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Article

The economic consequences of inflation on the dynamics of business environment in central Europe

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Abstract: The following study delves into the influence of inflation on the creation and closed businesses in specific Central European nations, namely Slovakia, Poland, Germany, the Czech Republic, and Romania, spanning from 2014 to 2021 by the use of annual data. Through a panel regression data analyze approach, the research delineates the correlation between inflation rates and entrepreneurial endeavors. The findings reveal a statistically significant positive impact of inflation on the inception of new businesses, with Germany exhibiting the most robust correlation. This suggests that inflationary pressures can serve as encouragement for entrepreneurial activities. Conversely, the study uncovers a positive yet less pronounced association between inflation and business closures, particularly notable in Poland, where heightened inflation contributes to an elevated rate of business discontinuation. These results suggest that, while inflation can spur the establishment of new businesses, it may also precipitate instability and an increased likelihood of business closure in less resilient economies. The research furnishes valuable insights for policymakers by underscoring the necessity of accounting for inflationary trends when formulating policies aimed at cultivating a supportive climate for businesses. Subsequent research should encompass supplementary macroeconomic variables and broaden the timeframe to yield a more comprehensive comprehension of the interplay between inflation and business dynamics in the region.

Keywords: economic inflation; business environment; new businesses; closed businesses; Central Europe

1. Introduction

The business environment is the basis for long-term development of entrepreneurial activity of business entities, for sustainable increase of economic performance and living standards of population (Krošláková et al., 2017; Naďová Krošláková et al., 2021). The business environment consists of a complex set of external factors that affect businesses, their decision-making and the overall strategy. Its impact is particularly pronounced in the context of small and medium-sized enterprises (SMEs), which make up a significant proportion of the economies of many countries. The business environment includes political, economic, social, technological, legal and natural factors that together shape the context in which businesses operate. All these factors together determine the potential for business growth, innovation and long-term viability of businesses (Castano et al., 2015; Cherunilam, 2016; Krueger et al., 2000; Tsui et al., 2018). The business environment is a key determinant of the development of small and medium-sized enterprises, which are often very sensitive to external conditions. These enterprises contribute to gross domestic product (GDP), employment and innovation, but their success and growth depend on the quality of the business environment. Stability, access to financial

resources, support from public institutions and the minimization of red tape are prerequisites for the success of SMEs (Cepel et al., 2020).

Political and economic factors have a significant impact on the business environment (Pearce and Robinson, 2007). Political stability, legislative changes and government policy are important factors that can encourage or hinder the development of entrepreneurial activity. Effective government policies that promote economic competition and simplify administrative processes can improve the business environment and thus increase interest in doing business (Worthington and Britton, 2006). It is crucial for businesses to adapt to external factors that may affect their success in the global market. Adaptation involves not only adapting to political and economic changes, but also harnessing technological innovation and transforming business models to increase efficiency and competitiveness (Kumar et al., 2022).

The business environment in Europe varies significantly, influenced by macroeconomic factors, regulatory quality, and institutional stability, impacting competitiveness and opportunities for enterprises across different countries (Valasková, 2022).The business environment in Europe significantly influences employment and production, with key factors including taxation, electricity access, insolvency resolution, and contract enforcement impacting companies' performance (Kleštincová and Kubicová, 2023) and it is also shaped by economic integration processes, competition policies, innovation support strategies, and the growing significance of social enterprises, impacting various sectors and entrepreneurial dynamics (Bratianu, 2019).

The business environment in Central Europe, particularly in Eastern countries, faces challenges like lack of succession experience, knowledge gaps, and psychological barriers, contrasting with Austria's supportive mechanisms for business transfers (Schiefer, 2019). The business environment in Central and Eastern Europe is characterized by dynamic institutional evolution, resource constraints, macroeconomic conditions, diverse cultural contexts, and increasing economic nationalism affecting foreign investment strategies (Dvorský et al, 2019; Schuh et al, 2019). The business environment in Central Europe, particularly in Visegrad countries, significantly influences FDI inflows, with factors like corruption perception and global competitiveness playing crucial roles (Bobenič-Hintošová, 2016) and it has adapted to regional and global value chains, influenced by fiscal, trade, investment freedoms, and EU membership (Igorevich, 2015).

2. Literature review

The impact of inflation on the creation and disappearance of businesses was examined by several authors, who focused on specific parts of the business. The authors of Sahu and Kshatriya (2024) focused their study on the impact of macroeconomic factors—GDP, inflation and interest rates—on the emergence and survival of startups. They identified that, in the case of start-ups, they may be affected by inflation rates, in particular under the impact of increased operating costs. Mishra and Choudhury (2020) addressed the impact of inflation on business, focusing specifically on the ability to start up a business. In their study, they identified the impact of inflation in terms of increased costs on production factors, financial

instability and reduced consumer purchasing power. Jain and Reddy (2017) examined the impact of inflation on business in India. The study identifies that a moderate degree of inflation supports investment in physical assets, which supports entrepreneurial efforts by creating scope for risk acceptance and support for innovation.

