

## **The Employment Dynamics of Poland (2009-2025): Trends, Firm Size Impacts, and Policy Implications from Enterprise Survey Data**

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### **Abstract**

*This study explores Poland's employment dynamics from 2009 to 2025, utilizing enterprise survey data and focusing on key indicators, namely Employment Share, Employment Expansion, Employment Contraction, and Net Employment Change. With a population of more than 40 million, Poland, characterized by a diverse landscape and mixed economy, has been a notable recipient of Foreign Direct Investment (FDI), particularly in the manufacturing and service sectors. Despite a robust education system, Poland is prone to economic challenges, including income inequality and regional disparities. The primary objective of this paper is to explore the significance of employment indicators and analyze data from the World Bank's Enterprise Survey, with a focus on deriving actionable policy implications. The study employs a quantitative methodology inspired by prior research using filtered datasets from Poland for the years 2009, 2013, 2019, and 2025. Data Analysis and visualization were conducted using Microsoft Excel to identify and compare employment trends. The methodology, drawing inspiration from the previous works, filters the dataset of Poland in 2009, 2013, 2019, and 2025. Microsoft Excel was used to represent data in the form of tables. The Findings highlight that small firms continuously created net job growth, especially in 2025. The central region created more jobs. The impact of economic conditions on job creation and contraction, emphasizing variations across firm sizes, sectors, and genders among top managers of the companies. The research provides policymakers with targeted insights to address income inequality and regional disparities by identifying key employment trends and firm characteristics, while also suggesting future research directions to uncover the underlying drivers of these patterns.*

**Keywords:** Employment Dynamics; Enterprise Survey; Employment Indicators; Job Creation; Job Contraction, Net Job Creation, Poland, World Bank



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## 1. Introduction

What is the overall employment share of firms in Poland, and how has net job creation evolved in recent years? Do trends vary by firm size, gender representation in leadership, or ownership type? Additionally, are foreign-owned companies creating more jobs than domestic firms? To answer these questions, it is essential to analyze employment indicators derived from enterprise survey data.

Poland is a central European nation with a population exceeding 40 million, characterized by a mixed economy and diverse geography, including plains, mountains, and a coastline. Similar to several European nations, Poland faces economic challenges, including income inequality and pronounced regional disparities between urban and rural areas. This paper examines employment trends in Poland using enterprise survey data from 2009 to 2025, with a focus on the impact of firm size, economic environment, and overall employment dynamics.

Poland's labour market has seen substantial improvement over the past decades. Employment has risen, unemployment and long-term unemployment have fallen, and real wages have grown by 87% particularly for low-wage workers, which has helped reduce inequality. The elderly worker participation has increased, but still lags behind most developed countries. Persistent challenges remain, including the gender pay gap, low employee compensation relative to GDP, high agricultural employment, and a lack of a clear migration strategy. These factors may affect Poland's ability to generate jobs during the energy transition (Lewandowski & Magda, 2018)

The primary objective of this paper is to define and clarify key employment indicators, analyze employment data from the World Bank Enterprise survey for Poland, and provide actionable policy recommendations.

## 2. Literature review

The review of literature here is divided into two parts: an introduction to the key employment indicators used in this study, and a survey of prior research related to employment dynamics across different contexts and regions. This organization ensures clarity and aligns the reviewed concepts with the research objectives.

### 2.1 Concepts

#### 2.1.1 Employment Share

Employment share measures the distribution of the aggregate stock of permanent full-time employment across various firm characteristics such as firm size (small versus large), sector (manufacturing versus services), and ownership (domestic versus foreign). According to Aga et al (2015), this metric provides insights into how employment is structured within a country's private sector. In the case of Poland, employment share highlights the contributions of diverse firm types to workforce composition, offering a structural view of employment trends over time.

### ***2.1.2 Employment Expansion and Contraction***

Employment expansion refers to the annual growth in permanent, full-time employment among firms with net job growth. In contrast, employment contractions capture the yearly decline in such employment among firms with net job losses. These metrics, as defined by Aga et al (2015), are crucial for identifying growth drivers and vulnerabilities in the Polish labor market. By understanding these dynamics, policymakers can identify sectors or types of firms that require support during economic transitions.

### ***2.1.3 Net Employment Change***

Net employment change reflects the overall annual growth or decline in permanent, full-time employment, calculated as the difference between expansion and contraction rates. This metric, emphasized by Aga et al. (2015), provides a holistic view of employment trends, offering actionable insights into aggregate workforce changes within the private sector.

## ***2.2 Survey of Prior Research***

Numerous studies have explored employment dynamics, offering insights into how firm characteristics, ownership, sectoral differences, and gender dynamics influence job creation and contraction. These findings provide valuable contexts for analyzing Poland's employment trends.

### ***2.2.1 Firm Size and Employment Dynamics***

Rijkers et al (2014) analyzed data from Tunisia (1996-2010) and found that small firms were the largest employers, accounting for 55% of the workforce. This study highlights the role of firm size in job creation, a phenomenon also evident in Poland, where small firms play a crucial role

### ***2.2.2 Ownership and Job Dynamics***

Haltiwanger et al. (2013) concluded that large, mature firms dominated the US, with employment firms employing 500 or more workers comprising about half of the workforce. This contrasts with Poland, where private, smaller firms show higher dynamism. Konings et al (1996) studied Polish manufacturing firms. They highlighted the significant role of private firms in job creation during the economic transition period, featuring the importance of private ownership in shaping employment trends.

Ma et al (2015) found a negative relationship between firm size and net job creation in Chinese private firms, a trend that resonates with Poland's experience in certain sectors.

### 2.2.3 Sectoral and Regional Difference

The evolution of employment dynamics in Poland over the past decades has generated considerable academic and policy attention. A range of studies employing enterprise survey data, cross-regional analysis, and firm-level assessment have documented marked changes in the structure of employment, the prevalence of informal work practices, and the impact of firm size on labour market outcomes. A study by Nikulin (2023) synthesized the evidence on recent trends in the Polish market, revealing that Poland's employment dynamics are intricately linked to the varied performance of firms across different sizes and the significant role of informal economic activity. Policy makers must consider structural and microeconomic dimensions to devise strategies.

