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The Private Sector Activities of Development Finance Institutions

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Abstract

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This thesis focuses on the efforts by multilateral development banks (MDBs) and other development finance institutions (DFIs) to mobilise the private sector to fulfil the Sustainable Development Goals (SDGs) and the Paris Agreement on climate change. Capital mobilisation matters because MDBs/DFIs do not have sufficient financial resources to complete the work alone. Consequently, there is an imperative to understand the mechanisms and forces at work that either enhance or inhibit mobilisation. The literature review draws together knowledge from a range of disciplines and frames it against the SDGs for the first time in the context of development finance. This review highlighted several gaps in the research, some of which are filled in subsequent chapters using a mixed methods approach.

An empirical study of competitive conditions using the Panzar-Rosse test reveals the market for development finance to be a competitive oligopoly. This implies that crowding in of private sector commercial banks will face some headwinds. The three qualitative studies were derived from a unique set of elite interviews conducted with 22 senior, front-line investment bankers from 18 banks with a total asset base of $25.6 trillion. A detailed study of Preferred Creditor Status shows that it appears to have no value as a financial asset for banks, but does influence risk appetite leading to increased mobilisation. The second study explores the 'bankability' of a project or investment, finding that the market structure and practices of MDBs can conflict with the private sector, and that incomplete reporting and taxonomies create mismatches between the goals of MDBs and private sector banks. Finally, an exploration of deal execution and structuring highlights various conflicts that could inhibit mobilisation. Complex financial structures to demonstrate additionality can reduce the pool of available financing, securitisation is likely to have limited scope, and MDB governance processes can be a limiting factor on mobilisation.

This thesis has reframed the literature on development finance, resolved some research gaps and created a new research agenda. It provides a new perspective on the mechanics of capital mobilisation with value for practitioners engaged with implementing the SDGs, both in MDBs/DFIs and the private sector.

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Declaration of Authorship

I declare that this thesis and the work presented in it is my own and has been generated by me as the result of my own original research.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. Parts of this work have been published as:
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Signed:..... Date:.....

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Definitions and Abbreviations

ADFIAP	Association of Development Financing Institutions in Asia and the Pacific
ADFIMI	DFIs in Member Countries of the Islamic Development Bank
AFD	Agence Française de Développement
AfDB	African Development Bank
AIIB	Asian Infrastructure Investment Bank
ALIDE	Latin American Association of Development Financing Institutions
ATDB	Africa Trade and Development Bank
BII	British International Investment
BNDES	Banco Nacional de Desenvolvimento Econômico e Social
BRICS	Brazil, Russia, India, China and South Africa
CABEI	Central American Bank for Economic Integration
CAF	Corporación Andina de Fomento
CAF	Capital Adequacy Framework
CDB	China Development Bank
CDC	Commonwealth Development Corporation
CDM	Clean Development Mechanism
CDO	Collateralised Debt Obligation
CECL	Current Expected Credit Losses
CER	Certified Emissions Reduction
CHEXIM	China Export-Import Bank
CLO	Collateralised Loan Obligation
DAC	Development Assistance Committee
DB	Development Bank
DCH	Direct Compensation Hypothesis
DevFin	Development Finance
DFI	Development Finance Institution
EBRD	European Bank for Reconstruction and Development
ECA	Export Credit Agency
EDFI	European Development Finance Institutions
EIB	European Investment Bank
EIF	European Investment Fund
EPG	Expert person group

ESG	Environmental, Social, Governance
ESRM	Environmental and Social Risk Management System
EXIM	Export Import
FDI	Foreign Direct Investment
FMO	Nederlandse Financierings-Maatschappij voor Ontwikkelingslanden N.V.
FX	Foreign Exchange
GEMS	Global Emerging Markets Risk Database
GISD	Global Investors for Sustainable Development
GMM	Generalized Method of Moments
IACPM	International Association of Credit Portfolio Managers
IADB	Inter-American Development Bank
IATF	Inter-Agency Task Force on Financing for Development
IBRD	International Bank for Reconstruction and Development
ICMA	International Capital Market Association
IDB	IDB Invest (private arm of IADB)
IFA WG	International Financial Architecture Working Group
IFC	International Finance Corporation
IFI	International Financial Institution
IFRS	International Financial Reporting Standards
IMF	International Monetary Fund
IO	International Organisation
IPE	International Political Economy
IsDB	Islamic Development Bank
ISSB	International Sustainability Standards Board
KPI	Key Performance Indicator
LFT	Loanable Fund Theory
LGD	Loss Given Default
MDB	Multilateral Development Bank
MDG	Millennium Development Goals
MLA	Mandated Lead Arranger
MNC	Multi-national Corporates
NBFI	Non-bank Financial Institution
NDB	New Development Bank
NDBs	National Development Banks
NFC	Non-financial Contract
ODA	Official Development Assistance
ODI	Overseas Development Institute
OLS	Ordinary Least Squares
OOF	Other Official Flows
PCS	Preferred Creditor Status
PCT	Preferred Creditor Treatment

PD	Probability of Default
PF	Project Finance
PPP	Public-Private Partnership
PRB	Principles for Responsible Banking
PRI	Principles for Responsible Investment
PSI	Principles for Sustainable Insurance
RDB	Regional Development Bank
RWA	Risk-weighted Asset
SACE	Servizi Assicurativi del Commercio Estero
SDG	Sustainable Development Goals
SFI	State-owned Financial Institution
SL	Sustainability-linked
SME	Small and Medium-sized Enterprise
SSA	Sovereigns, Supranationals and Agencies
SusFin	Sustainable Finance
SWF	Sovereign Wealth Fund
TCFD	Task Force on Climate-related Financial Disclosures
UBO	Ultimate Beneficial Owner
UN	United Nations
UNSFDR	United Nations Financing for Sustainable Development
VCH	Valuable Certification Hypothesis
WBG	World Bank Group
WFDFI	World Federation of Development Financing Institutions
WSC	Wall Street Consensus

Chapter 1

Introduction

1.1 Research context: Mobilising the private sector

The context for this research project is the global push towards fulfilment of the United Nations (UN) Sustainable Development Goals (SDGs) and the Paris Agreement on Climate Change. Both of these initiatives were launched in 2015 and they marked a significant change in the engagement strategy of multilateral development banks (MDBs) with respect to the private sector. The implementation strategy was adopted at Third International Conference on Financing for Development held in Addis Ababa in 2015, where the UN explicitly mandated the major MDBs to mobilise long-term private capital into infrastructure investments and green finance (United Nations, 2015).

The catalyst for this change was the recognition by shareholder governments that the 'billions to trillions' of investments required to achieve the SDGs could never be achieved without harnessing the power of the private sector (Development Committee, 2015). The original projected gap of $2.5 trillion per year has not been closed yet and this effort seems to have been substantially set back during the Covid-19 pandemic (UNCTAD, 2021, 2022; Zhan and Santos-Paulino, 2021).

