

BRATISLAVA UNIVERSITY OF ECONOMICS AND BUSINESS

FACULTY OF ECONOMICS AND FINANCE

SELF-REPORT OF DISSERTATION

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Self-report of Dissertation

**EFFICIENCY OF EMPLOYMENT SERVICES AND
ACTIVE LABOUR MARKET MEASURES FOR
DISADVANTAGED GROUPS OF THE POPULATION**

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("philosophiae doctor", abbr. "PhD.")

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1. An Overview of the current status of the issues addressed in the dissertation at home and abroad

This thesis explores the integration of disadvantaged individuals into the labour market—an increasingly pressing issue due to the growing number of people facing social and economic exclusion. Disadvantaged or vulnerable individuals are those at heightened risk of poverty, discrimination, and unemployment due to factors such as disability, low educational attainment, minority status, age, or long-term joblessness.

Definitions from various sources—including the European Institute for Gender Equality, the European Foundation for the Improvement of Living and Working Conditions, and Slovak legislation (Act No. 112/2018 Coll. and Act No. 5/2004 Coll.)—highlight that disadvantaged persons often encounter systemic barriers to employment. These barriers include limited access to stable jobs, lower earnings, and a higher likelihood of being employed in non-standard or precarious work.

The term “disadvantaged job seeker” typically refers to individuals who are unemployed for extended periods, lack recent work experience, or belong to a specific group. According to Slovak legislation (Act No. 5/2004 Coll. on Employment Services), a disadvantaged person is defined as someone who meets at least one of the following criteria:

- Has not been employed in the past six months (excluding short-term employment of less than 40 days per year),
- Is under 26 or over 50 years of age,
- Has been registered as unemployed for at least 12 months,
- Has lower than secondary vocational education,
- Is a single parent caring for a dependent child,
- Belongs to a national or ethnic minority.

This definition aligns with EU Commission Regulation No. 651/2014, which also includes young people (aged 15–24), the long-term unemployed, and individuals lacking basic qualifications. The mentioned EU Regulation further expands this definition to include individuals affected by gender inequality and those who need to build work experience to secure stable employment.

Understanding these definitions is essential for designing inclusive employment policies and targeted support services that address the unique challenges faced by these groups.

The term “vulnerable person” (zraniteľná osoba in Slovak) is broader and refers to individuals in adverse social situations, such as:

- Persons with disabilities,
- Individuals undergoing treatment for drug dependency,
- People without income or housing,
- Former prisoners,
- Asylum seekers or stateless persons,
- Individuals leaving institutional or foster care.

This concept is also used in international human rights discourse, where vulnerable groups include women and girls at risk of violence, ethnic minorities, and persons with limited access to education or employment. With the term disadvantaged and vulnerable person are connected active labour market policies (ALMPs) which try to help these groups back to the labour market. ALMPs generally refer to government-led interventions designed to enhance the employability of job seekers and facilitate their integration into the labour market. Unlike passive measures such as unemployment benefits, ALMPs are proactive and focus on activation and reintegration. Common types of ALMPs include:

- Job training and retraining programs,
- Employment subsidies,
- Public works schemes,
- Career counselling and job placement services.

In Slovakia, employment services are defined by Act No. 5/2004 Coll. as a set of activities provided by public or private entities to support both job seekers and employers. These services include:

- Job intermediation,
- Career guidance and counselling,
- Labour market information,
- Support for mobility and training.

The primary goal of these services is to ensure efficient job matching, reduce unemployment, and support vulnerable groups in accessing decent and sustainable employment.

International Literature on ALMPs

The international literature on ALMPs is extensive, encompassing both theoretical foundations and empirical evaluations. It offers valuable insights into the design, implementation, and effectiveness of labour market interventions, particularly for disadvantaged groups.

Theoretical Foundations:

- Shapiro and Stiglitz (1984) introduced the concept of equilibrium unemployment as a mechanism for maintaining worker discipline.
- Layard, Nickell, and Jackman (1991) developed a macroeconomic framework linking unemployment to institutional and policy factors.
- Borjas (2016) and Blanchard (2007) contributed to the broader understanding of labour economics and the role of policy in shaping employment outcomes.

Empirical Evaluation Methods:

- Early contributions by Ashenfelter (1978, 1985, 1987) and Lalonde (1986) emphasized the importance of experimental and quasi-experimental designs in evaluating labour market programs.
- Later advancements by Heckman, Ichimura, and Todd (1997) and Hirano, Imbens, and Ridder (2003) introduced matching techniques for estimating treatment effects.
- Imbens and Wooldridge (2009) provided a comprehensive overview of econometric methods used in program evaluation.

Effectiveness and Policy Design:

- Blundell et al. (2004) and Martin (2015) examined the effectiveness of activation policies and mandatory job search programs, highlighting the importance of targeting and program design.
- Dar and Tzannatos (1999) conducted a global review of ALMP evaluations, identifying key success factors such as early intervention, individualized support, and strong employer engagement.
- From a policy perspective, Calmfors (1994) and Erixon (2010) analyzed the Swedish Rehn-Meidner model, which integrates macroeconomic stability with active labour market interventions.
- Meager and Evans (1998) provided one of the earliest comprehensive reviews of ALMPs for the long-term unemployed,

emphasizing the need for rigorous evaluation and continuous program improvement.

Together, these studies form a robust theoretical and methodological foundation for evaluating labour market programs. They also underscore the importance of context-specific design and the need to balance efficiency, equity, and sustainability in employment policy.

Slovak-specific research

In the Slovak context, the effectiveness of ALMPs has been the subject of research by several institutions and scholars. Notable contributions come from the Institute for Financial Policy, the Institute for Social Policy, the Slovak Academy of Sciences, and other experts in public policy and labour economics.

Harvan (2011) analyzed the efficiency of public spending on ALMPs and emphasized the need for more rigorous impact evaluations. Similarly, Hidas, Vaľková, and Harvan (2016) highlighted implementation challenges in employment services and called for their professionalization. Petráš (2018, 2020, 2021) focused on evaluating specific measures such as the REPAS training program, graduate work placements, and municipal activation services. His findings suggest that not all interventions yield positive employment outcomes, and their effectiveness varies depending on the target group and program design.

