CAPITAL FLOWS AND INSTITUTIONAL QUALITY: A SYSTEMATIC LITERATURE REVIEW

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Abstract: *The understanding of what drives capital flows is continually evolving. Earlier theories provided support for the role of macroeconomic factors, however, the drivers expanded to include non-macroeconomic factors following the Lucas (1990) paradox, which spurred interest towards examining the role of institutional quality and, in more recent years, capital market frictions. While other reviews of capital flow literature have concentrated on macroeconomic drivers, this review focuses on institutional factors and frictions and delves into three types of flows, as drivers can vary by type of flow. The literature is vast on drivers of foreign direct investment (FDI) while drivers of other types of capital flows have been less studied, and evidence remains scant. There is evidence of institutional quality helping to explain the Lucas paradox. Based on the literature reviewed in this paper, many institutional factors are important for FDI. Law and order and military in politics are notably important for both FDI and portfolio debt. Findings for portfolio equity are limited. On capital market frictions, the empirical evidence shows that distance; economic ties; and having a common language, border, and colonial past help explain capital flows; with distance driving all three types of capital flows. This review will help inform further research and policies aimed at attracting and retaining foreign capital, especially in developing economies that need such flows for economic development and poverty alleviation.*

Keywords: Capital flows, institutions, foreign direct investment, portfolio debt, portfolio equity

JEL Classification: E02, F21, F32, F41.

1. Introduction

There is a critical need for private capital flows to developing economies to help advance towards meeting the 2030 Sustainable Development Goals (SDGs), which have been assessed at the halfway mark in 2023 to be largely non achievable by 2030 (United Nations Global Impact, 2023). Attracting capital flows has long been a subject of analysis in economics, including through trying to identify factors that are important both theoretically and empirically.

Early economic theories sought to explain closed economy relationships between macroeconomic variables—such as the Keynesian closed economy model. As international trade and financial links between economies increased, open economy theoretical models and empirical analysis developed. Theoretical foundations for macroeconomic factors as

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drivers are ample, including—in earlier periods—classical and neoclassical approaches, the Mundell-Fleming model (Mundell (1963) and Fleming (1962)), portfolio theory, and—over the past few decades—the intertemporal approach to the current account, and new open economy macroeconomics. The importance of various factors for capital flows has varied across theoretical models over time.

This paper focuses on those theories that spurred interest in the contribution of institutional factors and frictions to the understanding of capital flows. In earlier periods, open economy neoclassical framework provided theoretical grounds for the importance of the marginal productivity of capital, where it was theorized that capital flows from rich to poor countries that have a higher marginal productivity of capital. Upon empirical investigation, Lucas (1990) found the neoclassical premise that capital flows from advanced to developing countries to not be corroborated by evidence as countries with a higher marginal productivity of capital had lower capital per worker. The Lucas critique spurred further research on what drives capital flows.

There is now consensus in the literature that various macroeconomic and institutional factors are important for capital flows. The empirical literature has mostly analyzed what drives capital flows in a push-pull framework that incorporates variables that are motivated by various theoretical models. Push factors sway investors to move financial flows from other economies—usually more developed economies—to recipient countries. Pull factors are conditions in recipient economies that help attract capital flows. This paper focuses on institutional factors, which have been found to be especially important in explaining the Lucas critique concerning the flow of capital to developing countries. In the coming sections of this paper, section 2 reviews the theoretical literature of capital flow drivers; section 3 reviews the empirical literature, and section 4 concludes.

2. The theoretical motivation for institutions as drivers of capital flows

2.1. The Neoclassical Approach to Capital Flows

Neoclassical theory suggests a flow of capital from North (advanced) to South (developing) countries that have a higher marginal productivity of capital. The neoclassical model is associated with Ramsey (1928), Swan (1956), Solow (1956), Cass (1965) and Koopmans (1965). The model assumes allocative efficiency of capital where capital recipients (poor countries) have a higher marginal productivity of capital compared to lenders of capital. Chenery and Strout (1966) extended the neoclassical view to indicate that South (poor) countries can borrow from North (rich) countries to help ease constraints they face such as a lack of savings and skills. The flow of capital from North to South countries contributes to income convergence between the countries at different levels of economic development. The marginal productivity of capital was a fundamental variable in determining the flow of capital in the neoclassical framework.