Prior to 2015, MDBs already worked frequently with the private sector on syndicated lending transactions as evidenced in the literature review in Chapter 2. The significant

change of approach in 2015 was that MDBs were now explicitly tasked with mobilising the private sector, whereas previously the approach had been more passive. The manifestation of this strategy change was a short exchange of documents between the G20 and the major MDBs. After the UN launch of the SDGs, the G20 held its annual meeting in Turkey and instructed the group of major MDBs to produce an Action Plan to maximise their impact through a variety of measures to improve capital efficiency and to mobilise private capital (G20, 2015b). The MDBs responded in turn with a 'Joint Declaration of Aspirations' for how they believed it would be possible achieve these goals (Combined MDB Submission, 2016).

It is this exchange of documents between the G20 and the group of MDBs that provided the inspiration for this research project. The particular value in these two documents is that it exposes some of the ideas that were circulating at the time such as credit exposure swaps, securitisation, guarantees and other risk-sharing transactions. In their response to the G20, the MDBs promised to lower barriers to private sector investment and to identify financial solutions to improve risk transfer with the intention of leveraging their balance sheets. The attractiveness of mobilising private sector resources inspired other development finance institutions (DFIs) to follow the lead of the MDBs.

In the aftermath of the financial crisis of 2007-9 this strategy was always going to face some significant headwinds. A consequence of the financial crisis was that the increased capital requirements for banks under Basel III put constraints on bank balance sheets for longer-dated transactions (Martynova, 2015). In addition, increased compliance pressure on banks created difficulties that led to a reduction of operations in developing markets (Starnes et al., 2016). Institutionally, as public and private sector institutions have different risk appetites and return on capital objectives, it was not clear how risk-sharing transactions could work economically without either (i) concessional funding from the MDB, or (ii) a credit/regulatory arbitrage (Buiter and Fries, 2001; Carter et al., 2021; Humphrey, 2014).

This potential conflict of objectives and interests lie at the heart of this research project and is reflected in the research aims in Section 1.2. Just as MDBs/DFIs have been

trying to expand investment into sustainable development, banks have been potentially becoming more selective about the transactions that they will do. In the context of the Covid-19 pandemic, global economic weakness has further complicated the ability of private sector financial institutions to support the SDGs. Finding better solutions to mobilise private capital or to recalibrate business models has become an international imperative. The motivation for this research is therefore to make an original contribution to knowledge that will have a direct impact on the efforts to finance the SDGs.

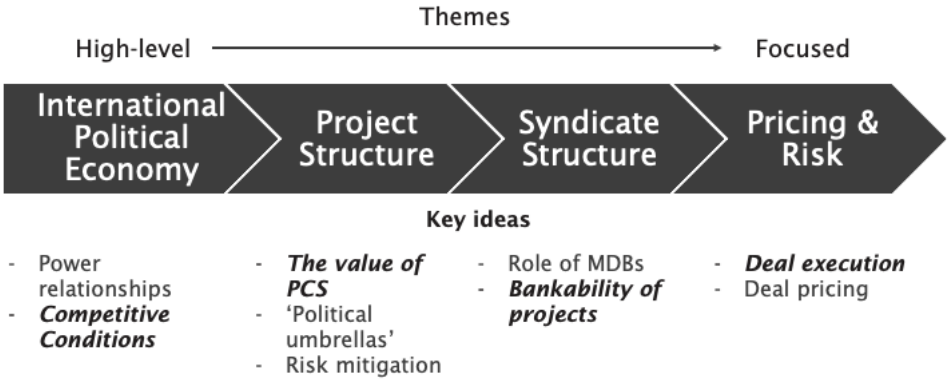
With the results of this research, MDBs/DFIs and private sector banks will have better insights into how to mobilise private sector finance more effectively toward fulfilling the SDGs. The findings should increase understanding of the importance of how the SDGs are integrated into banks' operating models and how banks manage their relationships with MDBs. It should give greater clarity on the ways to mobilise private sector lending most effectively and maximise the amount of crowding-in given any balance sheet constraints. The findings would have similar benefits for investors and asset managers investing in projects outside the traditional bank lending model. Banks will also be able to use the insights to understand how their lending policies and practices can be refined, both from a risk-taking and profitability perspective.

1.2 Research aims

The aim of the research was to identify and explain which financial structures and techniques could be most effective in mobilising the private sector to finance the SDGs and the Paris Agreement on climate change.

Capital mobilisation is a complex and systemic problem as there are many factors that can affect the risk appetite of private sector institutions. The literature review in Chapter 2 identified several research gaps starting from a premise of asking how development lending is impacted by (i) pricing and profitability, and (ii) the availability of credit.

FIGURE 1.1: Key research gaps identified from the literature review



The literature review in Chapter 2 revealed several gaps in the literature across a range of themes. This research project addresses a selection that are highlighted in bold text.

The outcome of the review in Chapter 2 guided the high-level research questions and shaped the methodological approach. Figure 1.1 shows a summary of key themes identified and the corresponding gaps in the literature. The gaps that form the focus of this project are highlighted in bold text and form the basis of the following high-level research questions:

- How might the competitive conditions in development finance affect the availability of credit?
- How do private sector banks perceive the Preferred Creditor Status (PCS) of development banks?
- What makes a deal bankable and provides an incentive for the private sector to lend?
- Which deal structures will be most effective at mobilising the private sector?

Section 1.3 explains how these aims are operationalised in subsequent chapters.

1.3 Research objectives

This section explains how the research aims have been operationalised for the core research papers (Chapter 3, Chapter 5, Chapter 6 & Chapter 7).

The research project required a mixed methods approach due to the nature of the high-level research questions exploring issues such as perceptions, incentives and effectiveness.

An example of the justification for mixed methods in this research is the concept of preferred creditor status (PCS) as highlighted in Chapter 5. PCS is the idea that a development bank backed by multiple sovereign states is more likely to be repaid than a commercial bank by a defaulting client. PCS does not exist in law (*de jure*) and so there is no data set to demonstrate that PCS exists and no document establishing a legal construct to make it true. Nevertheless, the concept of PCS is acknowledged as a market convention. Given that market participants work with or respond to the idea of PCS it can be argued that these intangible concepts are market norms and private sector banks accept them (Martha, 1990). As PCS is a phenomenon rather than a contract, an empirical analysis of the value of PCS could be problematic. Data on lending only reflects the transactions that have taken place and cannot explain why other transactions did not happen.

Chapter 6 and Chapter 7 bring further new perspectives to the question of 'what works?' with respect to capital mobilisation. Although a quantitative approach can explain what the relationships between transaction variables might be, it lacks the explanatory power to show why these relationships exist or to establish causality. In the context of this research, for policy development or impact to be meaningful, these explanatory mechanisms need to be properly understood to ensure the correct response (Lin, 1998).

