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# Financial constraints and corporate investments during the current financial and economic crisis: The credit crunch and investment decisions of Slovenian firms



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## ABSTRACT

We investigate the effect of financial constraints on the investment decisions of Slovenian firms during the current financial and economic crisis. By estimating the error-correction model and the Euler-equation specification, we found that corporate investments were significantly affected by financial constraints during the crisis. The effect of financial constraints intensified in 2009 and alleviated slightly in 2010, although still being significantly more intense than before the crisis hit the economy. By estimating a switching regression model with unknown sample separation that enabled us to address the problem of judgemental sample separation, we were also able to estimate the error-correction model separately for financially constrained and financially unconstrained firms. The results indicate that financial constraints have a significant effect on both financially constrained and financially unconstrained firms, although corporate investments were more severely affected in financially constrained firms.

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## 1. Introduction

There is an ongoing debate as to whether banks provided sufficient financing resources to the Slovenian corporate sector during the current financial and economic crisis, which hit the economy in 2009, and whether they impede economic recovery by pulling out from corporate financing. Banks argue that the Slovenian corporate sector is overleveraged and needs deleveraging, although firms with profitable investment opportunities can still obtain credit. First, the data show that Slovenian firms are significantly more levered than their EU counterparts. The [Bank of Slovenia \(2012\)](#) reports that the debt/equity ratio of the Slovenian corporate sector amounted to almost 1.5 in the period 2008–2010, while the average in the Euro area hardly exceeded one<sup>1</sup>. Second, bank lending collapsed in 2009. According to the [Bank of Slovenia \(2012\)](#), the increase in credit obtained by banks dropped from 3.5 billion EUR in 2008 to only 216 million EUR in 2009 and just 139 million EUR in 2010. At the same time, there was a significant drop in corporate investments. The Institute of Macroeconomic Analysis and Development ([IMAD, 2011, 2012](#)) reports that corporate investments dropped by 21.6% in 2009 and by a further 6.7% in 2010. We contribute to the debate investigating the effect of financial constraints on corporate investments.

Assuming a perfect capital market in which a firm can raise as much finance as it desires and internal and external funds are perfect substitutes, a firm's investment decisions are not related to its financial decisions ([Modigliani and Miller, 1958](#)). However, as argued by [Fazzari et al. \(1988\)](#), the separability between investment and financial decisions no longer holds if the capital market is not perfect and a firm cannot raise as much finance as it desires. In this case, investment decisions depend on financial factors such as availability of internal finance and access to new finance. Most of the empirical evidence shows that financing constraints significantly affect corporate investments. [Bond et al. \(2003\)](#) tested the effect of financial factors on corporate investments in Belgium, France, Germany and the UK and found significant effects in all countries. They documented economically more significant results for the UK, suggesting that financial constraints on investments may be relatively more severe in the more market-oriented UK financial system than in the continental European countries, which tend to be bank-based. Similar findings were obtained by [Hall et al. \(1999\)](#), who tested whether a firm's cash flow affects investments and R&D in French, Japanese and U.S. high-tech firms. They report a significant effect in all countries and a higher sensitivity of investments and R&D in the U.S., which, like the UK, is characterized by a market-based financial system.

Financial systems tend to be characterized by even more severe market imperfections in emerging markets, which is why one would expect financial constraints to play a more important role there. Empirical evidence documents significant financial constraints in European transition countries, Turkey, Russia, India, China, Taiwan and Brazil (see [Arslan et al., 2006](#); [Budina et al., 2000](#); [Chow and Fung, 1998](#); [Hobdari et al., 2009](#); [Kalatzis et al., 2008](#); [Konings et al., 2003](#); [Lizal and Svejnar, 2002](#); [Mickiewicz et al., 2004](#); [Mykhayliv and Zauner, 2013](#); [Perotti and Gelfer, 2001](#); [Perotti and Vesnaver, 2004](#); [Poncet et al., 2010](#); [Rizov, 2004](#); [Saeed and Vincent, 2012](#); [Tseng, 2012](#)). However, lower cash flow sensitivity for some of the firms in these countries does not always imply lower financial constraints or an absence of financial constraints, but often the persistence of soft budget constraints. [Hutchinson and Xavier \(2006\)](#) compared the magnitude of the effect in an established market economy (Belgium) and a transition country (Slovenia) and showed that the firms in the transition country are more sensitive to financing constraints than their counterparts from the established market economy.

One would also expect that the effects of financial constraints intensified during the current financial and economic crisis. [Duchin et al. \(2010\)](#) studied the effects of the subprime mortgage credit crisis in U.S. public firms and showed that corporate investment declined significantly during the crisis. They found that the decline was greatest for firms that had low cash reserves or high net short-term debt or that were operating in industries dependant on external finance. [Campello et al. \(2010\)](#) surveyed Chief Financial Officers worldwide and found that financially constrained firms planned deeper cuts in tech spending, employment, and capital spending. Financially constrained firms also

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<sup>1</sup> The leverage of Slovenian firms has increased enormously in the period after 2006. [Črnigoj and Mramor \(2009\)](#) still reported a relatively low leverage of the Slovenian corporate sector in 2006.

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