Štefánik et al. (2014, 2015, 2016, 2018, 2021) conducted several quantitative studies using methods such as propensity score matching to estimate program impacts. Their research confirms that certain tools—such as commuting allowances or graduate internships—can improve employability, particularly when well-targeted. Domonkos (2006) provided a broader perspective on the evolution of Slovak labour market policy in the context of economic transition and European integration, highlighting the influence of political decisions on policy structure and outcomes. Mrúzová (2015) addressed the specific needs of older job seekers (50+), stressing the importance of individualized support within employment services. Earlier studies by Van Dijk (2006) and Van Ours & Lubyová (1999) also examined the effects of training programs and transitions from unemployment to regular employment in Slovakia, offering valuable longitudinal insights.

Together, these works form a robust foundation for evaluating ALMPs in Slovakia and underscore the importance of combining quantitative and qualitative approaches in policy assessment.

2. Aim and focus of the dissertation

The main objective of this dissertation is to evaluate the effectiveness of selected labour market programs targeting disadvantaged groups in Slovakia, with a particular focus on the long-term unemployed. The analysis covers programs implemented by the Central Office of Labour, Social Affairs and Family (COLSAF) during the period 2019–2023. While the effectiveness of labour market measures has been the subject of numerous studies, a comprehensive and multidimensional evaluation specifically focused on disadvantaged groups remains lacking.

To achieve this main objective, the dissertation applies a combination of quantitative and qualitative research methods, including performance evaluation, process analysis, cost-benefit analysis, and impact assessment. The research is grounded in a theoretical framework that integrates labour market policy theory, program evaluation methodologies, and the specific socio-economic context of Slovakia.

In support of the main objective, the following partial objectives have been defined:

1. To summarize theoretical approaches to evaluating the effectiveness of employment services in EU countries, with a particular focus on Slovakia. This objective provides the theoretical foundation for the research design and methodological choices.
2. To examine the legal and financial framework governing labour market measures for disadvantaged groups in Slovakia. This includes an analysis of the support mechanisms available and the budgetary constraints affecting program implementation.
3. To assess the role of labour offices in the delivery of employment services and to determine whether regional differences influence program outcomes. This objective explores the institutional capacity and consistency of service provision across the country.
4. To identify the key factors influencing the duration of unemployment among disadvantaged job seekers, especially the long-

term unemployed. Understanding these factors is essential for designing more effective interventions.

5. To compare the unemployment duration of program participants and non-participants. This objective aims to determine whether participation in selected programs leads to shorter unemployment spells.

6. To evaluate the cost-effectiveness of selected employment services for disadvantaged groups. This involves assessing whether the benefits of the programs outweigh their costs.

7. To formulate policy recommendations based on the findings of the previous objectives. These recommendations are intended to support evidence-based decision-making in the field of employment policy.

Research Questions

1. Does participation in a labour market program reduce the duration of unemployment, and what are the most influential factors affecting long-term unemployment?

2. Which labour market programs are cost-effective and contribute most significantly to improving the employability of disadvantaged job seekers?

Research Hypotheses

- H1: The unemployment period of job seekers who participated in a program is shorter than that of non-participants.
- H2: The benefits of a labour market program exceed its costs.
- H3: The most effective programs are those focused on training and counselling.

3. Methodology of work and research methods

To evaluate the effectiveness of active labour market programs for disadvantaged groups in Slovakia, this dissertation employs a combination of quantitative and qualitative research methods. The methodological framework is based on established evaluation typologies introduced by Harrell et al. (1996) and adapted for ALMPs by Dar and Tzannatos (1999). These include:

Type of Evaluation	Purpose
Performance Monitoring	Assesses whether the program is achieving its stated goals.
Impact Evaluation	Determines whether the program had the intended effects and consequences.
Cost and Cost-Benefit Analysis	Compares program costs with the benefits generated.
Process Evaluation	Examines how the program is implemented and identifies delivery challenges.

Table 1 Types of ALMP Evaluation

For the purposes of this research, performance monitoring and impact evaluation are combined and implemented using kernel matching and Average Treatment Effect on the Treated (ATT). These methods allow for a robust comparison between program participants and non-participants, controlling for observable characteristics.

Quantitative Evaluation

The quantitative component focuses on evaluating the following national and internal labour market programs implemented between 2019 and 2023:

- Involvement of the Unemployed in the Restoration of Cultural Heritage (2021)
- Be Active, Get a Job (for youth under 29)
- Increased Activity to Employment (for long-term unemployed)
- Path to the Labour Market (1, 2, and 3)
- Support of Individualized Counseling for Long-Term Unemployed
- Support for Employment

Data were obtained from the Institute for Social Policy and COLSAF, covering both program participants and the general unemployed population. The dataset includes variables such as age, gender, education (ISCED levels), unemployment duration, region (NUTS level), previous employment, and occupation.

Data Cleaning and Group Formation

To ensure comparability:

- Only individuals unemployed for 12+ months were included.

- Participants in projects not targeting long-term unemployed were excluded.

- Missing values (e.g., education, gender, age) were removed.

Two groups were formed:

- Treatment group: 229,850 entries (project participants)

- Control group: 67,643 entries (non-participants)

Dummy variables were introduced:

- Gender: 1 = Female, 0 = Male

- Training: 1 = Participated in project, 0 = Did not

- Residency: 1 = Urban, 0 = Rural (based on NUTS 4 classification)

To estimate treatment effects, the study applies:

- Kernel matching (preferred for its efficiency and covariate balance),

- Propensity score matching (PSM),

- Nearest-neighbor matching using Mahalanobis distance.

To evaluate the causal impact of labour market training programs on unemployment duration, we applied the three kernel matching techniques using the `kmatch` command in STATA. The treatment variable was defined as training participation (1 = participated, 0 = did not participate). This allowed us to compare outcomes between the treatment group (participants) and the control group (non-participants), controlling for key covariates such as age, education, gender, and residency. These methods allow for a more accurate estimation of the impact of program participation on unemployment duration and post-program employment outcomes.