The 20th century experienced significant inflationary trends influenced by various economic events and monetary policies. Notably, inflation predictability varied across different monetary regimes, particularly during periods lacking a clear nominal anchor, such as the years surrounding World War II and the 1970s. This era is characterized by volatile inflation rates, with the worst inflation occurring globally, particularly during the two world wars and the post-socialist transition (Christiano and Fitzgerald, 2003; Taylor, 2006). The Great Inflation from 1965 to 1984 was a significant monetary event, driven by analytic errors, political decision-making, and the belief that inflation would persist, largely due to the Federal Reserve financing a substantial portion of the fiscal deficit (Meltzer, 2005). Inflation peaked globally at 16.6% in 1974, then declined significantly over the following decades, stabilizing at historically low levels by 2000. This decline was particularly notable in advanced economies from the mid-1980s and in emerging markets from the mid-1990s (Jongrim et al, 2019).

The actual inflation in the European Union (EU) has been a topic of significant concern, particularly as it has reached multidecade highs. Various factors contribute to this inflationary trend, including commodity price surges and pandemic-related disruptions. The rise in inflation is attributed to soaring commodity prices and supply chain disruptions exacerbated by geopolitical tensions and the pandemic (International Monetary Fund, 2022). Rising global commodity prices have significantly contributed to inflation, with energy and food prices being particularly volatil (Baba et al., 2024). The war in Ukraine has exacerbated supply chain disruptions, leading to increased costs and inflationary pressures. Central banks are expected to continue raising interest rates to combat inflation, although the process may be slow and uncertain due to ongoing risks (Morana, 2024).

In a further examination of the impact of inflation on the business environment and entrepreneurship, authors focused on specific factors that influence entrepreneurship. The focus was mainly on the following specific effects of inflation: Reducing the availability of finance through credit (Ang and Piazzesi, 2003; Coibion et al., 2018), high interest rates (Christiano et al., 2005; Orphanides and van Norden, 2002), the impact of inflation on price increases, consumer demand and the strategic planning of businesses (Mankiw, 2001; Rabanal and Rubio-Ramírez, 2005; Razvan Dobrea et al., 2024; Stock and Watson, 2003), long-term planning linked to the uncertainty and unpredictability of the financial income of entrepreneurs (Christiano et al., 2005; Coibion et al., 2018), the impact of inflation on the financial cost of entry and exit (Belanová, 2023), the impact of crisis situations (COVID-19, war in Ukraine) on the inflation rate in the USA, China and the Eurozone and its impact on the economies of countries (Li et al., 2023), and the impact on the economic growth of countries (Živkov et al., 2020).

In the context of the above-mentioned literature examining the impact of inflation on the emergence of enterprises and start-ups, we have identified scope to extend the examination of the subject matter to the impact of inflation on the disappearance of

entrepreneurs. On the basis of the above, we have set ourselves the main objective of examining the correlation between the level of inflation and the establishment and closure of new businesses in specific Central European countries.

The definition of inflation is linked to the definition of the various authors who have dealt with this issue. Economic inflation is the sustained increase in the general price level of goods and services in an economy over a period, leading to a decrease in purchasing power (Alfiatin et al., 2019; Barro, 1995; Chikobava, 2019; Hall, 1984; Kapoor, 2023). Economic inflation refers to the general increase in prices and fall in the purchasing value of money, often linked to changes in economic activity and unemployment rates (Goonatilake and Reyes, 2019; Trehan, 2020; Taylor and Barbosa-Fiho, 2021) and economic stability (Bryan, 1997).

Economic inflation refers to the general increase in prices of goods and services over time, leading to a decrease in purchasing power and impacting economic stability and debt management (Macchia and Ciia, 2021). Inflation affects the availability of finance. High inflation leads to an increase in interest rates, which results in higher borrowing costs, thereby impairing the ability of enterprises to finance their operations through loans. This phenomenon is particularly problematic for small and medium-sized enterprises, which have limited access to cheap financial resources (Ang and Piazzesi, 2003; Coibion et al., 2018). High interest rates lead to businesses reconsidering their investment plans, which may limit their long-term growth and expansion (Christiano et al., 2005; Orphanides and van Norden, 2002).

Inflation has a significant impact on the business environment, affecting entry prices, consumer demand, the availability of finance and the strategic planning of businesses. Inflation increases lead to higher prices for raw materials, energy and wages, which means higher production and operating costs for businesses. Businesses are then forced to adapt their pricing strategies, often by raising the prices of their products and services, which may reduce consumer demand and affect the profitability of businesses. This leads to a reduction in the purchasing power of consumers, which negatively affects the demand for goods, especially in the long-term consumer goods sector (Mankiw, 2001; Rabanal and Rubio-Ramírez, 2005; Stock and Watson, 2003). Another aspect is the complexity of long-term planning at a time of high inflation. Inflation reduces the value of money over time, making it difficult to predict future revenues and costs. This factor leads to uncertainty, causing businesses to hesitate to make long-term investments and to miss out on market opportunities. Businesses that are not sufficiently aware of macroeconomic trends may misjudge future conditions and make poor decisions, leading to inefficiencies (Christiano et al., 2005; Coibion et al., 2018).

