

Global Development Network and CERGE-EI Regional Research Competition

Project Title:

Links Between Zombie lending, Productivity and Employment

Article No 1: Lending activity and credit supply to firms during the crisis

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Non-Technical Summary

The aim of this research is to analyse the credit supply to individual enterprises in Croatia before and during the recent crisis and determine to what extent zombie lending is present and how did lending behaviour change during the crisis period. There is some anecdotal evidence that the banks rolled over some potentially problematic loans to firms after the crisis started and by using firm level data this research sheds more light on the issue of detecting credit misallocation.

Results of the estimated regressions indicate that there is evidence that some of the loans that are being prolonged are the result of the zombie lending practices. However, such behaviour is limited only to the situations where there is only one bank acting as a creditor for the affected firm. In addition to that, we studied factors impacting credit supply to the firms. Regression showed that there is evidence of relationship lending in the period before the crisis, but that practice was terminated in the crisis period.

Keywords: zombie lending, credit supply, micro level data

Article No 2: Are zombies productive or not?

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Non-Technical Summary

The aim of this article is to investigate the relationship between zombie firms' loan arrangements and their productivity. In other words, we are interested in how productivity behaves in firms that are financially weak, but still receive loans from the bank.

Our empirical strategy to identify the effect of increased financing on firm's productivity is based on two different approaches. The first one is a two-steps approach, where we firstly estimate firms' TFP, and after that, using TFP as a dependent variable, we estimate the effect of increasing firms' financing to their productivity. The second approach is a one-step approach, where we try to identify the effect of increasing financing on firm's productivity jointly with the production function, treating the deviation from this function as a change in productivity.

Results show that zombie firms have on average significantly lower productivity, compared to non-zombies. Results also show that there is a statistically significant positive link between increasing financing and healthy firms, while this relationship is non-existent for zombie firms.

There are two main implications of our results. First is that zombie firms become zombies not because they are exposed to some random shock to their operating conditions, which decreases their income and makes the debt unsustainable. These firms become zombies because they have on average lower productivity compared to non-zombies. Second implication is related to financing of such zombie firms. Results

indicate that adding more credit to such firms will not solve their inherent problem – poor productivity. To solve such problems firms probably need major change in the way they operate. Implications of the results are far reaching and important in the today's economic landscape where many central banks and other government agencies aim to increase credit growth to non-financial corporate sector. If this fresh money ends up in the non-productive firms, we cannot expect sound growth coming from this part of the economy – which should be the working powerhouse or engine of growth of the modern capitalist economy. This implies that additional vigilance is warranted for the policy makers.

Keywords: zombie firms, total factor productivity, misallocation, micro level data