Process Evaluation

To assess how the programs were implemented, the study conducted:

- Two in-depth interviews with labour office staff (Šal'a and Banská Bystrica),

- A structured questionnaire distributed via Google Forms to labour offices in regions with high program activity (NR, TT, TN, ZA, BB, PO).

The questionnaire focused on four key areas:

1. Candidate selection criteria

2. Perceived effectiveness of participation

3. Observed outcomes

4. Administrative processes and challenges

A total of 25 responses were collected between October and December 2024. This qualitative data provides insight into the operational challenges and practical experiences of labour office staff.

Cost-Benefit Analysis

The cost-benefit analysis compares the financial costs of each program with the benefits generated, including reduced unemployment duration and increased employability. The methodology is based on a technical report from the Canadian government (2024), adapted to the Slovak context. This analysis evaluates labour market programs by identifying their costs and benefits across individual, governmental, and societal levels.

Costs include:

Direct: Staff salaries, participant allowances, training, and operational expenses.

Indirect: Administrative overhead and increased staffing needs.

Opportunity/Intangible: Lost alternative opportunities, service disruptions, and reduced labor availability.

A structured framework estimates these using program data and economic assumptions (e.g., 20% marginal social cost of public funds). Health-related savings from reduced unemployment are also considered, averaging 8.9% annually over five years.

Benefits span:

Economic: Increased employment, wages, and tax revenue; reduced benefit dependency.

Social: Lower public health and welfare costs, improved well-being, and stronger social cohesion.

Non-monetary gains—such as better mental health and family stability—are supported by research and are vital for a holistic evaluation. Overall, while programs involve significant upfront costs, long-term economic, social, and health benefits outweigh them.

4. Structure of the dissertation

Introduction

This chapter introduces the research topic, outlines the problem of long-term unemployment in Slovakia, and presents the motivation behind evaluating labour market programs. It defines the research objectives, hypotheses, and provides an overview of the dissertation structure.

1 Theoretical background and literature review

This chapter provides a comprehensive overview of the theoretical foundations of active labour market policies (ALMPs). It discusses the rationale behind ALMPs, categorizes different types of measures, and reviews empirical evidence from Slovakia and international contexts regarding their effectiveness for disadvantaged groups.

2 Objectives of the dissertation thesis

This chapter clearly states the main goals of the research, focusing on evaluating the effectiveness and cost-efficiency of selected labour market programs in Slovakia. It also outlines the specific hypotheses tested in the study.

3 Methodology of the dissertation thesis

This chapter describes the mixed-methods approach used in the research, including theoretical analysis, interviews, questionnaires, and quantitative evaluation using kernel matching techniques. It also explains the cost-benefit analysis (CBA) and risk assessment methods applied.

4 Results

This chapter presents the empirical findings of the study. It is divided into four sub-sections that cover process evaluation, performance monitoring, cost-benefit analysis, and policy recommendations based on the results.

4.1 Process evaluation of labour market measures

This section analyzes the implementation of labour market programs, highlighting administrative challenges, eligibility criteria, and the perspectives of labour office staff.

4.2 Performance monitoring of the labour market measures

This section evaluates the effectiveness of the programs in reducing unemployment duration using quantitative methods, including kernel and nearest-neighbour matching techniques.

4.3 Cost and cost–benefit evaluation of labour market measures

This section presents the results of the cost-benefit analysis, demonstrating the financial efficiency of the programs from the government's perspective over a five-year period.

4.4 Recommendation based on the results

Based on the findings, this section provides practical recommendations for improving the design and implementation of labour market programs to better support long-term unemployed individuals.

5 Discussion

This chapter interprets the results in the context of the research questions and existing literature. It discusses the implications of the findings for policy and practice, and reflects on the strengths and limitations of the study.

6 Conclusion

This chapter summarizes the key findings, confirms the research hypotheses, and emphasizes the contribution of the study to labour market policy development. It also outlines directions for future research.

Resume

This section provides a concise summary of the entire dissertation, highlighting the research objectives, methods, key findings, and policy implications in Slovak language.

References

This section lists all the sources cited throughout the dissertation, formatted according to the required citation style.

Attachments

This section includes supplementary materials such as interview guides and questionnaires.

5. The results of the work

Over the past three decades, Slovakia's labour market has undergone significant transformation. With the support of EU funds and the implementation of ALMP, the country has intensified efforts to reduce unemployment and support disadvantaged groups. This section evaluates the effectiveness of employment services and labour market programs targeting disadvantaged job seekers, particularly from 2019 to 2023.

The analysis begins by examining the conditions for launching labour market programs and the broader employment context. Regional disparities are a key factor—while western Slovakia (e.g., Bratislava region) shows low unemployment and a high number of vacancies, eastern regions (e.g., Prešov and Košice) face high unemployment and limited job opportunities.

A major concern is the high rate of long-term unemployment, especially among youth aged 15–24, who consistently show an average unemployment rate of around 20%. This trend raises questions about the alignment between the education system and labour market needs, as well as the availability of entry-level positions for recent graduates.

To assess regional labour market imbalances, the unemployment-to-vacancy (u/v) ratio was calculated using NUTS 3 regional data. The highest u/v ratios were observed in the eastern and central regions—Prešov (11.8), Košice (8.53), and Banská Bystrica (6.15)—indicating significant structural challenges. In contrast, the Bratislava region had a u/v ratio of just 0.36, reflecting a more favourable labour market.

When focusing on graduates, the u/v ratios improve slightly but still highlight regional inequalities. For example, in Banská Bystrica, two graduates compete for each vacancy, while in Prešov, the ratio is less than one.

The geographical distribution of job seekers further confirms these disparities. Counties such as Rimavská Sobota and Kežmarok in eastern Slovakia report the highest shares of available job seekers (9–12% of the workforce), underscoring the need for regionally tailored employment strategies.

These findings emphasize the importance of considering regional labour market conditions when evaluating the effectiveness of ALMPs. Even well-designed programs may have limited impact in areas with deep structural unemployment and few job opportunities.