RQ_1: *Is the establishment of new businesses influenced by inflation rates in selected Central European countries?*

RQ_2: *Is the closure of businesses in selected Central European countries influenced by inflation rates?*

Global factors also have a significant impact on entrepreneurship, especially in developing economies. Changes in commodity prices and other global shocks may cause significant fluctuations in prices of inputs and profitability. Companies operating in international markets are particularly sensitive to these fluctuations and

must be prepared to adapt their strategies in order to minimize the negative effects (Kamber and Wong, 2019; Rabanal and Rubio-Ramírez, 2005).

Overall, inflation significantly affects the business environment by increasing costs, reducing the availability of capital and creating uncertainty in long-term planning. Businesses must adapt their strategies to changing conditions and ensure that they are able to cope with inflationary pressures without losing competitiveness (Coibion et al., 2018; Mankiw, 2001).

3. Materials and methods

The primary aim of this study is to investigate the relationship between inflation rates and the dynamics of business creation and dissolution in selected Central European countries. The countries included in this analysis are the Slovak Republic, the Czech Republic, Poland, Romania, Austria, and Germany. These countries were chosen due to the availability of comprehensive and comparable data, specifically regarding inflation rates, the number of newly established businesses, and the number of business closures. The study covers the period from 2014 to 2021, as this timeframe provides a consistent data series across all countries under consideration.

Furthermore, the study aims to address the following research questions and hypotheses in line with its objectives:

RQ_1: *Is the establishment of new businesses influenced by inflation rates in selected Central European countries?*

H_0: *There is a statistically significant relationship between the number of newly established businesses and the achieved inflation rate in selected Central European countries.*

H_1: *There is no statistically significant relationship between the number of newly established businesses and the achieved inflation rate in selected Central European countries*.

RQ_2: *Is the closure of businesses in selected Central European countries influenced by inflation rates?*

H_0: *There is a statistically significant relationship between the number of business closures and the achieved inflation rate in selected Central European countries.*

H_1: *There is no statistically significant relationship between the number of business closures and the achieved inflation rate in selected Central European countries.*

In our research, we aim to address specific research questions and develop hypotheses using a wide range of scientific methods. We primarily utilized the abstraction method to process theoretical starting points and select relevant sources. The synthesis method was employed to merge the gathered information throughout the study. Additionally, the concretization method played a crucial role in selecting the research object, which in this case, encompasses the selected countries of Central Europe. Graphical methods were instrumental in presenting the findings, while mathematical and statistical methods were pivotal in analyzing various data points such as inflation rates, the establishment and closure of businesses, and other relevant factors. Panel analysis was predominantly used in the examination of this data.

The advantage of utilizing panel data regression analyze with fixed effects lies in the increased degrees of freedom and the ability of fixed effects to account for unobserved factors that may impact the dependent variable (Y) but are not included in our specification (Hsiao, 2014). As a result, we can work with a smaller number of independent variables (X). A fixed-effects panel analysis essentially involves a classical least-squares regression analysis that incorporates dummy binary variables for each cross-sectional unit. We will be investigating the influence of inflation (X) on the establishment and closure of businesses in all economic sectors (Y) in five countries: Slovakia, Poland, Germany, the Czech Republic, and Romania, over the period from 2014 to 2021. Romania holds critical position in this analysis due to its distinct economic characteristics, which contrast sharply with other countries in this research. This divergence and hances the comparative framework of the study and facilities deeper exploration of the impact of inflation on business establishment and closer across different economic environments. This will result in a database containing 35 rows ($N = 35$). Consequently, the panel specification with fixed effects will include one dependent variable (Y), one independent variable (X), and 5 additional variables for each selected country.

Before choosing panel regression analysis we did Hausman test, which is used to validate the use of fixed effects or random effects in a panel regression. The *p*-value of Hausman test is less than 0.05. Based on results Hausman test we choose the panel regression analysis with fixed effects (Greene, 2018; Woldridge, 2020).

The regression equation with fixed effects (αi) has the following form (Lukáčik and Lukáčiková, 2013):

$$yit = \alpha i + \beta 1xit1 + \beta 2xit2 + \cdots + \beta kxitk + uit \quad (1)$$

The regression equation will have the following form (it also includes time effects γt; (Lukáčik and Lukáčiková, 2013):

$$Infl = \alpha i + \gamma t + \beta 1New\ business + \beta 2ICTit2 + uit \quad (2)$$

In contrast to cross-sectional data analysis, fixed-effects panel data analysis examines the dynamic relationship between the dependent and independent variables over time. The GRETL software (Cottrell and Lucchetti, 2021) provides an efficient framework for conducting panel data analysis, including fixed and time effects, making it the preferred tool for this study's data processing. Additionally, the statistical software R was employed for data visualization and for performing regression analysis on the specific datasets used in the study.

