SKILLS FORECASTING
REVERTING NEGATIVE TRENDS IN
SKILLS AND JOBS MATCHING

Prognoziranje vještina potrebnih na tržištu rada

Skills forecasting

Predvidevanje veščin potrebnih na trgu dela

Qualifikationsbedarfsprognosen

SKILLS FORECASTING
– reverting negative trends in skills and jobs matching

1. Concept of skills forecasting and its development in EU

The importance of skills forecasting in a world economy is constantly increasing due to its relation to the human capital as a key resource for growth. This is especially important in an era of high unemployment, but still with persistent skill shortages in many advanced economies. In a light of the European Employment Strategy, it is crucial to achieve better match between the supply of skills and labour market demands. Skills forecasting allows analysts and policy makers to not only examine the skill needs of today's labour market, but to look forward to future skill shortages and plan and implement strategies and policies to help correct these potential skill shortages. Concretely, it helps to: I) Predict demand and/or limit the extent of skill shortages and mismatches; II) Avoid missing out on investment or losing existing jobs to other locations due to labour and skill shortages; III) Better align existing education & training systems with labour market needs and find proper funding, and IV) Better advise young people on career choices.

The first national level pan-European skills forecast, providing consistent and comprehensive medium-term projections of employment and skill needs across Europe until 2015 and 2020, was published by CEDEFOP in 2008. Next to "the European Sector Skills Councils", an online instrument "EU Skills Panorama" that was launched in 2012 by the Commission aims to provide updated forecasting of skills supply and labour market needs up to 2020. It shall analyse skill requirements using the European Vacancy Monitor and assess skill mismatches and the use of skills in the workplace, through surveys of employers, learners and graduates.

2. Motivation for starting the project

The primary project aim is to enhance the labour market match of demand and supply in order to initiate creation of new employment opportunities through skills forecasting. The lead project partner has recognized an importance of sharing good practice example in the cross-border region of northern Croatia, eastern Slovenia and south-eastern Austria. This region, although economically highly diverse, shares a long tradition of cooperation and some historical similarities. Since the start of the economic crisis in 2008, the cross-border labour migration has increased, with significant socio-demographic consequences for the local communities. At the same time, these countries have different success in tackling the crisis effects and are at the different stages of skills forecasting comprehension and implementation. Austria has been recognized as an example of good practice whose practices could be successfully adjusted and implemented in Croatian and

Slovenian cross-border region (Međimurska county and Podravje region). Our project is an important step of introducing an advanced skills forecasting method in Croatia for the first time. Results will be then shared between these countries to identify common trends. Especially important are trends in migration of workers in "green", "white" and "digital" jobs, since Austrian economy is highly advanced in these sectors and seeks such workers, which then reduces their number in Croatia and Slovenia.

3.Project aim

The Project aim is to contribute to a better match between the supply and demand on the labour market by establishing a skills forecasting system in Međimurska County. An important step in achieving the primary aim were the research and detailed analysis of the educational outcomes and labour market demand, as well as the connection between those sectors in the regions of Podravje (Slovenia), Styria (Austria) and Međimurska County (Croatia). Since the skills forecasting system is the first of this kind to be developed in Croatia, it is extremely important to present it to social partners, employers and other local stakeholders, as well as to acquaint them with the capabilities of this new labour market tool, especially during the phase of the creation of development public policies and programmes, in order to create new jobs.

4.Project partners

The Croatian Employment Service (CES) is a public institution owned by the Republic of Croatia, constituted under Law on mediation in employment and entitlements during unemployment, aimed at resolving employment and unemployment related issues in their broadest sense.

The Croatian Employment Service plays a leading role in the development of the Croatian labour market, particularly when it comes to balancing the total labour supply and demand aimed at increasing employment.

Mission of CES is effective mediation in the labour market achieved by increasing the quality of service adjusted to the clients` needs, along with the development of knowledge, skills and abilities of the CES employees and the promotion of cooperation of the labour market actors.

www.hzz.hr

Regional Development Agency Međimurje REDEA d.o.o. is a company founded by the Međimurska County in order to support the process of sustainable development of Međimurje.

Through strategic development planning, REDEA creates the basis for a focused development of the local community and the conditions for drawing on EU structural funds. REDEA works on creating a positive business climate, supporting rural development and agriculture, and stimulating the development of human resources as a prerequisite of competitiveness in the modern economy.