The value of blending quantitative and qualitative analysis in this study is to uncover attitudes of market participants which would be otherwise inaccessible (Patton, 2015, pp. 89-92; Saunders et al., 2015, pp. 169-173). While such analysis might not be generalisable, it would add significant explanatory value to our understanding of how development finance markets function (Harrison, 2013).

With that in mind, the research aims have been operationalised as follows.

1.3.1 Quantitative: An econometric study of competitive conditions

For Chapter 3, the underlying research question is 'How might the competitive conditions in development finance affect the availability of credit?'. The process to address this included:

- Select an appropriate test for assessing competitive market conditions in finance. There is precedent in banking to use the Panzar-Rosse test. Bikker et al. (2012) provide a strong foundation and process for applying the test.
- Demonstrate that the market for development finance is international and that MDBs and other DFIs actively compete for the same transactions.
- Define a market for development finance in order to select an appropriate list of target DFIs/MDBs.
- Use consistently formatted financial statements from a single source as the data set. In this case FitchConnect 2009-2019.
- Apply the Panzar-Rosse test and additional tests for market equilibrium.
- Consider the applicability of fixed/random effects and the generalised method of moments (GMM) even though outside the theory.
- Critically analyse the market and policy implications from the results of the econometric analysis.

1.3.2 Qualitative: Evidence from private sector and institutional banks

Chapter 5, Chapter 6 and Chapter 7 have been operationalised using the same data and research method. All three chapters are based upon a series of interviews conducted with private sector commercial and investment banks. A full explanation of how the data was gathered and coded is explained in Chapter 4 and is incorporated by reference into each of the subsequent chapters. This common material has been separated out to avoid repetition. Supplementary information is included in each

specific chapter where relevant. There is no other similar set of interviews with senior, front-line staff at private sector banks in the literature which makes this contribution unique, and it would be very difficult to replicate.

The approach to the interviews was to construct a wide-ranging list of questions (Appendix 4.A) shaped around the research gaps that were identified from the literature review in Chapter 2. The objective of the interview process was to uncover information about private sector attitudes within a theoretical framework derived from the existing literature. A more detailed justification and explanation for this approach is included in Chapter 4.

The outcome of this is evident in Chapter 5 which brings new perspectives to our understanding of PCS, in Chapter 6 by explaining how the actions and priorities of MDBs might limit the flow of projects to finance, and in Chapter 7 which explains how the financial structuring of a transaction and the execution process can affect mobilisation efforts.

1.4 Contributions

The common thread that runs through the study is the mobilisation of private capital. This section briefly explains the contributions of each principal chapter including the literature review.

The literature review in Chapter 2 sets the tone for the subsequent four chapters as it identifies a range of research gaps, some of which are addressed in this thesis. It is the first review of development finance to be organised around the theme of capital mobilisation. A comprehensive literature search reveals four key themes: the political environment, the financing structure of projects, the composition of syndicates and the pricing of loans (as shown in Figure 1.1). It provides the foundation both for this study, and for potential avenues of future research that are expanded on in the conclusions in Section 8.4.

The specific gaps identified and addressed in this thesis are:

- A study of the competitive conditions in development finance to indicate whether there is capacity to crowd in the private sector and expand lending (Chapter 3).
- An examination of Preferred Creditor Status to establish how this is valued or used by the private sector (Chapter 5).
- An examination of the factors that affect the flow of bankable projects and the incentives of private sector banks to invest alongside DFIs (Chapter 6).
- An examination of the impact of financial structuring and the execution process on capital mobilisation (Chapter 7).

Chapter 3 makes three contributions to the existing literature. It is the first comprehensive study to test for the competitive conditions in the market for development finance. The chapter justifies the use of the Panzar-Rosse test for DFIs that lend on a cross-border basis. Second, unlike the related body of research, I perform additional tests to show that the market is in long-run equilibrium. Third, this approach permits the shape of the demand curve for development finance to be inferred. The market is shown to be a competitive oligopoly with a downward sloping demand curve. This result has practical implications and suggests that the market for development finance would not support crowding-in of the private sector on any scale *using the range of instruments and techniques currently available*. This latter point is critical in informing the types of instruments that are likely to work better in the future, a point that is reinforced by the findings in subsequent chapters.

Chapter 5, Chapter 6 and Chapter 7 draw from the same data set, which is a unique series of elite interviews with front-line bankers working in major investment and commercial banks. The data set was obtained through an agreement with an industry association, the International Association of Credit Portfolio Managers (IACPM). By obtaining privileged access to its members and being able to engage with them in confidence, the resulting discussions are an extremely rich set of views and insights which would be very difficult to replicate. There does not appear to be any similar studies that have been able to access a similar range of senior, front-line bankers.

Chapter 5 focuses on Preferred Creditor Status (PCS) from the perspective of private sector banks. The literature on PCS is quite sparse and this chapter makes a unique contribution in relation to the implications of PCS for economic value creation, transaction risk assessment, and capital mobilisation in lending and securities markets. The findings in the study support some of the assumptions made by empirical researchers regarding the impact of PCS in that it can affect the risk appetite of banks. It confirms that PCS has very little or no financial value for banks. It also challenges the view that PCS can affect a bank's decision to join lending syndicates – the data collected shows that banks follow clients first and foremost and do not lend speculatively. This has implications for crowding in of the private sector as it suggests limits to what can be achieved with bank lending. It also highlights the importance of finding ways to mobilise investors rather than relying on banks.

Chapter 6 focuses on how the bankability of a project can be affected by the different actions and agendas of MDBs and the private sector. It highlights both constraints and opportunities to increase the flow of transactions and shows that there are some investments that banks will not make regardless of the price. First, it explains how DFIs are viewed as helping to de-risk transactions. Second, it shows that the mismatch between the concepts of development finance and sustainable finance creates an investment gap. Third, it highlights that some of the market activity of DFIs can confound or support mobilisation. Fourth, it highlights some of the constraints that banks experience from their own risk mandates. Finally, it explains how mobilisation could be increased through completing reporting standards and taxonomies.

Chapter 7 explores how the choice of financial structure or instrument to execute a transaction, and the execution process itself, affect the ability of DFIs to mobilise the private sector. There are four principal contributions. First, it explains how using complex structuring by DFIs (in particular MDBs) as a means to demonstrate additionality reduces the attractiveness of transactions for the private sector. Although complexity might reduce contractual risk on a project, complexity also makes the financial structure riskier to invest into as a structure becomes more bespoke. Second, the study brings new insights into the limitations of securitisation as

a mechanism to redistribute risk. Third, the interviews demonstrate that the private sector has a strong preference for maintaining different economic positions to MDBs in transactions. This suggests that co-investment strategies on private sector transactions might have limited scope. Fourth and finally, the research presents new evidence about the impact of MDB governance as a limiting factor on mobilisation.

