Comment on "When Companies Don't Die: Analyzing Zombie Firms in a Low Interest Rate Environment" by Angela De Martiis and Franziska J. Peter

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There has been much discussion of whether the extended period of ultra-low interest rates following the Great Financial Crisis and the Euro Crisis created a surge in zombie firms. The debate was particularly active in "Northern" euro area countries, where the dominant view has been that the European Central Bank (ECB), by creating zombie firms, would cause a significant misallocation of resources away from their most productive use into zombie projects that could only survive because of artificially low interest rates. In their paper, Angela De Martiis and Franziska Peter shed light on this debate by analyzing data from eight euro area countries – Italy, Spain, Greece, France, Germany, Austria, the Netherlands, and Belgium – over the period 1990–2018. They consider patterns of association between low interest rates and the prevalence of zombie firms. Moreover, they investigate how the population of zombie firms developed in reaction to the ECB's Corporate Sector Purchase Program (CSPP). Under this program, the ECB directly purchased investment-grade corporate bonds from eligible non-financial corporations. The authors form a comparison group that was not eligible for the program and compare whether the share of zombie firms developed differently among eligible and non-eligible firms.

The question of whether firms in financial difficulties can survive for longer in a low interest rate environment is quintessentially embedded into macroeconomics. The macroeconomic system is highly complex and arguably full of feedback effects. This is an important reason why macroeconomic analysis is usually embedded into equilibrium frameworks. In the present context, this especially concerns the question of whether low interest rates are indeed "caused" by central banks, or rather represent an endogenous (and maybe even "optimal") response to the state of the economy. It is noteworthy that, in the data, we do not observe a counterfactual world where interest rates were low or high without the intervention of a central bank, or a euro crisis where a counterfactual ECB did not lower interest rates or even increased them. Therefore, our ability to draw clear-cut conclusions from the data is limited. What is more, making the ECB responsible for low interest rates also means taking the position that central banks can indeed influence (short- and longer-term) interest rates. This view is debated; an illuminating review can be found in Fabo et al. (2021).

This notwithstanding, it is often also interesting, and complementary, to consider simpler correlational patterns. They are more accessible, sometimes more transparent, and are open to interpretation by different models. By contrast, structural estimations from equilibrium models often require adopting a particular view on how the economy works. Nevertheless, one has to keep in mind that we should not jump too quickly to causal conclusions such as "the ECB caused the population of zombie firms to surge." I suggest reading the paper with a more Bayesian mindset. To illustrate, let us assume that we adopt a "Northern European prior" that the ECB indeed led to an increase in zombie firms. We can then ask whether the analysis of De Martiis and Peter is consistent with this view.

Analysis based on cross-sectional logistic regressions shows that low interest rates are indeed associated with a higher likelihood of a firm being a zombie. This reinforces the "Northern prior". However, the results based on the CSPP show no statistical significance (at least for the proper specification where treatment and post-treatment dummy variables are included). This observation runs against the "Northern prior". In sum, to me, the study suggests that we should not (yet?) put too much confidence in the view that "central banks' ultra-low interest rates caused zombies." Neither do we have clear evidence that central banks were responsible for the ultra-low interest rates (rather than a "savings glut" and aging populations).

An interesting aspect of the authors' analysis is that they also look at distressed firms. These are firms with a high risk of bankruptcy. One may see them as either similar, or also rather opposite to zombies. Like zombies, they also do not have a viable business model. However, zombies have, by definition, a lower probability of bankruptcy because they are implicitly subsidized by "lower-than-natural" interest costs. The analysis shows that the pattern of the relationship between interest rates and likelihood of becoming distressed is different compared to zombie firms. Concerning the CSPP, the likelihood of becoming a distressed or a zombie firm is the same for CSPP-eligible and non-eligible firms. Thus, the CSPP makes no difference for both groups of firms.

The paper addresses a nexus of highly relevant questions. To gain additional insights, the next steps would include the consideration of endogeneity and general-equilibrium effects. For the CSPP, it would be interesting to see how similarly the groups of treatment and comparison firms developed before the announcement of the program. Furthermore, some time series appear quite persistent, and it would be interesting to see how the results compare when taking this into account in the statistical analysis. Overall, the paper conveys an important message: we may have jumped to some conclusions about zombie firms too quickly.

References

Fabo, Brian, Martina Jančoková, Elisabeth Kempf, and Ľuboš Pástor (2021), Fifty shades of QE: Comparing findings of central bankers and academics, *Journal of Monetary Economics* 120 (2021), pp. 1–20.