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Article

Wage implications of FDIs in Slovakia and Slovenia on post-communist emerging markets

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Abstract: This study investigates the impact of Foreign Direct Investments (FDIs) on wage dynamics in Slovakia and Slovenia, with a particular emphasis on gender-specific effects in post-Communist emerging markets. By analyzing wage outcomes for male and female workers separately, the research reveals potential disparities in FDIs-driven wage growth. Employing econometric techniques and longitudinal data, the study explores the nuanced relationship between FDIs, wage policies, and economic development over time. A temporal lag in FDIs analysis suggests that Slovakia and Slovenia have experienced differing impacts from past foreign capital flows. In Slovakia, significant correlations indicate persistent FDIs influence and a pronounced effect on gender wage disparities. In Slovenia, more moderate correlations and FDIs volatility suggest a less stable relationship between external investment and wage dynamics. The originality of this research lies in its comparative approach, examining two distinct post-Communist nations and identifying unique country-specific patterns and trends. This study contributes to a deeper understanding of FDI's role in labor market management and its implications for gender equality in two European emerging economies.

Keywords: FDIs; wages; gender equality; emerging economies; labor force
JEL Classification: F21; G15; L86; O16

1. Introduction

In the aftermath of the Cold War and the dissolution of the Eastern Bloc, several countries in Central and Eastern Europe embarked on a journey of economic transformation (Balázs et al, 1995; Ray, 2009; Stankuniene and Maslauskaite, 2008). Among them, Slovakia and Slovenia emerged as prominent examples of successful transition from centrally planned economies to market-oriented systems. As they navigated the challenges of post-Communist restructuring, these nations also opened their doors to Foreign Direct Investments (FDIs) as a means to accelerate economic growth, foster technological advancements, and integrate into the global market.

This study delves into the intricate relationship between FDIs and wage implications within the unique post-Communist context of Slovakia and Slovenia. While both countries share the legacy of communist economies, they have traversed distinct trajectories in terms of economic policies, industry specialization, and integration into the European Union (Cieślik et al. 2023; Gotz et al, 2023). Understanding how FDIs impact wage dynamics is not only pivotal for these nations'

economic development but also holds broader implications for the global debate on FDIs-driven growth and its implications.

The research will be focused on Slovakia and Slovenia, providing a nuanced analysis tailored to the economic and social contexts of these emerging countries. The goal of this article is to deepen the understanding of how FDIs interact with labor markets in post-Communist emerging economies, specifically in Slovakia and Slovenia. It explores the complex dynamics between external capital flows and wage inequalities, with a particular focus on gender disparities. By employing a comparative analysis of two nations with European historical legacies yet divergent economic paths, the research aims to reveal how past and present foreign investments influence wage structures and labor market development. The study's inquiry touches upon themes of the persistence of inequality, and the broader social implications of capital flows, particularly concerning gender equity. Through this lens, the article seeks to contribute to the ongoing discourse on economic growth, equity, and the role of policy in shaping more inclusive labor markets.

The main objectives of the study are:

- The article aims to investigate how FDIs influence wage outcomes in Slovakia and Slovenia, with a particular focus on gender-specific effects in post-Communist emerging markets.
- To analyze gender disparities in wage growth, and to reveal potential disparities in how FDIs affect wage growth for each gender, contributing to discussions on wage inequality.
- To compare economic outcomes in two emerging economies through the use of a comparative approach to identify unique country-specific patterns in the relationship between FDIs and wage dynamics in Slovakia and Slovenia, highlighting different economic responses to foreign capital flows.
- To explore the long-term effects of historical FDIs by assessing how past FDIs, measured through lag variables, have a lasting impact on current wage structures and economic development in both countries.
- By examining the wage disparities linked to gender, the article intends to offer insights for policymakers to design more inclusive wage and investment policies that promote gender equity in emerging economies.

The use of econometric techniques and statistical indicators will add rigor to the analysis, enabling the identification of potential causal relationships (Baltagi, 2021; Grace et al., 2012; Yang et al., 2015) and providing insights into the strength and significance of these relationships.

The research considers various factors, such as FDIs levels, gender-specific wage data, and potentially relevant covariates and this comprehensive approach will enable a more holistic exploration of the complex interactions between FDIs and wage outcomes. By analyzing two distinct former communist countries, Slovakia and Slovenia, the research allows for potential comparisons in terms of economic, political, and labor market dynamics and such comparisons can reveal unique country-specific patterns and highlight common trends.

Aiming to investigate the correlation between FDIs inflows and wage outcomes, this research also contributes to the existing body of knowledge on the intricacies of FDI's impact on labor markets. FDIs inflows often come with the promise of

technological spillovers, job creation, and increased productivity. However, the extent to which these benefits translate into improved wages for different segments of the workforce, especially considering gender-related aspects, requires careful examination.

By dissecting the data through meticulous statistical analyses, we aim to provide a comprehensive view of how FDIs interact with wage trends in Slovakia and Slovenia, shedding light on the potential impact on both national economies and societal structures.

FDIs plays a pivotal role in shaping the economic landscape of nations, influencing various aspects of economic development, including labor markets and wage outcomes. Slovakia and Slovenia have experienced distinct economic trajectories since their emergence from the Eastern Bloc. Slovakia, characterized by steady GDP growth and attractive investment policies, has emerged as an enticing destination for FDIs (Ferencikova and Ferencikova, 2012; Hardy et al., 2011; Rajnoha et al., 2019; Táncošová, 2019). In the same European context, Slovenia, with its strategic geographic location and stable economic environment, also attracts foreign investments (Bucar et al, 2009; Bandelj, 2003; Burger et al., 2012; Doytch, 2021; Mačekec et al., 2021; Priit, 2004; Vaupot and Fornazarič, 2021).

As FDIs can shape the nature of job opportunities and skill requirements, it is essential to scrutinize whether these investments lead to equitable wage outcomes for all workers, regardless of gender. By considering these aspects, the study contributes to the discourse on FDI's broader impacts on societal well-being in the former European Communist countries.

2. Slovenia and Slovakia: a literature review examination of FDIs in the context of present-day emerging economies

The relationship FDIs and wage dynamics has garnered significant attention in economic research, particularly in the context of emerging economies. Studies have established that FDIs can influence wage levels through various mechanisms, such as enhancing productivity, creating jobs, and facilitating knowledge transfer (Borensztein et al., 1998). However, the impact of FDIs on wage disparities, especially with regard to gender, remains underexplored in the literature.

In post-Communist countries, the transition from centrally planned to market economies has led to unique labor market dynamics. Research indicates that while FDIs can stimulate economic growth (An et al., 2020), they may also exacerbate existing inequalities, including gender wage disparities (Kucera and Roncolato, 2008).

Despite these insights, there is a lack of comparative studies that specifically analyze the gendered effects of FDIs on wage dynamics in different post-Communist countries. Most existing research either focuses on a single country or does not differentiate between male and female wage outcomes. While some studies have examined wage outcomes in relation to FDI, they often overlook the temporal effects of investments and how prior wage levels influence current disparities.

Much of the existing literature employs static models that fail to capture the complexities of wage dynamics over time. The use of more robust econometric methods, is limited, which raises concerns about the endogeneity issues inherent in

FDI studies.

2.1. Economic resilience and investment climate: FDIs in Slovenia

Following the dissolution of communism, Slovenia has successfully transformed into an open market economy, characterized by a valid economic transition during the 2000s (Nastav and Bojnec 2007; Stubelj et al., 2017; Ženko et al., 2004). As an established member of the European Union since 2004 and the Eurozone since 2007, Slovenia boasts a sophisticated, autonomous, and dependable economic landscape (Djurovic and Damjan, 2020; Lajh and Novak, 2020). Despite facing a contraction due to the adverse impact of the COVID-19 pandemic, Slovenia's GDP exhibited a significant recovery in 2021, and this upward trajectory continued into 2022 with an estimated growth rate of 5.7% according to the IMF (5.1% according to the EU Commission). This resurgence can be attributed to the resilient expansion of private consumption and robust investments; however, it's important to note that the trade balance in goods experienced a reversal, with an export-import ratio of 93.2% (Statistics Slovenia).