1.5 Thesis structure

The remainder of this thesis comprises 7 chapters:

- **Chapter 2** is an extensive review of existing literature focusing on the mobilisation of private capital by development banks. This review identifies several research gaps which create the foundation for this study.
- **Chapter 3** analyses the competitive conditions in development finance by applying the Panzar-Rosse test to a group of international active DFIs/MDBs.
- **Chapter 4** describes the qualitative data collection process and coding for the interviews with commercial and investment banks that is the common data set for Chapter 5, Chapter 6 and Chapter 7. It should be considered as an integral part of each of these chapters.
- **Chapter 5** examines the ways in which the Preferred Creditor Status of development banks affects private sector commercial and investment banks.
- **Chapter 6** examines the drivers of bankability with a view to uncovering ways to increase the flow of investable projects.
- **Chapter 7** examines the financial structuring and execution processes of MDBs and how that either assists or confounds the mobilisation initiative.
- **Chapter 8** provides a summary of the key contributions from this thesis and draws out the political, financial and economic implications for development banks that are working to mobilise the private sector. Furthermore, it identifies avenues for future research and informs future policy development.

Chapter 2

Mobilising Private Funding of Development Finance

Abstract[1]

Successful delivery of the United Nations Sustainable Development Goals (SDGs) is dependent upon mobilising private sector finance. From a lending perspective, this requires banks to co-invest or otherwise divert more resources to development finance. To provide insights into the effectiveness of this important initiative, this paper reviews key literature across Scopus, Web of Science and Google Scholar using a defined set of key word searches. Four main themes of future research are identified. First, the international political economy has an influence on the competitive conditions in development finance and these forces need to be explained. Second, the structure of development projects affects the extent to which private sector capital is willing to be mobilised. More insights are needed into how private sector banks can be influenced. Third, the manner in which development banks participate in development projects affects the availability of credit. A greater understanding of their role could unlock greater financing flows. Finally, it is shown that risk appetite and mitigation of development finance affects pricing and credit availability which is another critical component of delivering the SDGs.

Keywords: Development banks, development finance, Sustainable Development Goals, capital mobilisation, blended finance, loan pricing

[1] As published in The Journal of Development Studies (McHugh, 2021b).

2.1 Introduction

Fulfilment of the United Nations Sustainable Development Goals (SDGs) has become a priority for multi-lateral development banks (MDBs) since the SDGs were launched in 2015. This critical development built upon the Millennium Development Goals (MDGs) (United Nations, 2015). The 17 goals of the SDGs, combined with 169 separate targets, provide the road map for international development as part of the 2030 Agenda for Sustainable Development (United Nations, 2020b). Other development finance institutions (DFIs), such as bilateral development banks that are wholly-owned by a single sovereign state, also adopt and follow the UN's development goals.

It is acknowledged that MDBs do not have sufficient capital to fulfil the SDGs without private capital investment and this funding gap is characterised as 'from billions to trillions' (Development Committee, 2015). To bridge this gap, the UN further confirmed its development commitment in 2015, asking major MDBs through the Addis Ababa Action Agenda to find ways to mobilise long-term private capital into infrastructure investments and Green Finance (United Nations, 2015). Shortly afterwards, the G20 met in Antalya, Turkey in 2015 and instructed the MDBs to produce an Action Plan to maximise impact through a variety of measures to improve capital efficiency which also entailed mobilising private sector banks and investors (G20, 2015a). Progress is monitored on an ongoing basis by the Inter-Agency Task Force on Financing for Development (IATF, 2016).

The idea of mobilising private sector finance to fulfil the SDGs raises some intriguing questions. Private and public sector institutions have different financial incentives and objectives, so how can there be common ground for providing capital to support the SDGs? How can we know whether expansion of MDB activity risks crowding out of private sector banks? Or whether MDBs can practically mobilise private sector banks to bridge the funding gap?

This drive toward the SDGs then needs to be put in the context of changes in the international financial system since the crisis of 2007-9 that increased bank capital

requirements under Basel III. There have been two broad economic effects from these changes. First, although there is no definitive evidence, there are grounds to believe that less capital is being made available to finance long-dated infrastructure projects (Martynova, 2015). Second, many international banks are reducing the geographic scope of their activities as they shrink their balance sheets and also partly because of the compliance difficulties of operating in many emerging markets (Starnes et al., 2016). Now, at the time of writing, the Covid-19 pandemic is putting yet more strain on global economies and financial systems.

It would seem that there are two potentially opposing forces. A drive to increase MDBs lending and mobilise private sector banks, and simultaneously pressure on private sector banks to rationalise and streamline balance sheets. It is this potential conflict that has motivated this literature review. Given that fulfilment of the SDGs is for the greater good of society, it is essential to understand the economic forces that affect the ability of the MDBs to succeed in mobilising private capital.

A broad review of relevant literature shows that existing work can be organised into 4 principal themes. The first theme centres on the international politics of development lending which is seen to be an important environmental component affecting the flow of funds. The second theme deals with the structural methods used for risk mitigation in projects. The third theme focuses on the structuring of lending syndicates and the way in which credit is made available. Finally, the fourth theme deals with loan pricing and risk evaluation.

The rest of this paper is structured as follows. Section 2.2 provides an overview of the high-level issues to be considered and frames the questions for the literature review. Section 2.3 describes the search methodology. Section 2.4 describes the articles selected and Section 2.5 discusses the findings. Finally, Section 2.6 draws some conclusions for future research around this topic.

2.2 Background: Loan availability and pricing for development finance

There are numerous DFIs operating on either a global, regional or national basis. These public institutions share a goal to find ways to improve the economic development of a given country or region through lending and other types of support such as advisory work for developing market financial institutions. The MDBs are considered to be a different class of financial institution because of their multi-lateral shareholder base. This has at times put them at the centre of some intense political debates reviewing their roles in financial markets (Buiter and Fries, 2001; Gurría et al., 2001; The Meltzer Commission, 2000). These debates have centred around the role of the state in markets and the special cases of market failure that finance presents such as adverse selection, monitoring failures and information inefficiencies (Stiglitz, 1993).

This review primarily focuses on MDBs because of the mobilisation mandate given by the G20. This is not to underestimate the role and importance of other types of DFIs. The mobilisation agenda is also recognised by regional development banks (RDBs) and national development banks (NDBs). Some developed country NDBs such as CDC (UK) or FMO (Netherlands) focus on overseas development reflecting the priorities of their governments. These entities are involved in mobilisation efforts as evidenced by MDB reporting (Banks, 2021; Multilateral Development Banks, 2018b). Conversely, NDBs such as KfW (Germany) operate both domestically and overseas, so their political mandate will reflect domestic as well as foreign policy. Finally, there are many developing markets NDBs in recipient countries that are the focus of inward investment (De Luna-Martinez et al., 2018). As the SDGs are oriented toward developing markets, it is the overseas activity of donor countries that is the focus of this review.

