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THE SKILLS PANORAMA: ACHIEVING NATIONAL AND REGIONAL IMPACT (ARLI)

Demand-Side Analysis Country Report

Country Report **Czech Republic**

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1. Introduction

2. Demand and supply of LMI in the Prague region

2.1 LMI infrastructure

Prague is the capital of the Czech Republic and in terms of population - which amounts to 1.3 million inhabitants¹ - it represents its largest region. According to the Labour Force Survey, the number of economically active persons in the capital city amounts to 780 thousand people², which makes Prague the largest regional labour market in the country. In terms of labour market, Prague also has some other specific features by which it is distinguished from other Czech regions.

In the first place, it is the most important centre of employment opportunities for persons who do not have permanent residency there. Almost 160 thousand (nearly one fifth) out of 760 thousand employees³ do not have permanent residency in the Prague region. Approximately 120 thousand people working in Prague have permanent residency in Central Bohemia region, in case of this group it can be assumed that most of these people commute every day for work to the city.

Significant share of employment of high-skilled occupations represents another specific feature of Prague; 38% of all employees have attained qualifications at the level of tertiary education (the national average is only 20%). The unemployment rate in Prague oscillates around 4.5% (the national average represents 9.4%⁴). Prague is the centre of tertiary education (its share in the total number of graduates from tertiary education in the CR is approximately 40%) and research and development (its share in the total number of research workers in the CR is again approximately 40%).

In terms of employment, skills-intensive industries play an important role in the Prague region. In addition to the above mentioned research and development, Prague accounts for 38% of employment in ICT services, 36% in healthcare and 11% in architectural and engineering activities on national level. Conversely, its share of employment in manufacturing industries is rather low (about 8%) and it is again concentrated in skills-intensive industries such as pharmaceutical, aircraft or electronic industries. Within the Czech Republic, Prague has also the highest share of employment in the services sector; its share represents 81%.

Prague is, at the same time, the site with highest concentration of employment of foreigners. Out of approximately 311 thousand foreigners employed in the Czech Republic, around 111 thousand were registered in the capital, which represents⁵ more than one third of the total number⁵.

These specific features of the regional labour market have a significant impact on the interest of different types of stakeholders in LMI. Prague's position as the seat of many important institutions affecting education and the labour market at the national level needs to be mentioned as the last

¹ Census, 2011. Available online at: <http://www.scitani.cz>

² Czech Statistical Office: Labour Force Survey 2013, own calculations

³ Remaining 20,000 persons were unemployed (based on the Labour Force Survey methodology, 2012)

⁴ Ministry of Labour and Social Affairs, 2013

⁵ Czech Statistical Office: Foreigners in the Czech Republic, 2012. Online at: [http://www.czso.cz/csu/2012edicniplan.nsf/t/CB0045800A/\\$File/141412_t3-03.pdf](http://www.czso.cz/csu/2012edicniplan.nsf/t/CB0045800A/$File/141412_t3-03.pdf)

important factor determining the demand for LMI. National approaches to collection and use of LMI are, to a large extent, being created there and subsequently determine regional demand for LMI.

The following stakeholders have been interviewed about their experience with the use or creation of LMI:

- A representative of regional administration (1 contact);
- A representative of the Public Employment Services (1 contact);
- Representatives of employers, employer representative bodies (2 contacts);
- Representatives of development and systemic projects (2 contacts)⁶;
- Representatives of institutions providing education/training for adults (2 contacts);
- A representative of initial education institutions (1 contact);
- A representative of trade unions (1 contact);
- A representative of institution providing career counselling services (1 contact) and
- A representative of institution providing services within the area of social inclusion and combating poverty (1 contact).

There are various sources of LMI for the city and the region of Prague, they might be divided into several categories.

PRIMARY SOURCES – QUANTITATIVE SURVEY

LMI based on collection, processing and publication of the primary data. The Regional Administration of the Czech Statistical Office in Prague that processes comprehensive statistics on the development of labour market and education system in the capital is the most important primary source of LMI. LMI is based on surveys carried out in business sector as well as among individuals.