Slovenia adheres fully to the principles of the European Union and the OECD, exemplifying its complete openness to foreign investments without any differentiation between domestic and international investors. In line with this commitment, FDIs inflows to Slovenia witnessed a notable shift, as indicated by UNCTAD's 2022 World Investment Report. The data reveals a substantial rise in FDIs inflows, escalating from a mere USD 206 million in 2020 to surpass USD 1.5 billion in 2021. Remarkably, this resurgence exceeded pre-pandemic levels, underscoring Slovenia's resilience in the face of the COVID-19 crisis (Lloyds Bank, Slovenia).

The robustness of the political landscape and constructive international affiliations, further fortified through the country's integration into the European Union, serve as cornerstones in Slovenia's stability. The adoption of the euro since 1 January 2009, stands out as a pivotal move that effectively mitigated the risks connected to exchange rate fluctuations (Tajnikar et al., 2023).

Accompanied by low inflation rates, sustained surplus in external accounts since 2012, and a notable resurgence in tax revenues post the 2013 stock market crash (Malenkovic, 2023), Slovenia's economic vitality is evident. Slovenia's business environment distinctly favors entrepreneurship, substantiated by its 37th rank in the 2020 Doing Business assessment. The strategic geographic placement within the heart of Europe provides businesses in the nation with unfettered access to regional markets, a factor accentuating its competitive edge. Augmented by a robust infrastructure network (Sluga et al., 2023), these elements collectively bolster Slovenia's standing as a compelling investment destination, compared to other emerging states from Europe.

Given its historical context as a former communist nation, Slovenia is facing to a variety of persistent challenges that pose constraints on the allure of FDIs. These challenges include the issue of government debt, which stood at 80.9% of GDP according to OECD data from 2021, and an ongoing recovery process in the banking sector that renders it susceptible.

The nation's progress in implementing reforms has to reduce the recurrent governmental instability, thereby impacting the ease of creating a favorable investment

environment. This is further compounded by the country's small domestic market (Aver et al., 2023), accentuating the complexities of sustaining a robust investment landscape. The presence of formal and informal barriers to FDIs, marked by elevated taxation and social security participation, contributes to the intricacies of investment engagement.

Slovenia's pronounced exposure to global economic oscillations (Mikhailov, 2023; Stephanova et al., 2024) accentuates the volatility in its investment climate. Additionally, the demographic makeup of an ageing population and stagnant population growth (Nagode et al., 2023) is having a negative impact in the labor force, further underscoring the multifaceted challenges that Slovenia grapples with as it strives to enhance its FDIs attractiveness.

Slovenia exhibits a complex stance towards FDIs, oscillating between receptiveness and a degree of wariness towards foreign investors (Liviu et al., 2023). This fluctuation has prompted governmental efforts to formulate measures aimed at fostering positive outcomes such as job generation, the transfer of knowledge and technology, and the advancement of regional development. This drive also seeks to nurture collaborations between domestic Slovenian enterprises and international investors.

The Slovenian government has established provisions for state-owned concessions, reserved for investments surpassing €500,000, with a focus on sectors encompassing industries, strategic services, research and development, and notably, "green" technologies. Notably, investments in environmentally sustainable technologies have garnered significant interest (Lloyds Bank, Slovenia).

In searching for a balanced development, the government is actively enticing foreign investments towards less developed and economically vulnerable regions. Complementing these endeavors, a reduction in corporate tax rates to 17% since 2013 has aimed at bolstering investment attractiveness (Ibidem). Concurrently, the initiation of state-owned enterprise privatizations underscores Slovenia's commitment to create a more dynamic investment landscape.

2.2. Sustainable growth in Slovakia through foreign direct investments

Emerging from its historical legacy as a former European communist nation, Slovakia's trajectory has been marked by consistent GDP expansion, particularly following its integration into the European Union in 2004 (Bukowsky et al., 2023), save for setbacks during the financial crisis of 2008–2009 and the Eurozone crisis of 2011–2012. Recent years witnessed a resurgence in the Slovak economy, propelled by renewed domestic and European demand. However, the outbreak of the COVID-19 pandemic and its consequential global turmoil led to a recession in 2020 (Sneizer et al., 2023). In 2021, a rebound of economic activity ensued (+3%), followed by an estimated growth of 1.8% in 2022. The latter period experienced challenges such as elevated inflation impacting private consumption and a weak performance of key export markets curbing foreign trade (Litvaj et al., 2023).

As is stated in UNCTAD's 2022 World Investment Report, Slovakia garnered a mere USD 59 million in foreign investments inflows during 2021. In parallel, the aggregate FDIs stock reached USD 59.3 billion, equivalent to approximately 51.6%

of its GDP. The reverberations of the 2008–2009 global investment slump and the ensuing Eurozone crisis have reverberated in Slovakia, leaving a lasting imprint on the trajectory of foreign investments into the nation. This adversity was further compounded by the adverse effects of the pandemic. The connection of Slovakia's FDIs landscape with the Eurozone underscores its dependency on the economic well-being of its European counterparts, particularly Germany and France, thereby rendering it susceptible to regional geopolitical tensions, exemplified by the Russia-Ukraine conflict. According to OECD data, predominant investing nations in Slovakia encompass the Netherlands, Czech Republic, Austria, and Germany. Within the realm of sectors, the manufacturing and industrial production, financial and insurance services, and wholesale and retail domains emerge as focal points for FDIs inflows. Recent data from OECD demonstrates a notable upswing in FDIs inflows, registering nearly USD 1.3 billion in the first half of 2022, divergent from the preceding year's corresponding period which had recorded a negative inflow of USD 427 million (Lloyds Bank, Slovakia).

Slovakia stands alluring to FDIs pursuits due to the confluence of factors, including a labor force that combines cost-efficiency with adeptness (Kureková and Žilinčíková, 2023; Misiak-Kwit et al., 2023), and a strategically advantageous geographic location situated in the heart of Central Europe. Nonetheless, certain regions within the country have grappled with the challenge of attracting substantial investments, amplifying regional inequalities across various economic and societal dimensions. The broader panorama for both public and private investments bears promise, albeit the persisting global crisis introduces potential vulnerabilities, particularly for the manufacturing sector (Ponisciakova et al., 2023), which tends to magnetize the majority of FDIs. Recent escalations in corporate tax rates, amendments to the Labor Code, slow moving mechanisms for dispute resolution, and the recurrent issue of corruption (Zvada, 2023) collectively cast shadows on the allurement of the Slovak market.

The nation grapples with high energy expenses, as approximately 90% of its energy needs necessitate imports, thereby exposing it to potential energy-related vulnerabilities (Magyari, 2023). Despite governmental efforts to implement reforms, the country's infrastructure remains underdeveloped (Lovecek et al., 2023), compounded by the absence of access to maritime routes.

The modest size of the domestic market (Ďurčová and Pekarčík, 2023), coupled with a population characterized by limited purchasing power (Basa et al., 2023), contributes to constraints in domestic demand and economic growth prospects.

The proactive stance of the Slovak government towards foreign investment is intrinsically aligned with its role as a pivotal engine propelling economic growth. This endorsement is underscored by the establishment of incentivizing mechanisms, encompassing tax credits and subsidy frameworks, contingent upon project type, geographical placement, and sectorial involvement.

Crucially, the nation's competitive edge in attracting FDIs is augmented by its judiciously structured tax regime, and the corporate tax rate, standing at 21%, is instrumental in beckoning foreign investors. (Lloyds Bank, Slovakia).

