The composition of foreign capital stocks in South Africa: The role of institutions, domestic risk and neighbourhood effects

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ABSTRACT

Foreign capital inflows are an important source of funds to finance investment in developing economies. International finance literature is therefore concerned with how institutional factors like property rights and corruption affect foreign capital inflows. We investigate the determinants of the absolute volumes and composition of foreign capital stocks in South Africa, focusing on the role played by institutional quality (property rights), domestic default risk and neighbourhood effects as potential determinants. The empirical results show that secure property rights and low default risk in the host country positively affect the absolute volumes of both long-term foreign capital and short-term foreign capital, but tilt the composition in favour of long-term foreign capital. Empirical results also demonstrate the existence of neighbourhood effects where the institutional environment in Zimbabwe significantly impacts on South Africa's foreign capital inflows. In this regard, weak property rights in Zimbabwe lead to an increase in South Africa's foreign direct investment (FDI), but a reduction in South Africa's portfolio investment. This suggests that Zimbabwe and South Africa compete for foreign direct investment in similar sectors, and present two alternative investment destinations to foreign investors. By contrast, weak property rights in Zimbabwe appear to raise the perceived risk for portfolio investment in South Africa.

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1. Introduction

Foreign capital inflows are an important source of funds to finance investment in developing countries. This warrants a good understanding of the determinants of capital inflows. As part of the broader debate on the link between institutions and economic outcomes, the question of how institutional factors affect foreign capital inflows is important. The purpose of this article is to investigate the impact of property rights and domestic risk on both the absolute volumes and composition of foreign capital stocks in the context of a middle-income country. The paper also systematically explores the impact of neighbourhood effects defined as systematic cross-boundary impacts of favourable or unfavourable characteristics of neighbours which may influence a country's long-run economic performance (Easterly and Levine, 1998). In exploring how a country's own property rights and those of its neighbour affect foreign capital stocks, we use a new dataset of *de jure* property rights indices.[1]

Since political transformation in 1994, South Africa has attracted relatively more portfolio investment than foreign direct investment (FDI). On average, between 1994 and 2002, FDI inflows amounted to 1.5%

of GDP per year, whereas portfolio investment inflows reached about 3.5% of GDP. The composition of South Africa's foreign capital raises important questions given that it contrasts sharply with the country's pre-1994 composition of foreign capital. Ahmed et al. (2005) similarly point out that the predominance of portfolio investment inflows in South Africa deviates from other emerging middle-income countries' experience where FDI tends to outweigh portfolio investment.

It has been argued that the composition of foreign capital received by a country determines whether the capital is beneficial or detrimental to the host country (Dooley and Warner, 1995). In this regard, FDI is often considered superior to portfolio flows and foreign loans, as it potentially facilitates the transfer of new technology, helps improve workers' skills and enhances market access by the recipient country (*e.g.* Borensztein et al., 1998). Furthermore, FDI is generally considered to be more stable and resilient during periods of financial stress than portfolio investment inflows. According to this view, a highly relative share of FDI in total foreign capital inflows is a sign that the recipient country is less prone to financial crises and generally in good health.

There is, however, an alternative strand of literature which argues that the relative share of FDI in total foreign capital inflows and stocks tends to be lower in countries that are safer, more promising and have better institutions and policies.[2] This argument is based on the notion

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  [1] Gwenhamo et al. (2012).

[2] See, for example, Razin et al. (1998), Hausmann and Fernandez-Arias (2000) and Albuquerque (2003).

Table 1
The contribution of Southern African countries to South Africa's trade turnover (%).

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Angola	0.32	0.22	0.2	0.21	0.55	0.42	0.38	0.47	0.36	0.56	0.6
Botswana	0.01	0	0	0	0	0	0	0	0	0	0
Comoros	0.03	0.03	0.02	0.04	0.04	0.04	0.03	0.03	0.02	0.02	0.02
Lesotho	0	0	0	0	0	0	0	0	0	0	0
Madagascar	0.1	0.11	0.06	0.09	0.1	0.12	0.1	0.09	0.08	0.1	0.08
Malawi	0.77	0.61	0.51	0.44	0.51	0.57	0.58	0.61	0.49	0.48	0.49
Mauritius	0.36	0.43	0.44	0.36	0.41	0.46	0.37	0.41	0.52	0.47	0.47
Mozambique	0.82	1.07	1.11	0.99	1.03	1.09	0.99	1.4	1.35	1.3	1.16
Namibia	0	0	0	0	0	0	0	0	0	0	0
Swaziland	0	0	0	0	0	0	0	0	0	0	0
Zambia	1.03	1.06	0.77	0.71	0.85	0.91	0.82	0.84	1.22	1.14	1.07
Zimbabwe	2.11	1.89	2.14	2.64	2.5	2.39	2.22	2.04	1.55	1.47	1.61

Source: Department of Industry and Trade, South Africa.

that FDI is less subject to expropriation than other forms of foreign capital inflows because of its intangible nature (technology and brand names). Countries that have tighter financial constraints and weak institutions will therefore finance themselves primarily through FDI, which is seen as harder to expropriate. Interpreting a high share of FDI in total foreign capital inflows as a sign of good economic health is therefore unwarranted.

