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Labour market activity in Slovakia: Challenges and interventions

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CITATION

Remenyik B, Szalai SM, Jenei S, et al. (2024). Labour market activity in Slovakia: Challenges and interventions. *Journal of Infrastructure, Policy and Development*. 8(16): 10223. <https://doi.org/10.24294/jipd10223>

ARTICLE INFO

Received: 11 November 2024

Accepted: 3 December 2024

Available online: 31 December 2024

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Abstract: In Central and Eastern European countries, the labour shortage is becoming increasingly pronounced, posing a challenge for the economy. Labour shortages limit the potential national income as many positions remain unfilled, which could lead to a slowdown in economic growth. To address this issue, various solutions need to be explored. This research aims to analyze solutions for alleviating labour shortages, with particular emphasis on measures that encourage workforce participation. One strategy is introducing training and retraining programs that help workers develop skills and adapt to labour market demands. Another option is to promote part-time employment, which may be especially attractive to groups unable or unwilling to work full-time. Enhancing population mobility could also be crucial in addressing labour shortages, particularly in bridging regional disparities. Integrating certain inactive groups, such as retirees, homemakers, students, people with disabilities, and those with low education levels experiencing generational poverty, into the labour market could also yield significant benefits. The study employs quantitative analysis methods and includes a survey that examines citizens' perspectives on the effectiveness of measures aimed at increasing labour market participation and their economic impact on the Slovak economy. The survey data were collected in 2023 in the region of Rožňava and its surrounding areas.

Keywords: labour shortage; economic participation; employment strategies; output gap; workforce integration; labour market activity

1. Introduction

The study addresses the issue of labour market activity in Slovakia, focusing on the possibility of increasing the employment rate. The labour market is a fundamental aspect of the macroeconomy, where elements crucial to economic performance and social stability intersect. Since the Industrial Revolution, the concept of “unemployment” and its social and economic implications have become central topics in labour market analyses and continue to be subjects of ongoing research. Although considerable efforts have been made to reduce unemployment, complete eradication remains an unattainable goal. The research aims to review the segmentation of the Slovak labour market and the situation of inactive groups and analyze strategies aimed at enhancing labour market activity. The theoretical part of the research presents the concept of the labour market and the characteristics of unemployment, followed by a

focus on different approaches to encouraging activity among inactive social groups. Additionally, the study examines regional disparities in detail, particularly emphasizing labour market characteristics in different geographical areas of the Slovak economy. In the practical part, a questionnaire survey provides the foundation for the analysis. This quantitative study involved respondents who were not directly affected but, as outsiders, could assess the usefulness of measures to increase labour market activity. The questionnaire aims to offer a comprehensive view of employment rate trends, wages, and job opportunities. The respondents' opinions provide insight into which measures may help boost activity and what changes they consider necessary to improve employment conditions. Based on the research findings, the study provides targeted recommendations for state and municipal interventions to boost employment rates and promote a societal shift towards increased labour market participation and sustainable workforce integration.

2. Literature review

This subsection, based on academic sources, presents key concepts related to the labour market and labour market data characteristic of Slovakia. The analysis places particular emphasis on concepts such as working age, activity, unemployment, labour shortage, and turnover. The concept of workability describes the balance between job requirements and individual resources, extending to external factors such as family and social influences. Numerous factors affect workability, including nature, organization, work environment, and an individual's health, skills, values, attitudes, and motivation. Workability is a complex, multidimensional concept whose objective measurability presents a significant challenge for researchers (Central Statistical Office, 2011). The sustainability of the mandatory state pension system and disability and survivor pensions is heavily influenced by the labour market activity and income distribution of the working-age population. The system, originally introduced in 1928 and later supplemented in 1951, is financed through current contributions from employees and employers, and its operation relies greatly on the age structure of the population (Vékás, 2015).

The global push towards sustainability and green transition has brought new perspectives to labor market dynamics, including their intersection with perceived corruption and governance challenges (Kálmán et al., 2024b). This includes labor market regulation reforms and their influence on financial security and equitable opportunities in regions like Hungary, which further highlights labor-related economic concerns in neighboring countries (Németh et al., 2024).