The second key source is represented by the Public Employment Services that collect and publish data on vacancies and job seekers. It is a national system but it offers detailed outcomes on regional and even local levels, which fall within the purview of relevant regional branches of the Labour Office.

The Information System on Average Income is a complementary source. Surveys on salaries and wages are carried out on a large sample of employers allowing to analyze the labour market situation in particular regions of the country.

ANALYTICAL LMI

⁶ Within programming period 2007-2013 in the Czech Republic, a number of activities aimed at improving the quality of education system, matching it with the labour market demands, improving its competitiveness and other similar topics have been financed from the EU funds. Such projects often arise from cooperation of important stakeholders at national as well as regional levels, therefore are the developers of these projects regarded as a relevant source of information for the project “ARLI”. Detailed information concerning the projects is included in the section “About the Stakeholders”.

These sources are based on primary data analysis. Part of this LMI is formed by analyses that are carried out on regular basis, the rest are ad-hoc analyses carried out for a specific purpose.

Analyses carried out on regular basis include primarily surveys on employability of new graduates. This information is of particular importance when identifying mismatches between the structure (by field of study) and competencies of the graduates and employers' requirements. These analyses are carried out by the National Institute of Education⁷ and used as an important basis mainly for setting up support for secondary schools, which, in the CR, falls within the purview of the regional administration. Analyses focusing on employability of new graduates are published on a specialized portal www.infoabsolvent.cz.

In 2012, a new portal www.dvmonitor.cz has been created. It is one of the tools aimed at fostering continuing education in the CR. Despite being LMI created at national level, it provides very detailed information relevant not only for the CR as a whole, but also for particular regions and it offers also international comparison. A part of data offered by the portal is taken over from primary data providers, however, the other part is uniquely created in the system (in particular data on the offer of continuing education).

The other type – specific ad-hoc analyses are within the region processed primarily by the regional administration. Information on the current situation and development on the labour market is presented within the context of development and needs of the whole region. Analytical information and the resulting strategy in the area of labour market and education are published on the portal of the City of Prague Development Authority. In recent years, the demand for this kind of information has increased considerably. It is primarily related to the preparation of the Regional Innovation Strategy for Prague and also the new Operational Programme ("Prague – Czech pole of growth"), which is to bring financial resources to the capital from EU structural funds in 2014-2020.

SKILLS FORECASTING

Skills forecasting is implemented primarily at national level in the Czech Republic. Processors of the projection are based in Prague; outputs are published mainly via web portal www.czechfutureskills.eu. This portal, by its structure and contents, most resembles EU Skills Panorama. Time horizon of skills forecasting represents five years in case of professional groups and ten years in case of industries (however, projection is updated on irregular basis due to lack of consistent source of funding in the CR). Within the Prague region, however, the source is rarely used.

2.2 Adequacy and impact of the LMI infrastructure

LMI available within the Prague region is mostly created by means of national projects and systems. Until recently, there has been practically no region-specific LMI addressing the needs of stakeholders within the capital; on the other hand, the demand for this kind of information has increased significantly in the course of the past two years and its actual lack is perceived as more and more serious problem.

⁷ <http://www.nuv.cz>

The demand of particular stakeholders focuses on different types of LMI. Employers seek mostly information about the offer on the labour market, in other words about the availability of graduates and their structure by region and type of field of study and ideally also projections of future availability of graduates in 3 - 5 year time horizon. Such information would help employers to plan better their HR management, particularly with regard to workforce aging and replacement demand. LMI focusing on future availability of graduates has been already created, however, only at the national level and at the moment just for a limited number of fields of education, which cannot satisfy current demand.

On the other hand, employers are rather sceptical about the benefits of forecasting the trends in employment – according to them, such information is determined by a large number of hardly predictable factors (e.g. estimate of GDP development, which is a key factor affecting the demand for labour, is being adjusted several times a year) and reliability of projections of employment for more than 1 year in advance is therefore rather low.