Given these different approaches to a desirable composition of foreign capital, it is crucial to understand how the host country's institutional quality and risk influence both the absolute levels and the composition of foreign capital. While FDI may be relatively stable compared to other flows, its predominance in total foreign capital inflows may simply be an indication of institutional weaknesses and high domestic risk in the host country.

This study makes two main contributions. The first is to determine the impact of South Africa's domestic institutional factors and default risk on both the absolute volumes and on the composition of foreign capital stocks. The second contribution is to investigate how neighbourhood effects from Zimbabwe's institutional environment, notably property rights, affect the absolute volumes and composition of foreign capital stocks in South Africa. Strong trade and business linkages between the two countries (Table 1) provide a channel through which the effects of institutional and economic changes in Zimbabwe can be transmitted to the South African economy. The choice of Zimbabwe as the neighbour is also on the account that, in recent years, Zimbabwe has experienced the most substantial negative shock to its institutional environment in the region.

The rest of the paper is organised as follows. Section 2 presents a brief overview of the foreign capital in South Africa. This is followed by a presentation of the theoretical framework in Section 3. Section 4 presents a review of empirical literature followed by a description of the variables and data in Section 5. Section 6 presents the empirical findings and Section 7 concludes the paper with a summary of the findings and policy implications.

2. Brief background to the composition of foreign capital stocks in South Africa

In line with international standards, South Africa distinguishes between foreign direct investment (FDI), portfolio investment and other investments. FDI involves investment in a firm where foreign investors have at least 10% of voting rights and is long term. Portfolio investment includes the purchase by foreigners of South Africa's bonds and equities with less than 10% voting rights and is short term in nature. Other investments include private and official foreign loans and deposits.

Following political democratisation in 1994, South Africa was re-integrated into the world economy leading to a surge in foreign capital inflows. The country also experienced changes in the composition of its foreign capital inflows and stocks since the early 1990s. Prior to 1990, FDI stocks exceeded portfolio investment stocks by a sizable

margin (Fig. 1) but this was reversed in the post 1990 period. The only exception to the domination of portfolio investment stocks post-1990 was between 1999 and 2001, a period during which FDI stocks grew much faster than portfolio investment stocks. The sharp growth of FDI stocks during that period was, however, due to four of South Africa's largest MNCs moving their major listing from the Johannesburg Stock Exchange to the London Stock Exchange which required the companies to move their headquarters to London.[3] The South African plants of these firms thus became part of South Africa's FDI stocks by means of book entry. A dummy variable is used to control for this artificial increase in FDI in the empirical estimations.

3. Theoretical framework

Our theoretical framework consists of two types of models. First, we use the portfolio theoretic framework to explain the absolute levels of FDI and portfolio investment. Secondly, we adopt the New Institutional Economics models to explain the composition of foreign capital stocks.

According to the portfolio diversification literature, strong institutions and low domestic risk encourage foreign capital inflows.[4] We follow Fedderke (2002) in specifying a portfolio theoretic model that underpins the impact of institutional and risk factors on the absolute volume of foreign capital.

The core drivers of FDI fall into two classes of determinants namely the rate of return and risk factors. There are positive responses to the rates of return and negative responses to risk. The model defines the expected return on a portfolio of capital assets faced by an agent as

$$E(R) = D^R - D^C + F^R - F^C \tag{1}$$

where D^R and F^R are the expected returns on domestic and foreign capital assets respectively and D^C and F^C are the costs of adjustment of domestic and foreign asset holdings respectively. Costs of adjustment arise due to information and transaction costs associated with altering the composition of the capital asset portfolios. Returns to domestic assets are distinguished from returns to foreign assets by having a non-zero probability of expropriation denoted by π_D. Expropriation includes factors such as nationalisation of assets, periods of domestic instability which might lower the returns to domestic investment, capital controls, and direct or implicit taxes faced by foreign and domestic investors.

The functional forms for the expected returns on assets are:

$$D^R = \left[\alpha \left(K^d \right) - \beta \left(K^d \right)^2 \right] (1 - \pi_D) \quad , 0 \leq \pi_D \leq 1, \alpha, \beta > 0 \tag{2}$$

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[3] Billiton, Anglo American, South African Breweries and Old Mutual, listed in London in 1999 while Didata followed suit in 2000, and Richemont moved its major listing to Switzerland (Ernst and Young, 2000).
[4] Kraay et al. (2000).