EDUCATION MARKET FAILURE OR SUCCESS: CONTEXT OF ECONOMIC CRISIS IN LATVIA

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Abstract
Analysis of higher education system (HES) is a complex task. A narrow approach deals with the evaluation of allocated resources and the number of issued diploma. However, from macroeconomic point of view, the higher education per se must be looked upon as exogenous factor of development. This approach requires quite different indicators. In this context the topic of effectiveness of HES and higher education institutions (HEIs) becomes extremely important. The efficiency and effectiveness of free market in HES of Latvia are analysed in the article, indicating problems, drawing scenarios, and offering solutions. It appears that free market in HES of Latvia has not provided background for sustainable development of the state. Effective implementing of triple helix might be one of the solutions.

Keywords: efficiency, effectiveness, higher education institution, higher education system, scenario.

Introduction
The economic crisis that heavily hit Latvia in 2009 revealed several problems that were not solved since restoration of independence in 1991 and particularly during the period of relative growth (2005-2007) due to different reasons – mostly political conjuncture and incompetence. The establishment of a working market economy system per se has not guaranteed effective self-regulation of economics and its subsystems. Liberalisation has not brought expected results, especially in public services where the state regulation has always played a significant role.

Economic crisis echoed also in the system of higher education as crisis of quality, competitiveness and effectiveness. No Latvian HEI can be found at the top of international HEIs rankings, according to international researches we are inferior to our neighbours in innovation and competitiveness, as well as in the financing of education. Even more – we lose at home – more and more people emigrate, but in 2009 it was already family emigration in comparison with the beginning of the century when individuals left the country. De facto the state has become a dangerously open system that faces problems of sustainability.

The article deals with influence of the current economic crisis on HES and probable future scenarios.

Theoretical framework of the research
Evaluation of the results of higher education is based on the theoretical conclusions of international organisations (OECD Institute of Education and Education Policy Committee, the Centre of Educational Research and Innovation (CERI), UNESCO, World Bank, Eurydice) and education economics experts (Johnstone, Jongbloed, Barr, Santiago, Vossensteyn, Breneman, Oosterbeek, Psacharopoulos). However, the most essential dilemma is between the almighty of free market (classical economists) and state involvement in economical regulations (Keynes).

Research methodology
The research is an interpretative case study (both quantitative and qualitative). The definitions and quantitative indicators of UNESCO, OECD, EUROSTAT, Eurydice, the Ministry of Education and Science of the Republic of Latvia and World Economic Forum were used to characterize specific features of HES and its interaction within the overall context of the state development.

Research results
The analysis of higher education system (HES) is a complex task. A narrow approach includes the evaluation of allocated resources and the number of issued diploma that are closely connected with efficiency. However, from the macroeconomic point of view higher education per se must be looked upon as an exogenous factor of development. This approach requires quite different indicators. In this context the topic of effectiveness of HES and HEIs becomes extremely important.

Efficiency and Effectiveness
Various definitions of effectiveness and efficiency can be found in scientific literature. Effectiveness is more associated with quality – doing the right thing, it focuses on the desired result, seeks successes, considers the outcome of a task to be the most important,
it is oriented toward strategy, setting and keeping priorities, anticipates change, is flexible when change requires that, is motivated toward growth, constantly giving critical evaluation of a task. Efficiency is more associated with productivity – doing the thing in a right way, focuses on doing one’s work in correct manner, it seeks to avoid failure, means or resources used to do a task are the most important, it is oriented toward keeping the present system going, keeping the status quo – things the way they are.

Table 1

<table>
<thead>
<tr>
<th>Efficiency</th>
<th>Effectiveness</th>
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<tbody>
<tr>
<td>Efficiency is essentially a comparison between inputs used in a certain activity and produced outputs (Aubyn, 2006)</td>
<td>Effectiveness refers to the connection between inputs, outputs and more general second layer type objectives or outcomes (Aubyn, 2006)</td>
</tr>
<tr>
<td>Efficiency – an ability to perform well or achieve a result without wasting resources, effort, time or money (using the smallest quantity of resources possible) (Key education indicators..., 2007)</td>
<td>Effectiveness – an output of specific review/analyses that measure (the quality of) the achievement of a specific educational goal or the degree to which a higher education institution can be expected to achieve specific requirements (Key education indicators..., 2007)</td>
</tr>
</tbody>
</table>