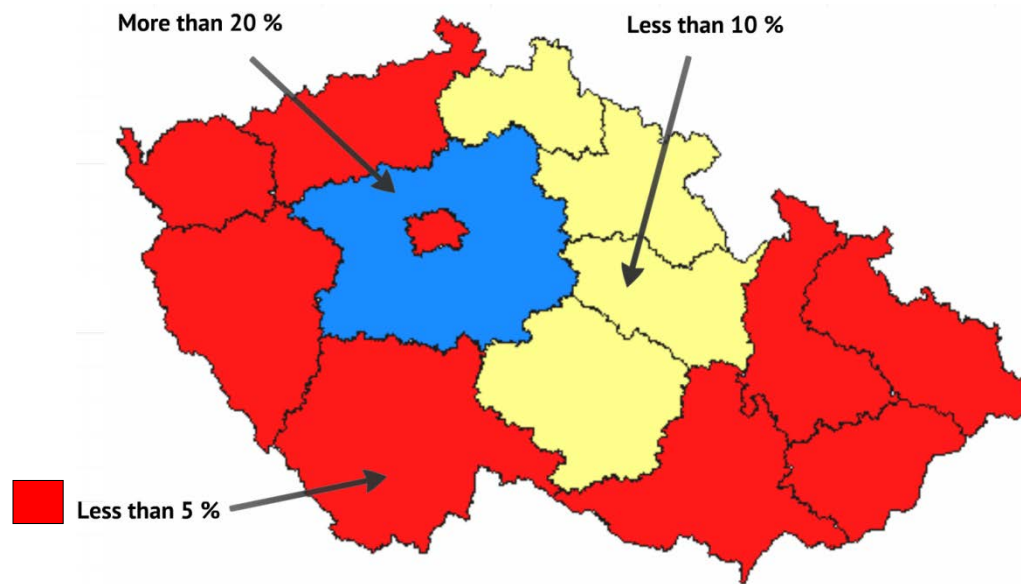
The representatives of institutions providing adult education are of the same opinion. These institutions, in most cases, plan and implement their business activities on the basis of assessment of the existing situation and the feedback from their clients. Only the absolute minimum of these institutions have long-term development strategies where the use of LMI would be of certain importance.

In addition, available LMI on future development is not regarded by them as particularly beneficial. Data and information provided at European as well as national levels are, according to them, interesting and well-processed, however, not detailed enough in terms of career structure (2-digit ISCO used in both sources is not useable for them, they would need at least 3-digit or even 4-digit ISCO) neither in terms of regional availability (with the exception of testing projection processed in 2012 for the region of Ústí nad Labem), there are currently no projections of regional employment available in the CR.

At present, there is an ongoing discussion in the CR about the overall focus of LMI – whether it is preferable to process LMI at national or rather regional level. In terms of area, the Czech Republic belongs among smaller countries within Europe, which should mean that national LMI is also easily applicable in the regions. On the other hand, the CR shows very low labour market mobility. With the exception of the Prague region – which is a major centre of employment with a high proportion of persons commuting there for work from other regions – the rest of the regions represent rather self-contained and independent labour markets. With the exception of Central Bohemia where almost one-fifth of employed persons commute for work to another region (predominantly to Prague), there is no other region in the CR where the proportion of persons commuting for work on regular basis would be higher than 10% (in most cases it is less than 5%, see Chart 1).

Chart 1: Persons commuting for work outside the region of their permanent residence (2012)





Source: Labour Force Survey, own calculations (2013)

National LMI has therefore limited use; for example employability of occupational groups differs significantly across regions.