The duration of unemployment in Slovakia varies significantly between regions, with eastern areas facing longer unemployment spells despite the implementation of national labour market programs. This disparity is largely due to the limited availability of job vacancies in less developed regions, which reduces the long-term effectiveness of even well-designed projects.

While labour market programs operate under uniform conditions nationwide, their success is heavily influenced by local labour market dynamics. For example, young job seekers benefit most from entry-level roles that require no prior experience, whereas long-term unemployed individuals may need simpler jobs in sectors like agriculture or manufacturing. A key barrier for the long-term unemployed is the loss of work habits, making reintegration into full-time employment difficult. In such cases, preparatory programs—such as the Counseling Program for the Long-Term Unemployed—may be more effective than direct placement initiatives like Path to the Labour Market.

Interviews with employment office staff revealed that working with long-term unemployed individuals is often challenging, with some even being removed from registries due to non-cooperation. This suggests that official statistics may underrepresent the most vulnerable groups. Notably, the largest share of long-term unemployed individuals falls within the 15–24 age group, highlighting the need for targeted youth employment strategies.

Even in regions with effective programs, low vacancy rates can significantly limit outcomes. For instance, in areas with high unemployment and few job openings, program participants are likely to return to unemployment once the project ends.

Positive and Negative Effects of Labour Market Programs

Labour market programs aim to improve employment outcomes and stimulate economic growth. However, they can also have unintended consequences. For example, financial incentives for commuting or

relocation may encourage migration from underdeveloped eastern regions to more prosperous western areas. This can widen regional disparities and create pressure on housing and infrastructure in urban centers.

Enhancing the Supply Side of the Labour Market

While most programs focus on the demand side—helping individuals find jobs—there is also potential to influence the supply side by creating new job opportunities. Projects like Path to the Labour Market include components that directly support job creation and offer financial aid for commuting. However, these initiatives must be carefully managed to avoid crowding out local workers or causing labour shortages in the regions of origin.

The process of creating new jobs through these programs involves strict administrative procedures, including employer vetting and budget constraints. As noted in interviews, employment offices are limited by legal frameworks, which can slow down implementation. The effectiveness of such programs is therefore closely tied to the number of available positions in each region. In areas with few vacancies, even newly created jobs may not lead to sustainable employment once the project ends.

5.1 Process Evaluation of Labour Market Projects

The process evaluation focuses on understanding how labour market projects are implemented, who they target, and how participation is managed and monitored. This evaluation draws on qualitative data collected through interviews and questionnaires distributed to selected labour offices across Slovakia.

Data Collection and Regional Coverage

To ensure regional representation, six labour offices were selected—Šaľa, Galanta, Trenčín, Banská Bystrica, Žilina, and Prešov—covering western, central, and eastern Slovakia. Two in-depth interviews were conducted: one face-to-face in Šaľa and one via phone in Banská Bystrica. Additionally, questionnaires were distributed to all six offices, containing the same questions as the interviews.

Key Findings from Interviews and Questionnaires

- Project Participation Conditions:

Labour office staff highlighted that project conditions are often too specific or restrictive, limiting access for certain groups. For example, some youth-targeted programs are only available to secondary school graduates, excluding university graduates. This was perceived as potentially discriminatory.

- **Challenges with Long-Term Unemployed:**

Staff reported difficulties engaging long-term unemployed individuals, many of whom have lost work habits and fail to respond to invitations. In such cases, labour offices may terminate their registration, which temporarily excludes them from support and requires them to pay for their own health insurance—further deepening their vulnerability.

- **Administrative Complexity:**

The process of approving employers for participation is administratively demanding. Employers must meet strict legal and financial criteria, including no outstanding social or health insurance payments. Labour office staff expressed that their capacity to help is limited by both legal constraints and budget availability.

- **Perceived Effectiveness:**

While staff generally viewed the projects positively, they noted that past programs were more effective and better targeted. The current system is seen as overly complex, with diverse conditions that are difficult to navigate for both job seekers and employers.

- **Employer-Driven Selection:**

In many cases, employers already have a preferred candidate before applying for project funding. This raises concerns about transparency and fairness, especially when strict eligibility criteria must still be met by the selected job seeker.

- **Budget Constraints:**

A recurring theme was the limited budget allocated to projects. Even when labour offices are willing to support more job seekers, they are often restricted by funding, which directly impacts the scale and reach of the programs.

- **Feedback from Other Labour Offices:**

Responses from other offices echoed similar concerns. One noted that while cooperation between the office, client, and municipality exists, project conditions often prevent implementation. Another highlighted the

difficulty in answering the questionnaire due to the complexity and variability of project conditions.

Conditions for Participation

Participation in labour market projects is governed by strict legal and procedural requirements:

- For Employers:

Must apply for funding, specify the number of positions, and pass a compliance check (e.g., no unpaid taxes or insurance). Final approval is made through a tripartite decision involving the labour office, public representatives, and the Department of Employment.

- For Job Seekers:

Must meet specific eligibility criteria, such as being registered with the labour office or classified as disadvantaged. These conditions vary by project and can exclude otherwise suitable candidates.

Results of the Questionnaire

1. Conditions for Selecting Candidates

The responses revealed that selection into projects is influenced by multiple factors, including:

- Budget limitations: Even if all eligible unemployed individuals wished to participate, limited funding often prevents full inclusion.
- Eligibility criteria: Not all unemployed individuals meet the strict conditions set by each project.
- Employer-driven selection: Projects often operate on an employer-employee basis, where employers select candidates who must also meet project criteria.

From received answers 58.3% of respondents indicated that participants were selected based on experience or education. However, interviews clarified that selection is more about meeting project-specific conditions than choosing the most skilled candidates.

Interestingly, the outcome shows that about half of the respondents believed that selected participants would likely have found employment even without the project—though this perception may be subjective.

When asked about the similarity of current projects to previous ones, 75% of respondents agreed that the projects are similar, with the main differences being in target groups, conditions, and funding.

2. Efficiency of Participation

Projects primarily targeted disadvantaged groups, such as youth under 29, long-term unemployed, and individuals over 50. General public programs included requalification courses like REPASS and KOMPASS.

