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Capital Market Imperfections and Financialization of Real Sectors in Emerging Markets: Private Investment and Cash Flow Relationship Revisited

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Summary. — The paper analyzes the impacts of cash flow from multiple investments in real and financial sectors on the new fixed investment spending of real sector firms. The empirical results based on the Euler equation approach and semi-annual firm level data from two major emerging markets, Mexico and Turkey, suggest that profits and rates of returns from fixed and financial assets have differential effects on fixed investment spending of real sector firms. Accordingly, increasing availability and accessibility of alternative investment opportunities in financial markets can become instrumental in channeling real sector savings to short-term financial investments instead of long-term fixed capital formation and thus lead to deindustrialization.

Key words — financial liberalization, private investment, financing constraints, financialization, Mexico, Turkey

1. INTRODUCTION

What are the determinants of fixed investment under capital market imperfections? This question has been at the center of a growing number of research following the financial liberalization wave of the 1990s that reshaped the economic landscape of a majority of developing countries. According to the proponents of this global move toward liberalized financial markets, the radical surge in capital flows combined with increasing competition and the removal of barriers of entry in domestic asset markets are expected to eliminate capital market imperfections that limit developing country investment performance. [1] This positive view of financial liberalization, however, has been challenged given the declining fixed capital formation rates in major emerging markets during the 1990s amid comprehensive liberalization programs (UNCTAD, 2003). Accordingly, financial liberalization has been criticized for causing increasing uncertainty and volatility, boom-bust cycles and financial crisis episodes, persistence of capital market imperfections, and reverse flow of funds from developing to developed countries (Diaz Alejandro, 1985; Stiglitz, 2000; UNCTAD, 2003, 2006, 2007; Weller, 2001). Furthermore, "the financialization view" has questioned the allocative efficiency-gain arguments by pointing out the portfolio choice problem faced by real sector firms between *irreversible* fixed and *reversible* financial investments after financial liberalization. Accordingly, increasing volatility and uncertainty, increasing real interest rates and lack of credit availability, and increasing product market competition when combined with the availability of higher rate of returns in the financial markets may hinder real investments while favoring short-term financial investments (see. Crotty, 2005; Demir, 2009; Dumenil & Levy 2005; Epstein & Jayadev 2005; Orhangazi, 2008; Stockhammer, 2004). In this respect, increasing share and importance of financial investments in the portfolios of real sector firms is pointed out as one of the main reasons behind the disappointingly low fixed capital formation rates since early 1990s.

On the other hand, the financialization of real sector investments may not necessarily be a negative development for real sector firms. Accordingly, given that the rate of return on financial assets is an increasing function of risk, real sector firms may choose to exploit such investments to hedge against uncertainties regarding their operations as suggested by the standard portfolio theory of capital. As a result, financial investments may have a positive impact on the overall profitability of private firms and therefore on new fixed investment spending under credit constraints.

The central motivation of this paper is to combine these opposite views of financial liberalization when analyzing the determinants of fixed investment under credit constraints. In particular, we explore the net effect of internal funds on new fixed investment spending of real sector firms in the presence of multiple investment options in real and financial sectors. In this respect, building on the financialization view, the article revisits the findings of previous research on the relationship between cash flow and private investment under credit constraints by suggesting that the availability of internal funds may be a necessary but not a sufficient condition for financing real investment projects. Accordingly, profits from fixed and financial assets, and their respective rates of returns may have different effects on new fixed investment decisions.

Given the lack of micro-level analysis of developing country experiences, we tested the above hypothesis using micro evidence from two major emerging markets, Mexico and Turkey. The dataset we employed is unique and can be expected to

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advance the existing debate on the determinants of private investment under financial liberalization. Briefly, we developed a highly detailed semi-annual panel of all publicly traded industrial firms in Mexico and Turkey using comprehensive balance sheet and income statement data.

The choice of these two countries is of no coincidence. Briefly, Mexico and Turkey have been among the forerunners of financial liberalization and their experiences occupy a central place in policy discussions regarding the effectiveness of liberalization programs in developing countries.[2] However, despite being portrayed as success stories at the early stages of comprehensive liberalization programs, their ensuing economic performances were far from initial expectations. In particular, despite the radical increases in capital inflows since early 1990s, low fixed capital formation rates remain an important problem and a significant source of puzzlement for policy makers in both countries (UNCTAD, 2003, 2006).[3]

The empirical results based on the Euler equation approach provide support to the main hypothesis while identifying certain differences between Mexico and Turkey. Briefly, in both cases we found that capital market imperfections continue to persist under financial liberalization. More importantly, we discovered that profits from real and financial sector investments have quite different effects on private fixed investment spending. Accordingly, profits from financial investments appeared to provide a hedging mechanism by providing additional cash flow in the subsequent periods. In both Mexico and Turkey, however, the positive effect was much weaker than the one from operating profits. The net effect of cash flow from financial investments is actually negative in the case of Mexico, and even though it is positive in Turkey, the economic effect is significantly smaller than that of operating profits. However, once controlled for the (negative) effect of the rates of return on financial assets, the cash flow from financial investments is found to have a positive effect on fixed investment spending in both countries. Furthermore, comparing differential impacts of cash flow on small and large firms, we found that large firms faced an increasing credit squeeze during the 1990s. More interestingly, unlike large firms our findings indicate a positive effect of financial profits on fixed investment spending of small firms in both countries.