Data collection

In this study, secondary data from the World Bank database were used in the following structure: The level of inflation in selected countries, the created new businesses in selected countries and the closed businesses in selected countries. The starting data for the issue under consideration are given in **Figure 1**.

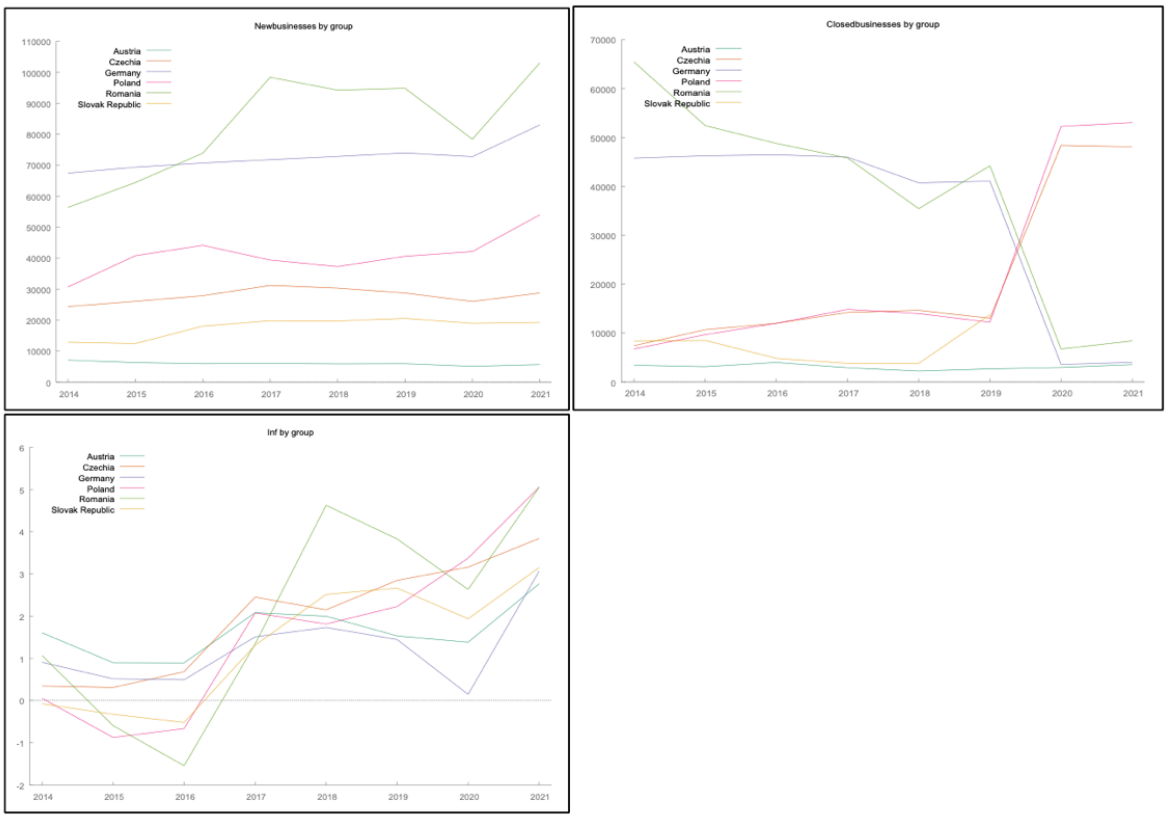

Figure 1. Dataset from world Banka database–new businesses, closed businesses, inflation in selected countries, 2014–2021.

Source: Authors own work.

The Slovak Republic and Poland experienced a substantial increase in new business establishments between 2018 and 2019, indicating a favorable business environment or supportive policies. In contrast, Austria and Germany saw relatively stable patterns with marginal growth. Romania witnessed a decline in new business creation from around 2018, followed by a partial recovery in 2021. The Czech Republic showed a slight increase until 2019, followed by a decline in new business creation. The rise in business closures in Romania in 2019, peaking in 2020, suggests potential economic challenges, regulatory adjustments, or impacts from the global COVID-19 pandemic. Meanwhile, Austria, Germany, and the Czech Republic maintained consistently low numbers of closed businesses, reflecting a more resilient business environment in these countries.

In terms of inflation rates, Poland and Romania experienced significant inflation, especially in 2019 and 2021, possibly influenced by economic policies, currency fluctuations, or supply-side constraints. On the other hand, Germany and Austria demonstrated relatively low inflation, indicating stable price levels likely due to effective economic governance and consistent supply conditions. The data suggest significant business dynamism in Poland, Romania, and the Slovak Republic, characterized by notable levels of new business creation and closure, reflecting a dynamic business environment or high business activity. Panel regression results in model 1 revealed a positive and statistically significant correlation between new business creation and inflation. Specifically, for every one-unit increase in the number

of new businesses, inflation increases by approximately 6.86331×10^{-5}, suggesting a modest but meaningful effect. The positive coefficient of closed businesses indicates a small positive effect on inflation, potentially due to market consolidation or the exit of less competitive businesses leading to upward price pressures.