Difference between these two notions is clear, though sometimes there is overlapping and interrelation between them, as well as derivation of other notions. Educational efficiency can be measured in physical terms (technical efficiency) or in terms of cost (economic efficiency) (Key education indicators..., 2007). Efficiency is related to using today’s educational resources well, that can be regarded as static or internal efficiency, but when using them to promote economic growth it is dynamic or external efficiency. There is a proposal (Key education indicators..., 2007) to distinguish between internal and external efficiency and internal and external effectiveness; however the description of these notions reveals that, for instance, internal efficiency and internal effectiveness are very similar. Nevertheless, while dealing with educational efficiency and effectiveness, some measurement problems appear:

1. It is a very complicated task to count all inputs. Financial inputs can be calculated rather easily at least at some stages of formal education, but numerous human capital factors are created outside the formal system of education.
2. Effectiveness has a private and social dimension that can be hardly measured separately.
3. It is problematic to establish connection between the input and achieved goals (Key education indicators..., 2007).

That is why for each level of education indirect effectiveness indicators should be used. The objectives and goals are different at each level and can hardly be standardised internationally at all levels. For instance, in case of secondary education a psychological effectiveness of a school (reasonable consumption of psychomotoric energy of pupils) can be measured as well as added educational value and sustainability (Eglītis, 2003). But this is not a reasonable task at the tertiary level. Simplified short term outputs of higher education can be measured by the number of graduates and published papers, long-term outcomes – by employability and productivity that are internationally available indicators (Figure 1).

Fig. 1. Efficiency and effectiveness in higher education

Source: Aubyn, 2006
However, this is a rather narrow view. Undoubtedly, indicators of innovation, regional development (the role of HEIs graduates in the region) and economic development are of high importance.

### Table 2

<table>
<thead>
<tr>
<th>No.</th>
<th>Notion</th>
<th>Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Prestigious university</td>
<td>University rankings</td>
</tr>
<tr>
<td>2.</td>
<td>Efficiency – outputs</td>
<td>Number of publications per financial input</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of graduates per financial input</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of publications/patents per financial input/academic staff</td>
</tr>
<tr>
<td>3.</td>
<td>Effectiveness – outcomes</td>
<td>Employability and earnings of graduates</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Productivity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Innovation</td>
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<td></td>
<td></td>
<td>Regional development</td>
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<tr>
<td></td>
<td></td>
<td>Share of high added value in export</td>
</tr>
<tr>
<td></td>
<td></td>
<td>New enterprises</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Created workplaces</td>
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<tr>
<td></td>
<td></td>
<td>Triple helix</td>
</tr>
</tbody>
</table>

HES has to be analysed in a wider context as efficiency is not a prerequisite for effectiveness. It is possible to achieve high numbers of graduates from HES as well as high indicators of employment and growth (as it happened in Latvia in 2005-2007); meanwhile long-term indicators that are associated with effectiveness – innovations, share of high value added in export – can be low. Certainly, numerous factors interfere in economy, however, at the regional and state level HEIs are one of the synergetic compounds of the **triple helix**. The **triple helix** denotes the university-industry-government relationship as one of the relatively equal yet interdependent institutional spheres that overlap and take the role of the other (Etzkowitz, 2002). Thus, from the point of view of the long-term economic and regional development the effectiveness is the most important indicator.

The supply-demand dynamics in HES of Latvia will be analysed for better evaluation of interaction between efficiency and effectiveness.

### Supply-demand dynamics in HES of Latvia

Since regaining of independence in 1991 there is market economy in HES of Latvia. The share of the private sector in 2009 comprised 35% of the total number of students, 73% of the students paid tuition fees. There are 916 higher education study programmes (635 different) in HES. In 1990 there were 10 HEIs, and in 2008 – already 60. The period from 1990 to 2009 can be described as coping with high demand both from the secondary education sector and the labour market. Was it successful?

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**Fig. 2.** Demand-supply in HES of Latvia in 1990-2009
Generally speaking, HES of Latvia in 1990-2009 can be considered as very successful as nearly all demands were met. Big demand for higher education was met by increasing the number of study programmes and HEIs. Regardless of increasing tuition fees (however, with credits for studies available) the number of students per ten thousand of inhabitants changed from 138 in 1993 to 566 in 2006 (Parskats par Latvijas augstako..., 2010). Returns from higher education are higher, unemployment is lower, there is greater potential for knowledge-based economy – all these classical advantages of education worked in Latvia. Nevertheless, it should be admitted that in developed countries the number of students has also increased (Hansson, 2007). The statistics of enrolment at the higher education level (Table 3) are comparatively good for Latvia, but indicators of knowledge economy (innovations, share of high added value in export) for Latvia are among the lowest in the EU. A hypothetical question appears: what would have changed if the numbers of students were even bigger? The answer lies in offer of HES and labour market demand.