Employment dynamics in Europe have been significantly shaped by structural changes and technological transitions. Most research predicts modest net job gains and moderate economic growth over the coming decades. Yet, regional mismatches between areas losing fossil fuel jobs and those gaining green employment highlight the need for well-coordinated government policies and workforce retraining programs (Hanna, Heptonstall, & Gross, 2024)

Ayyagari et al (2014), using data from 104 countries (2006-2010), emphasized the significant contributions of SMEs to net job creation, with sectoral differences shaping these contributions. This aligns with survey data from 104 countries between 2006 and 2010, which show that SMEs are the major contributors to net job creation, with variations by year and country. The researchers categorize countries into those with positive and negative net job creation. The study finds that firms with 100 or more employees account for over half of the total workforce employed by the private sector.

A working paper by Majchrowska, A., & Strawiński, P. (2022) states that firm size appears to interact with minimum wage policies. Small firms, especially those operating within tradable sectors such as manufacturing, are more susceptible to employment adjustments, including layoffs or reduced hiring. Medium-sized enterprises have shown a robust relationship with both GDP growth and employment levels. Stępiak-Kucharska, A. (2016)

An eighteen-country study based on firm-level census data by Criscuolo et al. (2014) reveals that net job creation declined with firms' size and more strongly when firm age is controlled for. The study found that the job creation depends on the firm size cut-off used. Firms with fewer than 250 employees account for over 50% of the total employment in all the countries covered, except for the USA. However, only in 6 of the 18 countries do firms with 50 or fewer employees account for at least 50% of total employment.

Haltiwanger et al. (2013) employed a dataset that covered all private sector establishments with at least one paid employee from 1995 to 2005, revealing a major finding: large firms are the largest employers of non-farm private sector labor in the United States. They report that firms with 500 or more employees constitute roughly half of the total stock of employment in the US, with large and mature firms representing the single-largest plurality. Wałag, P. (2023) argues that larger and medium-sized firms are

more likely to invest in technological and organizational innovations that lead to increased competitiveness and gradual employment growth.

A combination of firm-level practices and broader labour market forces shapes employment dynamics. For example, Sherwani and Mohammed (2015) found that targeted training programs enhance employee performance, which in turn promotes Job Creation within organizations. Likewise, Sherwani (2019) showed that when employees perceive strong organizational support, their commitment increases and turnover decreases, helping to reduce job contraction and stabilize net job creation. In the Polish context, Begum (2023) highlighted how occupational shifts and labour market trends are influenced by European Union policies and sectoral restructuring, which in turn affect overall employment patterns.

The impact of economic shocks and crisis periods has been subject to several external shocks, including the global financial crisis and the COVID-19 pandemic, which have provided natural experiments for evaluating policy responses. During the global downturn from 2008 to 2009, the SME sector experienced a notable contraction in the number of active enterprises and employment, particularly among micro and small firms. *Stępnia-Kucharska, A., (2016).*

A study conducted in China by Ma et al. (2015), using an annual survey of Industrial Enterprises, covers firms in the manufacturing, mining, and public utility sectors. The study reveals a negative relationship between firm size and net job creation, suggesting that gross job creation decreases with increasing firm size. However, net job creation was positive and declined with firm size for privately owned firms. A study by Konings (1996), using comprehensive firm-level data for Poland's manufacturing sector, shows that in state-owned firms, the large drop in net employment since the start of the transition in 1990 has been driven by a significant increase in the job destruction rate. On the other hand, Job creation is disproportionately located in the private sector. It was found that the small firms were more dynamic than the large firms. Despite the controls for size, private firms have a higher net employment growth rate. Despite the wealth of existing literature on employment indicators, a comprehensive review has revealed a noticeable gap in the current understanding. While previous studies have highlighted key findings related to firm size and job contraction and expansion, there remains a need for research specifically addressing the exploration of all key employment indicators in a country like Poland. This unexplored territory presents a significant opportunity in this field. This study conceptualizes employment indicators and presents the data analytically, with a focus on Poland.

### 3. Method

The data source for this article is a set of tables provided by the Enterprise Survey (ES) conducted by the World Bank. World Bank Group. (2025) All the tables used four main indicators, namely, Employment Share, Employment expansion, Employment Contraction, and Net Employment Change. These indicators are based on Aga et al. (2015), which investigates the types of firms that are key employers and those that create

or lose jobs at a faster rate. It is also based on the method used by Haltiwanger et al. (2013), who utilized U.S. census data and identified common pitfalls in measuring the contributions to aggregate job creation and destruction by firms of various characteristics.

The years 2009, 2013, 2019, and 2025 were selected because they represent the most recent and comprehensive datasets available from the World Bank's Enterprise Survey for Poland, capturing significant economic fluctuations and trends over a decade.

Microsoft Excel was selected for data representation due to its user-friendly interface and essential functionalities such as sorting, filtering, and handling missing values. While advanced statistical tools like SPSS or Stata offer additional capabilities, Excel was deemed sufficient for the scope of this study, as it effectively visualizes employment indicators. This methodology draws upon the approach of Haltiwanger et al (2013), which highlighted common pitfalls such as ignoring firm age, overemphasizing firm size, and failing to account for temporary employment fluctuations when measuring job creation and destruction patterns across diverse firms.

#### **4. Results and Discussion**

According to **Table 1**, 45.9% of firms were expanding and 21.7% were contracting in 2009. In 2013, there was a decrease in the number of firms expanding (29.8%) and an increase in the number of firms contracting. In 2019, 41.6% of the firms expanded, and 10.9% of the firms contracted. In 2009, the net job creation was 1.7%. In 2013, the net job creation rate decreased to 0.3%, and in 2019, 4.4% of the firms expanded, resulting in a net job creation rate of 3.3%. In 2025, small firms contributed to net job creation more than a hundred percent, as there was negative net job creation in the medium and large enterprises. Overall employment shows fluctuations in job creation and contraction. Small firms consistently contributed the most to net job creation, particularly in 2019. In the year 2025, the net job creation by small firms is remarkable, with 100% contribution, and there is a negative change in job creation by medium and large enterprises. This finding is consistent with those of Criscuolo et al. (2014), which indicate that small firms make a significant contribution to the employment share in an economy.