Unemployment poses a significant economic challenge, further exacerbated by the global economic crisis. Literature extensively analyzes the economic and social impacts of unemployment, including physical and mental health deterioration and an increase in suicide rates. Studies indicate that various intervention programs can facilitate reemployment, especially for minority groups who frequently face discrimination in the job search process (Gelencsér et al., 2024; Kucseber, 2011; Wanberg, 2012).

Examining the social impacts of unemployment is essential, as economic decisions and investments have both economic, social and environmental impacts.

Creating sustainable labour market structures requires integrating social and environmental considerations (Kucseber, 2011). The development of sustainable tourism can contribute to strengthening local economies and labor market stability while supporting environmental and social sustainability goals (Mousazadeh et al., 2023; Zsarnoczky et al., 2019). Over recent decades, especially between 2011 and 2022, labour shortages have intensified worldwide, worsened by an aging workforce and the rise of new technologies. It has become crucial for governments to ensure the availability of appropriate skills and qualifications to alleviate labour shortages, requiring support for educational and training programs, developing policies that stimulate economic growth, and measures that promote workforce stability (Körmüves et al., 2024; OECD, 2019). The turnover rate has gained increasing significance with the intensifying competition in the labour market and rising expectations for job satisfaction. Turnover has shown a substantial increase in recent years, presenting companies with new challenges in maintaining competitiveness. To ensure employee satisfaction, it is essential to provide competitive wages, development opportunities, and a supportive work environment (Statistic Brain Research Institute, 2012; Wall Street Oasis, 2022). In the modern market economy, the labour market is constantly changing due to globalization, technological advancements, and production and financial innovations. The growth of specific industries and the decline of others impact job creation and loss, as well as the willingness of the population to work. Eurostat categorizes the inactive population into three main groups: those who do not wish to work, those who would work but are not actively seeking employment, and those who are seeking work but are not classified as unemployed under ILO rules (Horváth et al., 2019). Many students are inactive, relying on family support or scholarships, although some take part-time jobs. Dual education provides an effective solution, allowing students to balance learning and work (Hargitai, 2013).

In the modern labor market, the introduction of innovative practices such as green human resource management (GHRM) highlights a new direction for addressing workforce challenges. A recent study demonstrated that GHRM practices significantly enhance employees' eco-friendly behaviors, especially in the context of higher education institutions (Kim et al., 2023; Vinkóczy et al., 2023). These practices, which integrate environmental considerations into HR policies, have been shown to positively influence workplace behavior through mechanisms such as environmental knowledge management and green self-efficacy. This underscores the importance of aligning labor market policies with broader sustainability goals, promoting a dual focus on employee well-being and environmental responsibility (Miah et al., 2024a, 2024b).

Inactivity among homemakers is particularly characteristic of women, who often leave the labour market due to childcare or household responsibilities. Improving the division of labour within families and providing flexible working conditions could support their labour market integration. Household work significantly affects family welfare and children's development (Fazekas et al., 2017). After reaching retirement age, the elderly population often withdraws from the labour market. Employment of older age groups depends heavily on economic and labour market conditions and the establishment of flexible pension systems (Banyár, 2020). Economic crises and recessions frequently result in inactivity among individuals with low educational

attainment and those from low-income families. Active labour market policies—such as training and subsidized employment programs—have yielded only limited success in reintegrating this group (Adler, 2012). Labour market participation among people with disabilities is low, especially in disadvantaged regions. Ensuring equal employment opportunities and combating discrimination can aid the integration of this group (Balázs et al., 2016).

There is a significant wage gap between men and women with the same level of education, particularly among those with higher qualifications. In contrast, minimum wage increases have narrowed the gap among lower-educated groups (Koltay et al., 2017). Macroeconomic analysis of the labour market examines the balance between supply and demand, determined by employment levels and wage trends. Aggregate demand is shaped by technological progress, job quality, and the level of human capital, while the supply side is influenced by demographic factors, economic activity, health, and individual abilities (Fazekas, 2012). In the European Union, labour policy measures aim to reintegrate more than 92 million inactive individuals into the labour market. Training programs, family support, and flexible employment options can be particularly effective among the low-skilled population, as inactivity is highest in this area (Viszt, 2015).

