

# “Creative destruction” in Slovak labour market: Impact of COVID-19

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“Creative destruction” or reallocation of labour from less productive to more productive firms has been an ongoing phenomenon in Slovakia even prior to the pandemic. While the pandemic did have some effect in accelerating this process by enabling highly productive firms to expand at a faster pace, the impact was only marginal. However, the government’s job retention schemes implemented during the pandemic unintentionally introduced some repercussions by providing support to low-productivity firms. Nevertheless, it is worth noting that the negative impact on “creative destruction” due to these measures has been minimal in magnitude.



Firms with higher productivity have a greater proportion of aggregate labour within their workforce.



More productive firms are more likely to expand their labour force.



The reallocation of labour to more productive firms contributes to an overall increase in aggregate productivity.



The pandemic expedited the process of creative destruction by initiating a faster reallocation of labour to highly productive firms.



Government support packages had an unintended consequence of slightly impeding the process of creative destruction. However, the impact of this interference has been minimal.

## Introduction

**Decline in aggregate productivity has played a significant role in the economic slowdown observed in Slovakia in recent years**<sup>1</sup>. Reallocation of resources can play an important part to enhance overall productivity. The early research on the impact of COVID-19 suggests that it has led to a reallocation shock in labour and other resources across industries worldwide, particularly favoring more productive firms<sup>2,3</sup>. However, the experiences have been varied across countries.

**In this policy brief, we investigate whether a similar reallocation shock occurred in the Slovak labour market by examining labour movements based on productivity.** Specifically, we analyze the potential cleansing effect of COVID-19, which can accelerate the process of “creative destruction”<sup>4</sup>, the process of reallocating labour to more productive firms and consequently enhancing aggregate productivity. Additionally, we assess the impact of direct government assistance, such as the “First Aid” measures implemented during the pandemic, on this process and examine if it had any unintended negative consequences. Our findings indicate that while the initial policy response aimed at job retention did introduce some minor barriers to creative destruction, there was a slight improvement in the process of labour reallocation to more productive firms during the pandemic period.

## “Creative destruction” and “cleansing effect”: What do they mean?

**According to Schumpeter’s classic concept of creative destruction in 1942, long-standing but less productive industries and methods must be replaced so resources can be reallocated to the more productive and innovative industries and organizations.** He described this as the “process of industrial mutation that continuously revolutionises the economic structure from within, incessantly destroying the old one, incessantly creating a new one”<sup>5</sup>. This concept has primarily been used to explain the impacts of disruptive technologies such as the industrial revolution and the internet, which have increased aggregate productivity by directing resources towards new innovations and more productive sectors and firms.

**Since the introduction of this concept, there has been interest in understanding how recessions or negative economic events can potentially accelerate the process of creative destruction and cleanse the economy of less productive firms.** It is expected that a disruptive event like the COVID-19 pandemic can increase the speed of resource reallocation and have an overall cleansing effect on the economy. Creative destruction is recognized as the primary driver of growth in modern economies. Therefore, despite the short-term challenges posed by crises such as Covid-19, it is also important to recognize their potential favourable impact on creative destruction and, consequently, long-term economic growth.

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<sup>1</sup> Novak, Vladimír and Vanko, Milan (forthcoming NBS occasional paper 2023).

<sup>2</sup> Konings, J., Magerman, G., & Van Esbroeck, D. (2022). The Impact of Firm-level Covid Rescue Policies on Productivity Growth and Reallocation. Centre for Economic Policy Research.

<sup>3</sup> Consolo, A., & Petroulakis, F. (2022). Did COVID-19 induce a reallocation wave?