REDEA's key activities and services are: initiating and implementing strategic projects; facilitating the identification, design and implementation of projects co-financed by national and EU programmes; organizing and implementing training programmes for the public and private sector; dissemination of information on available subsidy and incentive programmes for the public sector, entrepreneurs and farmers.

www.redea.hr

Science and Society Sinergy Institute (S3I) is a non-profit and non-governmental institution dedicated to support world-class research in the sciences and humanities for the benefit of the society. S3I enables new generations of intellectual leaders to build a bridge with businesses in synergy with the needs of the society in general.

The institute is designed as a meeting point of various active participants in the process of societal development – entrepreneurs, policy makers, education professionals, scientists, artists, etc. – with the common goal of incubating new ideas and supporting independent and creative thinking.

http://iszd.hr

Based on its previous efforts and results, the Scientific Research Centre BISTRA Ptuj has become a nationally and internationally recognized institution that links the scientific - research and education spheres, and economy. In the local and broader community, it has become recognised as an institution that acts as a mediator between the local government and civil service with the intent of accelerating and managing the local and regional development efforts.

The SRC BISTRA Ptuj, as the leading development institution and a mediator between the public and private sectors, strives to contribute to equal economic and fairer social development of the region, and thus create the conditions

for an efficient knowledge management on the local and regional level. It acts as a ˝knowledge and experience based organisation˝ and a ˝learning organisation˝, subject to constant development and ˝overcoming changes˝.

www.bistra.si

L & R social research, a private scientific institute based in Vienna, Austria, has been active in the field of social research since 1990. The main working areas of L&R Social Research include labour market policy and social policy, gender equality, education training and evaluation of programs and measures, as well as transnational und national labour market cooperation.

The services L&R Social Research offers include the undertaking of studies, consultancy and development, networking, presentations, seminars, workshops and conferences.

The reports are produced in association with nationally and internationally recognised partner institutions and have been serving for around 25 years as a basis for decision-making.

5.Prerequisites for project implementation

At the first level, after assuring cooperation of all relevant partners from the public (governmental bodies, like ministries; public institutions – the statistics offices and the employment services; research institutions) and private sector (chambers of trade and commerce; individual employers) there are fundamental infrastructural, technical and human resource prerequisites that need to be provided. They are related to availability, relevance/reliability of information in the context of population data, labour market and economy and to capacities and willingness of relevant partners to take part in the long-term processes. Moreover, a stable financing has to be assured, taking into account short-term, medium and long-term project requirements.

On a level of data acquisition, three most important prerequisites have to be taken into account: I) all data, including detailed data on sectors have to be harmonized according to the international standards in order to allow comparability; II) demographic information on population numbers and forecasts by age and gender have to be presented in detail on municipality level, and III) information on occupational and qualification employment patterns

with sectors equivalent to that available from the Eurostat European Labour Force Survey have to be provided. Moreover, transferring and implementing results into policy and practice has to be assured by continuous inter-sectoral communication and raising awareness of the skills forecasting importance.

6.Project phases

The project activities have been carried out according to predetermined phases, some of which have been carried out simultaneously, aiming to achieve more quality overall objective - the establishment of a skills forecasting model.

1) Implementation of research
The aim of the research was to collect comparative data on educational outcomes, employment and unemployment by level of education and occupation. It was divided into desk and field research. Desk research is the first and basic phase, which gave us an insight into the availability of the required data, which is the basis for the establishment and functioning of the skills forecasting model. The research was also carried out parallel in the partner countries, Slovenia and Austria. Collected data are important not only for the comparison of forecasting models applicable in Međimurska County, but also for the determination of the course of the field research.

The field research was carried out through structured employer's survey. Starting point and model for future comparison was the research on the skill needs of employers, carried out by CEDEFOP.

2) Mutual learning and an exchange of good practices
Study visits to the partner countries, Slovenia and Austria have been organised for the purpose of adopting good practices related to the conceiving and implementation of the skills forecasting system. Both two-day visits contributed to mutual learning of all partners about the background of establishing a skills forecasting system, the methodologies used,

and the issues with implementation. We visited institutions that closely cooperate with the labour market, and talked to their experts and researchers.

The experience gained from those study visits has been of great help in defining the operation of the skills forecasting system. It also strengthened our awareness of the importance of skills forecasting as a key element of the local development.

