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Misallocation and productivity in the lead up to the Eurozone crisis[☆]

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ABSTRACT

We use Portuguese firm-level data to investigate whether changes in resource misallocation may have contributed to the poor economic performance of some southern and peripheral European countries leading up to the Eurozone crisis. We extend Hsieh and Klenow's (2009) methodology to include intermediate inputs and consider all sectors of the economy (agriculture, manufacturing, and services). We find that within-industry misallocation almost doubled between 1996 and 2011. Equalizing total factor revenue productivity across firms within an industry could have boosted valued-added 48% and 79% above actual levels in 1996 and 2011, respectively. This implies that deteriorating allocative efficiency may have shaved around 1.3 percentage points off the annual GDP growth during the 1996–2011 period. Allocative efficiency deterioration, despite being a widespread phenomenon, is significantly higher in the service sector, with 5 industries accounting for 72% of the total variation. Capital distortions are the most important source of potential value-added efficiency gains, especially in the service sector, with a relative contribution increasing over time.

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1. Introduction

Financial integration of the Eurozone was supposed to improve resource allocation efficiency, facilitate risk sharing, and boost economic growth. By 2004 the European Central Bank and European Commission concluded that money markets were well integrated, government bond yields were rapidly converging, there was a reduction in the home bias of bond portfolios, and equity markets were deepening (Baele et al., 2004). But this financial integration has not necessarily translated into higher growth or productivity for some southern and peripheral European countries, which have experienced stagnant or declining productivity and a loss of competitiveness, despite large capital inflows in the decade preceding the onset of the Eurozone crisis in 2009 (see Fig. 1).[1]

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[1] Note that in contrast to what happened in the 5 southern and peripheral countries in Fig. 1, most northern Eurozone countries like Germany, France, Finland and the Netherlands experienced TFP gains up until 2008. For details on the TFP computations, see http://www.conference-board.org.

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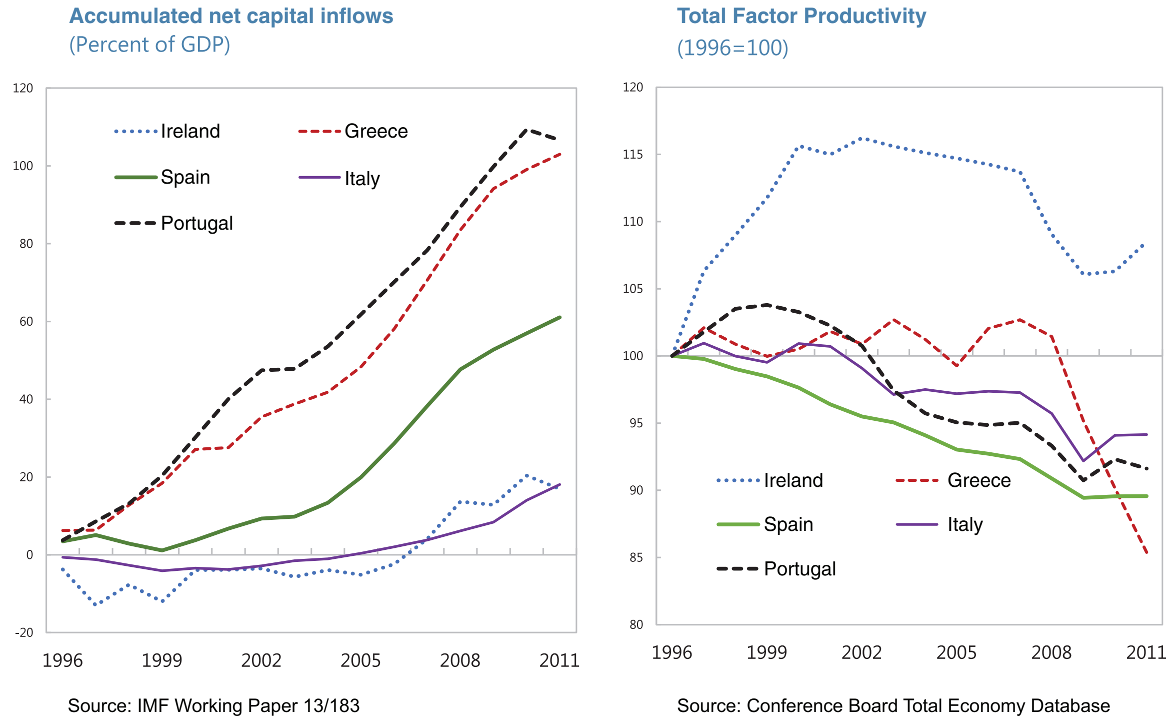

Fig. 1. Net capital inflows and TFP.

In this paper, we investigate whether changes in resource misallocation may have contributed to the poor economic performance of some southern and peripheral European countries leading up to the Eurozone crisis. More specifically, we want to understand if, over time, there were changes in the degree of allocative efficiency of resources, which could have led to a significant decline in total factor productivity (TFP) and GDP growth, and when changes occurred, what may explain them.

To answer these questions, we study the evolution of resource misallocation in the Portuguese economy during the period 1996 to 2011 using firm-level data. Portugal is an interesting case study since substantial resources were channeled to the country beginning in the mid-1990s by both official and private sources, and it raises the question of whether these resources were properly allocated.[2] We use Hsieh and Klenow (2009) methodology of a simple structural model to quantify the costs of resource misallocation for productivity and GDP growth but instead consider a three-factor production function defined on gross output. We also solve the model following a different route, which allows us to get new theoretical results and perform new empirical analysis.

Using the three-factor production function extension is important because it allows for comparing misallocation defined on gross output with misallocation defined on value added, under the assumption of efficient use of intermediate inputs. Also, by using an extra factor of production the model allows us to identify an additional distortion and, in particular, permits distinguishing between capital and labor distortions. This feature contributes significantly for a better understanding of the distortions underlying misallocation, especially in countries (like Portugal) where government regulations that grant labor and capital subsidies to small and medium-sized firms are widespread.

We also extend the analysis to consider all sectors of the economy (agriculture, manufacturing, and services). We believe this extension is important because the service sector is by far the largest sector in developed countries.[3] Furthermore, by focusing on the 1996–2011 period, we investigate how misallocation has evolved during a period of structural transformation and in the run-up to a crisis.

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[2] Between 1995 and 2001 the Portuguese economy benefited from the Eurozone convergence in the run-up to the introduction of the euro, undergoing a structural transformation, shifting away from manufacturing and towards services. However, this came at the expense of competitiveness and higher indebtedness. By 2002, investment and GDP had stagnated, but large current account and headline budget deficits remained, resulting in general government debt breaching 60% of GDP in 2004. The whole situation deteriorated further in the following years. By 2010, the interest rates on long-term Portuguese government bonds started rising, a few months after the same had happened in Greece. By April 2011 the Portuguese government was forced to ask for external assistance. One month later, the troika comprised of the International Monetary Fund, European Commission and European Central Bank approved a memorandum of understanding with the Portuguese government in exchange for a rescue package. See Blanchard (2007) and Reis (2013) for detailed analyses of the evolution of the Portuguese macroeconomy in the run-up to the Eurozone crisis.

[3] The service sector accounts for about 80% of total GDP both in the U.S. and the Euro zone, while the contribution of the manufacturing sector is below 20%.