Furthermore, financial inclusion and employment growth are critical in tackling socioeconomic inequalities in both advanced and emerging economies. Corruption and institutional inefficiencies often hinder progress, as seen in comparative studies between Hungary and Mexico (Kálmán et al., 2024a). Significant regional disparities exist in economic activity across EU member states. Eastern Slovak regions, particularly the Košice and Gemer regions, struggle with high unemployment and low employment rates. Development plans and support programs have been introduced to assist these regions (Statistical Office of the Slovak Republic) (Gonos et al., 2015). In the Košice region, unemployment peaked in 2012 and has shown a downward trend. Although wages are lower than the national average, growth in the metallurgy and IT industries has stabilized the regional economy (Gonos et al., 2015). In 2015, the Slovak Ministry of Labour, Social Affairs, and Family classified the Rožňava district as one of the least developed areas, where the unemployment rate significantly exceeds the national average. The government aims to improve the district's situation through employment-boosting measures and development projects, focusing on local economic development and promoting tourism (Statistical Office of the Slovak Republic). Similar strategies can be seen in sustainable tourism development projects like those involving geoparks, which demonstrate the potential for integrating local resources and sustainable economic practices (Kálmán et al., 2024c).

3. Methodology

The research aims to examine the factors influencing labour market activity and inactivity, with a particular focus on the roles of gender, age, type of school, and intention to pursue further education. Based on the literature review, the following research questions were formulated:

- 1) Is fair compensation indeed a prominent factor in increasing labour market activity?

- 2) If integrated into the labour market, which social groups would most contribute to economic development?
- 3) What are the main factors that would most facilitate the employment of students, homemakers, and retirees?
- 4) What are the general factors that contribute to increasing labour market activity?

The research examined the diverse forms of labour market activity and inactivity by analyzing the relevant literature. The practical part consisted of a quantitative survey targeting the opinions of different labour market participants. The research was conducted in the Košice district, where the authors examined labour market characteristics by involving various age groups. The sample was collected using an online quantitative questionnaire. Despite efforts to maintain demographic balance, sampling biases make this research exploratory, and it is not representative of the entire population.

The questionnaire was created on the Google Forms platform to ensure easy access for respondents, primarily through social media. When designing the questions, an effort was made to keep them short and to the point, allowing respondents to answer easily without fatigue. The data were displayed using Excel, which ensured a consistent style for the graphical elements. A total of 145 respondents participated, with a gender distribution of 46% male, 53% female, and 1% undisclosed. The sample proved suitable for comparing responses by gender. By employment status, 51% of respondents were inactive, 35% were employees, 6% were unemployed, 5% were entrepreneurs, and 3% were unable to work. The age distribution showed a bias toward younger age groups: the average respondent age was 24.5 years, with a standard deviation of 9.4 years. By residence, 70% of respondents were rural residents, 17% were from small towns, and 13% were from large cities. Based on self-assessed income, 37.2% of respondents did not disclose, 17.9% reported below-average income, 33.1% average income, and 11.7% above-average income (**Table 1**).

Table 1. Demographic distribution of respondents.

Category	Distribution (N)	Distribution (%)
Gender		
Male	67	46%
Female	76	53%
Not disclosed	2	1%
Employment		
Inactive	74	51%
Entrepreneur	7	5%
Not of working age	4	3%
Unemployed	9	6%
Employed	51	35%

Table 1. (Continued).

Category	Distribution (N)	Distribution (%)
Age		
Under 20 years	31	21%
20–29 years	92	64%
30–39 years	10	7%
40–49 years	6	4%
50–59 years	5	3%
Over 60 years	1	1%
Residence		
Village	101	70%
Small town	25	17%
City	19	13%
Income		
Not disclosed	54	37.20%
Below average	26	17.90%
Average	48	33.10%
Above average	17	11.70%

4. Results and discussion

4.1. Findings regarding students

One of the aims of the research was to explore the extent to which increased labour market activity among students would benefit the Slovak economy. A seven-point Likert scale question was used in the study, with defined endpoints for the scale. In the analysis of responses, the average value was 4.69, with a standard deviation of 1.4. According to 3.4% of respondents (5 people), student employment would not be beneficial at all, while 12.4% (18 people) considered it the most significant support for the economy. **Table 2** presents the possible incentive measures.

Table 2. Key factors influencing the labour market participation of students and their importance.