4. Results and discussion

The business environment exhibits significant variability and diversity, characterized by dynamic fluctuations over time and across different regions. While the inflation rate generally remains stable, occasional outliers have been observed. Additionally, the slight negative bias in the business variables indicates that although most periods or regions show consistent values, there are occasional fluctuations in the establishment and closure of new businesses.

4.1. Research results

The dataset presented in **Table 1** includes three key variables that capture aspects of economic activity and inflation: the number of newly established businesses (new businesses), the number of businesses that have closed (closed businesses), and the inflation rate (inflation). Descriptive statistics provide an insightful overview of the central tendencies, variability, and distributional characteristics of these variables. The mean number of newly established businesses over the study period is 41,411, with a median of 30,952, suggesting a generally high level of business creation. However, the lower median relative to the mean indicates that certain periods or regions experienced significantly higher rates of new business formation. In contrast, the mean number of business closures is 21,571, with a median of 12,104. The notable disparity between the mean and the median highlights the presence of outliers or periods with unusually high business closures, which substantially influence the average. The average inflation rate is 1.6432, with a median of 1.5684, indicating relatively stable inflation with modest fluctuations around the mean.

Table 1. Summary statistics, using the observation (missing values were skipped).

Variable	**Mean**	**Median**	**Minimum**	**Maximum**
New businesses	41,411.0	30,952.0	5087.0	1.0302×10^5
Closed businesses	21,571.0	12,104.0	2233.0	65,445.0
Inflation	1.6432	1.5684	−1.5448	5.0550
Variable	Std. Dev.	C.V.	Skewness	Ex. kurtosis
New businesses	29,273.0	0.70688	0.50827	−0.96705
Closed businesses	19,846.0	0.92003	0.66741	−1.2233
Inflation	1.5379	0.93592	0.21779	−0.31352
Variable	5% Perc.	95% Perc.	IQ range	Missing obs.
New businesses	5755.6	96,814.0	51,346.0	0
Closed businesses	2765.3	52,836.0	41,778.0	2
Inflation	−0.77991	4.8602	2.1588	0

Source: Authors own work based on World Bank (2024) via statistics programme Gretl.

The substantial standard deviation of 29,273 for new businesses and 19,846 for closed businesses suggests significant variability in business dynamics, indicating that the number of businesses opened and closed can fluctuate widely. The coefficient of variation (C.V.) values indicate that closed businesses (0.92003) and inflation (0.93592) exhibit higher relative variability compared to new businesses (0.70688). This implies that inflation and business closures experience a greater degree of fluctuation in comparison to their average values, suggesting that these factors may be more susceptible to external influences. **Table 2** presents correlation coefficients for three variables: New businesses, Closed businesses, and Inflation. These coefficients quantify the strength and direction of linear relationships between the variables.

Table 2. Correlation coefficients.

New businesses	Closed businesses	Inflation	
1.0000	0.5657	0.2006	New businesses
X	1.0000	0.1292	Closed businesses
X	X	1.0000	Inflation

Notes: 5% critical value (two-tailed) = 0.2907 for $n = 46$; Source: Authors own work based on World Bank (2024) via statistical programme Gretl.

The correlation coefficient between the number of new businesses and inflation is 0.2006, indicating a weak but positive relationship. This suggests a slight tendency for inflation to rise as the number of new businesses increases. However, the relatively low strength of this correlation implies that other factors likely exert a more substantial influence on inflation. The correlation coefficient between the number of business closures and inflation is 0.1292, reflecting an extremely weak positive correlation, which suggests that there is virtually no linear relationship between these two variables. Based on these findings, it can be inferred that business closures have minimal impact on inflation rates. The strong correlation observed between the number of new businesses and business closures points to a dynamic business environment, with a notable relationship between business entry and exit. However, the weak and statistically insignificant correlations between both new business formations and inflation, as well as business closures and inflation, indicate that the direct effects of business openings or closures on inflation are minimal in the data analyzed.

This regression table (**Table 3**) presents the results of an econometric model analyzing factors associated with the dependent variable, Inflation (Inf), across six cross-sectional units over time. The table includes parameter estimates (coefficients), standard errors, *t*-ratios, and *p*-values for each predictor. Standard errors are clustered by unit to account for within-unit correlation, enhancing the robustness of the significance tests. The intercept term of −4.55255 represents the expected value of the dependent variable when all independent variables are zero. This value serves as a baseline in the absence of business dynamics. The *p*-value (0.0021) is highly significant at the 1% level (***), suggesting a strong positive relationship between new businesses and Inflation implying that new business formations are a key predictor of the dependent variable. The coefficient of 2.62533×10^{-5} suggests a weak positive relationship between the number of closed businesses and Inflation. This

effect is smaller than the impact of new businesses. With a *p*-value of 0.2373, this coefficient is not statistically significant, indicating that closed businesses do not have a robust or consistent effect on Inflation in this model. The effect of new businesses is highly statistically significant (*p*-value < 0.01), while the impact of business closures is marginally significant (*p*-value < 0.10).