**Table 1:** Employment Share in Small, Medium, and Large-Scale Sectors in Poland

| Firm Size and Net Job Creation in Poland from 2009 to 2025 |                |                  |      |                            |             |                      |                              |             |                      |                  |        |      |
|--|----------------|------------------|------|----------------------------|-------------|----------------------|------------------------------|-------------|----------------------|------------------|--------|------|
| Survey Year  | Size           | Employment Share |      | % of Firms that Added Jobs |             |                      | % of Firms that Reduced Jobs |             |                      | Net Job Creation |        |      |
|  |                | Indicator        | N    | % of Firms that Expanded   | Expansion % | % Share in Expansion | % Firms that Contracted      | Contraction | Share in Contraction | Net Change       | Share  | N    |
| Poland 2009  | All            | 100.0%           | 434  | 45.9%                      | 4.0%        | 100.0%               | 21.7%                        | 2.3%        | 100.0%               | 1.7%             | 100.0% | 369  |
|  | Small (1-19)   | 16.0%            |      | 44.7%                      | 5.5%        | 21.5%                | 17.8%                        | 3.0%        | 20.0%                | 2.5%             | 23.6%  |      |
|  | Medium (20-99) | 25.3%            |      | 53.3%                      | 5.5%        | 34.2%                | 29.3%                        | 2.6%        | 27.8%                | 2.9%             | 43.2%  |      |
|  | Large (100+)   | 58.7%            |      | 41.1%                      | 3.0%        | 44.3%                | 41.3%                        | 2.1%        | 52.2%                | 0.9%             | 33.3%  |      |
| Poland 2013  | All            | 100.0%           | 530  | 29.8%                      | 3.3%        | 100.0%               | 21.4%                        | 3.0%        | 100.0%               | 0.3%             | 100.0% | 475  |
|  | Small (1-19)   | 12.3%            |      | 24.4%                      | 4.2%        | 15.7%                | 16.3%                        | 2.7%        | 11.1%                | 1.5%             | 61.0%  |      |
|  | Medium (20-99) | 25.8%            |      | 37.1%                      | 3.3%        | 26.1%                | 27.0%                        | 3.3%        | 28.4%                | 0.0%             | 3.8%   |      |
|  | Large (100+)   | 61.9%            |      | 44.1%                      | 3.1%        | 58.1%                | 37.4%                        | 2.9%        | 60.5%                | 0.2%             | 35.2%  |      |
| Poland 2019  | All            | 100.0%           | 1308 | 41.6%                      | 4.4%        | 100.0%               | 10.9%                        | 1.1%        | 100.0%               | 3.3%             | 100.0% | 1082 |
|  | Small (1-19)   | 50.9%            |      | 42.2%                      | 7.0%        | 78.7%                | 11.3%                        | 1.8%        | 78.3%                | 5.2%             | 78.8%  |      |
|  | Medium (20-99) | 26.1%            |      | 38.8%                      | 2.6%        | 15.5%                | 8.3%                         | 0.6%        | 14.8%                | 1.9%             | 15.7%  |      |
|  | Large (100+)   | 23.0%            |      | 30.6%                      | 1.1%        | 5.9%                 | 10.7%                        | 0.3%        | 6.9%                 | 0.8%             | 5.5%   |      |
| Poland 2025  | All            | 100.0%           | 1720 | 39.1%                      | 5.1%        | 100.0%               | 5.2%                         | 2.0%        | 100.0%               | 3.1%             | 100.0% | 1667 |
|  | Small (1-19)   | 62.3%            |      | 38.9%                      | 6.7%        | 79.4%                | 4.8%                         | 1.0%        | 29.9%                | 5.7%             | 110.9% |      |
|  | Medium (20-99) | 26.0%            |      | 41.0%                      | 2.7%        | 14.3%                | 8.6%                         | 3.4%        | 46.2%                | -0.7%            | -6.0%  |      |
|  | Large (100+)   | 11.8%            |      | 47.1%                      | 2.6%        | 6.3%                 | 25.6%                        | 3.9%        | 24.0%                | -1.2%            | -4.9%  |      |

**Source:** Author's Compilation using data from the Enterprise Survey World Bank Group (2025)

**Table 2** depicts the employment share when the top manager is male or female. A closer examination of the data reveals variation based on the gender of top managers. In 2009, Firms with female top managers had a higher share of job creation (49.9%), indicating a positive correlation between female leadership and job expansion. In 2013, firms with a female top manager exhibited a significantly lower job (9.9%). In 2019, firms with female top managers continued to demonstrate positive job creation (4.9%) while experiencing lower job contraction, resulting in net job creation. In 2025, the job expansion increased from 4.9 to 5.9, and the net job creation rose from 38% to 45.8%. There is significant variation between male-owned and female-owned firms in terms of job creation and job contraction. This finding aligns with the study by Attieh, L., & Begum, S. (2022), which revealed statistically significant variance between the two types of firms. Moreover, in Poland, firms with male top managers showed lower job creation but also reduced job contraction. They still made positive contributions to net job creation. Across all years, firms with female top managers exhibited higher job creation, supporting the idea that gender diversity in top management can positively influence job growth. Female-led firms consistently had lower job contraction rates, contributing to a more stable employment condition. The data suggests that having a mix of gender representation in top management may lead to more balanced and sustainable employment dynamics. A formal education system should foster the skills required for both males and females. A study by Begum, S., & Basiru, M. (2023) using the World Values Survey states that gender differences were observed in relationships with education level and skill development. These findings underscore the importance of fostering policies and practices that promote diversity to stimulate job growth and stability. The increase in net job creation and decrease in job contraction between 2013 and 2025 could be a sign of improving economic conditions in Poland.