The degree of an MDB's politicisation depends upon its history and the concentration of donor and recipient country voting rights in the shareholder base (Kellerman, 2019; Ray and Kamal, 2019). The purpose of a given MDB needs to be taken into account and most of them have a straight development mandate with the exception of the

EBRD that also has a political mandate (EBRD, 2013). Humphrey (2014) makes the case that MDBs should only be involved in projects where they can bring better structure to a transaction than a purely private sector deal. This could either be through structural benefits from preferred-creditor status (PCS) or contractual mechanisms, or that the action of participating in a transaction has additional in-country benefits as a result of their involvement. This benefit is described as 'additionality' or as 'making an investment happen that would not have happened otherwise' (Carter et al., 2021). There is a problem demonstrating additionality because the counterfactual case can never be observed. Nevertheless, it is accepted that this is an appropriate role for an MDB even if there is a risk of occasional crowding out of the private sector (Carter et al., 2021).

MDBs do function in a similar way to commercial banks although they might be expected to have a lower risk-adjusted return than private sector institutions given their status as supranational institutions and their concessional lending activities. If an MDB or DFI were to make similar returns to a private sector company, there would be a question as to the economic purpose that it fulfils. They are profitable and have not historically paid out dividends, instead retaining profits in capital to enable expansion of lending (Buiter and Fries, 2001). Similarly, commercial banks have been co-lending to development projects for decades and do take their non-financial obligations seriously through mechanisms such as the Equator Principles and the more recent Poseidon Principles which have been broadly adopted by the private sector (*Poseidon Principles* n.d.; *The Equator Principles* n.d.).

The economics of running the larger MDBs also differ through their unusual capital structure. They have subscribed capital, but are also supported by shareholders committing to callable capital without having to provide it. This feature has the capacity to affect the supply and pricing of credit (Humphrey, 2014). The callable capital and the conservative capital structure of the MDBs help maintain the AAA credit ratings that most of the institutions have and keep funding costs low. However, rating agencies are sometimes considered to be quite conservative with their rating

methodology and through that are limiting lending capacity (Humphrey, 2018a; Munir and Gallagher, 2020; Perraudin et al., 2016; Settimo, 2017).

With that perspective, the Addis Ababa Action Agenda might be considered as a watershed moment. The change of approach by the international community from 2015 focuses strongly on mobilising private sector finance in pursuit of the SDGs (Chandy et al., 2014; IATF, 2016). This matters because it appears to shift the definition of development finance from something that only MDBs do, to something that any financial institution could do provided there is an alignment with the SDGs. A more contemporary definition of development finance might therefore be the action of 'financing for development' in pursuit of the SDGs which separates the financing from the type of institution that provides it (IATF, 2016).

However, changing the definition of development finance seems unlikely to change the way that private capital markets function. The role, corporate identity and purpose of MDBs is different to private sector banks and should remain distinct.

From a financial markets perspective, the two practical constraints to mobilising private sector resources are: (i) lack of risk appetite for MDB projects affecting the quantity of available funding, and (ii) the potential for a pricing disparity between the public and private sectors due to differing economic incentives (Gurara et al., 2020; Lagoarde-Segot, 2020). Without bridging these gaps, the chance of fulfilling the SDGs by 2030 is significantly reduced. In that context, it is critical to examine the motivations and transaction behaviour of public and private-sector entities to see whether there are areas of mutual opportunity and potential conflicts of interest. From a transaction perspective, this requires consideration of project structures, risk appetite, risk mitigation and loan pricing.

In the context of private sector lending to development projects, the high-level questions that are addressed in this literature review are:

- What affects the availability of credit for development finance projects?
- How is the lending spread determined on a development project?

2.3 Method: Sample selection and analysis

Defining the scope for development loan pricing is complicated by the coverage across academic journals and 'grey' literature (scholarly articles that have not been peer-reviewed). Some initial literature searches in Scopus and Google Scholar on key words such as 'development bank', 'loan pricing', 'lending behaviour' produced an interesting range of journal articles, but a wide diversity of search terms and JEL codes for economics papers. To refine this, it was decided to conduct a preliminary key word scoping exercise to find the best combinations.

Two strategies were deployed: (i) an internet-wide search for pairs of key search terms and JEL codes (American Economic Society classifications) applying a filter based on the Schema.org protocol for 'Article' (Schema.org, n.d.), (ii) a site-specific search focused on the websites of 7 major MDBs plus the IMF. The 7 MDBs being the ones that the G20 instructed to focus on risk transfer (G20, 2015a).

These key words were used to search Scopus and Web of Science. Of the academic search engines, Scopus outperformed in terms of locating indexed documents as detailed in the table in Appendix 2.A. However, as shown by Martín-Martín et al. (2018), academic indexing is not necessarily complete and can exclude relevant grey literature. To that end, the search terms were run through Google Scholar and the first 50 results reviewed for additional relevant material.

The inclusion criteria had an English language requirement and a subject matter test, but no time limitation. There was a preference for higher rated journals, but this was not exclusive. The subject matter test was that the article needs to address the availability and pricing of development bank loan finance for private sector development projects. This could be the financial economic principles of fair value for a loan based on the credit risk, but also consideration was given to legal and political influences. The article must be relevant to project lending rather than sovereign lending, and should focus on non-concessional activities.

The abstract of each article from the searches was judged against the inclusion criteria and a shortlist selected for close reading. The citation links of these articles were

reviewed to uncover new documents and these too were sifted by the abstracts against the inclusion criteria and read in detail if relevant. This resulted in a final list of 33 articles listed in Table 2.1.

2.4 Description of literature addressing development loan availability and pricing

Table 2.1 shows the final selection and where relevant shows the Scopus and Google Scholar citation counts, impact scores from InCites Journal Citation Reports (2019) and the CABS journal ranking from 2018. The citations are understandably low or zero for the most recent papers. The range of journals is diverse and there are also working papers that are deemed important to include.

TABLE 2.1: Selected journal articles from search strategy

The following journal articles were selected as a result of the search using Scopus and Google Scholar as described in Section 2.3. The number of citations is as of March 2021. InCites scores for 2019 are taken from the Clarivate Analytics website. The Chartered Association of Business schools star ratings are for 2018 and taken from the CABS website.