Table 3. Fixed-effects, using 46 observations.

Included 6 cross-sectional units				
Time-series length: minimum 6, maximum 8				
Dependent variable: Inf				
Standard errors clustered by unit				
	coefficient	std. error	t-ratio	*p*-value
const	−4.55255	1.33048	−3.422	0.0188 **
New businesses	0.000131906	2.26859×10^{-5}	5.814	0.0021 ***
Closed businesses	2.62533×10^{-5}	1.95631×10^{-5}	1.342	0.2373

Source: Authors own work based on World Bank (2024) via statistical programme Gretl.

Note: * the results is statistically significant at level 10% ($p > 0{,}10$); ** the results are statistically at level 5% ($p > 0{,}05$); *** the results are statistically at level 1% (($p > 0{,}01$).

The **Table 4** exhibits a strong fit with high *R*-squared values for both LSDV (Least Squares Dummy Variables) and Within. The standard error of the regression and the sum of squares of the residuals are relatively low, suggesting that the model effectively captures the variation in the dependent variable. We can utilize the Akaike, Schwarz, and Hannan-Quinn criteria to compare this model with others; lower values indicate a more favorable model. However, the Durbin-Watson statistic indicates some autocorrelation in the residuals, suggesting potential improvements by accounting for time series properties, such as using a lagged dependent variable or first difference (**Table 4**). The specified regressors show joint significance, indicating that they collectively have a statistically significant effect on the dependent variable. This suggests that selected variables (such as new businesses and closed businesses) play a key role in explaining variance in the dependent variable that may be related to inflation. Additionally, the *p*-value of 0.018556 is less than 0.05, indicating rejection of the null hypothesis at the 5% level of significance.

Table 4. Regression output table.

Mean dependent var	**1.604041**	**S.D. dependent var**	**1.554446**
Sum squared resid	19.24883	S.E. of regression	0.787991
LSDV *R*-squared	0.822973	Within *R*-squared	0.811558
Log-likelihood	−45.23377	Akaike criterion	120.4675
Schwarz criterion	147.8972	Hannan-Quinn	130.7428
rho	0.313497	Durbin-Watson	1.263318

Source: Authors own work based on World Bank (2024) via statistical programme Gretl.

The fixed effects intercepts for the groups exhibit no statistically significant differences, implying a common intercept among different groups (e.g., regions,

countries, or periods). With a *p*-value of 0.249026 greater than 0.05, we lack sufficient evidence to reject the null hypothesis at the 5% significance level. This suggests that the group intercepts are not significantly different, indicating a likely shared intercept in the model. Therefore, it may not be necessary to include distinct intercepts for each group. A simultaneous test on the named regressors reveals that the included regressors collectively have a significant effect and contribute to explaining the dependent variable.

A robust test for different group intercepts suggests that the intercepts do not significantly differ between groups, indicating that a common intercept may be suitable for the model. Overall, these findings imply that while the included regressors are important predictors, the model may not necessitate distinct intercepts for different groups, indicating a more consistent relationship between the regressors and the dependent variable across the entities studied (**Table 5**).

Table 5. Joint and robust test.

Joint test on named regressors	
Test statistic:	F (2, 5) = 9.81818
with *p*-value = *P* (F (2, 5) > 9.81818) = 0.018556	
Robust test for differing group intercepts	
Null hypothesis	The groups have a common intercept
Test statistic	Welch F (5, 18.6) = 1.46308
with *p*-value = *P* (F (5, 18.6) > 1.46308) = 0.249026	

Source: Authors own work based on World Bank (2024) via statistical programme Gretl.

Panel regression analysis indicates that the establishment of new businesses significantly and positively impacts inflation. The model accounts for time-specific fluctuations in inflation, with certain periods demonstrating significantly higher or lower inflation rates compared to the reference period. This analysis highlights the significance of business dynamics, particularly new business start-ups and closures, as influential factors shaping inflationary trends within this panel data framework.

The data suggests a notable positive correlation between inflation and new business start-ups in Germany. As inflation rises, there is a significant increase in the number of new businesses being established. Conversely, in Poland, a strong positive correlation between inflation and business closures is evident, indicating that higher inflation is associated with a notable increase in business closures. Notably, Germany exhibits the most significant impact of inflation on new business creation, while Poland shows the highest impact of inflation on business closures compared to other countries. These findings suggest a close link between inflation patterns and business activities in these countries, potentially driving the creation of new businesses in Germany and, simultaneously, contributing to increased business closures in Poland (**Figure 2**).