Initiative	Average Score
Student job intermediary institution	5.18
Fair remuneration	5.12
Part-time jobs	5.09
One year of work experience before diploma	5.03
Online student job platform	5.02
Establishing a university intermediary unit	4.87
Making dual education more common	4.37

According to the analyses, the presence of more companies facilitating student employment would most significantly boost students' labour market activity (average 5.18), followed by the demand for adequate compensation (average 5.12). The

availability of part-time job opportunities also emerged as an important factor, with an average score of 5.09.

4.2. Findings regarding homemakers

Respondents' opinions were measured using a seven-point Likert scale to examine the economic impact of homemakers' participation in the labour market. The average score was 4.81, with 1.4% (2 people) believing that homemakers' employment would not contribute to economic development, while 14.5% (21 people) considered it the most significant support. **Table 3** summarizes the incentives.

Table 3. Key factors influencing the labour market participation of homemakers and their importance.

Initiative	Average Score
Private nursery for entrepreneur's children	5.29
Campaign for spouses	5.24
Fair remuneration	5.06
More kindergartens	4.74
Part-time jobs	4.66
More nurseries	4.51
Mediation for temporary work	3.92

According to respondents, increasing the number of childcare facilities, private kindergartens, and nurseries would significantly enhance homemakers' willingness to work (average 5.29). Campaigns encouraging spouses were also considered an important factor (average 5.24), along with ensuring adequate compensation (average 5.06).

4.3. Findings regarding retirees

Participants in the research believed that the economic impact of retirees' employment would be more moderate, as reflected in an average score of 3.91. A total of 9% (13 people) indicated that retirees' labour market activity would not be beneficial for the economy, while 10.3% (15 people) fully supported incentivizing senior employment. **Table 4** displays potential incentives for this age group.

Table 4. Key factors influencing the labour market participation of retirees and their importance.

Initiative	Average Score
Fair remuneration	5.06
Regular medical check-ups	4.92
Mentally suitable jobs	4.89
Physically suitable jobs	4.77
Part-time jobs	4.47
Mediation for temporary work	4.46
Retraining and further education	4.17

According to the results, adequate compensation is the most motivating factor for retirees (average 5.06). Regular medical check-ups also emerged as an important aspect (average 4.92), as many retirees face challenges in accessing regular healthcare. Opportunities for further training were less important, with an average score of 4.17.

4.4. Findings regarding disadvantaged groups

The research also explored opportunities for integrating disadvantaged groups into the labour market. The responses showed an average score of 5.07, indicating that a significant portion of respondents (20%, or 29 people) believed that the employment of these groups would be highly beneficial for the economy. The majority of respondents (27.6%, or 40 people) held a neutral view, while only 2.8% (4 people) thought that the employment of disadvantaged groups would not be useful. **Table 5** presents the suggested incentive measures for disadvantaged groups.

Table 5. Key factors influencing the labour market participation of disadvantaged groups and their importance.

Initiative	Average Score
Improving numeracy skills	5.41
Improving reading skills	5.34
Fair remuneration	5.26
Basic IT training	5.2
Mediation for temporary work	5.17
Simpler jobs specifically for them	5.13
Part-time jobs	5.02

Programs aimed at skills development, particularly in basic skills like numeracy and literacy, were the most important incentives, with an average rating of 5.41. The importance of part-time job opportunities was slightly lower, showing an average of 5.02.

4.5. Findings regarding people with disabilities

The economic impact of labour market participation by people with disabilities was rated at an average of 4.41 by respondents. According to the data, 3.4% (5 people) believed that increasing their activity would not benefit the economy, while 11% (16 people) held the opposite view. Respondents indicated that entrepreneurial training would provide the most significant support for this group, with an average rating of 5.39. Adequate compensation was also considered an important factor, with an average of 5.28. Part-time jobs were among the less important factors, with an average score of 4.66 (**Table 6**).

According to respondents, integrating disadvantaged groups into the labour market would benefit the economy the most, with an average rating of 5.07. Employment of homemakers emerged as the second most important factor (average 4.81), while increasing activity among students and people with disabilities ranked in the middle. Labour market activity for retirees received the lowest priority, with an average of 3.91. The research results indicate that higher compensation would be the

primary motivating factor, with an average score of 5.70, making it the most significant incentive among measures aimed at increasing activity across various groups.