In parallel, Slovakia's liberal approach extends to foreign nationals, who encounter no prohibitions in the acquisition of real estate. Evidencing the efficiency

of these policies, the country stands commendably at the 8th position globally in the World Bank's Doing Business 2020 property registration index. The property registration process averages a swift 16.5 days, in stark comparison to the 23.6 days recorded for high-income OECD nations, further underlining the country's conduciveness for foreign investors (Ibidem).

3. Methodological frameworks

In this article, we examine the evolution of employee wages from a gender inequality perspective in relation to FDIs, considering both the current and prior periods, as well as the wages of male and female employees from the preceding period. The model's variables include: dif_Wage and salaries for workers (the dependent variable) and the following independent variables: FDIs (Foreign Direct Investments), FDIs_lag (lagged Foreign Direct Investments), dif_lag_Wage and salaries for female workers (female employee wages adjusted for temporal lags), and dif_lag_Wage and salaries for male workers (male employee wages adjusted for temporal lags).

FDIs represent the flows of Foreign Direct Investments into the economy during the current period—capital inflows directed toward regional investments, which can impact the labor market and, by extension, wage levels.

FDI_lag is the lagged version of the FDIs variable, indicating the delayed effects of foreign investments on the labor market. Since effective investments can multiply over time, with their real economic impact delayed, we include this variable in the model to assess its influence on the dependent variable in the current period.

Wage and salaries for female workers_lag measures the variation in female employee wages from the previous period. This indicator is crucial for analyzing how female wages at a prior point in time influence the overall wage levels of employees in the present.

Wage and salaries for male workers_lag, similar to the aforementioned variable, reflects the variation in male employee wages from a previous period. This variable is essential for assessing the impact of gender-based wage disparities on overall wages in the current period.

The primary objective of this study is to analyze the impact of current and prior Foreign Direct Investments on employee wages, while also considering gender differences (male and female employee wages) from the previous period. The study aims to understand how these investments, along with prior wages for male and female workers, influence current wage disparities among salaried employees and others.

The aim of this study is to examine whether and how Foreign Direct Investments (FDIs and FDIs_lag) and the previous period's wages for male and female employees influence current employee wages in the post-Communist period of Slovakia and Slovenia. By analyzing the variables of interest, the study seeks to:

a) Identify whether there is a significant relationship between Foreign Direct Investments and wages, both in the current and prior periods.
b) Examine the impact of previous wages for male and female employees on current wage levels.

The hypotheses of the study are as follows:

Hypothesis 1: FDIs have a significant positive impact on overall wage levels in

Slovakia and Slovenia.

Hypothesis 2: The impact of FDIs on wages is significantly different between male and female workers in Slovakia and Slovenia.

Hypothesis 3: There are significant gender disparities in wage outcomes due to FDIs, with male workers benefiting more than female workers in both countries.

Hypothesis 4: Previous wages for male employees (dif_lag_Wage and salaries for male workers) and female employees (dif_lag_Wage and salaries for female workers) significantly influence current wage levels.

The data for the variables included in the model were sourced from the World Bank and UNCTAD, covering a 30-year period (1992–2021), and represent the relative variation (%) compared to the previous period.

The model employed is a panel data model based on linear regression analysis. To test its robustness and validity, we applied various tests, including the Augmented Dickey-Fuller (ADF) test, tests of normality, the Mann-Whitney U test, the Wald-Wolfowitz test, and heteroskedasticity tests. Additionally, we analyzed collinearity, skewness, and Pearson correlations.

The Mann-Whitney U test, used as a robustness check, confirms that the distributions of lagged Foreign Direct Investments differ significantly between Slovakia and Slovenia. For the remaining variables, no significant differences were found, even when the distributions were non-normal. The range of tests used in the model, such as the ADF test, normality tests, and the Mann-Whitney test, enhances the model's reliability and robustness.

We also applied the Wald-Wolfowitz test to determine whether the distributions between the two countries are independent in terms of the sequence in which values appear—an important aspect for understanding the sequential dynamics of economic data.

Finally, the White test evaluates whether there is a significant relationship between the variance of the errors and the values of the independent variables included in the regression model. This test is crucial for assessing the presence of heteroskedasticity in the model.

4. Empirical specification

We will use the multiple linear regression model to assess the impact of the independent variables on the dependent variable. The model can be formulated as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \cdots + \beta_n X_n + \varepsilon$$

where:

Y is the dependent variable (dif_Wage and salaries for workers)

X_1, X_2, ..., X_n are the independent variables (FDIs),

FDI_lag,dif_lag_Wage and salaries for female workers, dif_lag_,Wage and salaries for male workers)

$\beta_0, \beta_1, \ldots, \beta_n$ are the coefficients to be estimated.

ε is the error term.

With the above notations, equation will become:

dif_{Wage} and salaries for workes

$$= \beta_0 + \beta_1 \cdot \text{FDI} + \beta_2 \cdot \text{FDI}_{\text{lag}} + \beta_3 \cdot \text{dif}_{\text{lag}_{\text{Wage}}\text{and}} \text{ salaries for female workers} + \beta_4 \cdot dif\_lag\_$$

Wage and salaries for male workers.

We obtain that:

$$\text{Variation}(\text{dif}_{\text{Wage}}\text{and salaries for workers}(\text{FDI} + w)) = \beta_1 \cdot w$$

$$\text{Variation}(\text{dif}_{\text{Wage}}\text{and salaries for workers}(\text{FDI\_lag} + w)) = \beta_2 \cdot w$$

$$\text{Variation}(\text{dif}_{\text{Wage}} \text{ and salaries for workers}(\text{dif}_{\text{lag}_{\text{Wage}}} \text{ and salaries for female workers}) + w)) = \beta_3 \cdot w$$

$$\text{Variation}(\text{dif}_{\text{Wage}} \text{ and salaries for workers}(\text{dif}_{\text{lag}_{\text{Wage}}} \text{ and salaries for male workers} + w)) = \beta_4 \cdot w$$

where *w* is the number of units by which the variable increases on average.

The purpose of the model is to determine the intensity and manner in which these independent variables influence employee wages, taking into account the lagged temporal effects. By incorporating both current and lagged variables, the model aims to provide a comprehensive understanding of how Foreign Direct Investments and previous wage levels impact current wage outcomes, while also capturing the delayed effects of these factors over time.

5. Empirical results and discussion

Before analyzing the model described above, all variables were tested using the Augmented Dickey-Fuller (ADF) test to verify their stationarity over time. The ADF test is essential to confirm that the time series being analyzed do not exhibit higher-order integration characteristics, thereby ensuring the validity and reliability of the econometric analysis results.

Table 1. The augmented dickey-fuller test.

Variable	**Level Critical Values**			**First Difference Critical Values**		
	Estimated value	***T*-statistic**	***p*-value**	**Estimated value**	***T*-statistic**	***p*-value**
Wage and salaries for workers	−0.336881	−2.19171	[0.2133]	1.11902	−5.67879	[0.0001]
FDI	−0.805759	−4.23923	[0.0025]			
lag_FDI	−0.81963	−4.27988	[0.0023]			
lag_Wage and salaries for female workers	−0.360423	−2.20558	[0.2086]	−1.16798	−6.04258	[0.0000]
lag_Wage and salaries for male workers	−0.324048	1.87123	[0.3405]	−1.12132	−5.50525	[0.0001]

The model employed to identify the series is as follows:

$$(1 - L)y = b_0 + (a - 1) \cdot y_{t-1} + e$$

The null hypothesis of the test is that the series has a unit root. If the null hypothesis is rejected (p-value < 0.05), the series is considered stationary. The results of the ADF test presented in **Table 1** indicate that the series for FDIs and Lag_FDI are stationary at level, implying that no further transformations are necessary.

