



Unprecedented shocks and the resilience of economic systems: the importance of heterogeneity

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Recent unprecedented shocks such as the global pandemic due to Covid-19 have significantly challenged the resilience of economic systems and individual firms. The reaction of markets, industries and businesses, as well as the ability of public sector and governments to act promptly in a fast-changing economic environment could lead to significant heterogeneity in the exposure and the real and financial effects of a (negative) economic shock. This Special Section of the *Journal of Industrial and Business Economics* highlights some of the effects of such a shock using mostly the context of the global Covid-19 pandemic. The insights, however, likely have applicability and relevance beyond the specific context.

The five articles part of the Section take on both macro and micro perspectives by examining various aspects of the economic and financing activity of firms across a number of countries, within a specific sector of a single country, and within a single organization. In this process, they also highlight the interplay between reactions of firms to the shock and government policy and initiatives aimed at addressing the challenges presented by it. A common thread that underlines these contributions is the limited informativeness of averages and the importance of heterogeneity.

In the first article of the Section, Annalisa Ferrando and Judit Rariga examine how economic and financing conditions of Euro Area firms change around the Covid-19 pandemic. The analysis, based on a large survey conducted by the European Central Bank and the European Commission, suggests that financial stability and economic performance of the firms decreased sharply, while their financing needs and obstacles

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to meeting such needs might have increased during times of crises. Moreover, some of the effects likely depend on firm type (e.g., small and midsize enterprise (SME) vs. large firm). A similar perspective emerges from the article by Eleonora Cutrini and Federico Ninivaggi. They use firm-level data from the manufacturing industry in Italy to study how characteristics of firms (internal factors) and (local) economic environment (external factors) affect default risk around the economic crises induced by the Covid-19 pandemic. The analysis suggests more productive and profitable firms are less likely to stop their economic activity, while financial dependency and rollover risk have a negative impact on their survival chances. Importantly, the authors highlight the sectoral heterogeneity and regional variation in default rates of firms during these turbulent times.

Unprecedented shocks can lead to unprecedented initiatives by governments and public sector to address the challenges of the shocks. These initiatives can magnify the heterogeneity in the impact of a shock. This emerges from the analysis conducted by Silvia Anna Maria Camussi and co-authors on the regional employment effects in the construction sector of the National Recovery and Resilience Plan (NRRP) implemented in Italy in response to the pandemic. In this article, the authors show that the expected increase in labor demand generated by NRRP can be significant and heterogeneous in intensity across Italian regions. Moreover, the gap between demand and supply of labor in the sector can also exhibit regional variation. The study highlights some possible channels to facilitate the equilibrium in the labor market.

In times of unprecedented shocks, existing contracts and regulations can be challenged, and the market equilibria can change dramatically. This is the case explored in the article by Gunnar Alexandersson, Staffan Hultén, and Lars Henriksson. The study focuses on the renegotiations of bus contracts in the Swedish public bus transport systems around the times of the Covid-19 pandemic. The authors examine the renegotiations that followed the exogenous shock and find that most of the passenger incentive contracts were renegotiated or amended, while most of the gross-cost contracts were not. This result suggests that gross-cost bus contracts can be more robust to unprecedented shocks and can become the norm for this system. Moreover, contracts can further change to add new terms and features intended to handle unexpected events with a profound impact such as the global pandemic or other shocks.

While the previous studies offer a mostly macro perspective, the article by Giorgio Calcagnini, Federico Favaretto, and Germana Giombini provides an insightful view of how the shock due to Covid-19 affects within-organization functions and activities. The authors use data from a local bank in central Italy to study determinants of the change in banks' internal ratings around the first pandemic shock during the period of March to June of 2020. The bank uses six different ratings to evaluate corporate customers along various dimensions and to assess risk internally, and the study finds that, controlling for both supply and demand factors, the shock is associated with a deterioration in four of the ratings in the first months. Over time the effect diminishes until it disappears two years later. Importantly, the authors document that the lockdown effect depends on firm characteristics and varies with rating type. For instance, the effect is mitigated for firms with high turnover or firms belonging to essential sectors. This again underscores the importance of considering heterogeneity when analyzing the effects of unprecedented shocks.

Overall, the articles in the Special Section highlight how the resilience of economic systems depends not only on the economic policies and government initiatives implemented to address the impact of unpredictable shocks, but also on variation in the characteristics of the companies, sectors, and markets subject to these shocks.

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