Table 6. Key factors influencing the labour market participation of people with disabilities and their importance.

Initiative	Average Score
Entrepreneurship training for them	5.39
Fair remuneration	5.28
Special workplaces specifically for them	5.19
Workplace mentoring programs	4.96
Temporary jobs	4.93
Assistive digital tools	4.85
Part-time jobs	4.66

4.6. Correlations and regressions

We sought a linear regression equation between respondents' age and their preference for student employment. The analysis showed that respondents tend to favor student employment more as age increases. The correlation coefficient is low, $r = 0.11$ (Figure 1).

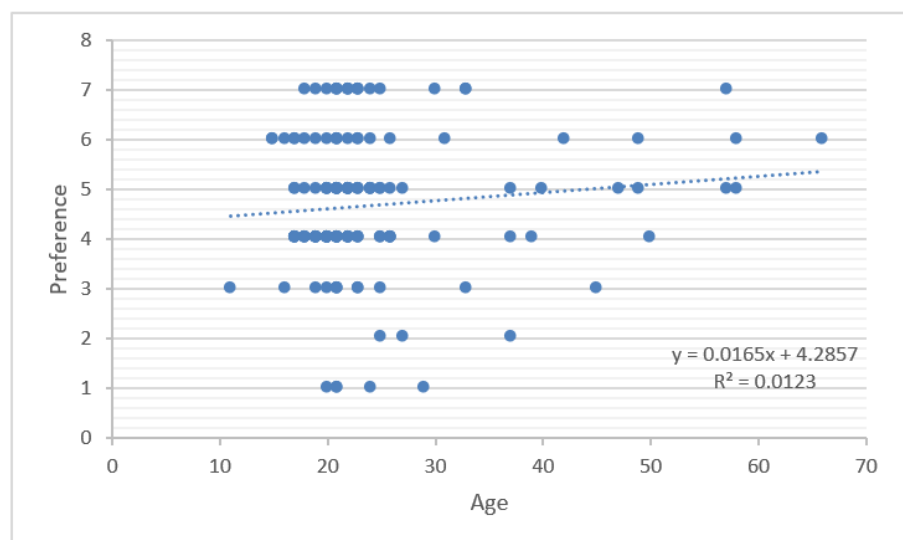


Figure 1. Respondents' age and preferences for student employment.

We sought a linear regression equation between respondents' age and their preference for homemaker employment. The analysis showed that as age increases, respondents tend to favor student employment more. The correlation coefficient is low, $r = 0.208$ (Figure 2).

We sought a linear regression equation between respondents' age and their preference for retiree employment. The analysis showed that as age increases, respondents tend to favor student employment more. The correlation coefficient is low, $r = 0.048$ (Figure 3).

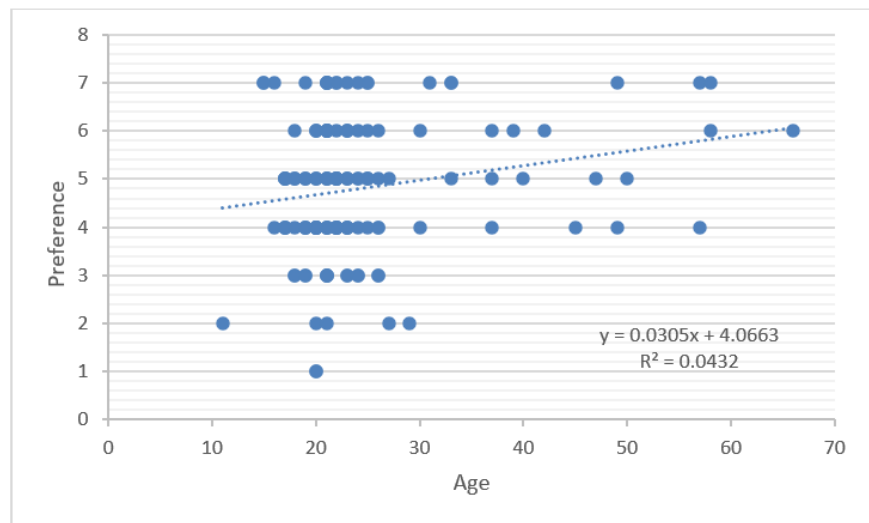


Figure 2. Respondents' age and preferences for homemakers employment.