The paper is organized as follows: Section 2 presents a brief review of the literature on the effects of financing constraints and financial liberalization on investment. Section 3 introduces the financialization hypothesis followed by the theoretical model in Section 4. Section 5 introduces the data, methodology, and estimation methods. Section 6 presents the main results. Section 7 concludes the paper.

2. FINANCIAL LIBERALIZATION, CAPITAL MARKET IMPERFECTIONS, AND VOLATILITY

Under the assumption of perfect capital markets with firms having equal and unlimited access to investment finance at an exogenously determined cost, financing decisions or capital structure of firms should not have any impact on private investment spending (Modigliani & Miller, 1958).[4] However, this assumption has long been challenged, firstly by the empirical research that consistently found liquidity variables such as cash flow as significant determinants of firms' investment decisions (e.g., Bond & Meghir 1994; Devereux & Schiantarelli, 1990; Fazzari, Hubbard, & Petersen, 1988). Secondly, on the theoretical front, it is argued that under the presence of capital market imperfections private firm investments may be constrained by the availability of internal funds.[5] For example, in the case of hierarchy of finance approach firms are not indifferent between internal and external sources of funds, since the former costs less than the latter due to information asymmetries and agency costs (Stiglitz & Weiss, 1981).

Given imperfect capital markets, therefore, financial liberalization was expected to generate capital market deepening, reduce agency costs and asymmetric information, and increase efficiency while directing savings to more efficient investment projects. Yet, on purely theoretical grounds the net effect of financial liberalization on total pool of loanable funds is ambiguous. Initially, its effect on increasing household savings was seen as one of the key components of the reform programs. However, financial liberalization may indeed negatively affect savings, firstly by decreasing the total amount of precautionary savings as a result of increasing risk sharing across capital markets (Devereux & Smith, 1994). Secondly, when financial liberalization includes capital account liberalization, capital outflows may actually outweigh capital inflows. Thirdly, the degree of credit availability is constrained by the interest rate, which depends on its previous level under autarky.

Regarding the net effect of financial liberalization on the efficient allocation of loanable funds, there is also some ambiguity. Given that liberalization is expected to increase total funds available for more risky investments, it may negatively affect banking sector portfolios by encouraging credits to more risky borrowers (IMF, 1995). Furthermore, Laeven (2003) for 13 developing countries, and Gelos and Werner (2002) for Mexico, found that financial liberalization affected small and large firms differently by releasing financial constraints for the former and increasing for the latter. Moreover, there are also serious questions over the net contribution of foreign banks to capital accumulation and financial stability (Goldberg, Dages, & Kinney, 2000).

In terms of credit availability, like in several developing countries, private firms in Mexico and Turkey continue to face credit rationing and are forced to finance investments mostly from internal sources and short-term borrowing (EIU, 2008a, 2008b; Guncavdi, Bleaney, & McKay, 1998; UNCTAD, 2003; World Bank, 2005). For example, as of 2005 the share of short-term debt in total debt of top 500 manufacturing firms in Turkey was around 70% with an average of 72% during 1997–2005 (ISO). Furthermore, average total bank credit to the private sector as a share of GDP in both Mexico and Turkey has been depressingly low: 15% and 18% in 1980–89, 25% and 20% in 1990–99, and 16% and 20% in 2000–05, respectively, which are well below the high-income OECD average of over 160%. The low-level of credit generation is even more striking and suggests structural problems, given the increasing share of foreign banks reaching 82% and 36% of total equity in Mexico and Turkey in 2006. Regarding capital market deepening, both Mexico and Turkey have developed money markets mostly in short-term government papers, while capital markets in private securities remained underdeveloped (Rojas-Suarez & Weisbrod, 1996; SPK, 2004). As of 2004, for example, more than 98% of secondary market transactions were of government securities in Turkey (SPK, 2004).

Financial liberalization, while failing to eliminate capital market imperfections, also led to sharp macroeconomic fluctuations in developing countries. Kose, Prasad, & Terrones (2003), for example, found an increase in consumption volatility in emerging markets during the 1990s. Furthermore, Gabriele, Boratav, and Parikh (2000, p. 1051) pointed out the "high, rising and unpredictable" volatility of capital flows to developing countries during the 1990s compared to late 1970s and 1980s. Increasing capital flow volatility is also shown to raise inflation and exchange rate uncertainty that