**Table 2:** Employment Share and Gender of the Top Managers in Poland

| Employment Share and Net Job Creation based on Gender as Top Manager |                           |                  |      |                     |           |                    |                       |             |                      |                  |         |      |
|--|---------------------------|------------------|------|---------------------|-----------|--------------------|-----------------------|-------------|----------------------|------------------|---------|------|
| Survey Year  | Gender of Top Manager     | Employment Share |      | Job Creation        |           |                    | Job Contraction       |             |                      | Net Job Creation |         |      |
|  |                           | %                | N    | Firms that Expanded | Expansion | Share in Expansion | Firms that Contracted | Contraction | Share in Contraction | Net Change       | Share   | N    |
| Poland 2009  | All                       | 100.0%           | 434  | 45.9%               | 4.0%      | 100.0%             | 21.7%                 | 2.3%        | 100.0%               | 1.7%             | 100.0%  | 369  |
|  | The top manager is female | 16.4%            |      | 49.9%               | 4.4%      | 19.6%              | 21.7%                 | 3.3%        | 25.2%                | 1.1%             | 11.8%   |      |
|  | The top manager is male   | 83.4%            |      | 44.5%               | 3.9%      | 79.9%              | 21.9%                 | 2.1%        | 74.8%                | 1.8%             | 87.0%   |      |
|  | Manager's gender unknown  | 0.2%             |      | 18.6%               | 12.2%     | 0.5%               | 0.0%                  | 0.0%        | 0.0%                 | 12.2%            | 1.2%    |      |
| Poland 2013  | All                       | 100.0%           | 530  | 29.8%               | 3.3%      | 100.0%             | 21.4%                 | 3.0%        | 100.0%               | 0.3%             | 100.0%  | 475  |
|  | The top manager is female | 10.3%            |      | 26.4%               | 2.3%      | 7.5%               | 14.8%                 | 2.7%        | 9.9%                 | -0.5%            | -15.9%  |      |
|  | The top manager is male   | 86.4%            |      | 31.1%               | 3.5%      | 92.1%              | 22.6%                 | 2.6%        | 73.7%                | 1.0%             | 269.7%  |      |
|  | Manager's gender unknown  | 3.3%             |      | 2.4%                | 0.4%      | 0.4%               | 49.1%                 | 13.1%       | 16.3%                | -12.7%           | -153.8% |      |
| Poland 2019  | All                       | 100.0%           | 1308 | 29.8%               | 4.4%      | 100.0%             | 10.9%                 | 1.1%        | 100.0%               | 3.3%             | 100.0%  | 1082 |
|  | The top manager is female | 24.7%            |      | 26.4%               | 4.9%      | 27.1%              | 7.6%                  | 0.8%        | 16.6%                | 4.1%             | 30.8%   |      |
|  | The top manager is male   | 75.3%            |      | 31.1%               | 4.3%      | 72.8%              | 12.1%                 | 1.3%        | 83.3%                | 3.0%             | 69.2%   |      |
|  | Manager's gender unknown  | 0.1%             |      | 2.4%                | 4.8%      | 0.1%               | 21.8%                 | 1.2%        | 0.1%                 | 3.6%             | 0.1%    |      |
| Poland 2025  | All                       | 100.0%           | 1720 | 39.1%               | 5.1%      | 100.0%             | 5.2%                  | 2.0%        | 100.0%               | 3.1%             | 100.0%  | 1667 |
|  | The top manager is female | 31.8%            |      | 43.0%               | 5.9%      | 35.9%              | 4.0%                  | 1.3%        | 20.3%                | 4.6%             | 45.8%   |      |
|  | The top manager is male   | 67.8%            |      | 37.4%               | 4.7%      | 64.0%              | 5.7%                  | 2.3%        | 79.3%                | 2.5%             | 54.3%   |      |
|  | Manager's gender unknown  | 0.4%             |      | 5.0%                | 1.0%      | 0.1%               | 83.1%                 | 1.9%        | 0.4%                 | -1.0%            | -0.1%   |      |

**Source:** Author's Compilation using data from the Enterprise Survey World Bank Group. (2025)

**Table 3** provides insights into employment dynamics across different regions of Poland from 2009 to 2025. In 2009, the Central and Eastern region had the highest job creation rates, indicating a positive employment trend, while the northern region saw the most significant job contraction. The south region had a relatively high net job creation rate, contributing positively to overall employment growth. In 2013, Job creation decreased slightly to 3.3% while job contraction increased to 21.4% depicting challenges in the labour market. The Southwestern region experienced an extreme job contraction rate, resulting in a substantial negative net job creation. In 2019, job creation improved to 4.4%, and job contraction decreased to 10.9%, reflecting a more favorable employment climate. The central region exhibited a high job creation rate, contributing significantly to net job creation, while the Eastern region had a slight negative impact on employment opportunities. Moreover, the job contraction in the South-Western region decreased significantly, leading to positive job creation. In 2025, the regions have been classified in different criteria than in the years 2009, 2013, and 2019, making the data of 2025 incomparable.

The data reveal regional disparities in employment dynamics in Poland, with some regions consistently outperforming others in terms of job creation and job contraction. Economic conditions and industry composition likely play a significant role in these regional variances. Stronger economic sectors can lead to more job creation. Encouraging balanced regional development and addressing disparities could lead to a more equitable distribution of job opportunities.

**Table 4** illustrates the employment dynamics across various sectors, including Manufacturing, Retail, and other services. In 2009, the manufacturing sector had a job creation rate of 3.0%, while the services sector outperformed with a rate of 5.0%. However, manufacturing saw less job contraction (2.0%) compared to services (2.7%). The net job creation was higher in the services sector, indicating its role in overall job growth. In 2013, job creation across all industries decreased to 3.3%, but despite sectoral differences, the net job creation remained at 0.3%, suggesting overall stability in employment. In 2025, the service sector and the construction sector are the major contributors.