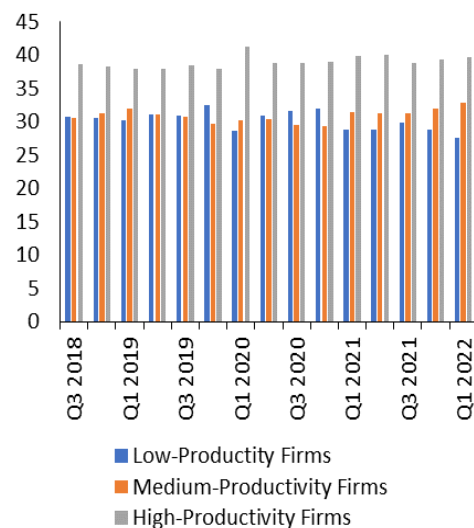
<sup>4</sup> Schumpeter, J. (1942). Creative destruction. Capitalism, socialism and democracy

# Labour reallocation in Slovakia during the pandemic: Evidence from micro-data

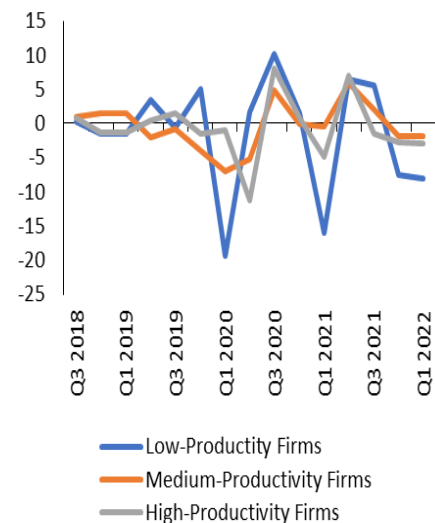
**During the period from 2019 to 2022, there was a marginal increase in the employment share of highly productive firms,** while firms with the lowest productivity experienced a significant decrease in their employment share (chart 1 and 2). Additionally, firms with medium productivity also saw a substantial increase in their share of employment. This suggests that there has been some reallocation of labour from less productive to more productive firms, although it has not been exclusively directed towards the firms with the highest productivity.

**Simultaneously, there has been an overall increase in aggregate labor productivity per employee and per hour worked during this period (chart 3).** The significant drop in labour productivity per employee and the subsequent rise in labour productivity per hour worked in 2020 Q2 (chart 3) can be attributed to the impact of the pandemic, which led to a decline in hours worked and sales compared to the number of workers. Overall, we find broad evidence supporting the presence of creative destruction in the Slovak labour market.

**Chart 1**  
Employment Share by Productivity (%)

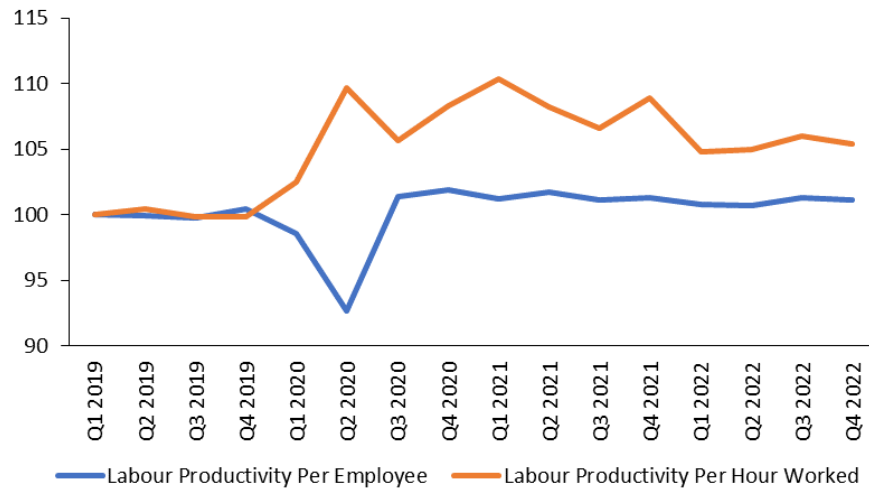


**Chart 2**  
Employment Growth Rate by Productivity (%)



Source: Quarterly Data from Statistical Office, NBS Calculation

**Chart 3**  
 Labour Productivity in Slovakia (Q1 2019=100)



Source: Quarterly Data from Statistical Office, NBS Calculation

## Empirical exercise on labour reallocation based on productivity: Further evidence of “creative destruction”

**We find evidence of productivity enhancing labour reallocation using firm level data.** We examine the relationship between firm-level productivity and changes in employment using a model inspired by the framework outlined by Decker et al. (2018)<sup>6</sup>. We adopt the perspective that labour reallocation towards more productive firms leads to an overall increase in aggregate productivity and serves as evidence of “creative destruction.” Our dataset comprises quarterly firm<sup>7</sup> balance sheet and employment data spanning from 2018 Q1 to 2022 Q3.