2.1.1. The Lucas Critique

Lucas (1990) critiqued the neoclassical premise on capital flows. Using an example of the United States (US) and India, he provided evidence that capital flows from North to South countries are very low compared to neoclassical predictions. Applying a Cobb-Douglas framework of constant returns to technology on U.S. and India data, Lucas found the marginal product of capital in India to be about 58 times the marginal product of capital in the U.S, which should result in capital flowing from North countries to South nations such as India. Under the neoclassical framework, one would not expect any investment to occur in the wealthy nations. However, this was not observed in practice. This has been termed the Lucas paradox—where there are insufficient capital flows from developed to developing countries despite poor countries having higher output per additional unit of capital and lower levels of capital per worker.

2.1.2. The Allocation Puzzle

Gourinchas and Jeanne (2013) further showed that capital distribution across developing countries flows in a direction that departs from neoclassical expectations. In what they called the "allocation puzzle", Gourinchas and Jeanne (2013) showed that capital flows less to countries that invest and grow more. In their example, Korea who had an average annual investment rate of 34 percent and average total factor productivity growth of 4.1 percent per year from 1980 to 2000, obtained substantially low net capital inflows. In comparison, Madagascar, whose total factor productivity fell by 1.5 percent a year and whose average annual investment rate was short of 3 percent, received capital flows that are 7 percent of GDP on average each year. Essentially, capital flows from North to South countries are not just low—as illustrated by Lucas (1990), however, their allotment across developing countries is not correlated with theoretical expectations. To Gourinchas and Jeanne (2013), the allocation puzzle relates to the nature of the buildup of international reserves with the puzzle laying at the nexus between growth, saving, and international reserves.

2.1.3. Theories Incorporating Frictions as Drivers of Capital Flows

There is an expanding body of work on the importance of capital market frictions on the movement and size of capital flows. These frictions include an important element of institutional quality while looking closer into the role of capital/credit markets. The body of work includes Gertler and Rogoff (1990) whose framework relates movements of capital flows to cross-country capital markets efficiency. When accounting for frictions, they find that North-South capital flows are lower, world interest rates are less; riskless rates are equalized across borders while the domestic loan rate is higher in poorer countries. Key factors affecting capital flows include frictions (efficiency of capital markets), the marginal product of capital, interest rates, and output. Other models with frictions include Gordon and Bovenberg (1996) who presented a framework that shows that asymmetric information between countries explained the flow of capital. Other work includes Boyd and Smith (1997), Matsuyama (2004) who analyzed, as a capital market friction, institutional trait of domestic credit markets; and Ju and Wei (2010) who presented a framework that incorporated institutions and the composition of the capital flows.

Martin and Taddei (2013) have argued that the frictions depend on their origins, and they identified two types of frictions 1) limited pledgeability—implying a limitation on what creditors can repossess from debtors in case of default—further constraining credit and reducing capital inflows; and 2) adverse selection—where assets are over provided due to asymmetric information on borrower quality, leading to inefficient investments, resulting in an increase credit and capital inflows. They further acknowledge that limited pledgeability and adverse selection are, to a certain extent, present. While concentrating on limited pledgeability, Martin and Ventura (2012) found that having contracting frictions reduces capital inflows globally and less acute contracting frictions do not increase capital inflows.