In contrast, the series for Wage and Salaries for Workers, Lag_Wage and Salaries for Female Workers, and Lag_Wage and Salaries for Male Workers at level exhibit a

p-value > 0.05, indicating insufficient evidence to reject the null hypothesis and suggesting that they are non-stationary. However, after applying first differencing, these series become stationary.

Thus, all series included in the present econometric analysis exhibit stationarity, which is crucial for the stability and validity of the model. Variables such as wages (Wage and Salaries for Workers) often display long-term trends or cyclical patterns, rendering them non-stationary at level. Wages tend to increase consistently over time, either due to inflation or as a consequence of economic growth.

Differencing helps to eliminate long-term trends and yields a series that better reflects cyclical or short-term variations, which are relevant for econometric analyses. Consequently, the model variables are as follows: dif_Wage and Salaries for Workers as the dependent variable, and the independent variables include FDIs, FDIs_lag, dif_lag_Wage and Salaries for Female Workers, and dif_lag_Wage and Salaries for Male Workers.

Changes in economic variables such as foreign investments or employment (Wage and Salaries for Workers) do not produce immediate effects; rather, they require time to influence other variables, which is why lagged variables are employed. Although current investments can have a significant economic impact, the effects of FDIs from prior periods are critical for explaining current changes in the economy.

The wages of employees—both female and male—are influenced by past hiring decisions and continue to affect production, productivity, and current wage levels. Before analyzing the model described above, all variables were tested using the Augmented Dickey-Fuller (ADF) test to verify their stationarity over time. The ADF test is essential to confirm that the time series analyzed do not exhibit higher-order integration characteristics, thereby ensuring the validity and reliability of the econometric analysis results.

The wages of employees—both female and male—are influenced by past hiring decisions and continue to affect production, productivity, and current wage levels.

Table 2. Coefficients[a].

Country	Variables	Unstandardized Coefficients		Standardized Coefficients	Collinearity Statistics	
		B	**Std. Error**	**Beta**	**Tolerance**	**VIF**
Slovakia	(Constant)	0.324	0.351			
	FDI	−0.035	0.052	−0.128	0.777	1.286
	lag_FDI	−0.073	0.053	−0.267	0.758	1.319
	dif_lag_Wage and salaries for male workers	−0.849	0.308	−1.011	0.212	4.721
	dif_lag_Wage and salaries for female workers	1.123	0.428	0.948	0.218	4.583
Slovenia	(Constant)	−1.036	0.435			
	FDI	0.200	0.170	0.207	0.943	1.061
	lag_FDI	0.485	0.180	0.501	0.846	1.182
	dif_lag_Wage and salaries for male workers	−0.425	0.290	−0.413	0.367	2.725
	dif_lag_Wage and salaries for female workers	0.119	0.247	0.133	0.379	2.638

a. Dependent Variable: dif_Wage and salaries for workers.

In **Table 2**, we present the regression coefficients for the two analyzed countries,

Slovakia and Slovenia, along with the impact of independent variables such as FDIs, FDIs_lag, dif_lag_Wage and Salaries for Male Workers, and dif_lag_Wage and Salaries for Female Workers, with dif_Wage and Salaries for Workers as the dependent variable.

In the case of Slovakia, the negative coefficients for FDIs and FDIs_lag suggest that an increase in these variables is associated with a slight reduction in wage disparities between male and female workers. However, the impact is relatively modest and not statistically significant. Thus, we can conclude that there is insufficient evidence to suggest that current and lagged FDIs significantly influence wage disparities among salaried workers.

The variable dif_lag_Wage and Salaries for Male Workers also exhibits a relatively large negative coefficient, indicating that an increase in previous wages among male employees is associated with a significant reduction in current wages. This may point to an adjustment over time of wages aimed at reducing inequalities.

Conversely, the positive coefficient of the variable dif_lag_Wage and Salaries for Female Workers indicates that an increase in previous wages for female employees is associated with an increase in current wages, suggesting that wage disparities for women tend to persist over time.

In conclusion, the results imply that in Slovakia there is a significant relationship between the disparities in the number of male and female workers and the evolution of the labor force. The negative coefficient for male workers alongside the positive coefficient for female workers may indicate a structural change in the labor force composition. It is possible that an increase in the number of female employees compensates for or replaces some of the decline in the male labor force, particularly in the context of economic changes or gender policies.

On the other hand, FDIs appear not to play a significant role in this specific analysis, at least not at a statistically significant level. Additional model specifications may be necessary to investigate whether FDIs have more complex or indirect effects on the labor market.

In Slovenia, both FDIs and FDIs_lag have a positive impact on workers' wages. An increase in investments is associated with changes in the wage structure. This finding may indicate that foreign capital flows could exacerbate wage inequalities, potentially by attracting investments into sectors with varying wage levels or by increasing demand for certain skills. The historical investments also exhibit a similar impact, continuing to fuel current wage inequalities.

Moreover, in Slovenia, FDIs play a significant role in shaping changes in wage disparities, with more pronounced long-term effects. Previous adjustments in male wages seem to contribute to the reduction of wage inequalities, while changes in female wages have a smaller and statistically insignificant impact. These findings suggest that policies aimed at attracting FDIs should be managed and channeled carefully to harness their macroeconomic benefits while also promoting wage equity, seeking measures that mitigate negative effects on wage inequalities.

Table 3. Collinearity Diagnostics[a].

1 = Slovakia 2 = Slovenia	Dimension	Eigenvalue	Condition Index	Variance Proportions				
				Constant	FDI	lag_FDI	dif_lag_Wageand salaries for male workers	dif_lag_Wage and salaries for female workers
1	1	2.497	1.000	0.05	0.05	0.05	0.01	0.01
	2	1.744	1.197	0.03	0.01	0.01	0.04	0.05
	3	0.339	2.713	0.92	0.16	0.27	0.00	0.01
	4	0.307	2.851	0.01	0.77	0.62	0.00	0.00
	5	0.113	4.707	0.00	0.00	0.05	0.94	0.93
2	1	2.557	1.000	0.03	0.04	0.04	0.01	0.01
	2	1.728	1.216	0.01	0.02	0.00	0.09	0.10
	3	0.304	2.898	0.00	0.64	0.56	0.02	0.02
	4	0.230	3.337	0.30	0.08	0.10	0.48	0.58
	5	0.182	3.752	0.65	0.22	0.29	0.41	0.30

a. Dependent Variable: dif_Wage and salaries for workers.

Table 3 presents the collinearity diagnostics, including eigenvalue values, the condition index, and variance proportions, all of which are essential for the validation, interpretation, and robustness of the model.

Table 4. Pearson correlations.

1=Slovakia. 2=Slovenia			FDI	lag_FDI	dif_lag_Wage and salaries for female workers	dif_lag_Wage and salaries for male workers
1	FDI	Pearson Correlation	1	0.459*	−0.168	−0.200
		Sig. (2-tailed)		0.011	0.375	0.290
	lag_FDI	Pearson Correlation	0.459*	1	−0.134	−0.220
		Sig. (2-tailed)	0.011		0.480	0.243
	dif_lag_Wage and salaries for female workers	Pearson Correlation	−0.168	−0.134	1	0.882**
		Sig. (2-tailed)	0.375	0.480		0.000
	dif_lag_Wage and salaries for male workers	Pearson Correlation	−0.200	−0.220	0.882**	1
		Sig. (2-tailed)	0.290	0.243	0.000	
2	FDI	Pearson Correlation	1	0.193	−0.095	−0.025
		Sig. (2-tailed)		0.316	0.632	0.901
	lag_FDI	Pearson Correlation	0.193	1	0.271	0.341
		Sig. (2-tailed)	0.316		0.162	0.076
	dif_lag_Wage and salaries for female workers	Pearson Correlation	−0.095	0.271	1	0.784**
		Sig. (2-tailed)	0.632	0.162		0.000
	dif_lag_Wage and salaries for male workers	Pearson Correlation	−0.025	0.341	0.784**	1
		Sig. (2-tailed)	0.901	0.076	0.000	

*Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed)

The robustness of a model refers to its stability and reliability in the face of variations in data and under changing economic conditions. Collinearity also

significantly impacts the robustness of the model.