However, within the area of initial education, there is a great demand for information on future development of labour market. This kind of LMI would be beneficial for better capacity planning of secondary schools (this activity falls within the purview of the Regional Administration). This LMI would also allow for enhancing the involvement of the schools in adult education (improving their orientation in terms of what type of education and skills are and will be demanded on the labour market). This issue is, to a large extent, related to the provision of career counselling services at schools as well as labour offices. Specific LMI addressing demands of this target group is at the moment practically non-existent. Primarily, there is a lack of information on employability of particular professional groups on the labour market and in relation to industries' development. The ideal would be LMI including both the current situation and the outlook for at least 3 years and again at least in 3-digit ISCO at the regional level.

Design of such LMI was created under the project "Koncept" (Conception of Continuing Education) in 2012 (see below). It was very well received not only by the education and counselling institutions but also by the employers who see it as an important tool to motivate pupils and students of the schools to choose technical and science fields of study (this LMI identifies promising fields of study and occupations with high level of employability on the labour market), that are facing lack of interest on the part of young people in the Czech Republic, which results in weakening of the very industrially-oriented economy of the country.

Out of all addressed stakeholders, the Regional Authorities have made the biggest progress within the use and creation of LMI. They require primarily LMI of strategic and conceptual nature. The examples of questions that the Regional Authorities need to get answers for are: assessment of benefits of activities aimed at promoting employment of foreign workers with lower qualifications, overall consistency of the secondary schools' and higher education institutions' offer with the regional labour market requirements, sectoral and occupational structures of unemployment or the rate of commuting to Prague for work from other regions of the country.

Stakeholders representing particular interest groups (such as associations of employers, employees or educators) have also been addressed in the interviews carried out under the project “ARLI”. These groups then need very specific LMI – useful to support their interests or justify their needs. In particular, it is intelligence useful for setting policies at regional or national levels, justifying changes of legislation or the need for funding of selected topics from the EU structural funds or from public budgets. Such cases, however, require very specific LMI, which is related to specific topic or problem area (e.g. why is it necessary to promote education in technical fields of study, why is it necessary to increase the demand for continuing education in particular target groups, etc.).

2.3 Identified Examples of LMI

NATIONAL LEVEL

The so-called “skills cards” are a new type of LMI established in 2012. Its aim is to present – in a very concentrated form (2 pages) - a selected occupational group in terms of applicability, attractiveness, employability in key sectors and educational requirements. The product has been originally established at national level, however, it has great potential for use within regions (successful pilot testing has been carried out at regional level). It was developed in close cooperation with target groups – representatives of employers, educators and counselling services institutions. Parameters of this LMI have been to a large extent determined particularly by the target groups representatives, focusing on conciseness, linking of different types of information relevant to a occupation at one place, maximizing the use of available information sources thus achieving easier sustainability and low financial requirements.

Skills cards are based on the use of primary information sources mentioned already above – namely the Labour Force Survey, labour offices data on vacancies and job seekers, projections of graduates and the Information System on Average Income. At the national level, it covers 180 occupational groups in the detail of 3 to 4 digit ISCO, while there is a potential to create similar LMI at the regional covering about 40-50 groups.

Each skill card contains several sections:

- Identification of occupational group including relevant ISCO code and a list of synonyms – the names of occupations that might be, for example, used to search for advertised vacancies;
- Information on employment in recent years and projections of employment for the following 3 years;
- Information on vacancies and job seekers in the given occupational group;
- Information on the sectoral structure of employment (in which sectors finds the given occupational group employment most often and projection of employment for these sectors);
- Information on qualification requirements (most suitable field of study and level of education);
- Information on graduates (availability and projections of graduates for the given field of study);
- Information on salary/wage levels;
- Summarizing analysis concerning the given occupational group.

REGIONAL LEVEL

DV Monitor is a web portal providing monitoring of key data on labour market and education system that are relevant to the area of continuing education. Its target group are policy makers in the area of continuing education and training to whom this LMI provides data enabling implementation of “evidence-based policy”, i.e. measures based on objective analyses and data. In addition to the institutions responsible for development of continuing education at national and regional levels, the target group involves also educators, counsellors and other institutions developing their activities within the area of continuing education and training.