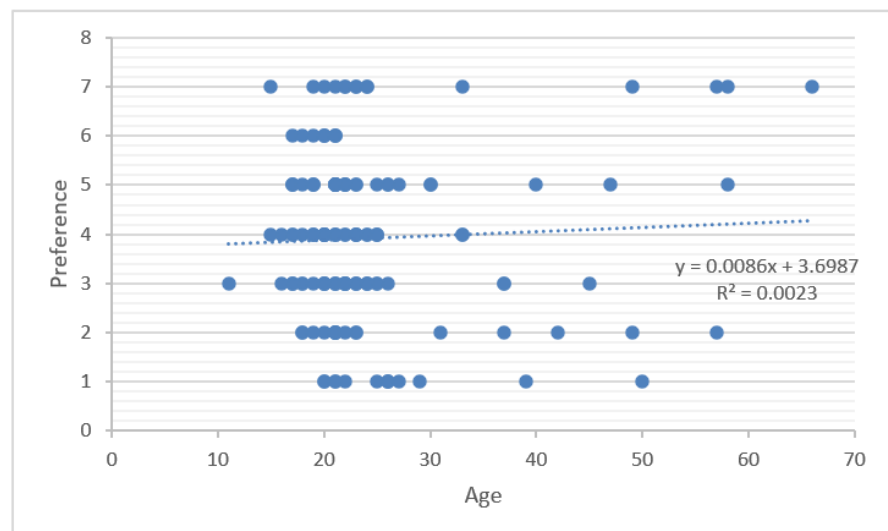


Figure 3. Respondents' age and preferences for retiree employment.

4.7. Answers to the research questions

Below are detailed answers to the research questions, focusing on the key factors aimed at increasing labour market participation. The findings reveal that fair compensation is a crucial factor in boosting labour market activity. Adequate pay ensures livelihood and strengthens employees' sense of appreciation. The research indicates that fair compensation is especially important for lower-income groups, students, retirees, and individuals with disabilities, for whom fair pay is a fundamental condition for labour market participation. Appropriate wages serve as a motivational tool contributing to employee satisfaction and labour market engagement. Thus, compensation providing financial security is directly linked to a willingness to actively participate in the workforce, particularly among those with less stable labour market positions. From an economic perspective, including disadvantaged groups and individuals with disabilities in the labour market is considered the most favorable solution. Integrating these underprivileged groups would not only increase employment rates but also contribute to reducing social inequalities in the long term.

Developing basic skills—such as literacy and numeracy—is essential for disadvantaged groups to meet labour market requirements. For individuals with disabilities, creating specialized workplaces would raise employment rates and reduce the burden on state benefits, thereby increasing economic efficiency. With appropriate support, these groups can provide valuable contributions to the economy's functioning and sustainability.

The integration of retirees, students, individuals with disabilities, homemakers, and the unemployed into the labor market enhances internal economic stability and reduces the burden of public social expenditures. For instance, the flexible employment of retirees supplements the pension system while providing opportunities to utilize their professional expertise (OECD, 2021). Incorporating individuals with disabilities and disadvantaged groups into the labor market decreases social exclusion and promotes equal opportunities. Inclusive workplace programs can significantly boost productivity and strengthen community cohesion (Schur et al., 2020).

Part-time employment for students and training programs for individuals with disabilities contribute to sustainable labor market development. Local training initiatives offer long-term solutions to labor shortages, as opposed to the short-term benefits of employing migrant workers (ILO, 2022). The integration of low-income and unemployed groups, particularly in rural areas, helps reduce regional economic inequalities while strengthening local economies (European Commission, 2020).

In contrast, relying on migrant workers can increase cultural and social conflicts, whereas activating the local workforce promotes social cohesion and reduces the costs associated with integration (Dustmann et al., 2021).

