Misallocation at the Industry Level

Berthold Herrendorf
Arizona State University

Richard Rogerson
Princeton University and NBER

Ákos Valentinyi
University of Manchester, CERS–HAS, and CEPR

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It is well known that cross-country differences in productivity are large. One explanation offered by the literature suggests that poor countries do not allocate their factors of production to their most efficient uses; see for example Restuccia and Rogerson (2008). This explanation has given rise to a large literature that investigates the importance of misallocation as a source of aggregate productivity differences across countries.

The standard approach in the literature is to quantify the effect of misallocation on aggregate productivity by comparing the actual allocation of the factors of production across firms or industries to the efficient allocation or to the actual allocation in a benchmark country, typically to the United States. A common feature of these studies is the assumption that production factors are homogenous, in that firms and industries use the same types of capital and the same types of labour. The primary reason for this homogeneity assumption is constraints in the data: firm level data only includes the total value of the capital stock and the total number of workers or hours, but not the different types of capital or labour; an exception is Herrendorf and Schoellman (2018) who carefully try to take differences in the sectoral types of labor into account.

This project aims to quantify the effect of differences in within each production factor on misallocation. The level of investigation is two-digit industries, because detailed data on capital stocks and labor are available at this level of disaggregation. We start by using KLEMS data for the United States, which has information on factor inputs in the form of 9 different asset types in real USD, and 192 different labour types measured in hours for 65 industries for 1947 and 2014. We calculate the efficient allocation of capital and labor across industries, and quantify the aggregate productivity loss due to misallocation. We then redo the exercise with industry level aggregate data on capital and labor. Preliminary analysis suggests that the measured efficiency loss due to misallocation is considerably smaller if we use the more disaggregated capital stock that takes differences in the types of capital and the types of labor into account. The next step of our analysis is to repeat this exercise for middle and low-income countries, for which detailed KLEMS data exists, and compare the results with those for the US. We aim to conduct this step until the SED Meeting.

References

Herrendorf, Berthold and Todd Schoellman, "Wages, Human Capital, and Barriers to Structural Transformation," *American Economic Journal: Macroeconomics*, 2018, *10*, 1–24.

Restuccia, Diego and Richard Rogerson, "Policy Distortions and Aggregate Productivity with Heterogenous Establishments," *Review of Economic Dynamics*, 2008, *11*, 707–720.