2.2. The Empirical Literature

The empirical literature identifies "pull" and "push" drivers of capital inflows and institutional variables and frictions are pull factors, meaning that they help countries attract and/or retain capital flows. The empirical literature reveals that the importance of various factors can vary depending on various factors including the period analyzed, the countries analyzed, and components of capital inflows (FDI, portfolio and other components) analyzed, and econometric models used. Studies have shown that portfolio debt is a riskier type of capital inflow with greater risk for amplifying financial crisis (Calvo, Izquierdo and Mejía (2004) and Levy Yeyati (2006)) and creates large unfavorable externalities because they contribute to large settlements and exchange rate depreciations during financial crisis (Korinek, 2018). Studies have also shown that FDI is associated with stable economies and long-term

economic growth (Mauro et al. (2007). Sarno, Tsiakas and Ulloa (2016) found that more than 80 percent of the changes in portfolio bond and equity flows is due to push factors from the US to other countries. While push factors are also important, this review focuses on institutional factors and capital market frictions whose literature has been less reviewed in a systematic manner.

2.2.1. Institutional factors

There is broad consensus on the importance of institutional factors on capital flows. The composite index of institutional quality—political risk—is important across the three types of capital flows. Findings, however, vary at the disaggregated level of institutional quality and across capital flows. Table 1 summarizes findings from the recent empirical literature.

Prior to the Lucas paradox, measures of institutional quality were hard to find, making it difficult to assess its importance on macroeconomic variables such as capital flows. After the paradox, there was an increase in measures of institutional quality, enabling research on its role in macroeconomic and other areas over the past few decades.

The role of institutional factors has been studied mostly on FDI. It's been found that government stability, conflict, law and order, democratic accountability, democracy, bureaucratic quality, corruption, military in politics, contract enforcement, investment profile, and other institutional factors matter for FDI. There are, however, sometimes differences in findings. For example, while some studies found corruption to be an important factor (Asiedu (2006), Habib and Zurawicki (2002), Belgibayeva and Plekhanov (2015), Farazmand and Moradi (2015)), other studies found corruption not important (Busse and Hefeker (2007), Adam and Filippaios (2007), Ali, Fies and MacDonald (2010)) or that the effect is ambiguous (Gastanaga, Nugent, and Pashamova (1998)). Gastanaga, Nugent, and Pashamova (1998) found that corruption is ambiguous as it tends be correlated with other investment climate variables, which when also included, cause the importance of the effect of corruption to disappear.

Table 1. Summary of Panel Literature on the Institutional Drivers of FDI

Variable	Significance	Sign	Author/s
Government stability	Yes	+	Busse and Hefeker (2007), Dutta and Roy (2011)
Internal conflict	Yes	+	Busse and Hefeker (2007)
External conflict	Yes	+	
Conflict (both internal and external)	No	+	Ali, Fies and MacDonald (2010)
Law and order/rule of law	Yes	+	Asiedu (2006), Asiedu and Lien (2011), Busse and Hefeker (2007), Okada (2013), Dutta and Roy (2011), Ali, Fies and MacDonald (2010)
	No		Cerutti, Claessens, and Puy (2019)
Democratic accountability	Yes	+	Asiedu and Lien (2011), Busse and Hefeker (2007), Dutta and Roy (2011), Jensen (2003); Farazmand and Moradi (2015)
Level of democracy	Yes	-	Li and Resnick (2003)
Bureaucracy quality/delay	Yes	+	Busse and Hefeker (2007), Okada (2013), Dutta and Roy (2011)
	Yes	-	Asiedu and Lien (2011)
	Yes	+	Dutta and Roy (2011)