For students, entering the labour market is primarily aimed at gaining work experience, which is beneficial for future career building. According to the research, expanding access to student job placement services is one of the primary incentives for students, as it enables them to work flexibly alongside their studies. Moreover, fair compensation is also critical, as low wages deter many students from working. Finally, part-time job opportunities allow students to balance studies and work, so they do not have to compromise between education and income. Increasing childcare options would primarily support the labour market participation of homemakers. Expanding the number of kindergarten and nursery places would allow parents, especially mothers, to feel assured of their children's care, significantly easing the path to employment. Campaigns supporting spouses can also provide significant assistance, as these campaigns emphasize the importance of equal contributions within the family, facilitating the labour market integration of homemakers. Fair compensation is also fundamental in this case, as homemakers will find employment appealing only with adequate financial recognition, making it possible for this group to become more active in the labour market. The main employment incentives for retirees include appropriate compensation and access to healthcare services. Regular medical check-ups and jobs tailored to their health conditions are essential for the elderly. Special positions created for retired employees consider physical limitations due to age, allowing them to contribute to the economy without worsening health issues. The results also confirm that fair wages are essential for retirees, as many wish to work for financial reasons. Among the factors supporting general labour market participation, economic development in underdeveloped regions plays a prominent role. According

to the research, the lack of job opportunities is one of the greatest barriers to labour market participation for residents in such areas. Therefore, providing targeted economic incentives and support and developing infrastructure would be essential steps to boost activity. Additionally, encouraging businesses, for instance, through tax benefits and subsidies, could also increase demand for labour. Expanding education and professional training, particularly programs aimed at developing technological and digital skills would help enhance workers' competitiveness and help them better adapt to labour market demands. In summary, the research highlights that fair compensation is a fundamental factor in generally increasing labour market activity. Simultaneously, tailored measures that address the unique needs of different social groups are especially effective in supporting employment among students, homemakers, and retirees. From the economic development perspective, the labour market integration of disadvantaged groups and individuals with disabilities is particularly important, as it can bring long-term social and economic benefits.

5. Conclusion

The conclusion of this publication presented the current state of the labour market and the potential impact of various measures to enhance participation. The study emphasized multiple aspects of unemployment, including structural, cyclical, and seasonal unemployment, along with their social and economic implications. The analysis highlighted that the labour market can never achieve full employment, even under the most stable economic conditions, as the differing growth rates among industries perpetuate a constant flux in the labour market. Following a review of the theoretical background, the study focused on the situation of inactive groups, such as individuals with disabilities, mothers of young children, and homemakers. Data from the questionnaire suggested that steps to increase economic activity should include promoting a societal shift encouraging underqualified or disadvantaged groups to participate more actively in the labour market. Furthermore, the research underscored the crucial role of government and municipal involvement in encouraging workforce participation, especially through flexible employment opportunities and targeted support programs. The findings indicate that measures to enhance labour market participation could contribute to economic growth, although there are limitations to this process. One main limitation of the study is that the analysis primarily focused on specific regions within Slovakia, which limits the generalizability of the findings to the entire labour market. Additionally, due to the sample composition, the results reflect only specific trends rather than complete representativeness. Another limitation of the survey methodology is its inability to fully explore the individual and societal factors influencing labour market behavior. Future research opportunities include a more detailed examination of labour market participation, mainly through international comparisons that could reveal regional differences and the effects of diverse economic environments. It would also be valuable to explore the long-term impacts on labour market participation within specific segments, such as youth, seniors, or individuals with disabilities. Based on the results, developing additional targeted measures to support increased economic activity is essential, fostering sustainable, long-term labour market development.

Author contributions: Conceptualization, BR, SMS, VLP, DD, EMG and LDD; methodology, SJ, SMS and DD; software, BR, SMS, VLP, DD, EMG and LDD; validation, BR, SMS, VLP, DD, EMG and LDD; formal analysis, BR, SMS and SJ; investigation, EMG, VLP and LDD; resources, BR, SMS, VLP, DD, EMG and LDD; data curation, RM, SJ, SMS and LDD; writing—original draft preparation, BR, SMS, VLP, DD, EMG and LDD; writing—review and editing, BR, SMS, VLP, DD, EMG and LDD; visualization, BR, DD, SJ and SMS; supervision, BR, SMS and SJ; project administration, BR, SMS and SJ; funding acquisition, BR. All authors have read and agreed to the published version of the manuscript.

Conflict of interest: The authors declare no conflict of interest.

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