The system of monitoring of continuing education is based on five principals:

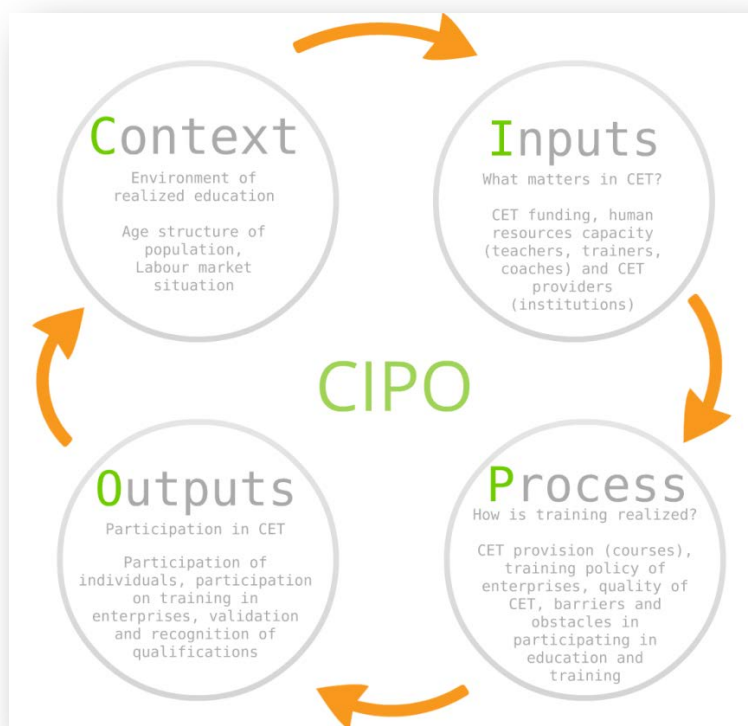
- Presenting information on continuing education by sets of indicators;
- Combining results and data from various information sources;
- Financial efficiency in data gathering – i.e., trying to make maximum use of existing information sources, without need for new surveys;
- Securing the widest possible access to the results of monitoring by means of online sources;
- Cooperation within network of partners who are engaged in monitoring of various aspects of continuing education.

A comprehensive system of continuing education indicators has been developed as a basis for this LMI. Its design stems from CIPOO (context-input-process-output-outcome) methodology which is also used, for example, by the Swiss Statistical Office for the purposes of education system monitoring. When applied in the Czech environment, data from various sources were combined in a way to create 4 fundamental pillars that monitor the entire life cycle of continuing education.

Pillars cover the following areas:

- Context of continuing education (external environment parameters affecting continuing education – skills and educational attainment of the population, unemployment rate, wage differentials, economic activity rate, etc.);
- Continuing education inputs (resources used within continuing education – financing, human resources);
- Continuing education processes (methods by means of which is continuing education implemented – continuing education offer, quality, training policy of enterprises);
- Continuing education outputs (participation in various forms of continuing education).

Chart 2: System of data processing in DV Monitor



3. Current and Potential Use of the EU Skills Panorama in the Prague Region

Most stakeholders did not know the web portal EU Skills Panorama. For this reason, majority of them does not currently use it. Therefore, it was necessary to explain to them the purpose of such LMI and the method of its creation. Slight complication was caused by the fact that during the period when majority of in-depth interviews were carried out, the EUSP website was under construction and Czech translation was not available. Even today in the already operating Czech version, the translation is only partial, e.g. the indicators taken over from the Eurostat database are still only in English. However, translating the title of EU Skills Panorama into Czech is by the stakeholders viewed as unnecessary; the English original is for Czech speakers very well understandable; and as a “brand” it is perceived much better (particularly by the stakeholders who knew the original version where the term “EU Skills Panorama” was not translated to Czech).

The predominant opinion on this LMI is that it is interesting and well-processed product having, however, rather limited use. It seems that the target group for this LMI might be particularly policy makers in the area of labour market and education at European or national levels, its usability for “common” users is very limited.