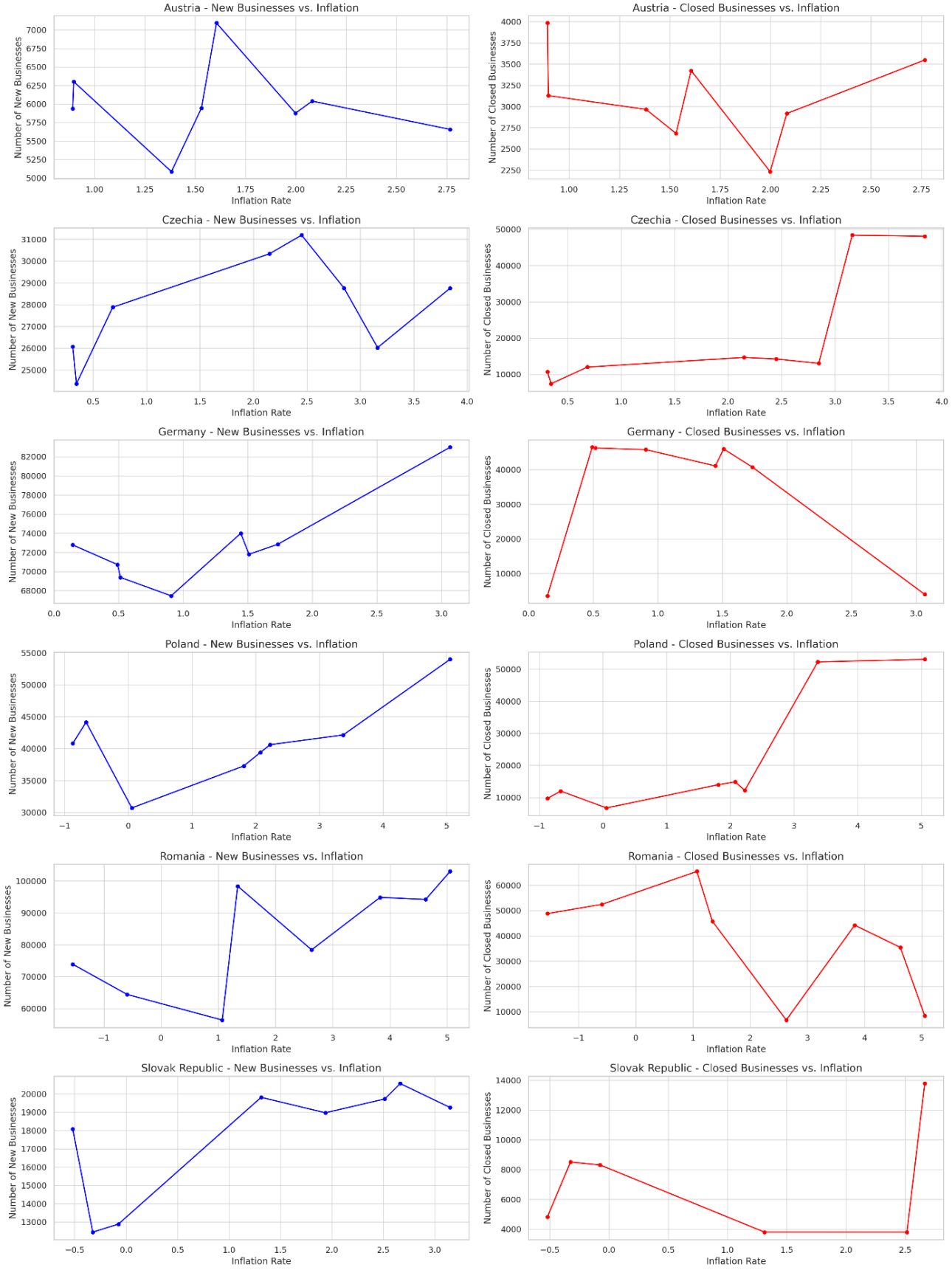

Figure 2. Relationship between inflation rates and the number of new businesses and number of closed businesses for each country.

Source: Authors own work based on World Bank (2024) via statistical programme R.

4.2. Discussion

Inflation's impact on business creation and closure is contingent upon a combination of macroeconomic conditions and business-specific factors, such as size, sector, and access to resources. While inflation rates might evolve similarly between countries like Austria and Slovakia, differences in economic resilience, policy frameworks, and market structures significantly influence the outcomes This impact varies across countries; for instance, Germany demonstrates a strong positive correlation between inflation and new business formation, while Poland shows a strong positive correlation between inflation and business closures. This implies that inflation can act as a catalyst for business activity in certain scenarios, but it can also create challenging conditions for business sustainability, leading to closures in other scenarios.

However, due to the unavailability of data for individual countries across multiple years, a comprehensive panel regression analysis could not be conducted. For the missing data, the years 2014–2021 were utilized, as they contained the necessary data for all selected countries. Future research must extend this analysis to include another period for a more comprehensive comparison of the relationship and its implications impact of inflation on the opening and closing of businesses.