**We find more productive firms exhibited a higher likelihood of expanding their labor force during the sample period.** Chart 3 displays the estimated coefficients that represent the responsiveness of firm employment growth to overall productivity, both in general and during the Covid-19 period (2020 Q1 to 2022 Q3). By utilizing log labour productivity as the explanatory variable, we observe that the coefficients for lagged productivity and the interaction term between lagged productivity and the time dummy variable are both positive and statistically significant. The first coefficient suggests that firms with higher productivity experienced an increase in employment growth during this period. This significant relationship between labour productivity and employment growth at the firm level suggests that labour is being reallocated to more productive firms over time, contributing to the overall growth of aggregate productivity in line with the concept of “creative destruction.” Additionally, the small yet positive and significant coefficient of the interaction term indicates a marginal “cleansing effect” of Covid-19, as firm employment growth exhibited a slightly stronger response to firm-level productivity during the pandemic. It is worth

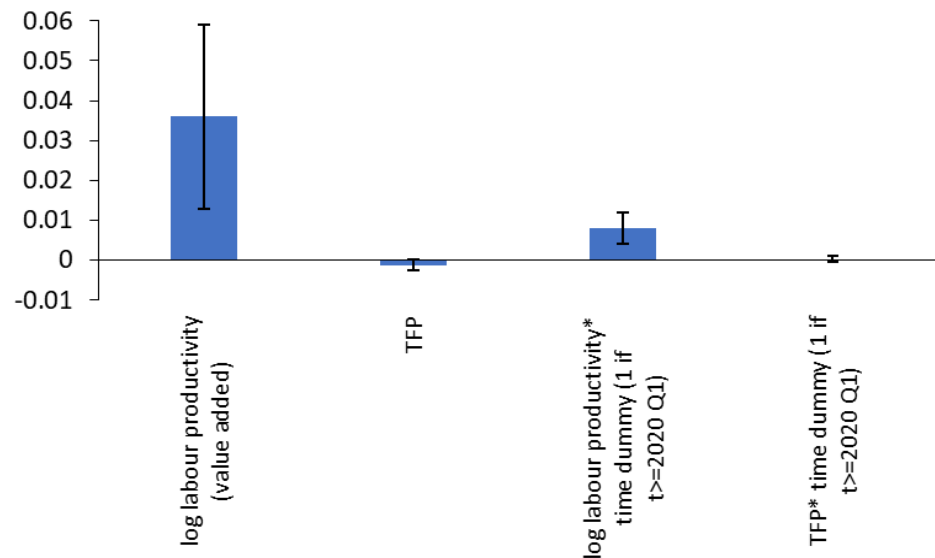
<sup>6</sup> Decker, RA, Haltiwanger, J., Jarmin, RS, & Miranda, J. (2020). Changing business dynamism and productivity: Shocks versus responsiveness. *American Economic Review*

<sup>7</sup> Data from the Statistical Office on firms with 20 and more employees

noting that the estimated coefficients using Total Factor Productivity (TFP) as a measure of productivity did not yield significant results<sup>8</sup>.

**Chart 4**

Effect of Lagged Productivity on Firm Employment Growth Rate



Note: The black bands represent 95% confidence interval.

## Did government support for job retention distort the process of “creative destruction”?

**“First Aid” or the directed assistance for employees, entrepreneurs, and self-employed population, was one of the measures implemented in Slovakia to safeguard public health and the economy during the Covid-19 pandemic.** This assistance program was implemented from March 2020 to February 2022, with the aim of providing financial support to firms that experienced a decline in revenue and faced challenges in retaining their workforce.