According to the responses, 74% of employees felt that the projects were comparable in effectiveness to previous initiatives. The main differentiator remained the eligibility conditions.

3. Outcomes of Participation

While the evaluation is based on staff perceptions, it still provides valuable insights:

- 70% of respondents reported that unemployed individuals participated without major issues.
- 17% encountered difficulties with participant motivation.

Regarding the future potential of these projects:

- 46% believed they would be effective only if conditions were improved.
- 42% considered them generally useful.

When asked whether participation led to faster employment, 42% believed it did—but also noted that many participants would have found jobs regardless.

4. Administrative Process and Suggestions for Improvement

The final section of the questionnaire addressed the administrative burden and areas for improvement:

- 60% of respondents suggested that participation conditions should be revised.
- Another 60% called for simplification of administrative procedures.
- 45.8% highlighted insufficient financial support as a key issue.

These findings align with interview feedback, particularly from the Šaľa labour office, where staff noted that strict conditions exclude many potential participants. In Banská Bystrica, staff emphasized that they are bound by legal frameworks and cannot influence project outcomes beyond what is permitted by law.

Limitations

While the questionnaire provided valuable insights, several limitations must be acknowledged:

- The sample size was small (25 responses and 2 interviews).
- Only 6 out of 8 Slovak regions were included.
- Responses may not fully represent the diverse experiences of all labour offices.

Despite these limitations, the questionnaire results offer a meaningful look into the practical challenges and perceptions surrounding labour market programs in Slovakia and highlight key areas for policy and procedural improvement.

5.2 Performance Monitoring

Data Sources and Project Scope

The analysis focuses on the following labour market projects:

- Involvement of the Unemployed in the Restoration of Cultural Heritage (2021)
- Be Active, Get a Job (for youth under 29)
- Increased Activity to Employment (for long-term unemployed)
- Path to the Labour Market (1, 2, and 3)
- Reconciling Family and Work Life
- Support of Individualized Counseling for Long-Term Unemployed
- Support for Employment

These projects share similar eligibility criteria, primarily targeting disadvantaged groups, especially the long-term unemployed (registered for 12+ months). Therefore, the evaluation compares participants in these projects (treatment group) with non-participants (control group) who meet the same unemployment duration criteria.

Dataset Overview

The first dataset includes 114,572 entries of individuals who participated in the selected projects. Key variables include:

- Education level (ISCED)
- Age
- Gender
- Length of unemployment

- Place of residence
- Previous employment (partially missing)

In Table 2 is the summary of the dataset presented.

Characteristic	ISCED	Age	Gender (F=1)	Unemployment (months)
Average	3.09	40	0.6 (60% F)	31
Median	3	40	1	14
Min	1	16	0	-18
Max	8	69	1	378
Observations	114,478	114,572	114,572	114,572

Table 2 Summary of dataset Note: Negative unemployment values indicate participants not officially registered as unemployed.

Project Participation Characteristics

The Table 3 below provides a breakdown of project-specific participation.

Project Name	Participants	Avg. Age	Avg. ISCED	Avg. Unemployment (months)
Be Active, Get a Job	1,817	23	4.0	2
Path to the Labour Market	19,325	37	3.0	29
Path to the Labour Market 2	4,513	39	3.8	19
Path to the Labour Market 3	18,152	37	3.5	12
Counseling Support	24,505	43	3.0	56.5

Employment Support	34,875	40	3.2	21.5
Cultural Heritage	235	43	3.0	9
Family & Work Life	1,219	34.5	4.3	9.9
Increased Activity	9,913	43	2.7	54

Table 3 Project participation characteristics

Group Characteristics Comparison

Characteristic	Treatment Group	Control Group
Average Age	41	47
Average ISCED	~3.0	~3.2
Urban Residency	30%	40%
Rural Residency	70%	60%

Table 4 Comparison o treatment and control group

These differences between treatment and control group visible in Table 4 suggest that project participants tend to be younger, slightly less educated, and more likely to live in rural areas compared to non-participants.

Results of the Kernel Matching Technique

1. Multivariate Distance Kernel Matching

Using the Mahalanobis distance metric and an Epanechnikov kernel (bandwidth = 18.19), we matched 230,000 treated individuals to 67,638 control observations. The Average Treatment Effect on the Treated (ATT) was estimated at -1.45 ($p < 0.001$), indicating that participation in the training program reduced the probability of being unemployed by 1.45 percentage points. The Normalized Average Treatment Effect (NATE) confirmed this result, suggesting a robust and statistically significant positive impact of the training intervention.

Interpretation: Participants experienced shorter unemployment durations compared to non-participants.

2. Multivariate Distance Nearest-Neighbour Matching

This method matched each treated individual to the most similar control(s) using Mahalanobis distance. All 229,840 treated individuals

were matched to 67,628 controls, with only 10 unmatched. The estimated ATT was -1.66 ($p = 0.006$), again indicating a statistically significant reduction in unemployment. Although the standard error (0.61) was higher than in kernel matching, the result remained significant at the 1% level.

Interpretation: Consistent with the first method, this approach confirms that training participation is associated with shorter unemployment periods.

3. Propensity-Score Kernel Matching

Using a logistic regression model to estimate treatment probabilities, this method applied an Epanechnikov kernel with a narrow bandwidth (0.0007171). Out of 230,000 treated individuals, 210,000 were successfully matched to 67,634 control observations. The ATT was estimated at +1.69 ($p < 0.001$), suggesting an increase in unemployment among participants. However, the NATE remained consistent with earlier findings at -1.45, indicating a reduction in unemployment when normalized outcomes were considered.

Interpretation: This discrepancy may reflect model sensitivity, unobserved confounding, or heterogeneous treatment effects. As noted in the Methodology section, propensity-score matching may be less suitable for this dataset, and results should be interpreted with caution.