Authors	Year	Source title	Citations Scopus	Citations GS	InCites 2019	CABS
Ahiabor F.S., James G.A.	2019	International Journal of Finance and Economics	2	3	0.943	3
Asmus G., Fuchs A., Müller A.	2017	AidData Working Paper No. 43	n/a	24	x	x
Athavale M., Edmister R.O.	2004	Financial Review	8	20	x	3
Broccolini, C., Lotti, G., Maffioli, A., Presbitero, A.F., Stucchi, R.	2020	The World Bank Economic Review	n/a	14	1.761	3
Buscaino V., Caselli S., Corielli F., Gatti S.	2012	European Financial Management	15	41	1.470	3
Byoun S., Kim J., Yoo S.S.	2013	Journal of Financial and Quantitative Analysis	20	47	2.707	4
Byoun S., Xu Z.	2014	Journal of Corporate Finance	18	29	2.521	4
Chin G.T., Gallagher K.P.	2019	Development and Change	13	33	2.246	3
Corielli F., Gatti S., Steffanoni A.	2010	Journal of Money, Credit and Banking	47	93	1.355	4
Cormier B.	2018	Journal of Organizational Behavior	8	11	5.026	4
Dailami M., Hauswald R.	2007	Journal of Financial Economics	18	48	5.731	4*
Dreher A., Fuchs A.	2015	Canadian Journal of Economics	75	176	0.710	3
Dreher A., Fuchs A., Parks B., Strange A.M., Tierney M.J.	2018	International Studies Quarterly	53	196	2.146	x
Dreher A., Fuchs A., Parks B.C., Strange A.M., Tierney M.J.	2017	AidData Working Paper No. 46	n/a	192	x	x
Dreher A., Lang V.F., Richert K.	2019	Journal of Development Economics	6	18	2.649	3
Galindo A.J., Panizza U.	2018	World Development	3	11	3.869	3
Gatti S., Kleimeier S., Megginson W., Steffanoni A.	2013	Financial Management	25	66	1.677	3
Gurara D., Presbitero A., Sarmiento M.	2020	Journal of International Money and Finance	1	9	2.014	3
Hainz C., Kleimeier S.	2012	Journal of Financial Intermediation	36	88	2.820	4
Humphrey C.	2014	Review of International Political Economy	1	5	2.312	3
Humphrey C.	2016	Journal of Development Studies	7	30	1.596	3
Humphrey C.	2019	Development and Change	17	49	2.246	3
Humphrey C., Michaelowa K.	2019	World Development	8	29	3.869	3
Humphrey C., Michaelowa K.	2013	World Development	31	69	3.869	3
Lazzarini S.G., Musacchio A., Bandeira-de-Mello R., Marcon R.	2014	World Development	58	171	3.869	3
Percoco M.	2014	Transportation Research Part A: Policy and Practice	34	64	3.992	3
Ray R., Kamal R.	2019	Development and Change	2	5	2.246	3
Sawant R.J.	2010	Journal of International Business Studies	24	64	9.158	4*
Shapiro D.M., Vecino C., Li J.	2018	Asia Pacific Journal of Management	18	35	3.064	3
Sorge M., Gadanecz B.	2008	International Journal of Finance and Economics	20	114	0.943	3
Subramanian K.V., Tung F.	2016	Journal of Financial Intermediation	11	53	2.820	4
Swedlund H.J.	2017	International Affairs	15	42	3.705	x
Yuan F., Gallagher K.P.	2018	Ecological Economics	8	18	4.482	3

The 33 articles that were reviewed fall into four broad themes albeit with some overlaps. The themes are presented in an order that reflects the highest strategic level issues first and descending to more granular technical issues.

First, there is coverage of development finance from the perspective of the international political economy. These articles explore the motives of countries and development banks both from the private and public sector perspectives. The second theme is the choice of project structure which is broadly covered by corporate finance theory. These articles explore the relevance of the law and creditor protection, the use of leverage in finance and the importance of contracts as a risk management tool.

A third theme is the availability of credit for development projects, particularly the formation of syndicates and the identity of the lenders (whether private, public or both). The fourth and final theme is the pricing of finance, and this is evidenced through empirical analyses of credit spreads. Table 2.2 maps out which themes the papers most closely align with.

TABLE 2.2: Thematic coverage by paper

The articles in Table 2.1 deal with a variety of themes and are grouped below according to which topics they touch upon. Where an article covers more than one theme, the relevant points are discussed separately in Section 2.5.

Authors	Year	International Political Economy	Project Structure	Syndicate Structure	Pricing & Risk
Asmus G., Fuchs A., Müller A.	2017	x			
Chin G.T., Gallagher K.P.	2019	x			
Cormier B.	2018	x			
Dreher A., Fuchs A.	2015	x			
Dreher A., Fuchs A., Parks B., Strange A.M., Tierney M.J.	2018	x			
Dreher A., Fuchs A., Parks B.C., Strange A.M., Tierney M.J.	2017	x			
Dreher A., Lang V.F., Richert K.	2019	x			
Galindo A.J., Panizza U.	2018	x			
Humphrey C.	2016	x			
Humphrey C.	2019	x			
Humphrey C., Michaelowa K.	2019	x			
Humphrey C., Michaelowa K.	2013	x			
Lazzarini S.G., Musacchio A., Bandeira-de-Mello R., Marcon R.	2014	x			
Ray R., Kamal R.	2019	x			
Yuan F., Gallagher K.P.	2018	x			
Percoco M.	2014	x	x		
Shapiro D.M., Vecino C., Li J.	2018	x	x		
Swedlund H.J.	2017	x	x		
Hainz C., Kleimeier S.	2012	x	x	x	
Humphrey C.	2014	x			x
Sawant R.J.	2010		x		
Subramanian K.V., Tung F.	2016		x		
Broccolini, C., Lotti, G., Maffioli, A., Presbitero, A.F., Stucchi, R.	2020		x	x	
Byoun S., Kim J., Yoo S.S.	2013		x	x	
Byoun S., Xu Z.	2014		x	x	
Gurara D., Presbitero A., Sarmiento M.	2020		x	x	x
Sorge M., Gadanecz B.	2008		x	x	x
Corielli F., Gatti S., Steffanoni A.	2010		x		x
Dailami M., Hauswald R.	2007		x		x
Ahiabor F.S., James G.A.	2019			x	x
Athavale M., Edmister R.O.	2004			x	x
Gatti S., Kleimeier S., Megginson W., Steffanoni A.	2013			x	x
Buscaino V., Caselli S., Corielli F., Gatti S.	2012				x

2.5 Discussion of findings

The diverse range of papers discovered follows a range of different research philosophies and methods. This is to be expected given the cross-disciplinary subject matter and the diverse range of journals in which the articles are found. There are a selection of empirical papers using a variety of regression techniques. These show some useful associations and patterns in loan markets, albeit with less causal explanation. There are a few pragmatic papers that take a mixed methods approach and combine some numerical analysis with interviews. These have more explanatory power although as the interviewees are endogenous to the problem being studied some care is taken to put them in perspective.

This section links together the different ideas and findings in a narrative to explain a current understanding of the forces driving development finance.

2.5.1 The politics of development finance

The relevance of politics to development finance is that it provides a partial answer to the question about the availability of credit. Which countries and entities drive the development agenda? Do these countries compete with each other or cooperate?