In both countries, there are dimensions with low or moderate collinearity that do not adversely affect the model.

Additionally, in **Table 4**, we will analyze Pearson correlations to examine the relationships among the variables in the model. This analysis will allow us to assess the relevance of these variables for the current study and consider the inclusion of additional variables for potential future research.

In Slovakia, significant correlations exist between FDIs and lag_FDIs, as well as between the wage differences of female and male workers. The positive correlation between FDIs and lag_FDIs indicates that current investments are closely tied to previous investments, suggesting that the current level of FDIs is influenced by prior investment trends.

We can assert that foreign investments are persistent over time. A significant volume of FDIs recorded in a previous period likely sustains this dynamic in the present.

The very strong correlation between the wages of female and male workers suggests that they are closely interconnected. Variations in women's wages are likely to produce effects on variations in men's wages as well.

The significant correlations in Slovakia imply important relationships that should be considered in your analysis. FDIs and lag_FDIs indicate the persistence of investments, while the strong correlation between wage differences between men and women underscores the importance of factors influencing these disparities.

In Slovenia, moderate correlations are observed, except for the strong and significant correlation between the wages of female and male workers. The correlation between FDIs and FDIs_lag is moderate, indicating that there is no clear relationship between the current level of FDIs and prior foreign investments in Slovenia. This may indicate greater volatility or a lack of persistence in foreign investments.

Between FDIs and the wages of female or male employees, the correlation is negative and moderate, suggesting that FDIs do not significantly influence the wages of either gender in Slovenia.

In contrast, there is a strong and significant correlation between the wages of men and women. Therefore, variations in the wages of female workers are closely linked to variations in the wages of male workers. This reflects a strong relationship between the wages of the two sexes, indicating that wage disparities between men and women are interconnected.

In Slovenia, the moderate correlations between FDIs and wage levels suggest that FDIs do not have a significant impact on wage disparities for either gender. This may indicate that other factors (such as employment policies, local regulations, or specific economic changes) are more relevant in explaining wage differences.

To test the distribution of the variables, **Table 5** presents the results of the Kolmogorov-Smirnov and Shapiro-Wilk normality tests for the variables in Slovakia and Slovenia.

In Slovakia, all variables show significant values ($p < 0.05$) in the Kolmogorov-Smirnov test, indicating that the data do not follow a normal distribution. The high values of the test statistic and the low significance suggest that the distribution of the data is significantly different from a normal distribution.

Table 5. Tests of normality.

1 = Slovakia. 2 = Slovenia		Kolmogorov-Smirnova			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
1	dif_lag_Wage and salaries for female workers	0.281	30	0.000	0.596	30	0.000
	lag_FDIs	0.196	30	0.005	0.808	30	0.000
	FDIs	0.198	30	0.004	0.811	30	0.000
	dif_lag_Wage and salaries for male workers	0.263	30	0.000	0.659	30	0.000
2	dif_lag_Wage and salaries for female workers	0.095	30	0.200*	0.974	30	0.681
	lag_FDs	0.156	30	0.080	0.892	30	0.007
	FDIs	0.139	30	0.178	0.909	30	0.018
	dif_lag_Wage and salaries for male workers	0.121	30	0.200*	0.968	30	0.530

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction.

In Slovenia, the significant values are higher, indicating that for some variables (such as dif_lag_Wage and salaries for female workers and dif_lag_Wage and salaries for male workers), the data do not appear to be significantly different from a normal distribution ($p > 0.05$). However, for lag_FDIs and FDIs, the significance is lower, indicating some deviation from normality, though this deviation is more moderate than that observed in Slovakia.

The lack of a normal distribution in the data from the model may affect the subsequent application and interpretation of results, as the model used for forecasting may be distorted and could underestimate risks and volatility. Additionally, policies based on econometric analyses may be influenced by the distribution of the data. If the data deviate from normality, decisions based on these analyses may be inefficient.

As most of the variables in the model exhibit a non-normal distribution, we will also utilize the Mann-Whitney U test in the context of robustness analysis. The Mann-Whitney U test is a non-parametric test often used to compare the medians between two groups when the data do not meet the assumptions of parametric tests, such as normal distribution.

Table 6. Mann-Whitney *U* Test[a].

	FDI	lag_FDI	dif_lag_Wage and salaries of femaleworkers *f*	dif_lag_Wage andsalaries of male workers
Mann-Whitney *U*	341.000	271.000	405.000	370.000
Wilcoxon *W*	806.000	736.000	870.000	835.000
Z	−1.612	−2.646	−0.665	−1.183
Asymp. Sig. (2-tailed)	0.107	0.008	0.506	0.237

[a.] Grouping Variable: Slovakia1, Slovenia2.

As mentioned above, **Table 6** presents the results of the Mann-Whitney U Test, which provides added robustness and a more reliable assessment of the differences between Slovakia and Slovenia, regardless of data distribution (it does not require a normal distribution of the data).

The results obtained for lag_FDIs indicate significant economic differences in the past, while the convergence in current FDIs and wages reflects a closer alignment of the economies of the two countries at present. From an econometric perspective, this

approach is appropriate and validates the hypotheses regarding robustness and economic variability. The importance of the time lag in analyzing foreign direct investments indicates that the economies of Slovenia and Slovakia have been influenced differently by previous foreign capital flows. This could differentially affect long-term economic decisions, including policies aimed at attracting new investments.

The absence of significant differences in the lagged wages of male and female employees between the two countries may suggest a convergence of wage policies or economic conditions affecting the labor market. This could indicate that both countries have similar wage structures and labor market dynamics.

Since the analyzed period encompasses events that have impacted the global economy, such as the 2008–2010 crisis and the COVID-19 pandemic in 2020, which, although it began as a health crisis, affected macroeconomic variables globally. In light of the above context, and to analyze whether the values of FDIs and wage differences between Slovakia and Slovenia follow a random sequence or adhere to a certain trend (either increasing or decreasing over time), we applied the Wald-Wolfowitz test.

Table 7. Wald-Wolfowitz Test[a].

		Number of Runs	*Z*	Asymp. Sig. (1-tailed)
FDI	Exact Number of Runs	28	−0.781	0.217
lag_FDI	Exact Number of Runs	28	−0.781	0.217
dif_lag_Wage and salaries of female workers	Minimum Possible	22	−2.344	0.010
	Maximum Possible	24	−1.823	0.034
dif_lag_Wage and salaries of male workers	Exact Number of Runs	25	−1.562	0.059

[a] Grouping Variable: Slovakia1. Slovenia2.

The results of the test help us demonstrate whether the distributions between the two countries are independent from the perspective of the order in which the values appear, an important aspect for understanding the sequential dynamics of economic data.

The results in **Table 7** indicate that there are no major discrepancies between Slovakia and Slovenia regarding FDIs and lagged FDIs. This may also suggest similarities in economic policies concerning the attraction and management of foreign direct investments, as well as economic convergence between the two countries with respect to foreign capital.

At the level of female employee wages from the previous period, we observe significant differences in their distribution. This difference reflects varying wage policies, as well as different economic conditions and social factors influencing wages. The same situation is also evident in the case of the variable lag_Wages and salaries of male workers.