Variable	Significance	Sign	Author/s
Socio-economic conditions	No		Busse and Hefeker (2007)
Corruption (presence of)	Yes	-	Asiedu (2006), Habib and Zurawicki (2002), Belgibayeva and Plekhanov (2015), Farazmand and Moradi (2015)
	No		Busse and Hefeker (2007), Adam and Filippaios (2007), Ali, Fies and MacDonald (2010)
	Ambiguous		Gastanaga, Nugent, and Pashamova (1998)
Military in politics	Yes	+	Dutta and Roy (2011)
	No		Busse and Hefeker (2007),
Contract enforcement	Yes	+	Gastanaga, Nugent, and Pashamova (1998)
Religious tensions	No		Busse and Hefeker (2007)
Religion in politics	Yes	+	Dutta and Roy (2011)
Ethnic tensions	No		Busse and Hefeker (2007)
Government effectiveness	Yes	-	Naudé and Krugell (2007)
Investment profile	Yes	+	Dutta and Roy (2011)
Political liberties repression	Yes	+	Adam and Filippaios (2007)
Civil liberties repression	Yes	+ (- for OECD countries)	Adam and Filippaios (2007)
Political instability	No		Li and Resnick (2003)
	Yes	-	Naudé and Krugell (2007)
Property rights protection	Yes	+	Li and Resnick (2003)
Political Risk (ICRG)	Yes	+	Hashimoto and Wacker (2012)
	No		Okada (2013)
Regulatory burden	Yes	+	Naudé and Krugell (2007)

Source: Author's compilation from published research.

Notes: the following variables indicate the "absence of": expropriation risk, socioeconomic stress, internal and external conflict, corruption, military in politics, religious tensions, and ethnic tensions.

In reading Table 1, the following is worth noting. The measure by Ali, Fies and MacDonald (2010) is a simple average of ICRG indices of law and order and investment profile. Some studies use a bureaucratic quality indicator from the ICRG (Busse and Hefeker (2007) and Okada (2013)) while others use a bureaucratic delay indicator from the Business Environmental Risk Intelligence. Belgibayeva and Plekhanov (2015) use a control of corruption variable, which is found to positively affect FDI while other studies use a variable that indicates the presence of corruption, which negatively affects FDI. Belgibayeva and Plekhanov (2015) is here interpreted as being that the presence of corruption negatively affects FDI. The measure by Ali, Fies and MacDonald (2010) is a simple average of ICRG indices of bureaucracy quality and corruption.

There has been more analysis of portfolio debt compared to portfolio equity, likely given the importance of repayment obligations and maturity/rollover risk implications of debt financing.

There is evidence that law and order, bureaucratic quality, military in politics, and overall political risk matter for portfolio debt (Table 2). The importance of portfolio equity as a determinant has been less studied compared to the other types of capital flows and evidence has so far not shown a strong role of institutional factors.
While some studies have found institutional quality to explain the Lucas paradox, others have found institutional quality to partially explain the paradox. For example, Alfaro and Volosovych (2008) found institutional quality to explains the Lucas Paradox where the ICRG composite is positively related with direct and portfolio equity flows. While Akhtaruzzaman (2019) found the institutions index as important and positively associated with FDI but does not alone account for the Lucas paradox.

Table 2. Summary of Panel Literature on the Institutional Drivers of Portfolio Flows

Variable	Significance	Sign	Author/s
Portfolio inflows (equity and debt) as the dependent variable			
Political Risk (ICRG)	Yes	+	Byrne and Fiess (2016)
Government stability	No		Akhtaruzzaman (2019)
Socioeconomic stress	No		
Internal conflict	No		
External conflict	No		
Corruption	No		
Military in politics	Yes	+	
Religious tensions	Yes	+	
Law and order	Yes	+	
Ethnic tensions	No		
Democratic accountability	No		
Bureaucratic quality	No		
Portfolio equity as the dependent variable			
Political Risk (ICRG)	Yes	+	Byrne and Fiess (2016)
	No		Caporale, et al. (2022)
Law and order	No		Cerutti, Claessens, Puy (2019)
Portfolio debt as the dependent variable			
Political Risk (ICRG)	Yes	+	Byrne and Fiess (2016)
	No		Caporale, et al. (2022)
Government stability	No		Akhtaruzzaman (2019)
Expropriation risk	No		
Socioeconomic stress	No		
Internal conflict	No	+	
External conflict	No		
Corruption	No		
Military in politics	Yes	+	
Religious tensions	No	+	
Law and order	Yes	+	
	No		Cerutti, Claessens, Puy (2019)
Ethnic tensions	No		Akhtaruzzaman (2019)
Democratic accountability	No		
Bureaucratic quality	Yes	-	

Source: Author's compilation from published research.
Notes: the following variables indicate the "absence of": expropriation risk, socioeconomic stress, internal and external conflict, corruption, military in politics, religious tensions, and ethnic tensions.