There are two lenses through which to view these questions. From a private sector perspective, what may matter is how 'bankable' development projects are initiated and what the inherent country or sector risks are. Second, when viewed from an aid perspective, what may matter is how different countries seek to extend their influence. These two views are connected: aid-driven concessional activity that leads to institutional reform is likely to lead to more non-concessional private sector activity. While aid is not directly related to private sector lending it clearly influences the economic and political environment. This section first considers some of the aid-related issues and motives of donor organisations, and then considers how this affects the private sector activities of MDBs.

One of the more debated topics is the nature of competition between traditional western donors through the MDBs, and the increased reach of China and other new donors. An assumption behind the debate has been that donors who do not adhere to the OECD Development Assistance Committee (DAC) principles and regulations are affecting the influence of traditional donors (Dreher, Fuchs, Parks, et al., 2018; Swedlund, 2017). Swedlund (2017) uses primary and secondary data, combined with some African case studies, to argue that these claims are over-stated. However, she does explain how Chinese aid is different in form, being channelled through institutions such as CHEXIM and focusing on productive rather than social sectors. She also explains how this aid is simpler and faster for recipient countries as there is less conditionality to deal with.

Dreher and Fuchs (2015) address the question on China's motives directly in an empirical analysis to test for patterns in aid from China that favour countries with natural resources or the characteristics of institutions. In other words, is the lending 'rogue' in the sense that it is seeking to undermine the rule of law and democracy? The conclusion from this article is that there is nothing unusual about China's aid patterns to justify that label. There is a clear link to politics as a driver of aid, but to no more extent than with other international donors. One of the stated limitations in this analysis is the quality of available data in the public domain. To that end, extensive efforts have been made to construct AidData's Global Chinese Official Finance Dataset which is used as a source in several articles (Chin and Gallagher, 2019; Dreher, Fuchs, Parks, et al., 2018; Dreher, Fuchs, Parks, et al., 2017; Dreher, Lang, et al., 2019; Humphrey and Michaelowa, 2019). This open-source dataset captures information on Chinese aid using a rigorous collection methodology.

Dreher, Fuchs, Parks, et al. (2017) use this data set to test a variety of propositions about the impact of China's aid activity. They test for the impact of Chinese aid, its most effective form and compare it to Western donors. For this review, the most relevant test is whether China's aid 'undermine[s] the effectiveness of Western donors and lenders'. The evidence from this analysis suggests that Chinese aid flows do not have an impact on Western assistance. Asmus et al. (2017) reach a similar conclusion

by examining BRICS countries' lending and considering the implications of working outside the DAC principles. The key point is that outside the DAC, donors can operate with a principle of non-interference and accept the recipient countries standards for environmental and social standards. This could complicate the delivery of the SDGs if there is a proliferation of different metrics and monitoring methods. They summarise the activities of each of the BRICS countries in turn and conclude that this aid could be complementary to DAC funding rather than displacing it.

Chinese activity in Africa is profiled by Dreher, Fuchs, Parks, et al. (2018) who use AidData's Chinese Official Finance to Africa dataset and characterise flows into either official development assistance (ODA) or non-concessional 'other official flows' (OOF). Through empirical analysis of 2,647 projects across the period 2000-13, they demonstrate that the ODA flows tend to follow the political interests of China, whereas the OOF flows tend to follow the economic interests and land in more corrupt countries. From a capital mobilisation perspective, the private sector is less likely to have risk appetite for countries with weaker institutions and so there is potentially limited overlap between the destination of OOF flows and the risk appetite of the private sector.

After considering the political issues from an aid perspective, we need to consider what market-related complications these political implications might have. Chin and Gallagher (2019) again focus on China but slanted towards how lending is deployed from a structural perspective. Combining fieldwork interviews with Chinese institutions (CDB, CHEXIM, AIIB, NDB) with secondary publicly-available documentation, they build a picture of how development finance has worked from a Chinese perspective and propose a 'coordinated credit space' where China operates national policy with the actions of development institutions (CDB, CHEXIM), the local banks, and the interests of Chinese firms which is consistent with Dreher, Fuchs, Parks, et al. (2018). The authors report that some of the credit enhancement techniques reportedly used by Chinese entities are different to those used by traditional MDBs. Cross-default between projects can be used, whereas MDBs typically treat projects on a standalone basis. The paper also discusses a form of structural subordination as a

method of credit enhancement. For example, the MDB lends for longer maturities than other lenders and would be paid back last.

In the spirit of international cooperation and competition, the authors explain the different objectives of Western MDBs compared to the Chinese institutions and provide a summary of areas of complementarity and potential conflict. The paper suggests that the mobilisation of private capital by the G20 and MDBs was partially motivated by the expanding range of activities by China and compares it to the Marshall Plan, noting that Chinese development lending overall is greater than the sum of the traditional Western MDBs.

Using this paradigm, the authors suggest that there are two slightly overlapping pools of capital in competition with each other albeit with different motivations. If the financing is complementary and one pool does not substitute for another, then this could be very constructive. In areas where there are conflicts of interest, then non-financial considerations might dominate such as the lack of policy requirements or the different environmental and social risk management system (ESRM) standards.

Shapiro et al. (2018) also focus on the theme of China and how it extends credit to development for the benefit of Chinese firms. The article is exploratory and does not contain rigorous statistical analysis. The central proposition is that the Chinese government influences development finance by making loans to governments directly rather than providing aid through international agreements. This alternative approach changes the way in which disputes might be resolved as resources can be used as a form of security.

Their evidence suggests that Chinese firms are confident that the loans provided at a government level provide suitable creditor protection, but also that Chinese firms get involved in more localised disputes with local workers and firms. The relevance of the article is that China's development agenda is potentially in competition with traditional development banks. If development finance is governed by access to resources and state lending rather than following the SDGs it would limit opportunities for the MDBs to lead the development agenda and limit private sector mobilisation.

Proving the existence of actual competition between China and the traditional western MDBs has the same shortcoming as trying to demonstrate additionality. It is difficult to show with firm evidence because the counterfactual cases are not available. As a way to shed new light on the debate about competition, Humphrey and Michaelowa (2019) take a mixed method approach to test for a competitive response by traditional MDBs to Chinese-led investment. The econometric approach uses a poisson pseudo-maximum likelihood (ppml) regression to test for lagged responses in a lending data set. The qualitative overlay is a series of interviews with developing market borrowers to add some colour to the discussion of causation in the econometric results.

The MDB lending data set is compiled using an archival search of annual reports and is supplemented with some bilaterally-provided data to ensure additional completeness. The Chinese data is from AidData's Global Chinese Official Finance Dataset. The regression uses a lag based on the average of Chinese lending in years t_{-1} of t_{-2}. From this, they find no evidence of a MDB response for non-concessional countries. For concessional countries, they find evidence of a response for both the level of lending and within sectors such as infrastructure. The qualitative interviews with borrowers appear to support these conclusions from a demand-side perspective. As this includes lending to sovereigns the conclusions do not necessarily hold for private sector activity. From this analysis, it appears that overall competition between MDBs and Chinese development institutions is not intense.