Table 3: Students at ISCED levels 5-6 in some EU member states

<table>
<thead>
<tr>
<th></th>
<th>Aged 25 and above – as % of all students (ISCED 5-6)</th>
<th>Aged 20-24 – as % of population of corresponding age</th>
<th>Enrolled in science, mathematics, computing, engineering, manufacturing, construction – as % of all students</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU-27</td>
<td>34.5  36.3  36.9</td>
<td>22.0  27.4</td>
<td>28.4  25.9  24.9</td>
</tr>
<tr>
<td>Denmark</td>
<td>56.4  61.6  62.0</td>
<td>21.8  27.2</td>
<td>28.8  19.5  18.8</td>
</tr>
<tr>
<td>Estonia</td>
<td>21.0  37.8  38.3</td>
<td>23.0  30.3</td>
<td>31.2  22.0  23.0</td>
</tr>
<tr>
<td>Latvia</td>
<td>26.7  42.7  42.7</td>
<td>21.5  31.7</td>
<td>32.6  16.5  15.6</td>
</tr>
<tr>
<td>Lithuania</td>
<td>15.7  32.8  32.7</td>
<td>20.0  36.2</td>
<td>40.1  25.7  24.1</td>
</tr>
<tr>
<td>Finland</td>
<td>49.7  51.4  53.3</td>
<td>35.0  40.3</td>
<td>39.6  38.3  36.6</td>
</tr>
<tr>
<td>Sweden</td>
<td>53.0  58.8  57.4</td>
<td>22.2  31.2</td>
<td>29.2  26.4  25.5</td>
</tr>
</tbody>
</table>


The model depicted in Figure 2 was working till 2009 due to several reasons:
1. Public administration absorbed majority of HEIs graduates:
   - The number of work places rapidly increased and with small exceptions all diplomas of higher education were accepted.
   - The new higher qualification demands for some professions (for instance, for teachers) guaranteed a stable demand.
2. Many graduates renewed qualification and/or got second education.
3. There was a stable demand for postgraduate studies, though it was not a demand of employers but an advantage in career and remuneration.
4. Latvians’ quality of striving towards education.
5. Studies abroad were not popular because of several reasons.

Fig. 3. Demand-supply in HES in 2009-2010
In 2009 the situation radically changed (Figure 3). HES faces serious short-term (reduction of work places in public administration, cutting of financing) and long-term (ageing of society, higher education free of charge and job opportunities according to the qualification abroad, decreasing number of students due to demographical reasons) problems. Probable decrease in the number of students might be 30%–55% during the following ten years.

What changes occurred in the labour market demand during the economic crisis? Economic crisis made a radical change in the labour market – a lot of highly educated people irreversibly have lost jobs in public administration and the process will be continuing in 2011. The message is clear – job opportunities in public administration will be limited. In November 2004 there were 6979 unemployed persons with higher education (7.7%), in October 2009 due to economic crisis (cyclical compound) and reforms in public administration (structural compound) there were 22978 (14.6%) of such persons. Therefore there is no demand in the public administration, and very small demand in the private sector in 2010. Certainly, in the future the demand for labour force in the private sector will increase due to recovery of economy, but the offered salary level and qualification demands will not be very high. Considering the difference in salaries between old EU member states and Latvia and the time that is necessary for recovery of economy, it might be concluded that a lot of highly qualified people will leave Latvia. That also signals a great challenge for HES as the biggest share of students have chosen education in humanities and social sciences – potentially not in demand in the labour market. It means the search for a job abroad or other education for graduates and current students.

What could be the alternatives of HES development since regaining of independence in 1991 from the viewpoint of 2010?

1. Keeping HES purely state run.

That would be a rather orthodox solution, perhaps the only case in the EU. It would be a distortion of the free market and competition that would slow development and innovations. That would lead to huge emigration of students (however, it has already started) as HES could not satisfy the demand.