It is the regional level details that are missing most, on the other hand, a great problem of the CR is the fact, that at this level there are insufficient sources, which might enhance and complement this section of the EU Skills Panorama.

The EU Skills Panorama is not detailed enough to meet the needs of most users – it features 2-digit ISCO as a maximum creating thus excessive aggregation of occupational groups. Such aggregate statistics might be used at central level when creating concepts for policies or strategies, or when processing analyses in the area of labour market and education. However, this information and data are too general for practical use in counselling, creation and adjustment of school curricula or addressing specific mismatches between demand and offer on the labour market.

From the user's point of view, it would be advisable to use more advanced tools, in particular the graphic ones such as maps allowing selection of data and information related to a specific country. It would also simplify navigation throughout the portal, which might be by less experienced users viewed as rather complex at the moment.

Applicability of the EU Skills Panorama is rather limited also in the case of regional users. Those stakeholders who are engaged in the development or intensive use of LMI might find some inspiration in data processing and publishing and even more convenient would be to use the EU Skills Panorama as a databank of good practice examples of LMI produced in other European countries.

The EU Skills Panorama does not allow to analyze more detailed data broken down by regions that are processed primarily by Eurostat. It should not, however, be a pure take-over of data sources, further analytical work, e.g. with the Labour Force Survey outcomes, would be needed. In that sense, the web portal DV Monitor combining regional and international perspective might be used as inspiration.

Integration of regional LMI would also enhance applicability of the EU Skills Panorama at regional level. Regional stakeholders are in need of tailor-made, specific LMI; it would probably not be effective to create such LMI at the European level. On the other hand, the main problem of the Czech Republic is that, at this level, there are not many sources that might complement and enhance this section of the EU Skills Panorama and DV Monitor, from this perspective, is just an exception.

Another recommendation concerning the EU Skills Panorama suggests further linking of different types of data. Modern LMI combines sectoral, occupational, educational and regional perspective in one single point. At the moment on the portal, e.g. it is not possible to find out which occupational groups are the key ones in terms of employment in particular industries, if and how does the occupational structure in particular industries differ from country to country and what are the differences in educational structure between EU regions, etc. However, in order to make it possible to find such information on the EU Skills Panorama, it would be probably necessary to modify substantially the concept of the portal. A good example of similar approach is the American O*Net. Despite the fact that due to the availability and applicability of data at the European level, it would not be feasible to build the EU Skills Panorama to a similar extent, the methods of sorting, looking up and publishing data within the O*Net are highly inspiring and they would significantly increase benefits of the EU Skills Panorama for regional users.

4. Concluding remarks

For quite some time, there has been rather low demand for LMI in the analyzed region. It was mainly due to a very good situation on the labour market – the Prague region has been reporting, on a long term, very low unemployment rate and quite dynamic creation of new jobs (even during recession, the employment within the region was growing, see Chart 3) and therefore from this point of view “there were not so many issues to be solved”.

Chart 3: Employment trends by regions in the CR (2008-2012)

	Absolute change in employment (2008-2012)	% change in employment (2008-2012)
Prague	16,700	2%
Central Bohemia	7,400	1%
South Bohemia	-14,400	-5%
Pilsen	-5,100	-2%
Karlsbad	-12,700	-9%
Usti nad Labem	-25,300	-7%
Liberec	-10,500	-5%
Hradec Kralove	-10,000	-4%
Pardubice	-8,800	-4%
Vysocina	-15,800	-7%
South Moravia	4,500	1%
Olomouc	-6,200	-2%
Zlin	-20,000	-7%
Moravia-Silesia	-19,700	-4%
Czech Republic	-119,900	-2%

Source: Labour Force Survey, own calculations (2013)

Currently, however, a discussion is being led over a reverse problem – isn't it the lack of talents and high-skilled workers that slows down development of the region? Unfortunately, no mapping of employers' requirements or identification of potential mismatch between offer and demand on the labour market is currently being carried out. The existing Public Employment Services data are for this purpose useable only to a limited extent (it does not provide sufficient coverage of employment opportunities for skilled occupations).

