced by several factors:

- demographical, due to negative birth rate the number of children decreases;
- emigration tendencies - tertiary education in EU countries most often is free of charge for EU citizens, there are opportunities of part time job during studies, better social conditions, it is easy to find well paid job after studies. These are points of pondering of study place for secondary school leavers. Economic situation in 2009 and 2010 and high level of unemployment might be a turning point which will be marked by second wave of emigration as predictable salary level and financial opportunities of secondary school leavers will not be attractive any more. The second wave this time will be more devastating as young qualified people will leave a country without any intention to return. As opposite factors the mentality and bad knowledge of English must be mentioned;
- the ratio of general secondary and vocational pupils: current ratio of general secondary and vocational pupils is 70/30 that is rather high for EU countries. Situation might change in case labour market changes and demand for vocational education would increase. However  $\frac{3}{4}$  from HEIs intake comes from general secondary education and in the context of knowledge economy it is good indicator;
- obtaining of secondary qualification and retraining might be considered attractive in current situation when there is a lot of a qualified unemployed person. Nevertheless financial restrictions, opportunities to study free of charge in other EU countries and migration appear as more likely outcomes.

Thus the most important but hardly predictable threat is migration, especially that of secondary school leavers. According "The strategy of sustainable development of Latvia till 2030" minimal decrease of students might be 30%, but maximal - about 55%.

**Macroeconomic policy is the decisive factor.** During previous six years the number of students per ten thousands inhabitants has been one of the highest in the world; however in developed countries this indicator has significantly increased as well (Hansson, 2007). In Latvia the number of students in social sciences and education is comparatively higher than in other EU countries, until 2009 these graduates were mostly absorbed by public administration sector. Unfortunately the quantity of students has not brought qualitative changes in business sector, the share of high added value is relatively small, as well as the number of well paid jobs in industry sector. The capacity of commercialisation of graduates from engineering and science programmes is insufficient, among unemployed with tertiary education the

biggest share refers to engineering graduates. That indicates on the existing problems with structure of economy and supply of the TES. The financial and economic crises of 2009 will bring radical changes in labour market: thousands will lose jobs in public sector, mostly education, humanitarian and social science graduates, still having a lot of students in these programmes in HEIs. This is a clear signal to the TES that there will be limited job opportunities in non industrial sector. Unfortunately it does not seem that industrial sector could offer reasonably more than in 2009. Considering the differences in salaries, the time that is necessary for business sector development, there is reason for risk of emigration of qualified labour.

What is the task of TES in this situation? Globalisation forces countries to develop value-added segments and knowledge-intensive products and services, the role of HEIs also changes. Beside national criteria, studies and research, life long education, the creation of knowledge intensive work places have become the topic of highest importance (OECD, 2007). Thus the quantity in tertiary education is not sufficient factor for sustainable development of country, state financed studies in nature sciences and engineering are not sufficient for radical changes in industry. Perhaps it is a matter of quality, but most probably it is reciprocal lack of the TES and business sector synergy. The most strategic task is close cooperation of local administration of regions, business and tertiary sector in order to renew and develop knowledge based industry.

**Better balanced development of regions.** Regional disparities in Latvia again are one of the biggest in EU (Gravele, 2009). Usually the reason of disparities is unequal allocation of financial resources that finally appears as share of GDP, different quality of life, employment, internal and external emigration. The first step for sustainable development of regions would be decentralisation of public administration and fair (more or less equal) allocation of financial resources though it is supposed to be out of date approach. As another task the consolidation of local resources can be mentioned (OECD, 2007). The main factors of regional development were given by Porter in his model of five forces. Different interpretations of chance (in M. Porter's model of five forces) can be found in literature but in the context of regions of Latvia it could mean the partnership between HEIs and regional entrepreneurship that more effectively integrates HEIs into the region. HEIs and entrepreneurship integration is a common practice of developed countries (YISP, 2007; Huggins et al, 2008; SWQ, 2009). HEIs is one of the most essential factors of regional growth (Pawlowski, 2009). Survey carried out in Nordic countries (Hedin, 2009) describes the important role of HEIs in the development of regions. The National Science Foundation (USA) identifies four industry-university cooperation forms: research support, cooperative research, knowledge transfer and technology transfer (Chakrabarti and Rice, 2003). In OECD countries HEIs have essential role in creating regional innovation systems (Marmolejo and Puukka, 2006). HEIs without substantial additional funding can offer the strategic approach to revitalisation of the region, provide leadership and vision, ensuring the sustainable development both of the region and HEI (Porter, 2007). There are several examples of good practice of cooperation of HEIs and society: regional representation, framework for building cooperation

networks promoting regional marketing and making a region more attractive to investors, facilitator of cooperation or knowledge broker between different institutions. That means the “fourth generation university” whose external activities ensure not only growth of university itself but also the transformation of surrounding due the demands of knowledge based economy (Pawlowski, 2009).