2. Establishing stronger criteria for the opening of HEIs and study programmes. These would be reasonable limitations that would allow avoiding small HEIs and numerous study programmes. However, it would not increase effectiveness, however efficiency might be higher.


In the free higher education market there are two main forces – customer (student) choice and state regulation (budget allocations).

Table 4

<table>
<thead>
<tr>
<th>Field</th>
<th>Share of state financed students, %</th>
<th>Share of total number of students, %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>29</td>
<td>9</td>
</tr>
<tr>
<td>Humanities and arts</td>
<td>42</td>
<td>7</td>
</tr>
<tr>
<td>Social, commercial sciences, law</td>
<td>10</td>
<td>54</td>
</tr>
<tr>
<td>Nature, mathematics and IT</td>
<td>68</td>
<td>5</td>
</tr>
<tr>
<td>Engineering, industry and constru</td>
<td>56</td>
<td>11</td>
</tr>
<tr>
<td>Agriculture</td>
<td>50</td>
<td>1</td>
</tr>
<tr>
<td>Health and social care</td>
<td>57</td>
<td>7</td>
</tr>
<tr>
<td>Services</td>
<td>26</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: Parskats par Latvijas augstako..., 2010

As Table 4 suggests, the biggest number of students is in social, commercial sciences and law, though the allocation of state finances is quite the opposite. In 2004-2009 the number of state financed students increased in all groups, the biggest increase was in engineering, industry and construction, also in education (that was the obvious and deliberate failure, knowing the demographical situation).

However, the statistics of unemployment of those with higher level of education suggests that besides teachers who are job-seekers due to school network rationalisation, there are 4041 engineers (that makes 17.6% of the group with higher education) and 3379 economists (14.7%), i.e., persons highly qualified for knowledge economy (Kuzmina, 2009). Controversially, the number of state financed students in engineering, industry and construction is one of the lowest in the EU (Tables 3 and 4). That means that something goes wrong either in HES or in the entrepreneurship or in the state economic policy. Would increasing the number of state financed students in engineering create more unemployed engineers? Therefore, a question on the main cause of the problem appears.
**Driving force of economy**

Economic growth can be a combination of several factors. These factors are dynamic, i.e., no factor can secure sustainable growth in a longer period. Even more, there is no single general recipe for each country as exogenous factors might be completely different. Therefore, it is up to macroeconomic policy makers to choose the right tools in the right place and time. Some international examples and comparisons are given in Table 5.

**Driving forces of growth**

<table>
<thead>
<tr>
<th>Driving force</th>
<th>World</th>
<th>Latvia</th>
<th>HES of Latvia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand driven</td>
<td>India</td>
<td>Cannot be sustainable in Latvia due to the small internal market</td>
<td>Big demand in social, commercial sciences, law and education in 1990-2009</td>
</tr>
<tr>
<td>Profit driven</td>
<td>U.S. mortgage and credit markets</td>
<td>Crediting boom in 2005-2007</td>
<td>Private HEIs in Latvia In 1990-2009</td>
</tr>
<tr>
<td>Export driven</td>
<td>Russian (USSR) energy resources Taiwanese agricultural production (after SWW)</td>
<td>Low added value goods prevail in export – that cannot be sustainable</td>
<td>Currently low competitiveness due to administrative barriers, lack of vision</td>
</tr>
<tr>
<td>Efficiency driven*</td>
<td>Finland after collapse of the USSR</td>
<td>Currently chaotic, fragmentary policy, however, the precondition for the development of Latvia</td>
<td>Fragmentary investments in no efficient HES</td>
</tr>
<tr>
<td>Innovations driven</td>
<td>Scandinavia, the USA, Japan, Taiwan</td>
<td>Currently badly developed, however, the key for sustainable development of Latvia</td>
<td>Currently badly developed</td>
</tr>
</tbody>
</table>


The main motivation for the private sector is profit. In Latvia it was clearly seen in a growth of the private sector of HES. State HEIs were forced to start competition and raise the tuition fees to maintain human resources and competitiveness. The main motivation for a human is the quality of life. It was clearly seen during the credit bubble, disproportionate increase in work places in the public sector and overpaid salaries. This expansion cannot be sustainable. It could be characterised as emotions (personal and political) driven economy.

Social perception of a job taker that was created during occupation period still prevails and in combination with high ambitions concerning salary and job opportunities abroad are dangerous for the future of the state. Thus, the magic circle – no job opportunities in regions – no application of knowledge – must be broken.