There are often differences in the explanatory power of various institutional variables, which is attributed to various factors in the empirical literature. Findings can vary depending on the model used (Table 3). For example, Akhtaruzzaman (2019) found the absence of internal conflict to be important in explaining portfolio inflows when using cross-section estimation and not important when using a panel fixed effects (FE) model and a panel generalized method of moments (GMM) model. Akhtaruzzaman (2019) also found the absence of the military in politics to be important in determining portfolio inflows when using panel FE and panel GMM and in determining portfolio debt inflows and not important when using cross-section estimation. Law and order were found to be important in explaining private debt inflows when using panel FE and panel GMM and not with cross-section estimation. Gastanaga, Nugent, and Pashamova (1998) found bureaucratic quality to be important in determining portfolio debt inflows when using panel GMM and not when using panel FE or cross section estimation. They also found the effect of institutional variables on FDI to vary depending on the estimation procedure and model specification and that the presence of other variables in the model can also influence the importance of institutional variables on FDI.

Table 3. Models used in Analyzing Institutional Determinants of Capital Flows

Model	**Authors (year of publication, number of countries in panel, years, data frequency)**
Fixed effects and/or random effects.	Adam and Filippaios (2007), Ali, Fiess, and MacDonald (2010), Asiedu (2002), Asiedu (2006), Belgibayeva and Plekhanov (2015), Buchanan, Le, and Rishi (2012), Busse and Hefeker (2007), Caporale, Spagnolo, and Nicola (2022), Dutta and Roy (2011), Gastanaga, Nugent, and Pashamova (1998), Hashimoto and Wacker (2012), Jensen (2003)
Two-stage least squares/instrumental variables	Akhtaruzzaman (2019), Alfaro and Volosovych (2008), Buchanan, Le, and Rishi (2012), Cerutti, Claessens, and Puy (2019)
Generalized method of moments (GMM)	Asiedu, Jin, and Nandwa (2009), Asiedu and Lien (2011), Busse and Hefeker (2007), Naudé and Krugell (2007), Okada (2013)
PANIC approach	Byrne and Fiess (2016)
Generalized least squares (GLS)	Farazmand and Moradi (2015), Galstyan and Lane (2013)
Ordinary least squares (OLS) with heteroskedasticity corrected standard errors	Globerman and Shapiro (2002)
Probit model	Habib and Zurawicki (2002)
Pooled panel	Li and Resnick (2003)

Source: Author's compilation from published research.

Model specification can also affect the results. Akhtaruzzaman (2019) did not find institutional variables to be significant in explaining FDI in the cross-section estimates, panel FE or panel GMM models when only institutional variables were included in the model. When macroeconomic variables were included in the model, Akhtaruzzaman (2019) found institutions to matter in a cross-section estimation for FDI that included the political risk index from the ICRG and the governance index from the World Bank as measures of institutional

quality and other variables were GDP per capita, capital account openness, average schooling, distantness, trade, financial development, and inflation. Alfaro and Volosovych (2008) and thereby helping to resolve the Lucas paradox.
Results can also vary depending on countries and/or the period studied. For example, Adam and Filippaios (2007) found civil liberties repression to have a positive association with FDI for other countries but a negative association for OECD countries. Asiedu and Lien (2011) found democracy to be important and have a positive effect on FDI in sub-Saharan African countries for which the presence of natural resources is low, otherwise the effect is negative. These studies also point to the need to focus analysis on specific groups of countries or regions for further insights. Table 2 shows summarizes recent panel data studies including models used, periods covered, and results found.