Matching Method	ATT Estimate	p-value	Interpretation
Multivariate Distance Kernel	-1.45	< 0.001	Significant reduction in unemployment
Nearest-Neighbour Matching	-1.66	0.006	Significant reduction in unemployment
Propensity-Score Kernel Matching	+1.69	< 0.001	Increase in unemployment (contradictory result)
Propensity-Score NATE	-1.45	< 0.001	Consistent with other methods

			(normalized outcome)
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Table 5 Comparative Summary of Matching Methods

Conclusion: While two methods (kernel and nearest-neighbour) consistently show a positive effect of training on reducing unemployment, the third method (propensity-score matching) yields a contradictory ATT. However, the NATE aligns with the other findings, suggesting that training programs are generally effective in shortening unemployment durations.

Hypothesis Testing

Based on the results:

- H1: Participants in training programs experience shorter unemployment durations than non-participants.
- ☑ Accepted — Supported by two out of three ATT estimates and confirmed by the NATE in all methods.

5.3 Cost-Benefit Analysis of Labour Market Programs

To evaluate the overall effectiveness of labour market programs, a cost-benefit analysis (CBA) was conducted following a seven-step framework adapted from a Canadian government technical report. This approach considers both direct and indirect costs as well as economic and social benefits from the perspectives of individuals, the government, and society.

Long-Term Benefits and Final Cost-Benefit Analysis

Labour market programs not only offer immediate employment support but also generate long-term benefits that extend beyond economic gains. These include improvements in quality of life, public health, and social cohesion—especially for vulnerable groups such as the long-term unemployed.

1. Intangible and Social Benefits

Unemployment is strongly associated with increased risks of mental health issues, depression, and social exclusion. Gaining employment through labour market programs can lead to:

- Improved mental and physical health
- Higher job satisfaction and self-esteem
- Reduced reliance on social services
- Greater participation in community and social life

These benefits, while difficult to quantify, are crucial for understanding the full impact of employment interventions.

2. Economic Benefits Framework

To quantify the economic impact, we use a five-year time horizon (2019–2023) and apply average national indicators. The benefits are assessed from the perspectives of the individual, government, and society.

Benefit Factor	Individual	Government	Society	Estimation Method
Employment Earnings	+	0	+	Net impacts based on average salary
Fringe Benefits	+	0	+	15.09% of employment earnings
State Income Tax	-	+	0	19% of taxable income
State Sales Tax	-	+	0	Based on consumption propensity (78%) and VAT (20–23%)
Employment Insurance (EI)	+/-	+/-	0	13.4% employee + 35.2% employer contributions
Social Assistance	+/-	+/-	0	Net savings from reduced

				benefit payments
Public Health Care Savings	0	+	+	8.9% annual savings per employed person

Table 6 Benefits Accounting Framework, Source: Adapted from Technical Report of Canada (2024)

3. Quantifying Costs and Benefits

We focus on two projects from 2019:

Project Name	Participants (2019)	Total Funding (€)	Funding per Person (€)
Path to the Labour Market	69	1,102,830	1,332
Path to the Labour Market II	890	13,573,048	1,270

Table 7 Program Costs, Source: Own calculations based on COLSAF data

Assumptions for Benefit Calculations:

- Average gross salary (2019): €1,092/month
- Fringe benefits: Up to €500/month (tax-exempt)
- State income tax: 19% (after deductions)
- Propensity to consume: 78%
- VAT: 20% (rising to 23% in 2025)
- Health care savings: 8.9% annually per employed person

We assume participants remain employed for 1 to 5 years, and calculate the cumulative benefits over this period, including:

- Net income and tax contributions
- Employer and employee insurance payments
- Reduced social assistance and healthcare costs

Long-Term Benefits and Cost-Benefit Analysis

Intangible and Social Benefits

Labour market programs generate not only economic returns but also significant intangible benefits. These include:

- Improved quality of life through stable income and job satisfaction.
- Enhanced mental and physical health, reducing public healthcare costs.
- Greater social cohesion and reduced dependency on welfare systems.

Unemployment is associated with increased risks of depression and chronic illness. According to OECD data, the average annual public healthcare cost per person in Slovakia in 2019 was €1,969. Literature suggests that employment reduces these costs by 8.9% annually, resulting in €175.3 in annual savings per employed individual.

Summary of Costs and Benefits

Benefit Factor	Value (EUR)
Net Employment Earnings	9,912
Fringe Benefits	500
State Income Tax (19%)	1,404
State Sales Tax (20% / 23%)	1,546 / 1,778
Employment Insurance (13.4% / 35.2%)	1,756 / 4,612
Social Assistance Savings	776.4
Public Health Care Savings	175.3

Table 8 Summary of Annual Benefits per Participant (2019), Source: Author's calculations based on national data and OECD estimates

From the government's perspective, the total annual benefit per participant (excluding net wages) is approximately €10,769.70, while the average program cost is €15,303. This results in a cost recovery rate of 70%, indicating strong cost-effectiveness.

Net Present Value (NPV) and Sensitivity Analysis

To assess long-term value, we calculate the Net Present Value (NPV) of benefits over two timeframes:

Scenario 1: 5-Year Horizon (2019–2023)

- Initial Cost: €15,303

- Annual Benefit: €10,769.70
- Discount Rate: 3%
- NPV: €34,019.07

Scenario 2: 20-Month Horizon (Project Duration)

- NPV: €2,189.97

Sensitivity Analysis:

Using discount rates of 3%, 5%, and 7%, the NPV remains positive in all cases, confirming the program's robustness. Even at 7%, the 20-month scenario yields an NPV of €1,623.65.

Impact of VAT Increase:

With the VAT rising from 20% to 23% in 2025, government revenue from consumption will increase, further improving the fiscal return from re-employed individuals.

Hypothesis Testing – H2

H2: The benefits of a labour market program exceed its costs.

☒ Accepted — The benefits of the selected labour market programs (Path to the Labour Market I & II) exceed their costs, confirming their cost-effectiveness.

Risk Assessment and Project Effectiveness

To assess the sustainability of employment outcomes, we analyzed whether participants were re-registered as unemployed in subsequent years.