**Future performance of HES**

What state and HEIs should do in this situation? During the era of globalisation, when states try to develop value-added segments and knowledge-intensive products and services, the role of HEIs changes from orientation to national criteria, studies and research to life-long education and knowledge economy work places (Higher Education and..., 2007). The current position of knowledge economy of Latvia can be characterised by high share of value added in export that is the smallest among the Baltic States. Thus, the good rates of enrolment are not sufficient for the balanced and sustainable development and the allocation of human resources is not sufficient for radical sector changes.

Knowledge commercialisation and cooperation of higher education and business sectors come up as essential factors for development. The creation of work places must become the strategic task of HEIs, but it can be successfully implemented providing effect of multiplicity only in the close cooperation between HES, business and local authorities. This is called *triplex helix* and is a strategically important task. There are countries that in the recent past have successfully overcome crises initiated by external factors (Finland after collapse of the USSR) or have benefited from external factors (Ireland after joining the EU), becoming the leaders in the knowledge economy. Regional universities became the main driving force for the development (Chakrabarti, Rice, 2003). The experience of Nordic countries (Higher education institutions..., 2009) suggests that HEIs of Latvia should offer project or problem based learning, entrepreneurship programmes, skill development models and life-long education modules, as well as outplacement of students in small and medium enterprises. While offering to the private and public sector the research that promotes knowledge-based economy, emphasis should be put on applied and need/user driven research. This is a two-directional process where private and public sectors must address HEIs, meanwhile, HEIs can cooperate and involve wider resources. This could be the way of increasing the competitiveness of the state, while the positive outcome of economic crisis could increase the efficiency and effectiveness of HES.
Scenarios

It this situation the role of HEIs, especially in regions, increases dramatically as regional HEIs provide not only education and research, but also innovation activities, regional development and formation of social capital. The authors have carried out four scenarios of HES of Latvia (Table 6), as exogenous factors of development of regions and state macroeconomic policy were chosen.

Table 6

<table>
<thead>
<tr>
<th>Matrix of scenarios of higher education</th>
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<tbody>
<tr>
<td><strong>Regional disparities</strong></td>
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</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Macroeconomic policy</strong></td>
</tr>
<tr>
<td><strong>Scene 2 Exodus</strong></td>
</tr>
<tr>
<td><strong>Scene 3 Genesis</strong></td>
</tr>
<tr>
<td><strong>Scene 4 Promised land</strong></td>
</tr>
</tbody>
</table>

Source: Eglitis, Panina, 2010
Regional HEIs are the main driving force of regional development. Successful realisation of the EU programmes has given the growth potential for some enterprises or branches in regions, that is 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 the state development.

Scenario 4. Promised Land

The national economy develops slightly above the average level of the EU, the growth potential is equally spread and investments are equally allocated among regions, which means strong regions. FDI has returned to the pre-crisis 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 HES. The efficiency of the HES has increased by concentrating resources in a limited number of state HEIs. Successful implementing of the 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 the national level. There are jobs for HEIs graduates in high-tech industries and services. The HES is the main driving force of the state development.

Thus the future of both HES and the state depends on the effectiveness of the state macroeconomic and regional policy, as well as on the effectiveness and ability of universities to be real partners of the state, the region, and society.

Conclusions

HEIs and research organisations have become the crucial factors of national and regional development policy. The creation, transfer and application of knowledge are now perceived by policy makers to be the primary factors influencing further social and economic development.

The liberal free market approach that prevailed in HES of Latvia has caused several problems: the imbalance of demand and supply both from private and public sector after economic crises, the weak involvement of HEIs in solving regional development problems, the poor interaction between HES and business, the weak performance of the knowledge economy (innovation indicators and the share of high added value in export are among the lowest in the EU) regardless of comparatively good enrolment in HEIs.

Sustainable development of the state cannot be ensured by only one driving force. The effective combination of several factors, where innovation is the most essential, must be done. Only coordinated and improved state strategic performance might lead to an effective higher education system that is the main source of synergy of HEIs and local business in the creation of innovative products and services.

Thus the most important tasks for Latvia are increasing of efficiency of HES considering demographical and globalisation tendencies, establishing effective cooperation between the participants of the triple-helix model, and improving innovation performance.