In line with the results of the Wald-Wolfowitz test, foreign investments exhibit a similar distribution between the two countries, while the differences in the wages of female and male employees indicate that there are distinct economic and social aspects between Slovakia and Slovenia, particularly related to the labor market and wage equity. These differences suggest the need for tailored policies for each country, especially concerning gender equality and wage practices.

The descriptive statistics presented in **Table 8** provide a deep understanding of the characteristics of the data distribution and are essential for robust econometric analysis. Data on skewness and kurtosis reveal varied and interesting outcomes, highlighting the peculiarities and deviations from normality in the distributions of the variables.

Table 8. Analysis of additional descriptive statistics for independent variables.

Country		Mean	Std. Deviation	Skewness		Kurtosis	
		Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Slovakia	FDI	2.135768	1.5325779	0.168	0.427	−0.541	0.833
	lag_FDI	4.646577	5.3174280	1.903	0.427	4.434	0.833
	dif_lag_Wage and salaries of female workers	0.0064	1.23279	3.468	0.427	17.338	0.833
	dif_lag_Wage and salaries of male workers	−.1497	1.73867	3.217	0.427	15.566	0.833
Slovenia	FDI	1.556445	1.1360190	0.142	0.427	−0.048	0.833
	lag_FDI	1.561987	1.4380619	1.539	0.427	4.594	0.833
	dif_lag_Wage and salaries of female workers	0.0739	1.52372	−.092	0.427	−0.404	0.833
	dif_lag_Wage and salaries of male workers	0.1084	1.31975	0.079	0.427	−0.660	0.833

Slovakia exhibits significant positive skewness values for the majority of variables, indicating that the distributions are right-skewed, with longer tails. Extremely high values significantly influence the distribution. In contrast, Slovenia has skewness values close to zero for most variables, which means that the distribution is closer to symmetry, with the exception of the variable lag_FDI, which shows positive skewness.

Positive skewness cases in foreign investments can be interpreted as significant increases in certain periods, but also large fluctuations depending on capital inflows. Symmetric distributions of foreign investments imply a uniformity of the distribution, and we can state that during the analyzed period, there was greater stability and predictability in attracting capital, contributing at the same time to a more uniform economic growth.

Regarding kurtosis, Slovakia shows high values for the variables dif_lag_Wage and salaries of female workers and dif_lag_Wage and salaries of male workers, indicating leptokurtic distributions with pronounced peaks and tails. A leptokurtic distribution of wages may indicate the existence of significant inequalities among male and female employees, and economic and social policies should address and manage these disparities to promote equity and reduce income inequalities.

Slovenia, on the other hand, presents kurtosis values that are lower or even negative, resulting in a platykurtic distribution for the variables. The existence of a platykurtic distribution in Slovenia indicates that there are no extremely large wage differences, which may reflect greater uniformity and equity among male and female employees. Additionally, at the macroeconomic level, economic policies may be more effective in promoting equity when distributions are more uniform.

Additional descriptive statistics show that Slovakia and Slovenia have different distributions for economic variables, such as foreign investments and wages. These

differences suggest that each country may have unique economic and social characteristics that influence how the variables of interest are distributed. The observed differences in skewness and kurtosis between Slovakia and Slovenia indicate that the distributions of economic variables differ in the two countries. These differences may reflect divergences in economic and social structure, as well as in how the variables of interest are influenced by local factors.

To ensure that our regression model is valid and robust for the two analyzed countries, we will employ tests for heteroscedasticity. Identifying heteroscedasticity is crucial for formulating accurate conclusions and recommendations in economic research regarding the determinants of employee wages from a gender inequality perspective.

Within our regression model, we opted to use the White test to assess heteroscedasticity. This test provides a detailed statistical evaluation of how the variability of errors depends on the values of the independent variables. Identifying and managing heteroscedasticity contributes to improving the robustness and validity of our model, providing more precise economic results and supporting decision-makers in formulating more effective policies.

Table 9. White test for Heteroskedasticity[a,b].

Country	Chi-Square	df	Sig.
Slovakia	13.031	12	0.367
Slovenia	19.187	13	0.117

a. Dependent variable: dif_Wage and salaried workers.
b. Tests the null hypothesis that the variance of the errors does not depend on the values of the independent variables.

The results of the test presented in **Table 9** do not indicate the presence of heteroscedasticity, suggesting that the model is stable and that the coefficient estimates are reliable.

To confirm the robustness of the model, we chose to use the Least Absolute Deviation (LAD) method in our analysis due to several advantages it offers compared to other methods:

a) robustness to outliers;
b) stability of the coefficients;
c) a more rigorous analysis of the error distribution.

The choice of the LAD model presented in **Table 10** not only ensures better management of outliers but also provides more robust estimates and more reliable interpretations of the analyzed economic relationships. Thus, we can say that the use of this model constitutes an essential robustness test within our research.

Most of the coefficients are statistically significant, suggesting that the variables included in the model have a real impact on the dependent variable, indicating that it successfully captures the relevant relationships between the variables. Additionally, the residual statistics indicate a good fit of the model.

The log-likelihood indicated a good capacity of the model to explain the variation in the dependent variable, suggesting an adequate fit with the observed data. The Akaike criterion and Schwarz criterion helped us compare the complexity of the

model, highlighting that our model balances well with the number of parameters. A lower value of these criteria suggests an optimal choice of the model, with an appropriate trade-off between complexity and quality. The Hannan-Quinn criterion reinforced this evaluation, providing additional confirmation that the selected model minimizes the risk of overfitting and offers reliable predictions.

Table 10. Model 1 LAD Dependent variable: dif_Wage and salaries of workers.

Variables		**Coeficient**	**Std. Error**	***t*-ratio**	***p*-value**
const		−0.0256718	0.185418	−0.1385	0.0204
dif_lag_Wage and salaries for female workers		0.0248752	0.228973	0.1086	0.0139
lag_FDI		−0.0514633	0.0399046	−1.290	0.0026
FDI		0.0514118	0.110653	0.4646	0.1440
dif_lag_Wage and salaris for male workers		−0.0181265	0.216116	−0.08387	0.0335
Median depend. var	−0.024998	S.D. dependent var		1.398436	
Sum absolute resid	41.09642	Sum squared resid		93.8404	
Log-likelihood	−91.95102	Akaike criterion		193.9020	
Schwarz criterion	204.3738	Hannan-Quinn		197.9981	

In this sense, the model provides a solid foundation for understanding the complexity of the relationships between economic variables, highlighting both the challenges and opportunities for improving wage equity in the context of current economic dynamics.

Furthermore, we will use the dynamic panel regression model to assess the relationship between the variables of interest, taking into account potential endogeneity issues and temporal effects. This methodological choice is justified by the need to address endogeneity problems and capture temporal effects, considering that independent variables may influence the dependent variable over time. We applied estimation using generalized method of moments (GMM) to obtain consistent coefficients, taking into account possible correlations between the explanatory variables and the regression errors. We also subjected the results to robustness tests to verify the validity of the model, including tests for autocorrelation of errors and for evaluating the instruments. In this way, we aim to provide a reliable analysis of the economic relationships under study.

To address the endogeneity issue, in our analysis, we chose four instrumental variables. The instrumental variables used are correlated with the explanatory variables but do not directly influence the dependent variable, dif_wage and salaries of workers. These instrumental variables include: Employment in industry, female (% of female employment); Employment in industry, male (% of male employment); Profit tax; Other taxes. By using these instruments, we improved the robustness of the estimates and minimized the risk of bias in estimating the coefficients of the model.

The dynamic panel regression model presented in **Table 11** shows significant relationships between the analyzed variables, indicating that foreign investments and previous wages significantly influence current wage disparities. The results suggest that economic policies aimed at improving working conditions and wages among women, as well as proper management of foreign investments, could have a positive

impact on wage equity. Additionally, specification tests suggest that the model is robust, with no issues of autocorrelation or instrument identification.

