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Testing the fire-sale FDI hypothesis for the European financial crisis

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Using a panel of corporate transactions in 27 EU countries from 1999 to 2012, we investigate the impact of the financial crisis on the market for corporate assets. In particular, we test the 'fire-sale FDI' hypothesis by analyzing the number of cross-border transactions, the price of corporate assets and the impact of credit and macroeconomic conditions. According to the fire-sale FDI hypothesis, countries affected by a crisis attract foreign buyers selling assets at a discount. We find a dampening effect of the crisis on cross-border transactions in all EU countries. Although countries with higher sovereign default risk and lower economic demand attracted more foreign buyers in the crisis, lower domestic credit is associated with less cross-border transactions. Corporate assets in crisis countries are cheaper, particularly if domestic credit is low; however, these findings are not limited to the crisis period. This pattern is strikingly different from the East Asian and Latin American financial crises. Overall, we find little evidence for 'fire-sale FDI' suggesting an integrated European market without significant frictions.

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1. Introduction

The financial crisis triggered tectonic shifts in the economic, social and political landscape of the European Union (EU). In particular, Greece, Portugal, Italy, Ireland, and Spain experienced a sudden hike in their sovereign bond spreads, reflecting the market's perception of elevated economic, financial and political risk (Fischer and Dötz, 2010). In contrast, bond spreads in other EU countries such as Germany reached historic lows (Attinasi et al., 2009). In the media, this divergence prompted headlines implying fire-sales from crisis-stricken countries to Germany and other less affected EU countries. The Wall Street Journal announced that "Greece is for sale - cheap - and Germany is buying", referring to acquirers such as Deutsche Telekom AG and Fraport AG (Lawton and Stevens, 2011). In a similar vein, The Guardian claimed that "Greece embarks on a fire-sale" to, inter alia, "the EU's powerhouse, Germany" (Smith, 2012) and also reported that Portuguese assets were sold to Swiss and French companies (Tremlett, 2012). It is in this context that this paper investigates how the financial crisis affected cross-border transactions of corporate assets between EU countries. This paper tests Krugman's (2000) 'fire-sale FDI' hypothesis that states that foreign acquisitions of target firms from crisis countries surge amid a financial crisis. These target firms are sold at prices below fundamental values. Only a few studies on FDI considered macroeconomic shocks, explicitly investigating the East Asian financial crisis (Acharya et al., 2010; Aguiar and Gopinath, 2005; Krugman, 2000), the 1995 Latin American financial crisis (Krugman, 2000), and banking and currency crises before 2007 in emerging markets (Alquist et al., 2013).

To the best of our knowledge, this is the first study on fire-sale FDI that focuses on the recent financial crisis and its impact on EU countries. The EU lends itself to a study of determinants of cross-border mergers and acquisitions (M&As)[1] before and amid the financial crisis, as economic differences between countries widened, whereas institutional environments, including M&A regulation, converged.[2] The latter is important as differences in corporate governance play a crucial role in FDI and cross-border M&A (Bris and Cabolis, 2008; Bris et al., 2008; Chari et al., 2010; Rossi and Volpin, 2004; Weitzel and Berns, 2006). By focusing on the EU, we reduce confounding effects of heterogeneity in M&A regulation and governance, increasing the tractability of our analysis. Moreover, several important policy questions, ranging from integrating financial markets to stimulating intra-European FDI, hinge crucially on the existence of fire-sale FDI during the financial crisis (e.g., Coeurdacier et al., 2009). Accordingly, we test the fire-sale FDI hypotheses and three of its key implications in EU countries: (i) more cross-border sales of corporate assets from countries that were hit hardest by the crisis, (ii) lower prices for corporate assets in crisis countries, and (iii) more cross-border sales and lower prices when credit and macroeconomic conditions deteriorate.

Establishing evidence of fire-sales in EU countries is challenging. First, we have to identify whether prices of corporate assets drop below fundamental values. Predicting fair values of corporate assets is difficult under normal conditions, let alone during a financial crisis. We sidestep this issue by comparing the prices of corporate assets from crisis countries sold during the crisis with prices before the crisis and with prices from non-crisis countries. Second, FDI in Europe during the past 20 years clustered over time due to two merger waves. We tackle this issue by 'de-cycling' country-specific cross-border activity with the European merger cycle. Finally, the match between home and host countries in cross-border mergers is not random. Particularly during the crisis, many country-pair combinations of acquirers and targets were avoided consistently. Hence, if we analyze observed cross-border transactions at face value, we run the risk of a selection bias. Therefore, we use a Heckman procedure that first estimates the propensity of an acquirer country to be part of the sample before considering the determinants for selecting target countries.

We analyze a large panel of corporate transactions in 27 EU countries from 1999 to 2012. The cross-section and the time line of the sample permits us to compare cross-border transactions in crisis countries with non-crisis countries both before and during the crisis. Focusing on three distinct implications of the fire-sale hypothesis, we start with the question whether cross-border sales of corporate assets from Greece, Portugal, Italy, Ireland, and Spain increased in the crisis. Despite weak

[1] Although technically inaccurate, we use the terms 'merger', 'acquisition', 'takeover' and 'M&A' synonymously.
[2] The effectiveness of EU merger regulation has increased significantly over the period 1990–2002 (Duso et al., 2011).