3) Establishment of a skills forecasting system

The skills forecasting system is an important final result of the project, whose purpose is to contribute to a better match between the supply and demand on the labour market, as well as to new employment opportunities. Since the purpose of the system is to help decision makers and local policy makers, seminars for the users of the Skills forecasting system – key stakeholders on the labour market – have been held. The aim of the seminars was to present the skills forecasting system to all stakeholders on the labour market as a new tool for development public policy documents, projects, as well as in the planning of enrolment quotas and educational programmes.
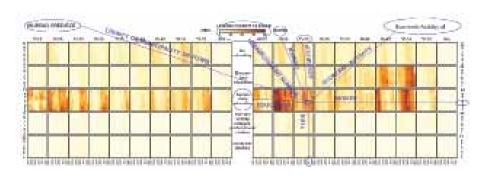
4) Information dissemination

Information dissemination has been carried out continuously during project implementation with the aim to raise awareness of the key stakeholders on the labour market about the importance of human resources planning and skills development as prerequisites for sustainable development. In order to acquaint the wider public with the activities implemented, as well as with the findings that resulted from the detailed analyses conducted within the scope

of the project, each partner published the materials on their official web site and local web portals. We have also published key results of the research and the skills forecast generated from the established system as a series of interesting trends on the labour market of the Međimurska County in the local newspapers, in a form understandable to the wider public. Furthermore, all research results within the scope of the project are compiled in the brochure on research and policy study results aiming to help the stakeholders on the labour market and local policy makers to make decisions related to development and employment policies.

The transnational conference will be organised with the aim of linking and comparing the project results with the national level and beyond. The conference will gather labour market experts from Croatia, Slovenia and Austria.

7.Project results

There are two levels of the project outcomes relevant for comprising the potentials and further prerequisites for skills forecasting development: I) current system of short-term prognosis and II) results of the employers survey encompassing their business experiences and plans and perception of future required skills. On the S3I website is placed an interactive visualisation of statistical data. The presented data encompass statistics on demographic structure of Međimurska County, educational structure, salaries and unemployment. The unemployment data are presented by several parameters, which make understanding of the unemployment trends very easy. In the picture below there are instructions how to read such data: the chart was made regarding economy activities for municipality, town or entire Međimurska County, with each field coloured in accordance to the legend on the number of employment. A position of the field reveals additional parameters observed for the unemployment trends: year and month of the year, and age and educational level of the unemployed.

The second level of the project results is related to development of the skills forecasting questionnaire targeting the employers, on the sample of 360 employers. We had 245 respondents on employer survey on which we based the analyses. The basis of this questionnaire was the employers' survey that is traditionally implemented by the Croatian employment service on an annual basis. This primary survey encompasses following sections and presents the Module 1 in our skills forecasting survey:

1. Structure of employers by sector
2. Hiring in a previous year
3. Changes in a structure of employment in a previous year
4. Structure of new employment
5. Difficulties in hiring
6. Modes of hiring – looking for a new employee
7. Scarce occupations
8. Planned employment in the next year
9. Structure of planned hiring by the size and sector of an enterprise
10. Regional distribution of planed hiring
11. Structure of planned open-ended and fix term hiring by the size and sector of an enterprise
12. Planned hiring by occupations
13. Planned hiring by educational level and required competences
14. Expected changes in a number of employed in next year
15. Expected changes in a number of employed by counties/regions
16. Reasons for decrease in employment
17. Characteristics of potential excess labour force
18. Occupation of potential excess labour force.

Module 2 (on generic skills) and Module 3 (on occupation-specific skills) were made by adjustments of the CEDEFOP questionnaire presented in the User guide to developing an employer survey on skill needs, issued in 2013. The second module comprises nine questions on professional training undergone by employees in a previous year, both internal training and training organised by the other stakeholders. It also asks about three most frequent occupations and usually required educational degree for these occupations. The age and professional structure are also one of the units in this module, followed by a set of questions on importance of specific generic skills and the level of possession of these skills by the current employees. The third module is targeting trends in importance of occupation-specific skills, and measures undertaken by the employers in order to improve acquisition of these skills by the employees.

The first results of the survey showed that the majority of employers have employees who have not taken part in any training in the last year. The employers whose employees have taken part in the training reported having up to ten such employees in the last year as the most frequent case, both when it comes to internal trainings and training organised by other stakeholders. When asked about the required educational level of the three most important occupations in their companies, the majority of employment stated it was secondary vocational education (ranging from 57,1% for the first occupation to 45,8% for the third occupation). The age of the employees revealed a rather low percentage of young employees in Međimurska County – 34,9% of employers reported having no employee younger than 30 in their most important occupation, 20,6% have only one, and 11,8% have only two, while further 17,6% have 3-5 employees younger than 30. Asked about difficulties in hiring employees with required skills in the three most important occupations, the employers' answers varied from 19,2% of them who had difficulty for the first occupation, to 18,3% for the second one, and 10,8% for the third one.