**Table 3:** Employment Share and Location of Employment in Poland

| Employment Share and Net Job Creation based on Location from 2009 to 2025 in Poland |  |                  |       |              |                    |                 |                      |                  |         |      |
|---|--|------------------|-------|--------------|--------------------|-----------------|----------------------|------------------|---------|------|
| Survey  | Location                                       | Employment Share |       | Job Creation |                    | Job Contraction |                      | Net Job Creation |         |      |
|   |  | %                | N     | % Expansion  | Share in Expansion | % Contraction   | Share in Contraction | Net Change       | Share   | N    |
| Poland 2009   | All  | 100.0%           | 434   | 4.0%         | 100.0%             | 2.3%            | 100.0%               | 1.7%             | 100.0%  | 369  |
|   | Central  | 16.7%            |       | 7.3%         | 27.8%              | 1.8%            | 12.1%                | 5.5%             | 49.7%   |      |
|   | Eastern  | 12.7%            |       | 7.0%         | 20.2%              | 1.9%            | 9.5%                 | 5.1%             | 35.0%   |      |
|   | North  | 21.2%            |       | 2.5%         | 16.3%              | 3.3%            | 36.3%                | -0.8%            | -11.5%  |      |
|   | Northwest                                      | 14.2%            |       | 3.0%         | 10.2%              | 2.5%            | 14.5%                | 0.5%             | 4.2%    |      |
|   | South  | 26.4%            |       | 2.6%         | 15.1%              | 1.9%            | 19.0%                | 0.7%             | 9.6%    |      |
|   | Southwest                                      | 8.8%             |       | 4.0%         | 10.5%              | 1.9%            | 8.7%                 | 2.1%             | 13.0%   |      |
| Poland 2013   | All  | 100.0%           | 530   | 3.3%         | 100.0%             | 3.0%            | 100.0%               | 0.3%             | 100.0%  | 475  |
|   | Central Region                                 | 24.5%            |       | 4.7%         | 34.0%              | 2.2%            | 17.7%                | 2.5%             | 191.5%  |      |
|   | Eastern Region                                 | 10.9%            |       | 2.3%         | 7.5%               | 2.5%            | 8.9%                 | -0.2%            | -6.0%   |      |
|   | North-Western Region                           | 17.8%            |       | 4.7%         | 25.7%              | 1.6%            | 9.9%                 | 3.1%             | 179.3%  |      |
|   | Northern Region                                | 8.9%             |       | 1.5%         | 3.3%               | 1.9%            | 4.6%                 | -0.4%            | -9.1%   |      |
|   | South-Western Region                           | 20.8%            |       | 1.1%         | 8.0%               | 5.5%            | 44.0%                | -4.4%            | -341.0% |      |
|   | Southern Region                                | 17.2%            |       | 4.2%         | 21.5%              | 2.6%            | 14.9%                | 1.6%             | 85.3%   |      |
| Poland 2019   | All  | 100.0%           | 1308  | 4.4%         | 100.0%             | 1.1%            | 100.0%               | 3.3%             | 100.0%  | 1082 |
|   | Center   | 8.3%             |       | 5.8%         | 9.9%               | 0.3%            | 2.2%                 | 5.5%             | 12.6%   |      |
|   | East   | 11.1%            |       | 3.1%         | 8.6%               | 2.3%            | 24.8%                | 0.8%             | 3.0%    |      |
|   | Mazowieckie                                    | 19.0%            |       | 4.7%         | 19.7%              | 1.0%            | 16.3%                | 3.7%             | 20.9%   |      |
|   | North  | 14.2%            |       | 1.9%         | 5.6%               | 2.8%            | 32.3%                | -0.9%            | -3.6%   |      |
|   | Northwest                                      | 14.6%            |       | 6.3%         | 21.9%              | 1.0%            | 13.5%                | 5.3%             | 24.9%   |      |
|   | South  | 22.4%            |       | 4.2%         | 21.5%              | 0.5%            | 9.7%                 | 3.7%             | 25.5%   |      |
|   | Southwest                                      | 10.5%            |       | 5.3%         | 12.8%              | 0.1%            | 1.1%                 | 5.2%             | 16.8%   |      |
| Poland 2025   | All  | 100.0%           | 1720  | 5.1%         | 100.0%             | 2.0%            | 100.0%               | 3.1%             | 100.0%  | 1667 |
|   | Kujawsko-Pomorskie (PL61) and Pomorskie (PL63) | 12.1%            |       | 4.4%         | 9.3%               | 0.3%            | 1.5%                 | 4.1%             | 14.3%   |      |
|   | Lubelskie (PL81) and Podlaskie (PL84)          | 6.8%             |       | 5.7%         | 7.8%               | 1.4%            | 4.8%                 | 4.4%             | 9.6%    |      |
|   | Makroregion Centralny (PL7)                    | 8.1%             |       | 3.8%         | 6.2%               | 0.9%            | 3.7%                 | 2.9%             | 7.7%    |      |
|   | Makroregion Południowo-Zachodni (PL5)          | 8.6%             |       | 6.6%         | 11.0%              | 1.4%            | 6.2%                 | 5.2%             | 14.1%   |      |
|   | Małopolskie (PL21)                             | 8.6%             |       | 5.1%         | 8.8%               | 1.2%            | 5.6%                 | 3.8%             | 10.9%   |      |
|   | Podkarpackie (PL82)                            | 5.5%             |       | 3.5%         | 3.9%               | 0.6%            | 1.7%                 | 2.9%             | 5.3%    |      |
|   | Region Mazowiecki Regionalny (PL92)            | 4.8%             |       | 5.2%         | 5.6%               | 15.0%           | 41.6%                | -9.8%            | -17.3%  |      |
|   | Region Warszawski Stołeczny (PL91)             | 10.4%            |       | 6.9%         | 13.7%              | 0.7%            | 3.4%                 | 6.2%             | 20.1%   |      |
|   | Warmińsko-Mazurskie (PL62)                     | 2.4%             |       | 2.6%         | 1.4%               | 7.4%            | 9.9%                 | -4.8%            | -4.1%   |      |
|   | Wielkopolskie (PL41)                           | 11.1%            |       | 4.2%         | 9.2%               | 0.2%            | 1.4%                 | 3.9%             | 14.1%   |      |
|   | Zachodniopomorskie (PL42) and Lubuskie (PL43)  | 7.1%             |       | 5.7%         | 7.8%               | 0.8%            | 2.8%                 | 4.9%             | 10.9%   |      |
| Śląskie (PL22)  | 14.3%  | 5.4%             | 15.4% | 2.3%         | 17.3%              | 3.0%            | 14.3%                |                  |         |      |

Source: Author's Compilation using data from the Enterprise Survey World Bank Group. (2025)