Research Question 1 (RQ1): Is the establishment of new businesses influenced by inflation rates in selected Central European countries?

H0: There is a statistically significant relationship between the number of newly established businesses and the achieved inflation rate in selected Central European countries.

H1: There is no statistically significant relationship between the number of newly established businesses and the achieved inflation rate in selected Central European countries.

The analysis revealed a modest yet positive association between the number of recently established businesses and inflation rates. The results of the panel regression supported the notion that the formation of new businesses is positively correlated with inflation, suggesting that inflationary pressures can spur the creation of businesses to some degree. However, the strength of this correlation varies among the countries studied, with Germany showing the most noticeable positive correlation. Consequently, the null hypothesis (H0) is upheld, confirming the presence of a statistically significant link between inflation and the formation of new businesses.

Research Question 2 (RQ2): Is the closure of businesses in selected Central European countries influenced by inflation rates?

H0: There is a statistically significant relationship between the number of business closures and the achieved inflation rate in selected Central European countries.

H1: There is no statistically significant relationship between the number of business closures and the achieved inflation rate in selected Central European countries.

The findings revealed a slightly positive correlation between the number of business closures and inflation. Although this correlation was not as robust as the one observed for new business formation, it suggests that higher inflation rates may

contribute to an increase in business closures, especially in less stable economies. Notably, Poland showed the most significant relationship between business closures and inflation. Given the borderline significance of this relationship, the null hypothesis (H0) is partially accepted, indicating a modest yet discernible link between inflation and business closures in the region.

The article aimed to investigate the correlation between inflation and the dynamics of business creation and closure in selected Central European countries. The findings revealed that inflation rates significantly impact the business environment, with varying effects on new business formation and closures across different nations. The results showed a statistically significant positive relationship between inflation and the creation of new businesses, particularly in Germany. On the other hand, Poland exhibited a positive correlation between inflation and business closures, indicating potential adverse effects on business sustainability in certain regions. Panel regression analysis indicated that the establishment of new businesses has a more substantial impact on inflation compared to business closures. This suggests that increased business activities, especially the entry of new businesses, may contribute to inflationary trends. The study also identified time-specific effects on inflation, suggesting the influence of external shocks or macroeconomic conditions on inflation rates in certain periods. The variability in business dynamics, as demonstrated by the fluctuating numbers of new and closed businesses, suggests a highly dynamic business environment. Countries like Poland and Romania experienced higher levels of business creation and closure, reflecting a more volatile business environment compared to the relatively stable conditions in Austria and Germany. However, the analysis faced limitations due to data gaps for some countries over extended periods, which impacted the comprehensiveness of the panel regression model. For future studies we recommend using data of inflation and business statistics from World Bank, which are available for all selected countries in the study or World Bank add all data for using datasets. Also we can recommend that for future studies can be use data from national statistics offices.

However, in the context of the above, in comparison with the results of the authors mentioned and our results, we can point out that inflation has a negative as well as a positive impact on businesses. These confirm the positive results in the case of Germany in our study and also the authors of Jain and Reddy (2017) confirm that a certain level of inflation has a positive impact on business. On the contrary, the negative effects of inflation for other countries are confirmed by the results of Sahu and Kshatriya (2024) and Mishra and Choudhury (2020), which identified the negative effects of inflation. However, it should be noted that this comparison is based on the specific results of the study by the authors in question. In the future, it is recommended that similar research be carried out on the issue of the inflow of inflation to business entities, with an expansion to other countries, be they Europe or the world.

5. Conclusion

Inflation impacts both the establishment and closure of businesses, albeit to varying degrees. These insights can be valuable for policymakers seeking to

understand how inflationary trends can influence entrepreneurial dynamics in Central European economies.

Compared with similar research into the impact of inflation on business, which was identified in this study, the following can be summarized: Authors Sahu and Kshatriya (2024); Mishra and Choudhury (2020); Jain and Reddy (2017) identified in their studies the specific impact of inflation on businesses, including the impact of inflation in terms of increased costs on production factors, financial instability and reduced consumer purchasing power and inflation investment in physical assets, which supports entrepreneurial efforts by creating scope for risk acceptance and support for innovation. However, compared to our study, it is not possible to compare these studies by extending the analysis to include the impact of inflation on the disappearance of business, as the authors mentioned above have focused on the specific effects of inflation in the form of specific effects on business. In this study, we focused on the general relationship between inflation and the creation and disappearance of business in selected Central European countries. Future research should aim to incorporate a broader dataset covering a longer timeframe and include additional macroeconomic variables such as interest rates, unemployment, and GDP growth to strengthen the findings. In conclusion, the study emphasizes the significant role of inflation in shaping the business environment in Central Europe. While inflation may stimulate business creation in certain contexts, it can also pose challenges to business sustainability, particularly in less stable economies. Policymakers should take these dynamics into account when formulating economic policies to support small and medium-sized enterprises.

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