Regarding the generic skills, results are very interesting and they identify the most important skills for the three most important occupations listed by employers. Here we will present only the importance of skills related to the first occupation. *Group work* seems to be the highest valued skill as it was recognised by 75,7% of respondents. *Following and understanding of the instructions, manuals and reports* was recognised as highly important by 68,5% employers, while *writing of such instructions, manuals and reports* was less recognised – by 45,8% of the sample. *Understanding of the numerical and statistical information* received attention of 39,1% of employers, and *solving of problems that require at least half an hour of careful thinking* by 40,2%.

It is interesting to note that only 18,3% of employers judge *communicating in foreign languages* as highly important, which is related to economy in Međimurje County as still closely related solely to the national market. *Giving speeches and presentations* is recognised by higher percentage – 31,4%, while *capability of knowledge transfer via teaching* is highly valued by 51,5% of employers. A very important component, which helps managing production processes – *independent decision making* is appreciated by 55,2% of respondents. A related task – *decision making in managing human, financial and other resources* – is significantly less recognised (by only 28,5% of employers).

Manual skills as *repairing or assembling various products* is highly valued by 28,3% of the employers. *Learning to work with new equipment or materials* is highly desirable for 66,5% of respondents, which points at the basis of Međimurje County's orientation at the production and manufacturing. *Application of new practices in reduction of usage of natural resources, energy and water* is recognised by 24,3%, and similar practices in a field of *reduction*

of pollution and loss of bio-diversity by 41,2% of employers. On the other hand, *learning about new ideas, methods and techniques* is more appreciated – by 54,4% of employers.

Computer related skills deserve a special attention since they could enable national and regional entrepreneurs to compete on the global market with more competent human resources and new products. Taking this into account, it is surprising that 28,8% of employers require no computer literacy, 26,3% only elementary knowledge, 24,6% a middle level (working knowledge of Microsoft Office, for instance), 15,8% skills of data computing and analysis and only 4,6% advanced level (programming skills).

Regarding the educational structure of Međimurje's future labour force, there is a strong trend towards the larger participation of secondary school students from more wealthy municipalities in general education (gymnasiums), while participation in vocational school continuously decreases. From the policy standpoint this is an unwanted trend due to strategic orientation of the County towards production of goods and services. Moreover, this trend indicates segregation on the basis of socio-economic status and further contributes to social exclusion and limited intergenerational mobility. A small region like Međimurska County should not allow a waste of its talents via directing students to general education, especially having in mind requirements of the current and prospect economy in this region. It should also be noted that the presented results about the skills demand are in line with current orientation of Međimurska County to labour intensive production, which may burden identification of this region as potentially beneficial for IT, green and white technologies – one of the County's strategic goal.

8.Impact of the project

One of the primary short-term benefits of the project is related to creating the platform for communication and sharing experiences in the field of skills forecasting and tailoring active labour market measures. Related to this, impact of strengthening of the involvement of social partners, business sector and other important actors in creation of effective policies and programmes targeting enhancement of labour market prospects, especially in the field of ICT, green and white businesses, is expected. In other words, we expect that the mutual learning and transfer of good practice will enhance cooperation with all relevant stakeholders, in order to adapt new solutions in public policy making and directing the progress of the region. On a level of system solutions, there is a computer code for short-term labour market prognosis already conceived and the first results are promising to be useful to a very diverse set of stakeholders.

The long-term project benefits relate to exploring interrelations between educational outcomes and labour market requests, regarding the mismatch of labour market demand and supply, which will help in creation of new employment opportunities. In order to achieve this goal on a long-term scale, currently developed computer code will need to be adjusted to the new indicators, allowing for medium and long-term prognosis. The skills forecasting system established this way will enable a step forward in our effort to bridge the gap of supply and demand on the labour market, and to enforce the business sector to introduce new marketable solutions.

9.Conditions for sustainability

The sustainability of the skills forecasting system depends on the mutual cooperation of the labour market stakeholders on the local and national labour market level, as well as on the availability and timeliness of database updates (employment, unemployment, economic trends...). One of the prerequisites of mutual cooperation has been ensured by the inclusion of the skills forecasting system in the action plan of the Local Partnership for Employment of Međimurska County, which gathers all the relevant stakeholders on the labour market. In addition, through seminars organised within the scope of the project, we have presented the skills forecasting system as a new labour market tool in the preparation and development public policy documents. Within mentioned activities, we have raised awareness of the importance of systematic planning and its impact on the local development. Furthermore, the link with the national level of skills forecasting and a comparison on the EU level are also of great importance.

The project partners will continue to cooperate and share information on labour market trends with the aim of improving the system and adopting new solutions in the creation of public policies and directing the progress of the region.

The system will be financed through the regular activities of the Croatian partners within their respective institutions. It will be further developed through EU projects.