In the TES of Latvia the factor of regionalisation is an important feature: however considering the decreasing number of students and low demand of skilled labour in regions and inappropriate offer of graduates, the existence of these HEIs is threatened. There are many factors that facilitate the TES and business sector integration, but the most decisive ones are market and state (Koivula and Rinne, 2008). Certainly HEIs alone cannot solve all problems of regional development, however in current situation they should be an ideological driver for changes. Regional universities became main driving force in Finland in early nineties of previous century when after collapsing of main trade partner the USSR economical situation was rather similar (Chakrabarti and Rice, 2003).

**6. Few possible values for each variable.** For further designing of scenarios the following variables might chosen:

- the change of number of students (three intensity trends): reduces insignificantly and predictably (demography – , foreigners +); reduces radically (demography – , migration – ; foreigners +); reduces critically (demography – , migration – , no foreigners);
- macroeconomic policy (two implicit expectations): status quo and lasting stagnation - qualitative changes in entrepreneurship sector, the synergy of the TES and entrepreneurship sector;
- TES financing (three implicit expectations): some improvements - the level of old EU countries in some fields - the average level of old EU countries and more up-to-date niches;
- regional development (two implicit expectations): status quo and lasting stagnation (that means increasing regional disparities, emigration from regions, losing of capacity and lagging behind) and sustainable development (decentralisation of power and finances and the opportunities for development);
- financial efficiency of the TES (two intensity trends): status quo and the rationalization of the TES.

**7. Matrix of scenarios using the two most important variables.** For building scenario matrix two strategically most important factors were chosen though they are not directly connected with the TES:

- macroeconomic policy that can give a crucial impulse for the development of the TES (demand driven tertiary education);
- regional development that might become a decisive factor for strengthening of regional HEIs and sustainable development of the state.

**8. Detailed story of each scenario. Scenario 1: Exodus.** Slow recovery from the recession, FDI is insufficient, the main growth potential concentrates in Riga region. The number of students has radically decreased due to demographical reasons, emigration and financial restrictions.

The TES is reduced to some state HEIs in Riga and some insignificant affiliates in regions. The efficiency of the TES increases, but it is not decisive factor any more. Even in case of successful realisation of EU programmes the number of study programmes radically decreases. HEIs are not attracting foreign students. There are no jobs for HEIs graduates in industries and services in regions. The existence of state is threatened.

TABLE 1. TES SCENARIO MATRIX

		Macroeconomic policy	
		Status quo	Development
Regional disparities	Status quo	Scenario 1	Scenario 2
		Exodus	Deuteronomy
		Decentralisation	Scenario 3
		Genesis	Scenario 4
			Promised land

Source: authors' compilation

**Scenario 2: Deuteronomy.** National economy develops below EU average. FDI provides development of some sectors and enterprises. The main growth potential concentrates in Riga region. The number of students has decreased due to demographical reasons and emigration, state funded tertiary education is located mostly in capital, regional HEIs due to shortage of funding offer an insignificant number of study programmes or are reorganised as affiliates of HEIs of Riga. The efficiency of the TES increases, but it is not decisive factor any more. Successful realisation of EU programmes has given growth potential for some HEIs nevertheless the number of study programmes decreases. There are limited opportunities for HEI graduates to find job in industries and services in regions. The state stagnates.

**Scenario 3: Genesis.** National economy develops on EU average level, the growth potential is spreading and investments are being allocated more into regions, which means increasing capacity of regions. FDI has returned close to pre crises level. The number of students has decreased mostly in the capital due to demographical reasons and emigration. State and local municipalities provide sufficient funding for regional HEIs. The efficiency of the TES increases by concentrating resources in regional universities. Regional HEIs is the main driving force of regional development. Successful realisation of EU programmes has given growth potential for some enterprises or branches in regions that are the base for further closer cooperation between entrepreneurs and HEIs. There are jobs for HEIs graduates in industries and services in regions. Regions are the main driving force of state development.

**Scenario 4: Promised Land.** National economy develops slightly above EU average, the growth potential is equally spread and investments equally allocated among regions, which means strong regions. FDI has returned at pre crises level. The number of students has decreased due to demographical reasons, but it is partly compensated with foreign students. State provides sufficient funding for the TES. The efficiency of the TES has increased by concentrating resources in limited number of state HEIs. Successful implementing of EU programmes has given sustainable base for further closer cooperation between entrepreneurs and HEIs and has initiated new enterprises and/or branches of industry at national level. There are jobs

for HEIs graduates in high-tech industries and services. The TES is the main driving force of state development.

### Conclusion

The future of both tertiary education and state depends on the effectiveness of state macroeconomic and regional policy, as well as on the ability of universities to be a real partner of state, region, and society.

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