Table 4: Employment Share and Sectors in Poland

| Employment Share and Net Job Creation based on Sector |                           |                  |      |                     |           |                    |                       |             |                      |                  |        |      |
|---|---------------------------|------------------|------|---------------------|-----------|--------------------|-----------------------|-------------|----------------------|------------------|--------|------|
| Survey Year   | Sector                    | Employment Share |      | Job Creation        |           |                    | Job Contraction       |             |                      | Net Job Creation |        |      |
|   |                           | %                | N    | Firms that Expanded | Expansion | Share in Expansion | Firms that Contracted | Contraction | Share in Contraction | Net Change       | Share  | N    |
| Poland 2009   | All                       | 100.0%           | 434  | 45.9%               | 4.0%      | 100.0%             | 21.7%                 | 2.3%        | 100.0%               | 1.7%             | 100.0% | 369  |
|   | Manufacturing             | 51.2%            |      | 45.6%               | 3.0%      | 37.0%              | 29.2%                 | 2.0%        | 41.6%                | 1.1%             | 30.6%  |      |
|   | Other Services            | 40.4%            |      | 50.0%               | 4.9%      | 52.0%              | 16.2%                 | 2.7%        | 48.7%                | 2.2%             | 56.6%  |      |
|   | Retail                    | 8.4%             |      | 38.4%               | 5.3%      | 11.0%              | 25.6%                 | 2.7%        | 9.7%                 | 2.6%             | 12.8%  |      |
| Poland 2013   | All                       | 100.0%           | 530  | 29.8%               | 3.3%      | 100.0%             | 21.4%                 | 3.0%        | 100.0%               | 0.3%             | 100.0% | 475  |
|   | Manufacturing             | 59.2%            |      | 34.8%               | 3.7%      | 68.7%              | 24.7%                 | 3.5%        | 72.9%                | 0.1%             | 28.1%  |      |
|   | Other Services            | 32.1%            |      | 29.0%               | 2.9%      | 26.3%              | 19.3%                 | 1.7%        | 16.9%                | 1.2%             | 117.1% |      |
|   | Retail                    | 8.7%             |      | 23.0%               | 1.9%      | 5.0%               | 20.0%                 | 3.6%        | 10.1%                | -1.6%            | -45.2% |      |
| Poland 2019   | All                       | 100.0%           | 1308 | 41.6%               | 4.4%      | 100.0%             | 10.9%                 | 1.1%        | 100.0%               | 3.3%             | 100.0% | 1082 |
|   | Fabricated Metal Products | 3.8%             |      | 35.7%               | 3.2%      | 2.9%               | 9.5%                  | 0.6%        | 1.9%                 | 2.7%             | 3.2%   |      |
|   | Food                      | 3.3%             |      | 37.5%               | 2.7%      | 1.8%               | 17.9%                 | 1.8%        | 4.6%                 | 0.9%             | 0.8%   |      |
|   | Furniture                 | 1.4%             |      | 40.7%               | 3.8%      | 1.2%               | 22.1%                 | 2.0%        | 2.4%                 | 1.8%             | 0.7%   |      |
|   | Garments                  | 1.3%             |      | 53.9%               | 4.4%      | 1.3%               | 5.4%                  | 0.9%        | 1.0%                 | 3.6%             | 1.4%   |      |
|   | Machinery & Equipment     | 2.1%             |      | 60.4%               | 23.4%     | 7.9%               | 14.1%                 | 0.9%        | 1.1%                 | 22.5%            | 10.2%  |      |
|   | Other Manufacturing       | 18.9%            |      | 46.1%               | 4.1%      | 16.0%              | 6.5%                  | 0.6%        | 9.1%                 | 3.5%             | 18.4%  |      |
|   | Other Services            | 57.6%            |      | 41.8%               | 4.0%      | 54.6%              | 10.7%                 | 1.2%        | 65.7%                | 2.7%             | 50.8%  |      |
|   | Retail                    | 9.4%             |      | 38.0%               | 6.8%      | 13.7%              | 14.2%                 | 1.7%        | 13.0%                | 5.1%             | 13.9%  |      |
| Rubber & Plastics Products                            | 2.2%                      | 18.3%            | 1.7% | 0.8%                | 3.9%      | 0.6%               | 1.1%                  | 1.1%        | 0.7%                 |                  |        |      |
| Poland 2025   | All                       | 100.0%           | 1720 | 39.1%               | 5.1%      | 100.0%             | 5.2%                  | 2.0%        | 100.0%               | 3.1%             | 100.0% | 1667 |
|   | Construction              | 22.5%            |      | 44.0%               | 6.5%      | 28.6%              | 3.9%                  | 0.5%        | 5.1%                 | 6.0%             | 43.4%  |      |
|   | Fabricated Metal Products | 3.9%             |      | 31.3%               | 3.9%      | 2.9%               | 9.5%                  | 0.8%        | 1.5%                 | 3.1%             | 3.9%   |      |
|   | Food                      | 3.8%             |      | 34.2%               | 4.9%      | 3.7%               | 8.6%                  | 0.7%        | 1.3%                 | 4.2%             | 5.1%   |      |
|   | Motor Vehicles            | 0.5%             |      | 40.2%               | 2.1%      | 0.2%               | 9.0%                  | 1.5%        | 0.4%                 | 0.6%             | 0.1%   |      |
|   | Other Manufacturing       | 17.2%            |      | 31.3%               | 3.0%      | 10.2%              | 11.8%                 | 1.7%        | 15.1%                | 1.3%             | 7.2%   |      |
|   | Other Services            | 28.7%            |      | 41.8%               | 5.4%      | 29.7%              | 6.0%                  | 4.1%        | 58.8%                | 1.2%             | 11.2%  |      |
|   | Professional Activities   | 10.7%            |      | 36.7%               | 5.2%      | 10.7%              | 1.4%                  | 0.5%        | 2.8%                 | 4.6%             | 15.7%  |      |
| Retail  | 12.7%                     | 35.0%            | 5.4% | 14.0%               | 3.7%      | 2.3%               | 14.9%                 | 3.2%        | 13.4%                |                  |        |      |

Source: Author's Compilation using data from the Enterprise Survey World Bank Group. (2015)

**Table 5:** Employment Share and Exporter Type in Poland

| Employment Share and Exporter type from 2009 to 2025 in Poland |   |                  |      |                     |           |                    |                       |             |                      |                  |        |      |
|--|---|------------------|------|---------------------|-----------|--------------------|-----------------------|-------------|----------------------|------------------|--------|------|
| Survey Year  | Size                                    | Employment Share |      | Job Creation        |           |                    | Job Contraction       |             |                      | Net Job Creation |        |      |
|  |   | Indicator        | N    | Firms that Expanded | Expansion | Share in Expansion | Firms that Contracted | Contraction | Share in Contraction | Net Change       | Share  | N    |
| Poland 2009  | All                                     | 100.0%           | 434  | 45.9%               | 4.0%      | 100.0%             | 21.7%                 | 2.3%        | 100.0%               | 1.7%             | 100.0% | 369  |
|  | Direct exports are 10% or more of sales | 36.2%            |      | 52.0%               | 3.0%      | 29.4%              | 29.1%                 | 1.7%        | 28.1%                | 1.3%             | 31.1%  |      |
|  | Non-exporter                            | 63.8%            |      | 45.0%               | 4.7%      | 70.6%              | 20.5%                 | 2.8%        | 71.9%                | 1.9%             | 68.9%  |      |
| Poland 2013  | All                                     | 100.0%           | 530  | 29.8%               | 3.3%      | 100.0%             | 21.4%                 | 3.0%        | 100.0%               | 0.3%             | 100.0% | 475  |
|  | Direct exports are 10% or more of sales | 37.6%            |      | 33.4%               | 4.0%      | 46.5%              | 23.1%                 | 3.0%        | 38.7%                | 1.0%             | 122.0% |      |
|  | Non-exporter                            | 58.8%            |      | 29.7%               | 3.0%      | 53.5%              | 20.8%                 | 3.0%        | 59.7%                | 0.0%             | -6.9%  |      |
|  | Exporter type unknown                   | 3.6%             |      | 0.0%                | 0.0%      | 0.0%               | 34.3%                 | 1.4%        | 1.6%                 | -1.4%            | -15.1% |      |
| Poland 2019  | All                                     | 100.0%           | 1308 | 41.6%               | 4.4%      | 100.0%             | 10.9%                 | 1.1%        | 100.0%               | 3.3%             | 100.0% | 1082 |
|  | Direct exports are 10% or more of sales | 10.3%            |      | 29.6%               | 2.1%      | 5.0%               | 11.5%                 | 0.4%        | 3.3%                 | 1.8%             | 5.6%   |      |
|  | Non-exporter                            | 80.7%            |      | 42.1%               | 4.8%      | 87.6%              | 11.3%                 | 1.3%        | 93.5%                | 3.5%             | 85.6%  |      |
|  | Exporter type unknown                   | 8.9%             |      | 46.0%               | 3.8%      | 7.4%               | 3.6%                  | 0.4%        | 3.2%                 | 3.3%             | 8.9%   |      |
| Poland 2025  | All                                     | 100.0%           | 1720 | 39.1%               | 5.1%      | 100.0%             | 5.2%                  | 2.0%        | 100.0%               | 3.1%             | 100.0% | 1667 |
|  | Direct exports are 10% or more of sales | 11.7%            |      | 57.8%               | 3.6%      | 8.5%               | 9.3%                  | 1.7%        | 10.4%                | 1.9%             | 7.3%   |      |
|  | Non-exporter                            | 86.7%            |      | 38.0%               | 5.3%      | 89.9%              | 5.1%                  | 2.0%        | 89.6%                | 3.2%             | 90.0%  |      |
|  | Exporter type unknown                   | 1.6%             |      | 45.0%               | 5.6%      | 1.7%               | 0.0%                  | 0.0%        | 0.0%                 | 5.5%             | 2.7%   |      |