Project Name	Participants (2019)	Unemployed in 2020	Unemployed in 2021+	% in 2020 / 2021 +	ALMP Type
Be Active, Get a Job	1,176	601	1,096	51% / 93%	Direct Employment
Path to the Labour Market I	14,010	3,313	5,197	23% / 37%	Wage Subsidies

Path to the Labour Market II	3,855	1,213	1,532	31% / 39%	Wage Subsidies
Path to the Labour Market III	802	267	383	33% / 48%	Wage Subsidies
Counseling Support (Long-Term)	20,746	2,793	5,293	13% / 25%	Counseling & Training
Increased Activity to Employment	9,474	1,427	2,465	15% / 26%	Counseling & Training

Table 9 Project Effectiveness by Re-Registration Rate, Source: Author's calculations based on COLSAF data

Findings:

- The most effective programs were counselling-based, with only 13–15% of participants returning to unemployment.
- Wage subsidy programs showed moderate effectiveness (23–39%).
- The least effective was the direct employment program, with 93% re-registered as unemployed by 2021.

Hypothesis Testing – H3

H3: The most effective programs are those focused on training and counselling.

☒ Accepted — Counselling and training-based ALMPs are more effective than direct employment or wage subsidy programs in sustaining long-term employment.

6. Conclusion

This thesis evaluated the effectiveness of selected labour market programs in Slovakia, with a focus on long-term unemployed individuals. Through theoretical analysis, empirical evaluation, and cost-benefit analysis, several key findings emerged.

Firstly, Slovakia's labour market remains regionally imbalanced, with eastern regions facing higher unemployment and fewer job opportunities. This structural disparity limits the effectiveness of national employment programs, as local vacancy availability is a critical success factor.

Secondly, while labour offices are committed to supporting disadvantaged job seekers, strict eligibility criteria, administrative burdens, and limited funding restrict broader participation. Nevertheless, staff generally view the programs positively and acknowledge their potential when well-targeted.

Empirical analysis using kernel matching techniques confirmed that program participation significantly reduces unemployment duration. Although not all methods consistently supported this, participants showed a significantly lower likelihood of returning to unemployment, indicating more stable employment outcomes.

The cost-benefit analysis demonstrated that these programs are cost-effective. Over a five-year horizon, the Net Present Value (NPV) of benefits exceeded initial investments, with a government cost recovery rate of approximately 70%. Programs focused on counselling and individualized support had the lowest rates of return to unemployment, reinforcing their long-term value.

Risk assessment further highlighted that early intervention is crucial. Many participants had already been unemployed for extended periods before entering the programs, reducing the potential impact of support measures. Low education levels and rural residency were the most prominent barriers to re-employment.

These findings support all three hypotheses:

H1: Program participants experience shorter unemployment durations.

H2: Program benefits outweigh costs, confirming cost-effectiveness.

H3: Counselling and training programs outperform direct employment or wage subsidy schemes.

Recommendations

Based on the research findings, the following recommendations are proposed to enhance the effectiveness of labour market programs in Slovakia:

1. Prioritize Early Intervention

Enroll individuals in support programs before they reach long-term unemployment (12+ months), as the likelihood of re-employment decreases over time.

2. Target Vulnerable Groups

Focus on individuals with low educational attainment and those living in rural areas, who face the greatest barriers to employment.

3. Adapt Programs to Regional Needs

Address regional disparities by tailoring programs to local labour market conditions. For example, rural areas may require basic skills training and mobility support, while urban areas may benefit from advanced training and job-matching services.

4. Stimulate Job Creation in Underserved Areas

Complement employability programs with supply-side measures such as support for local entrepreneurship, infrastructure development, and incentives for businesses to operate in high-unemployment regions.

5. Strengthen Labour Office–Employer Cooperation

Improve communication and data sharing between labour offices and local employers to better match job seekers with vacancies and respond to real-time labour demand.

Introduce Practical Work Experience in Education

6. Address youth unemployment by integrating compulsory practical

experience into the education system. The German dual education model could serve as inspiration, helping students gain work experience and improve employability upon graduation.

7. Enhance Program Flexibility and Responsiveness

Allow labour offices greater autonomy to adapt national programs to local needs, ensuring interventions are context-sensitive and more effective.

These recommendations aim to support more inclusive, efficient, and sustainable labour market policies, ultimately reducing long-term unemployment and improving outcomes for the most vulnerable groups in Slovakia.

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9. Summary

This thesis examined the effectiveness and cost-efficiency of selected labour market programs in Slovakia, with a particular focus on long-term unemployed individuals. The research aimed to assess how these programs contribute to reducing unemployment duration, improving employability, and delivering value for public investment.

A mixed-methods approach was employed, combining theoretical analysis, interviews with labour office staff, questionnaire responses, and quantitative evaluation using kernel matching techniques. Additionally, a cost-benefit analysis (CBA) and risk assessment were conducted to evaluate the long-term impact and sustainability of the programs.

The findings revealed significant regional disparities in unemployment, with eastern Slovakia facing higher unemployment rates and fewer job opportunities. Process evaluation highlighted administrative challenges and restrictive eligibility conditions that limit program accessibility. Despite these barriers, labour office staff generally viewed the programs positively.

Quantitative analysis confirmed that participation in labour market programs significantly reduces the duration of unemployment. Both multivariate distance kernel and nearest-neighbour matching techniques showed statistically significant positive effects. Although the propensity-score method yielded a contradictory ATT, the normalized effect aligned with the other methods, reinforcing the robustness of the findings.

The cost-benefit analysis demonstrated that the programs are cost-effective. Over a five-year period, the Net Present Value (NPV) of benefits exceeded the initial investment, with a cost recovery rate of approximately 70% from the government's perspective. Even under conservative assumptions, the programs yielded positive returns.

Risk assessment showed that counselling and training-based programs were the most effective in sustaining long-term employment, while direct employment programs had the highest rates of return to unemployment.

In conclusion, the research confirmed all three hypotheses:

- H1: Program participants experience shorter unemployment durations.
- H2: The benefits of selected programs outweigh their costs.
- H3: Counselling and training programs are more effective than direct employment or wage subsidy programs.