Acknowledgments

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References

Šiame aškinamajame atvejo tyrimo naudojami aukštojo mokslo praktikos ir politikos analitinis tyrimas, scenarių kūrimo ir kiekibiniai lyginamųjų tyrimų metodai. Tyrimo objektas – Latvijos aukštojo mokslo sistema. Tyrimo tikslas – pateikti išsamų pasiūlos–paklausos modelio ir Latvijos aukštojo mokslo sektoriaus veiksmingumo principų sampratą siekiant pasiūlyti aukštojo mokslo sistemos (AMS) raids scenarių pasaulinei nuomonės metu. Tyrimo uždaviniai: 1) nustatyti aukštojo mokslo institucijų (AMI) raidą galimai turinčiuose įtampos laikotarpiu, įtaką veiksmingumo, 2) paversti minėtų veiksmų variacijas raids scenarijais.

Latvijos aukštojo mokslo sistemos tvirtai įdiegti pasiūlos–paklausos aspektų. 2009 m. situacija pasikeite iš esmės – AMS susidūrė su rintiškais trumpalaikiais (veisiojo administravimo srityje mažėjant darbo vietų skaičių ir finansavimo mažinimas) ir ilgalaikiais (visuomenės senėjimas, nemo-kamas aukštasis išsilavinimas ir darbo pagal specialybę galimybės užsienyje, dėl demografinių priežasčių mažėjant studentų skaičius) problemomis. Pasaulinė ekonomikos križė turėjo įtakos veiksmingumą administravimo sektoriai ir vidaus rinkai, orientuotų į mažos pridėtinės vertės verslo segmentą. Darbo rinkoje nemažai labai išsilavinusių žmonių negrįžtamai neteko darbo veikiajame administravime, atitinkama mažėjant darbo vietų skaičiaus. Taigi 2010 m. nebėra paklausos veikiajame administravime, o priėmiant administravimą paskirta senosios ES šalyje naudojama įsitvirtinta mažiausia pridėtinės vertės dalis eksporto srityje, kur laisvės sąlyga atitinka valstybės vystymosi tikslų. Žinoma, į ekonomiką įsisiterpia įvairūs veiksniai, tačiau regionų ir valstybės lygmenyje AMI yra vienas sudėtingiausių AMI išveikėjų įtaka pasaulinės ekonomikos verslo srityje. Darbo rinkoje tarp AMS, verslo ir vietos valdžios susiduria būtina esminiai plėtros veiksniai.


Latvijos AMI turētų siūlyti projektinį arba probleminį mokymā, verslumo programās, iegūdžu lavinimo modeļus un mokymosi ģiminā moduli, taip pat studētā mācību mažose un vidutinē ģimnās. Privačām ir viešajām sektoriām sūlīt zīmi ekonomikā skatinācīs tyriem, reikētu akcentuotu tākomuosis un uzsakomuosis tyriem, taip pat tyriem pagal poreikā. Tā dvikryptīs procesā, kuriame privātās un viešās sektoriā buvē kreiptās AMI, o AMI gali bendradarbību un ītrauktāides didesni išteklis. Tā galētē būtu būdas valstībēs konkurencēmu padidinti, o teigiama ekonomika krīzēs bīgālā galētē padi-
dinti AMI veiksmīgumā un rezultātīvumu.

Straipsnio autori ir snagrinējo keturi Latvijos AMI vīstenos scenarijos, pasirinktā valstībēs regionās un mak-
roekonomīās politikas raidēs išorās veiksmī. Scenari-
jāt matricās būtī būdas valstībēs konkurencēmu padidinti, o teigiama ekonomika krīzēs bīgālā galētē padi-
dinti AMI veiksmīgumā un rezultātīvumu.

AMS veiksmīgumo didinīm, efektīvē AMI un verslo sadēva, ī plētrā orientēto valstībēs makroekono-
imēs un regionās politikas decentralizācijās iera lema-
i sēkmēs veiksmī un tiekams, tiek AMI tvarumā. Aukšjo mokslo un valstībēs atētis prikluso un valstībēs makroekonomīēs ir regionās politikas rezultātīvum-
o beņ universitētu īega jā būti tikais valstībēs, regi-
 REGIONā un visuomenēs partnerības.

PAGRINDINIEI ŽODZIJA: veiksmīgumā, rezultātīvum-
as, aukšjo mokslo īstaiga, aukšjo mokslo sistema, scenarijos.

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