**Source:** Author's Compilation using data from the Enterprise Survey World Bank Group. (2025)

**Table 6:** Employment Share and Ownership Type in Poland

| Employment Share and Net Job Creation based on Ownership Type |                               |                  |      |                     |           |                    |                       |             |                      |                  |         |      |
|---|-------------------------------|------------------|------|---------------------|-----------|--------------------|-----------------------|-------------|----------------------|------------------|---------|------|
| Survey  | Ownership Type                | Employment Share |      | Job Creation        |           |                    | Job Contraction       |             |                      | Net Job Creation |         |      |
|   |                               | %                | N    | Firms that Expanded | Expansion | Share in Expansion | Firms that Contracted | Contraction | Share in Contraction | Net Change       | Share   | N    |
| Poland 2009   | All                           | 100.0%           | 434  | 45.9%               | 4.0%      | 100.0%             | 21.7%                 | 2.3%        | 100.0%               | 1.7%             | 100.0%  | 369  |
|   | 10% or more foreign ownership | 18.6%            |      | 49.3%               | 2.6%      | 12.1%              | 33.8%                 | 2.0%        | 16.6%                | 0.5%             | 5.8%    |      |
|   | Domestic                      | 80.2%            |      | 45.2%               | 4.3%      | 85.7%              | 21.3%                 | 2.4%        | 83.3%                | 1.9%             | 88.9%   |      |
|   | Ownership type unknown        | 1.2%             |      | 82.4%               | 9.9%      | 2.2%               | 2.6%                  | 0.0%        | 0.0%                 | 9.9%             | 5.3%    |      |
| Poland 2013   | All                           | 100.0%           | 530  | 29.8%               | 3.3%      | 100.0%             | 21.4%                 | 3.0%        | 100.0%               | 0.3%             | 100.0%  | 475  |
|   | 10% or more foreign ownership | 26.5%            |      | 44.0%               | 2.8%      | 24.7%              | 30.2%                 | 4.3%        | 41.9%                | -1.5%            | -142.7% |      |
|   | Domestic                      | 70.4%            |      | 28.4%               | 3.0%      | 62.9%              | 21.0%                 | 2.5%        | 57.6%                | 0.5%             | 113.4%  |      |
|   | Ownership type unknown        | 3.1%             |      | 39.5%               | 15.2%     | 12.5%              | 11.7%                 | 0.5%        | 0.4%                 | 14.7%            | 129.3%  |      |
| Poland 2019   | All                           | 100.0%           | 1308 | 41.6%               | 4.4%      | 100.0%             | 10.9%                 | 1.1%        | 100.0%               | 3.3%             | 100.0%  | 1082 |
|   | 10% or more foreign ownership | 1.4%             |      | 89.9%               | 4.8%      | 1.0%               | 0.5%                  | 0.1%        | 0.1%                 | 4.7%             | 1.4%    |      |
|   | Domestic                      | 93.8%            |      | 41.0%               | 4.4%      | 93.5%              | 10.9%                 | 1.1%        | 94.6%                | 3.2%             | 93.1%   |      |
|   | Ownership type unknown        | 4.8%             |      | 51.3%               | 5.4%      | 5.4%               | 13.4%                 | 1.4%        | 5.3%                 | 4.1%             | 5.5%    |      |
| Poland 2025   | All                           | 100.0%           | 1720 | 39.1%               | 5.1%      | 100.0%             | 5.2%                  | 2.0%        | 100.0%               | 3.1%             | 100.0%  | 1667 |
|   | 10% or more foreign ownership | 5.9%             |      | 38.7%               | 2.8%      | 3.4%               | 2.1%                  | 2.1%        | 6.7%                 | 0.7%             | 1.4%    |      |
|   | Domestic                      | 92.6%            |      | 39.3%               | 5.2%      | 93.6%              | 5.3%                  | 2.0%        | 93.0%                | 3.2%             | 94.0%   |      |
|   | Ownership type unknown        | 1.5%             |      | 31.8%               | 10.6%     | 2.9%               | 1.7%                  | 0.5%        | 0.3%                 | 10.1%            | 4.6%    |      |

**Source:** Author's Compilation using data from the Enterprise Survey World Bank Group. (2025)

**Table 5** depicts the employment dynamics across different exporter types in Poland. In 2009, the overall employment landscape was characterized by a substantial job expansion, with 45.9% of the firms contributing to a net job creation of 1.7%. Notably, firms heavily reliant on direct exports exhibited a higher job expansion rate (52.0%) compared to non-exporters, although the latter faced a higher share of job contraction. Non-exporters maintained a relatively stable employment scenario. By 2019, overall job expansion increased to 41.6, with non-exporters contributing significantly. Firms with direct exports, while showing a lower job expansion rate of 29.6%, contributed positively to net job creation. In 2025, the employment share of the exporters has increased from 10.3 to 11.5% which is a significant increase. The dynamics of firms with unknown export status revealed distinct patterns, emphasizing the need for further exploration. These findings highlight the intricate relationship between export orientation and employment dynamics in Poland, emphasizing the need for targeted policies to address the diverse challenges faced by different segments of the business landscape.