These findings provide valuable insights for policymakers and labour market stakeholders, emphasizing the importance of targeted, well-funded, and skill-oriented interventions to support disadvantaged job seekers and promote inclusive labour market integration.

10. Extended abstract in the Slovak language

Táto výskumná práca bola rozdelená do štyroch hlavných častí s cieľom komplexne zhodnotiť vybrané programy trhu práce zamerané na znevýhodnených uchádzačov o zamestnanie na Slovensku. Hodnotenie prebiehalo z viacerých perspektív – monitorovanie výkonnosti, procesná

evaluácia, hodnotenie dopadov a analýza nákladov a prínosov – aby sa dosiahlo viacrozmerné pochopenie ich efektívnosti. V prvej časti bola analyzovaná situácia na trhu práce v období realizácie hodnotených programov, so zameraním na znevýhodnené skupiny. Významným zistením bola výrazná regionálna nerovnováha v pomere nezamestnaných na jedno voľné pracovné miesto (u/v pomer), pričom západné regióny vykazovali priaznivejšie podmienky než východné. Táto nerovnováha vysvetľuje rozdielnu účinnosť programov v jednotlivých regiónoch. Na základe rozhovorov a dotazníkových odpovedí z úradov práce sa ukázalo, že dizajn programov by mal byť prispôsobený konkrétnemu regionálnemu kontextu.

Druhá časť sa venovala procesnej evaluácii, konkrétne riadeniu a implementácii programov z pohľadu úradov práce. Realizovali sa dva rozhovory a získalo sa 25 odpovedí z dotazníkov od úradov práce v šiestich slovenských regiónoch. Zistenia poukázali na to, že implementácia programov je obmedzená pevne stanovenými podmienkami a nedostatočným financovaním, čo úradom práce neumožňuje flexibilne reagovať a zlepšovať výsledky. Napriek snahe zamestnancov efektívne pomáhať uchádzačom, štrukturálne obmedzenia často bránia úspechu programov.

V tretej časti bola realizovaná evaluácia dopadov pomocou individuálnych údajov z Ministerstva práce, sociálnych vecí a rodiny, sprostredkovaných Inštitútom sociálnej politiky. Pre zabezpečenie robustnosti boli použité tri metódy párovania: kernel matching, nearest-neighbor matching a propensity-score kernel matching. Prvé dve metódy konzistentne ukázali, že účastníci programov strávili v nezamestnanosti kratší čas (ATT -1,45 a -1,66 mesiaca). Naopak, tretia metóda ukázala opačný efekt (ATT +1,69 mesiaca), čo naznačuje možný nárast nezamestnanosti u účastníkov. Táto diskrepancia poukazuje na význam metodologickej triangulácie a naznačuje, že výsledky programov sa môžu líšiť v závislosti od charakteristík populácie a použitej metódy. Normalizovaný priemerný efekt (NATE) z poslednej metódy však korešpondoval s ostatnými, čo potvrdzuje pozitívny dopad programov.

Štvrtá časť sa zaoberala analýzou nákladov a prínosov, ktorá ukázala, že prínosy hodnotených programov prevyšujú ich náklady. Efektivita programov bola posudzovaná aj podľa miery opätovného návratu do nezamestnanosti počas štyroch rokov. Najefektívnejšie sa ukázali byť konzultačné služby, kde sa len 20 % účastníkov vrátilo do nezamestnanosti, čo je výrazne menej než pri ostatných programoch.

Na základe metodológie boli testované tri hypotézy:

Účasť skracuje dobu nezamestnanosti – potvrdené.

Programy sú nákladovo efektívne – potvrdené.

Tréningové a konzultačné programy sú efektívnejšie než ostatné – potvrdené.

Napriek pozitívnym zisteniam je potrebné poukázať na viaceré obmedzenia. Analýza nákladov a prínosov sa týkala len dvoch z celkovo siedmich programov, čo obmedzuje všeobecnú aplikovateľnosť výsledkov. Navyše sa predpokladala nepretržitá zamestnanosť počas piatich rokov, čo nemusí zodpovedať realite. Nepriame náklady a širšie spoločenské dopady neboli zahrnuté.

Procesná evaluácia bola obmedzená malou vzorkou a geografickým pokrytím – kontaktované boli len úrady práce v šiestich z ôsmich regiónov, pričom sa zameriavali len na najväčšie mestá. To mohlo viesť k nadmernej reprezentácii mestských perspektív a podhodnoteniu problémov vidieka. Výskum poukazuje na to, že efektívnosť programov trhu práce závisí od viacerých externých faktorov, ako sú regionálne podmienky, dostupnosť financovania a rigidné štruktúry programov. Situácia na západnom Slovensku sa výrazne líši od východu, pričom potreby uchádzačov v mestách sa odlišujú od tých vo vidieckych oblastiach. Na vidieku je dlhodobá nezamestnanosť často spojená s obmedzeným prístupom k vzdelaniu a nedostatkom pracovných príležitostí. Budúce programy by preto mali byť prispôbené regionálnym a demografickým rozdielom.

Táto práca prináša komplexný pohľad na programy trhu práce pre znevýhodnené skupiny, čo v doterajšej literatúre chýbalo. Hoci mnohé štúdie naznačujú, že účasť v takýchto programoch skracuje dobu nezamestnanosti, naše zistenia ukazujú, že to nemusí platiť univerzálne, najmä pri dlhodobo nezamestnaných. Napriek tomu programy pomohli mnohým jednotlivcom vrátiť sa na trh práce.

Kľúčovým poznatkom je význam načasovania intervencie. Skorší zásah – predtým, než sa jednotlivci stanú dlhodobo nezamestnanými – môže výrazne zlepšiť výsledky programov. Budúci výskum by sa mal zamerať na úlohu včasnej intervencie a na možnosti prispôbenia dizajnu programov tak, aby lepšie slúžili potrebám vidieckych obyvateľov a osôb s nižším vzdelaním. Prispôbenie programov regionálnym podmienkam a zlepšenie prístupu k tréningovým a konzultačným službám môžu byť kľúčovými krokmi k zníženiu dlhodobej nezamestnanosti na Slovensku.