Data and information related to education system (structure and availability of graduates and their projections) were by the stakeholders tagged as a very much needed and demanded type of LMI. Most stakeholders stressed the need for such information in the context of the labour market development. Such data, however, are not available at the regional level and they are not included in the EU Skills Panorama either.

At the moment, there is limited use for the EU Skills Panorama in its current form at the regional level. The main problem is the low level of detail of data on occupational structure, the absence of a regional perspective and the possibility to compare the data not only at national but also at regional level and also the overall concept of outcomes processing on this portal. It is vital to focus on linking particular pieces of information and allowing for combination of occupational, sectorial and regional perspectives. It is necessary to be aware of the fact that such an aggregated view on occupations or

industries might be of interest only to a very small group of users, and just a very small proportion of them represents the type of stakeholders operating at regional level.

Otherwise, the EU Skills Panorama, as a key access point to LMI, will keep being underused on any other but the European level.

Appendix

ABOUT THIS PROJECT

The Department of Analysis at *Arbetsförmedlingen* is project partner in Sweden, responsible for the study in the Skåne region. *PES (analysis)* thus refers to the Stakeholder which is responsible for "Country Report Sweden", and as a Stakeholder it produces a bi-annual forecast on the labor market in Skåne and provides *PES (match)* with LMI.

Vårens ansökningar till svenska högskolor och universitet ökade knappt jämfört med våren 2011 vilket pekade mot att den kraftiga ökningen av antalet helårsstudenter som pågått sedan läsåret 2007/2008 var på väg att nästintill stanna av helt. Men höstens ansökningar visar åter på rejäla ökningar, jämfört med hösten 2011, och det kan sannolikt kopplas till den försämrade arbetsmarknadssituationen. Rekordmånga studenter har antagits under de senaste åren så det finns potential för ett betydande tillskott av arbetskraft från utbildningssystemets högre studier om arbetsmarknaden utvecklas positivt. Men sedan 2009 ökar antalet examina i landet och ökningen har tilltagit varje år, så ett ökande tillskott av arbetskraft från de högre studierna har signalerats i några år nu. När det gäller Blekinge tekniska högskola (BLT) pekar dock antalet examinationer mot att ett kraftigt ökat inflöde av nyutexaminerade från högskolan till arbetskraften avtog avsevärt under 2010 och vändes till en minskning under 2011. Det kan sannolikt kopplas till en kraftig minskning av nivån på antalet antagna under framförallt år 2007 men även 2008, vilket innebär att några ovanligt små terminskullar sedan ett par år tillbaks börjat fasas ut från Blekinges högre studier. Ändå förväntas ett ökat uflöde av arbetskraft från högskolor och universitet till länets arbetsmarknad under prognosperioden, det vill säga 2013 och 2014. Det beror på att antalet helårsstudenter på BLT fortfarande är stort – och ökande – på rekordstora antagningar hösten 2009 och år helåret 2010, samt på att antalet studenter totalt sett i landet ökat mycket kraftigt sedan 2007.

Antalet personer utan arbete har ökat mycket kraftigt sedan 2007 vilket innebär att andelen av arbetskraften som står utan arbete har ökat som en följd av det. Vid slutet av det året var knappt 4 000 personer öppet arbetslösa eller i program med aktivitetsstöd, finanskrisen skulle bara någon månad senare börja få genomslag på arbetsmarknaden och två år därefter var det närmare 9 000 personer som stod utan arbete. Sedan dess har antalet arbetslösa minskat men nivåerna är fortfarande mycket höga. En förklaring till det är att antalet utomeuropeiskt födda arbetslösa fortsatt att öka i oförminskad takt under återhämtningen på arbetsmarknaden, under 2010 och fram till halvårsskiftet 2011. Den viktigaste förklaringen är dock att antalet inrikesfödda arbetslösa fortfarande är nästan dubbelt så många som innan finanskrisen började få genomslag på Blekinges arbetsmarknad.