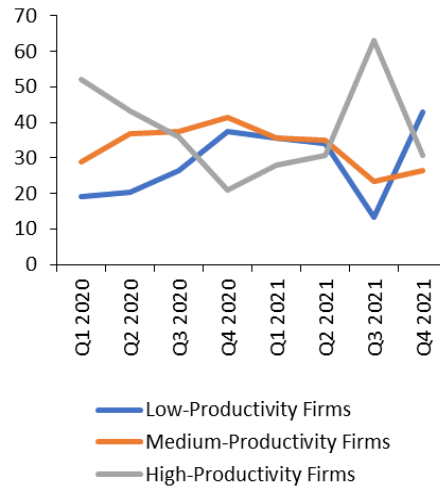
**These extensive support packages carried the potential risk of impeding aggregate productivity growth by hindering the process of creative destruction.** As less productive firms tend to face greater difficulties during economic downturns like the COVID-19 pandemic, it is plausible that a portion of the government subsidies was allocated to support these struggling firms. Consequently, this may have resulted in a slowdown of the creative destruction process.

**We observe that the proportion of government support allocated to less productive firms is consistently lower compared to medium and high productive firms across various time periods (chart 5).** However, when considering the average government support per employee, it remains higher for less productive firms (chart 6), which can be attributed to their smaller share in the overall labour force (chart 1). While the government support did not favor less productive firms more than others,

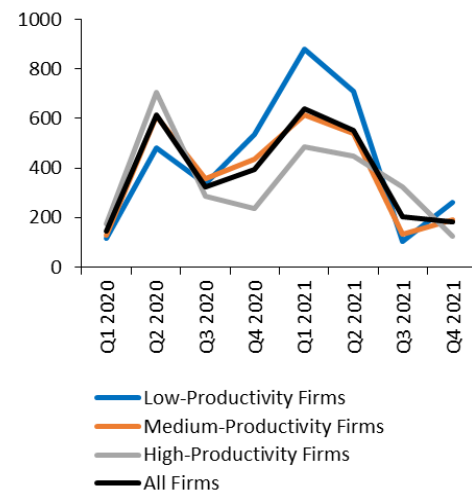
<sup>8</sup> Due to data limitations estimation with TFP is based on a smaller sample, and is less robust than log labour productivity

the availability of funding may have allowed these firms to sustain their operations during the pandemic and potentially impede the process of labour reallocation towards more productive firms. In the following analysis, we delve into whether the "First Aid" measures were indeed responsible for hindering the reallocation of resources, particularly in terms of labour.

**Chart 5**  
Share of Support (%)



**Chart 6**  
Average Support per Employee (Eur)



Source: Ministry of Labour, Social Affairs and Family of the Slovak Republic, NBS Calculation

**We find indication of marginal negative impact of government support on the process of creative destruction.** We combine the quarterly firm-level data from the statistical office with the total quarterly support<sup>9</sup> received through the "First Aid" program and the COVID loan guarantee. The dataset covers the period from 2020 Q1 to 2022 Q2. We introduced two key variables: "average support," representing the average amount of support received by each firm during each quarter, and "average COVID loan," indicating the loan obtained by each firm through the COVID guarantee scheme. Consistent with our previous exercise, we consider two measures of productivity: log labour productivity (value added per worker) and Total Factor Productivity (TFP). We continue to use employment growth rate as our dependent variable in this analysis. By examining these different measures of productivity and their interactions with government support and Covid loans, we can assess their influence on the process of creative destruction and employment growth. The coefficient of the interaction between productivity and average support captures the change in the average impact of lagged productivity on employment growth rate due to government support, with a one-period lag. Similarly, the coefficient of the interaction between productivity and average COVID loan measures the change in the average impact of lagged productivity on employment growth rate due to the obtained guaranteed loan, also with a one-period lag.