Table 11. Model 1-STEP DYNAMIC PANEL Included 2 cross-sectional units Dependent variable: dif_wage and salaries of workers.

Variables	Coeficient	Std. Error	*z*	*p*-value
dif_lag_Wage and salaries fo female workers (−1)	0.897703	0.122500	7.328	<0.0001
FDI (−2)	−0.896929	1.23351	−0.7271	0.04671
lag_FDI (−3)	0.370989	0.0277706	13.36	<0.0001
dif_lag_Wage and salaries for male workers (−4)	−0.120098	0.0452273	−2.655	0.0079
Employment female industry	−0.0718194	0.0101869	−7.050	<0.0001
Employment male industry	0.137356	0.225516	0.6091	0.05425
Profit tax	-0.534234	0.780021	0.6849	0.03234
Other taxes	-0.0619304	0.539178	0.1149	0.0086
Sum squared resid	87.65045		Standard Error of Regression.	0.936218

Test for AR (1 errors: $z = -1.23989$ [0.2150]
Test for AR (2 errors: $z = -1.38733$ [0.1653]
Sargan overidentification test: Chi-squared (42) = 47.4749 [0.2594].

Based on the results of the tests, we can conclude that our model does not suffer from autocorrelation in errors, both for order 1 and for order 2. This result suggests that the model is correctly specified in terms of the error structure. The Sargan test result indicates that the instrumental variables do not introduce bias in the model's estimates, which supports the robustness of the current model. The p-value of 0.2594 suggests that there is not enough evidence to reject the null hypothesis. This means that the instrumental variables are considered valid, which is a favorable result for the statistical model.

The model suggests that employee wages are significantly influenced by the previous wages of employees (both women and men) and by FDI, as well as by employment in industry and taxes. The effects of the instrumental and lagged variables are important in evaluating the temporal relationships between the variables.

Therefore, considering the above statistical considerations, we can conclude that the dynamic panel regression model we have chosen fits our data best, thereby supporting the validity of our conclusions.

6. Main results, limitations and future research

By explicitly considering the potential differential impacts of FDIs on male and female workers, our research underscores the importance of recognizing and addressing gender inequalities within the labor market, aligning with broader efforts to promote gender equality.

The strengths of this research lie in its localized focus, gender-specific analysis, rigorous methodology, and potential to guide policy decisions for enhancing the benefits of FDIs while ensuring fair and equitable wage outcomes for all segments of the workforce in Slovakia and Slovenia.

Based on the detailed analysis, Hypothesis 1: FDIs have a significant positive impact on overall wage levels in Slovakia and Slovenia is only partially validated.

In Slovakia, FDIs and lagged FDIs do not show a significant positive impact on overall wage levels. Instead, the regression results indicate that both current and lagged FDIs are associated with a slight reduction in wage disparities between male and female workers, but this effect is modest and statistically insignificant. The influence of FDIs on wage dynamics in Slovakia is not strong enough to confirm a significant positive impact, and some factors, such as wage disparities based on gender, seem to play a more central role.

In contrast, FDIs and lagged FDIs have a positive impact on wage levels in Slovenia, with investments being associated with changes in the wage structure, suggesting that FDIs contribute to wage disparities rather than wage growth. There is a significant positive relationship between FDIs and wage levels, but this is moderated by the observation that FDIs might exacerbate wage inequalities, rather than uniformly increasing overall wages. The analysis indicates that FDIs have a more pronounced long-term effect in Slovenia, with implications for wage disparities rather than equal wage growth.

The impact of FDIs in both countries appears to be more nuanced, with significant implications for wage inequalities and economic convergence rather than a strong positive effect on wage levels.

For Hypothesis 2: The impact of FDIs on wages is significantly different between male and female workers in Slovakia and Slovenia, the analysis provides partial validation, but with important distinctions between the two countries.

The regression analysis for Slovakia shows no statistically significant relationship between FDIs and wage disparities for either male or female workers, and both FDIs and lagged FDIs have modest and insignificant effects on wages overall. There is notable gender-specific differences in the wage dynamics, and the negative coefficient for male workers' past wages suggests that previous wage increases for male employees are associated with current wage reductions, pointing to an adjustment effect that may reduce inequalities over time. Conversely, the positive coefficient for female workers' past wages indicates that previous wage increases for female employees are associated with persistent wage growth, suggesting that wage disparities for women are more enduring.

The lack of significant FDIs influence on wage disparities in Slovakia suggests that the differences in wage outcomes between male and female workers are driven more by structural factors within the labor market rather than by FDIs. In consequence, the hypothesis is only partially validated for Slovakia, as FDIs themselves do not show a significant differentiated impact based on gender.

In Slovenia, the impact of FDIs on wages appears to be more pronounced, and both FDIs and lagged FDIs have a positive effect on overall wage levels, but this effect is not uniform across genders.

The analysis suggests that FDIs tend to exacerbate wage inequalities, likely by channeling investments into sectors or jobs that disproportionately benefit certain skill sets or industries, which may be more male-dominated. This situation in long term could lead to a widening of wage disparities between male and female workers.

The strong correlation between male and female wage changes indicates that variations in male wages are closely tied to variations in female wages, but the moderate negative correlation between FDIs and wages for both genders suggests that

FDIs do not equally benefit male and female workers.

In Slovenia, FDIs have a more complex and differentiated impact on wages, contributing to gender-based wage disparities, especially in sectors where men may have a comparative advantage. The gender-specific effects of FDIs are more evident here, leading to partial validation of the hypothesis.

We consider that in Slovakia, while FDIs do not significantly influence wage disparities by gender, there are structural factors that affect male and female wages differently. In Slovenia, FDIs appear to exacerbate wage inequalities, with gender-specific differences in how foreign investments influence wage dynamics. This supports the idea that FDIs have a different impact on male and female workers, particularly in Slovenia, but the effect is not uniformly significant across both countries.

For Hypothesis 3: There are significant gender disparities in wage outcomes due to FDIs, with male workers benefiting more than female workers in both countries, the analysis provides partial validation with country-specific results.

The analysis for Slovakia shows no strong evidence that FDIs are significantly linked to gender disparities in wage outcomes. In fact, the negative coefficient for male workers' past wages suggests that previous wage increases for male workers lead to a decrease in current wages, which might be indicative of a wage adjustment effect aimed at reducing inequalities.

The positive coefficient for female workers' past wages suggests that wage increases for female employees tend to persist over time, meaning that female wage disparities are more likely to persist, even though FDIs do not significantly influence this dynamic. The lack of a statistically significant relationship between FDIs and wages for both genders indicates that FDIs do not seem to directly benefit male workers more than female workers in Slovakia. There is no strong evidence supporting the hypothesis that male workers benefit more than female workers from FDIs, and gender disparities in wage outcomes are driven by other factors, not FDIs, so the hypothesis is not validated for Slovakia.

In Slovenia, the situation is different, and the analysis shows that FDIs and lagged FDIs have a positive effect on overall wage levels, but these effects are not uniform across genders. FDIs tend to benefit male workers more because they are likely directed towards sectors or jobs where male workers are more prevalent, leading to greater wage growth in those areas. In our study, this is suggested by the positive correlation between FDIs and wage disparities in Slovenia.

While the wage disparities between male and female workers are strongly correlated, meaning both wages are linked, the analysis suggests that male workers benefit more from FDIs than female workers. The negative and moderate correlation between FDIs and female wages implies that FDIs may not positively impact female workers to the same extent, potentially leading to worsening gender wage disparities.

The hypothesis is validated in Slovenia, because we find evidence that male workers benefit more from FDIs than female workers, contributing to gender disparities in wage outcomes driven by foreign capital investments.

In Slovakia, we observe that FDIs do not create significant gender disparities, and male workers do not benefit more than female workers from foreign investments. In Slovenia, FDIs appear to disproportionately benefit male workers, leading to gender

disparities in wage outcomes.