Word limit: 300-500 words

Subject:

Description of the project (**common text**):

- Background and purpose
- Basic approach (e.g., including start and end of the project, partners, studied countries/regions, expected outputs, COMMON APPROACH, INCLUDING “MUST INCLUDE”-STAKEHOLDERS, etc)
- Describe your own role within the region/country in terms of labour market analysis and provision of LMI
- Stakeholders involved in this particular Country Report
- Number and type of Stakeholders that were invited to participate but have not participated

ABOUT LMI

In this project, Labor market information and intelligence (LMI) is defined as

- “analyzed, processed, directed, and/or regularly collected information and intelligence about the labor market, which is
- provided by a source (internal or external) that is not temporary or spontaneous in its provision of the information that the
- providing organization uses to plan their activities in order to achieve its overall goal.”

LMI may:

- account for published or internal reports, databases, industry councils or similar forms of structured meetings, structured networking and a variety of other forms of intervention to generate information and knowledge as defined above; and
- inform of such things as number of vacancies in one or more parts of the labor market, as well as the type of vacancies it concerns; about general trends in the labor market, or if activities are starting up or closing down within your particular field of analysis; about skills and qualifications that employers are looking for, and the skill levels and competencies that people have; demographic trends in the labor market, at national, regional or local level; and much more information and analysis which satisfies the above restrictions in the definition.

ABOUT THE STAKEHOLDERS

In this project “Stakeholders” are defined as key users and/or providers of LMI that is available with a specified region such as Prague in the case of this particular “Country Report”. Below is a list of the Stakeholders that have answered to the standardized questionnaire (mainly by face-to-face interviews supported by telephone and e-mail communication).

Stakeholder **Regional Authority:** Jakub Pechlát and Jiří Mejstřík, Department of Economic Analyses and Forecasts at City Development Authority, City of Prague. The City Development Authority Prague is a budgetary organization of the City of Prague responsible for preparation and processing of strategic, urban and spatial development documents, planning analytical materials and strategic plans for the City of Prague.

Stakeholder **Development and system project #1:** Kristýna Meislova, S3 (Smart Specialisation Strategy) coordinator for the Region of Prague. The S3 is a strategic approach to economic development through targeted support for research and innovation within a specific region.

Stakeholder **Development and system project #2:** Romana Nováčková, Sector Skills Agreement Manager. Sector Skill Agreements address key problems of labour market in specific sectors and regions by cooperation of key stakeholders involving employers, education and training providers and social and other partners.

Stakeholder **Public Employment Services:** Věra Prokopová, Head of Counselling and Referral Department, Employment Office of the City of Prague.

Stakeholder **Employer #1:** Miloš Rathouský, Committee for Development of Human Resources at Czech Confederation of Industry. The Committee is responsible for analyses of skills mismatches and labour market development with special aim at occupations and skills required in technical fields.

Stakeholder **Employer #2:** Dagmar Divišová, Head of Education Department at Chamber of Commerce. The Education Department is responsible for analyses related to quality and availability of school graduates especially in vocational education and supports development of elements of dual learning system based on close cooperation of employers and schools.

Stakeholder **Training Provider #1:** Tomáš Langer, Association of Adult Education Institutions. It is the largest professional association in adult education in the Czech Republic

Stakeholder **Training Provider #2:** Jana Brabcová, director of Training, Research and Counselling provider Grafia

Stakeholder **School:** Ivana Nechvátalová, Secondary technical school Zelený pruh

Stakeholder **Unions:** Dušan Martínek (Head of Human Resources Development Department) and Pavel Janíčko (Labour Market Analyst), Czech-Moravian Confederation of Trade Unions

Stakeholder **Career Guidance:** Marta Salavová is a DV Monitor project coordinator at National Institute for Education

Stakeholder **Social Inclusion:** Ivana Sládková, consultant at Adult Education Fund is an expert in the area of social innovation and regional human resources development strategies.