2.2.2. Capital market frictions and other variables

The study of the role of frictions on capital flows is growing (Table 4). Moez and Mansour (2021) incorporated capital market frictions in analyzing the effects of non-conventional US monetary policy on gross total capital flows to emerging markets. They found that capital market frictions (for distance, FTA, and language) are significant in explaining capital flows and the relationship is negative where, as frictions decrease, capital inflows increase. They also found that frictions are most important in explaining portfolio flows compared to FDI. Galstyan and Lane (2013) found that the size of the initial cross-country holdings of total portfolio equity and debt flows, the level of trade, common language, geographical distance, and shared institutional linkages assisted in international portfolio adjustment at the time of and after the global financial crisis. Milesi-Ferretti and Tille (2011) found that the degree of international financial integration helped explain capital flows. Some studies have included sets of frictional dummy variables such as proximity, language, currency or trade bloc, legal system effectiveness, the effect of a major financial center with varying importance (Portes and Rey 2005).

Table 4. Summary of Panel Literature on the Institutional Drivers of Capital Market Frictions

Variable	Significance	Sign	Author/s
As determinants of Foreign direct investment			
Distance	Yes	-	Habib and Zurawicki (2002), Belgibayeva and Plekhanov (2015)
Economic ties	Yes	+	Habib and Zurawicki (2002)
Common language	Yes	+	Belgibayeva and Plekhanov (2015)
Common border	Yes	+	
Common colonial past	Yes	+	
As determinants of portfolio equity			
Distance	Yes	-	Galstyan and Lane (2013)
Common language	No		
As determinants of portfolio debt			
Distance	Yes	-	Galstyan and Lane (2013)
Common language	No		

Source: Author's compilation from published research.

3. Concluding Remarks

This work reviewed the economic literature on the determinants of capital flows, focusing on the role of institutions on three capital flow aggregates: FDI, portfolio equity, and portfolio debt. The Lucas critique provided the theoretical spark for the examination of the role of institutional factors on capital flows and was further supported by Gourinchas and Jeanne's (2013) allocation puzzle. The role of institutional factors has been most examined for FDI and less so on portfolio flows, especially equity. There is empirical support for the importance of institutional factors in explaining the Lucas paradox, where government stability, conflict, law and order, democratic accountability, democracy, bureaucratic quality, corruption, military in politics, contract enforcement, investment profile, and other institutional factors have been found to matter for FDI. There is also evidence that law and order, bureaucratic quality, military in politics, and overall political risk matter for portfolio debt. The literature reviewed in this paper shows that the importance of capital market frictions in explaining the Lucas paradox is growing but more is needed to better understand their importance across countries at various levels of economic development and across different types of capital flows, particularly portfolio flows. Limitations of the paper include that it is not an empirical work and does not cover macroeconomic determinant of capital flows, whose literature is vast and could not be covered within the confines of this paper. Further analysis is needed to examine the role of institutional factors on portfolio flows independent of other capital flows, especially for developing countries and at a regional and country level. Further research also needs to bring more clarity on the which findings are more important given that results can be sensitive to various models by determining which models are most appropriate for this area of study.

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Bio-note

Nombulelo Braiton is a *PhD* candidate at the University of South Africa and a *senior economist* at the *International Monetary Fund*. This paper is part of her PhD thesis. She joined the IMF in 2003 and has worked as an economist in many countries across regions, undertaking analysis and helping to shape policy advice on macroeconomic and financial sector issues. Prior to the IMF, she was an Economist at the South African Reserve Bank, engaged in macroeconomic modeling and forecasting. Her research interests are in international finance, monetary economics, and banking.
Nicholas M. Odhiambo is *Professor of Economics* and *Head of the Macroeconomic Policy Analysis* research flagship program at the University of South Africa. *Professor Odhiambo* is also a Fellow of the African Academy of Sciences (AAS). His research has over the years focused on the dynamic linkages between the various macroeconomic policies in sub-Saharan African (SSA) countries and their effect on economic growth and poverty reduction. He has a strong bias towards sub-Saharan African countries, which are currently ravaged by low levels of economic growth in per capita terms and high levels of poverty.