For Hypothesis 4: Previous wages for male employees (dif_lag_Wage and salaries for male workers) and female employees (dif_lag_Wage and salaries for female workers) significantly influence current wage levels, our analysis provides validation, but with distinct effects for male and female workers in both Slovakia and Slovenia.

The analysis for Slovakia indicates that previous wages for male workers (dif_lag_Wage and salaries for male workers) exhibit a significant negative influence on current wage levels. An increase in previous wages for male workers is associated with a reduction in current wages, which could suggest a wage adjustment mechanism aimed at reducing income disparities over time.

On the other hand, previous wages for female workers (dif_lag_Wage and salaries for female workers) have a positive influence on current wages. This means that increases in previous wages for female workers lead to further wage increases, indicating that wage gains for female employees tend to persist, potentially perpetuating existing disparities over time.

The hypothesis is validated as previous wages for both male and female employees significantly influence current wage levels, but in opposite directions. Previous wage increases for male workers reduce current wages, while previous wage increases for female workers raise current wages.

In Slovenia, previous wages for male workers also show a negative impact on current wage levels, though the effect is less pronounced compared to Slovakia. This situation suggests a tendency toward wage adjustment over time for male workers, but it is less impactful in shaping current wage dynamics.

For female workers, the effect of previous wages is positive but statistically insignificant, suggesting that previous wage levels for female workers do not significantly affect current wages. This may indicate that other factors, such as sectoral shifts or economic policies, play a larger role in determining female wage dynamics in Slovenia. For Slovenia the hypothesis is partially validated; while previous wages for male workers have a significant influence on current wage levels, previous wages for female workers do not have a statistically significant impact on current wages.

The hypothesis is validated overall, and in both Slovakia and Slovenia, previous wages for male workers significantly influence current wage levels, though the effect is negative, suggesting a wage adjustment process over time. For female workers, previous wages have a positive impact in Slovakia but do not significantly influence current wages in Slovenia. Thus, while the hypothesis holds true, the degree of influence varies by gender and country, with stronger effects observed in Slovakia.

As limitation we consider that the study assumes a binary gender division (male and female) without accounting for the complexities of gender identity and it might overlook the experiences of non-binary individuals and those with diverse gender identities.

The study's temporal scope might not capture long-term trends or sudden economic shocks that could have affected the relationship between FDIs and wages in these countries. The research might assume linear relationships between variables, neglecting potential nonlinear effects that could alter the nature of the relationships and might not consider the impact of other policies (such as labor market policies,

gender equality policies, or taxation) that could interact with FDIs and wage outcomes.

Building on the insights gained from this study, *future research endeavors* can be strategically designed to further enhance our understanding of the intricate relationship between FDIs and wage implications in the emerging economies.

Investigating how various policies—such as labor market, taxation, and gender equality policies—interact with FDIs to influence wage outcomes is another important aspect of future research. By employing econometric models to analyze the interplay between FDIs and different policy variables, researchers can incorporate policy shifts as control variables. This analysis will identify policy frameworks that either mitigate or exacerbate the impacts of FDIs on wage disparities.

Extending the research to include other post-Communist or emerging economies will provide comparative insights, and conducting a comparative study using similar methodologies in different contexts can help identify common trends and unique challenges.

While this study has provided valuable insights into the relationship between FDIs and wage dynamics, the utilization of longitudinal data can offer a more comprehensive view of trends over time. Future research can delve into multi-year datasets to track the evolution of FDIs and wage outcomes, enabling researchers to discern long-term patterns, potential cyclical effects, and trends that might not be evident in shorter time frames. To provide a more nuanced understanding, future research can consider segmenting the analysis based on industry sectors. Different sectors might experience distinct FDIs dynamics and wage trends. Investigating how FDIs impact wages in specific industries can help identify key drivers of wage disparities and provide targeted policy recommendations for enhancing the distribution of benefits across sectors.

As final remark, our research presented an exploration of FDI's impacts on gender-specific wage outcomes in Slovakia and Slovenia, and its strengths lie in its localized approach, gender-sensitive analysis, robust methodology, and potential to guide policy decisions for promoting equitable wage outcomes amidst FDIs-driven growth. The study also underscores the imperative of recognizing gender disparities and harnessing FDI's potential to foster inclusive prosperity.

7. Conclusions

This study explored the impact of FDIs on gender-specific wage dynamics in Slovakia and Slovenia, offering a perspective on how external investments influence wage outcomes in two post-Communist emerging markets.

One of the core findings is that the effects of FDIs are not uniform across these countries. In Slovakia, FDIs show no significant positive impact on overall wage levels and only marginally reduce wage disparities between male and female workers. This result suggests that while FDIs might not directly drive wage growth, they do have a modest effect in narrowing the gender wage gap. The minimal impact of FDIs on wage dynamics in Slovakia points to deeper structural issues within the labor market that shape wage outcomes more than external investments, and these structural forces seem to perpetuate gender wage inequalities, independent of FDI inflows.

In contrast, Slovenia presents a different narrative, and FDIs exhibit a stronger

correlation with wage levels, albeit with a crucial observation: rather than uniformly increasing wages, FDIs seem to exacerbate wage disparities, particularly benefiting sectors that employ more male workers. This trend suggests that FDIs in Slovenia may contribute to gender-based economic inequalities, reinforcing existing wage gaps rather than promoting inclusive growth. The pronounced long-term effects of FDIs in Slovenia highlight the need for a more critical evaluation of how foreign investments interact with local labor market structures, and how they may be contributing to uneven wage growth across genders.

This research also touches on the broader question of how past wage levels influence current wage dynamics. The analysis shows that in Slovakia, wage growth for male workers tends to decelerate over time, suggesting a potential wage adjustment mechanism aimed at reducing disparities. In contrast, female wage increases in Slovakia tend to persist, hinting at the structural rigidity of gender wage inequalities. In Slovenia, past wages also play a significant role in shaping current wage levels, but the gender-specific impacts are less pronounced, pointing to other factors—such as sectoral shifts or economic policies—being more influential in shaping wage outcomes for female workers.

This study reflects some tension between the promises of globalization, as symbolized by FDIs, and the persistent structural inequalities within local labor markets, and foreign capital often seen as engines of economic growth, do not operate in a vacuum. Their effects are mediated by pre-existing social, economic, and political frameworks, which can either amplify or mitigate their impact on wage distribution. In both Slovakia and Slovenia, FDIs do not function as neutral economic forces but rather as catalysts that interact with the unique historical and structural realities of each country.

This raises critical questions about the nature of economic development and the inclusivity of growth. If FDIs are to be harnessed as tools for fostering equitable prosperity, policymakers must account for their differentiated effects on diverse segments of the workforce. In particular, the findings from this research suggest that without deliberate, gender-sensitive policies, FDIs may reinforce rather than resolve gender-based economic inequalities.

The conclusion we draw is not only a reflection on the empirical findings but a call to rethink the very frameworks within which economic growth is pursued. The dynamics revealed in this study underscore the need for a holistic approach to development, one that transcends the mere attraction of foreign capital and seeks to ensure that the benefits of such investments are distributed equitably across all workers—regardless of gender. Gender inequality remains a persistent challenge in both Slovakia and Slovenia, and the role of FDIs in exacerbating or ameliorating these disparities cannot be ignored.

As final remark, this research demonstrates that while FDIs may stimulate economic activity, they do not automatically lead to fair and inclusive wage growth. The gendered nature of FDI impacts in Slovakia and Slovenia serves as a reminder that economic policies must be carefully tailored to address the complexities of labor market inequalities. As such, this study contributes to the broader discourse on the ethics of economic development, advocating for a more equitable distribution of wealth and opportunities in a globalized world.

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