**We find that government support during the COVID-19 pandemic had a minor negative impact on the process of labor reallocation to more productive firms.** However, this effect is very small and can be considered negligible. The coefficient of the interaction term between lagged log labour productivity and average support is

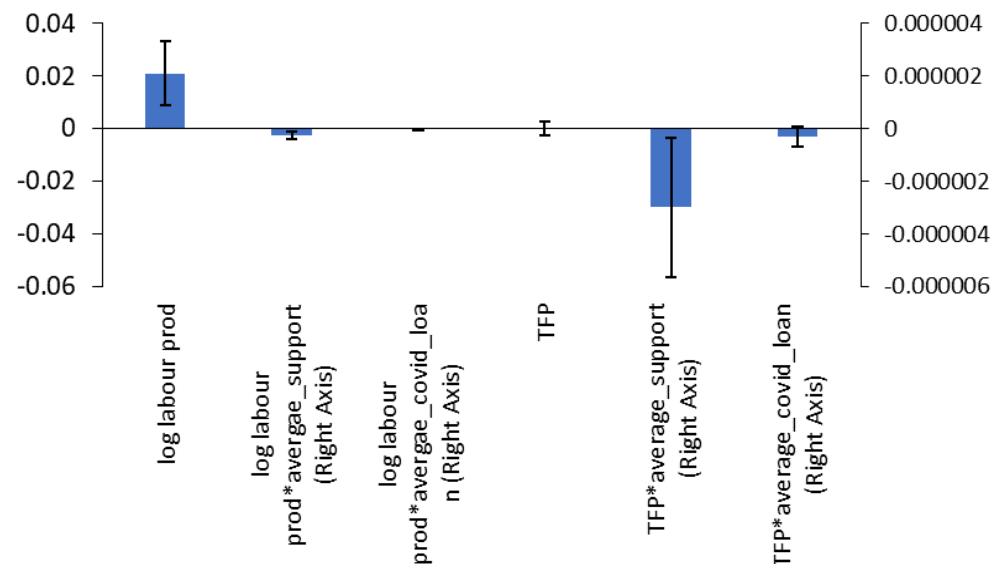
<sup>9</sup> Data from Ministry of Labour, Social Affairs and Family of the Slovak Republic

negative and statistically significant, indicating that government support slowed down the reallocation process to some extent. Nevertheless, the magnitude of this effect is minimal. In contrast, the coefficient of the interaction term between lagged log labour productivity and average Covid loan is not statistically significant, suggesting that the COVID guarantee for loans for SMEs did not slow down the process of creative destruction. When considering Total Factor Productivity (TFP) as a measure of productivity, the coefficient of the interaction term between lagged TFP and average support is negative and statistically significant, indicating a similar small negative impact on the reallocation process. However, the coefficient of the interaction term between lagged TFP and Covid guaranteed loan is not statistically significant.

**Overall, while government support during the pandemic had a minor negative effect on the creative destruction process in terms of labour reallocation, the impact is negligible and can be disregarded** considering the temporary nature of the policy response and its primary goal of preventing sudden unemployment and protecting income during a challenging period.

Chart 7

Change in impact of lagged productivity on firm employment growth rate during pandemic due to government support and Covid Guarantee Loan



Note: The black bands represent 95% confidence interval

## Conclusion and policy implications

**In summary, we find that the reallocation of labour to more productive firms has been a continuous process in Slovakia, which was further accelerated by the disruption caused by the pandemic.** High-productivity firms experienced even greater expansion during this period. However, the government's "First Aid" program, aimed at job retention, had some unintended consequences of impeding the process of creative destruction by supporting less productive firms. Nevertheless, the negative impact on creative destruction has been minimal and can be considered negligible in the overall context.

**Given the significant uncertainty caused by the pandemic, it is understandable that the initial policy response prioritized preventing sudden unemployment and income loss.** The ongoing economic uncertainty and the decrease in labour demand in Slovakia from last year necessitate a cautious approach to policies affecting the labour market in the short term. However, it is important to also consider the long-term objective of redirecting the labour force toward more productive sectors and firms to enhance aggregate productivity. The tight labour market anticipated after the pandemic, particularly in industries requiring skilled labour, highlights the long-term need for labour reallocation. Policies focused on developing a skilled labour force can facilitate the reallocation process and address shortages in the skilled segment of the labour market. By promoting the acquisition of relevant skills, these policies can contribute to the reallocation of labour and the long-term growth and productivity of the economy.



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