**Table 6** presents the employment trends across ownership types in Poland, providing insights into the relationship between ownership structures and workforce dynamics. The higher job expansion rates seen in firms with 10% or more ownership in 2009 and 2013 suggest a potential positive impact of foreign investment on job creation. However, the contrasting scenario in 2019, with low job expansion rates in this category, underlines the variability in the influence of foreign ownership over time. Domestic firms consistently played a pivotal role in net job creation, showcasing their resilience and contribution to overall employment stability. The compelling performance of firms with unknown ownership types, particularly in 2009 and 2013, suggests a significant yet often overlooked sector that warrants further investigation. The positive net job creation from this category prompts questions about its unique characteristics and growth potential.

## 5. Conclusion

In conclusion, the evolution of Poland's employment landscape highlights the resilience of small businesses, which consistently contribute to overall job growth and net job creation. A focus on gender disparities among top managers reveals a significant impact on leadership demographics and workforce trends. While female-led firms played a pivotal role in job creation in 2009 and 2010, the decrease in overall job expansion in 2013 revealed challenges for such firms. Focusing on employment dynamics across regions unveils the importance of contrasts and transformations. While central and eastern areas thrived in 2009, subsequent years witnessed shifts, accompanied by challenges in the southern and southwestern areas. Notably, the Central region emerged as a stalwart in job creation. By 2019, resilience prevailed, marked by significant rebounds in the central and southwestern areas. Poland's employment landscape reflects sector-specific complexities, with the manufacturing sector and other services thriving in

2009 while the retail industry faced challenges. The resilience of the manufacturing sector continued in 2013, while the retail industry experienced contraction. In 2019, the machinery and equipment sector emerged as a key player, demonstrating its significant economic impact. Firms heavily reliant on direct exports played a substantial role in job creation in 2009. However, challenges to such firms in 2013 led to contractions. Surprisingly, in 2019, direct exporters showcased modest growth, but no exporters demonstrated robust expansion. Related to Ownership types dynamics, in 2009, firms with foreign ownership of 10% or more showcased positive impacts, but by 2013, challenges led to significant contractions. In 2019, a balanced landscape emerged, highlighting the need for effective strategies within the diverse ownership structure in Poland.

## **6. Recommendations**

The enduring significance of small enterprises in 2025 highlights the importance of creating tailored policies across different firm sizes to foster inclusive economic growth. The following actionable recommendations are proposed to ensure that policies are both practical and effective.

### ***6.1 Gender Inclusive Employment Strategies***

To address the gender-related employment dynamics, it is recommended that policymakers and business leaders implement gender-inclusive strategies, providing support for female-led enterprises. This can include offering financial incentives, grants, or low-interest loans to women entrepreneurs, as well as providing mentorship and networking opportunities specifically for female business owners (Brush et al, 2009).

### ***6.2 Regional Tailoring of Economic Growth Policies***

To ensure sustainable and inclusive growth, policymakers must tailor their initiatives to recognize and address the diverse challenges inherent in each region. To achieve this, policymakers should develop region-specific policies that recognize the unique economic, social, and infrastructural challenges each region faces. For instance, for economically underdeveloped regions, the policymakers can introduce subsidies or tax breaks for small and medium-sized enterprises (SMEs) to encourage business creation and job growth (OECD, 2020)

Regional economic development boards can be established that include local stakeholders to ensure that policies are designed with a deep understanding of local challenges and opportunities. (Blair, 2009)

### ***6.3 Sector-specific Policies for Exporters***

The government should adopt sector-specific policies for exporters, leveraging recommendations for the UNCTAD World Investment Report 2019. These include providing targeted financial incentives, such as tax exemptions and duty waivers, and enhancing export infrastructure, including bonded warehouses and logistics hubs. There is a need to support exporters by providing information to meet international standards and certifications, thereby improving global market access. (UNCTAD, 2019)

#### ***6.4 Support for Domestic and Foreign-Owned Enterprises***

The OECD (2019) report emphasizes the importance of supporting both domestic and foreign-owned small and medium-sized enterprises (SMEs) to foster productivity and inclusive growth. It highlights that growing SMEs significantly contribute to employment creation, innovation, and competitiveness. To achieve this, the report recommends implementing policies that facilitate access to finance, enhance managerial skills, and promote innovation among SMEs. By supporting domestic and foreign-owned SMEs, Poland can stimulate economic growth and ensure more inclusive development outcomes.

#### **6.5 Technological innovation and its impact:**

The government should try to revise the policies based on the technological changes, particularly artificial intelligence (AI), is reshaping labour markets across Europe. Evidence from 16 countries between 2011 and 2019 shows that jobs exposed to AI have generally grown, especially for younger and skilled workers, supporting the skill-based technological theory. Though outcomes vary across countries. (Albanesi et al, 2023) At the same time, other research points to potential risk. Global AI adoption may reduce both employment opportunities and the labour share of income, affecting different worker groups and countries unevenly. While AI creates new opportunities for skilled workers, it can also widen inequalities and displace vulnerable workers, highlighting the need for targeted policies and mitigation strategies. (Gao, 2025).

### **7. Limitations and Future Research**

However, the study is subject to several limitations that should be considered when interpreting the results.

#### ***7.1 Use of Secondary Data***

This paper relies on data up to 2025. The data utilized in this research were secondary and sourced from the existing surveys. It may be prone to potential biases in data collection and inconsistencies in the measurement of variables.

#### ***7.2 Limitations of Microsoft Excel for Data Analysis***

While Microsoft Excel is widely used for data analysis due to its accessibility and user-friendly interface, it has certain limitations, especially when handling large datasets or performing advanced statistical analysis. In future research, more advanced analytical tools can enhance the sophistication of analysis.

#### ***7.3 Scope of Data***

The variables used for this research primarily focus on Employment Share, Employment Expansion, Employment Contraction, and net employment, which may not capture the full complexity of the subject matter. There could be other factors or external variables that influence the outcomes, but were not included due to data constraints. Future research could incorporate a broader range of variables.

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