An implicit assumption in the discussion of competition between nation states, as viewed through the lens of development lending, is that shareholders drive MDB behaviour and there is little operational autonomy. However, this depends on the power relationships between shareholders and the MDB. Cormier (2018) takes a theoretical approach to examine the extent to which the MDBs can contribute to the SDGs considering the external and internal constraints that they face. The external factors include the way in which such international organisations (IOs) obtain authority and legitimacy to have an impact on the SDGs independently of shareholders.

Initially, the legitimacy of an IO is bestowed upon it by shareholders and given a set of rules and procedures to follow. The author poses the question of whether the IO has 'agency' or whether it is a rule-taker. He resolves this by arguing that the institutions can acquire some autonomy over time. Using a definition of power as the ability to influence others, if the organisation can itself affect the behaviour of shareholders then there is a case to be made for autonomy. He argues that the process of defining and measuring SDGs demonstrates autonomous behaviour as the MDB can dictate what constitutes 'good policy'. Cormier also questions whether the internal structures of the IOs make the delivery of the SDGs harder, observing that culture and internal disagreements could affect resource allocation between the 17 different SDGs.

As a counterpoint to this, Ray and Kamal (2019) look at the relationship between lending flows and the composition of different MDB shareholder bases using Penrose-Banzhaf and Shapley-Shubik power indices. The data is derived from an archival search of MDB annual reports. The analysis uses some correlation results although the models, method and standard errors are not clearly explained. The key conclusion from the article is that CAF and the Islamic Development Bank (IsDB) have 'successfully challenged the hegemony of traditional Northern MDBs'. The essential argument is that they have managed to grow without ceding power to non-borrower shareholders. They are, however, more capital-constrained and currently use different assessment metrics.

In contrast to this study, Dreher, Lang, et al. (2019) focus on the IFC and whether the structure of its Board affects the flow of private sector lending. This is put into the context with the SDGs and the efforts to mobilise private finance. They construct a dataset of 3,223 projects totalling $101bn and manually code them for the ultimate beneficial owner (UBO) of the recipient company and the country in which the project is located. Their empirical analysis shows that having a Board seat is associated with increased flows to a recipient country, or increased flows to countries where the UBOs are domiciled. Furthermore, they also report that if both the recipient and UBO country are on the Board, there is another significant positive effect on funding flows over and above individual effects. The implication of this is that, at the margin, the

supply of projects that come on stream for private sector participation may be politically rather than economically driven.

The theme of internal conflicts and constraints affecting the supply of credit is picked up by various authors (Galindo and Panizza, 2018; Hainz and Kleimeier, 2012; Humphrey, 2014, 2019; Percoco, 2014; Ray and Kamal, 2019; Shapiro et al., 2018).

Galindo and Panizza (2018) construct a data set of the net flows of lending to governments and also of disbursements from MDBs, RDBs and from the private sector. Using OLS regressions, they find that MDB lending is counter-cyclical to a significant level although this appears to be primarily driven by the World Bank. There is also some statistically significant regional variation where lending to Latin America and East Asia exhibits stronger counter-cyclicality. Perhaps unsurprisingly, the private sector flows are shown to be pro-cyclical and the RDBs appear to be acyclical although over time appear to have become more procyclical. If MDBs overall are counter-cyclical and the private sector is pro-cyclical this would be a complicating factor in encouraging private sector money to co-invest into development projects. The authors suggest that changes in credit rating methodologies might affect the behaviour of institutions over time as MDBs control their balance sheets to target specific ratings.

Humphrey (2019) examines the ways in which shareholder composition can constrain lending but from the perspective of the donor/recipient mix of the voting rights. He focuses the question on the power balance between large MDBs with donor shareholders and smaller 'Minilateral' development banks where the shareholder base better reflects the borrowers.

He builds a case study around Africa's Trade and Development Bank (ATDB) and examines the structure of lending. In this instance, the decision to keep donor countries outside the voting shareholder base results in a much lower credit rating. The lower rating increases the cost of funding and as a consequence the bank must focus on shorter-dated, more secure lending such as trade finance and cannot participate in development projects in a significant way. Here there is a clear trade-off between (i) greater organisational flexibility due to shareholder alignment with the

borrowers requiring less external scrutiny, and (ii) increased cost of, and more limited access to, funding for development. This provides more evidence that the structure of the shareholder base and the nature of the development bank significantly affects the availability of credit.

Humphrey's ATDB example builds on his earlier work (Humphrey, 2014) dealing with the politics of loan pricing that is covered more fully in Section 2.5.4 below. For the purpose of this section, the political issue is that the capital structures of the large MDBs rely upon the existence of callable capital in order to maintain AAA credit ratings. The large MDBs that have donor-dominated shareholder structures have political constraints that affect lending capacity not only due to capital limitations, but also due to the monitoring and project assessment that needs to take place because of the need to demonstrate that funds are responsibly deployed. This agrees with the perspective that Ray and Kamal (2019) take in that operational independence and autonomy for recipients comes at a cost.

This concept is examined again in the context of organisational convergence (Humphrey, 2016) suggesting that the pursuit of the top credit rating and the callable capital structure creates an incentive for development banks to fund exclusively through the bond markets and to retain internal capital. Given this precedent, it would be difficult for a development bank to follow an alternative path and it should lead to similar business models and practices. The author uses examples of the World Bank, the Inter-American Development Bank (IADB) and the Latin-America focused Corporación Andina de Fomento (CAF) to illustrate how this has already happened. A non-traditional MDB might only evolve if the shareholder base is willing to provide equity and that in turn might only happen if there is congruence between the owners and the borrowers. However, as previously mentioned in the case of the ATDB, that brings other complications due to weaker credit ratings and limited access to cheap, long-dated funding.

Lazzarini et al. (2015) examine the actions of the Brazilian Development Bank (BNDES) in Brazil. This study is narrower in scope as BNDES is a state-owned development bank without any multilateral ownership. The data set for the study

uses public information from the stock exchange and from BNDES to establish a lending pattern to test whether BNDES is solving a market inefficiency and promoting growth, or effectively bailing-out inefficient firms. In practice the paper does not find support for either view. It appears from their analysis that BNDES is lending to healthy firms and potentially subsidising shareholders, although the authors qualify this due to the lack of complete data availability. The paper goes further to find a link with political donations and the allocation of funds, but this is out of scope for the purposes of this review.

The last paper dealing with the lending behaviour of development institutions is by Percoco (2014) and is again specific as it focuses on transport infrastructure and Public-Private Partnerships (PPP). However, it does cover emerging markets generally so although it is narrow by industry, the geographic coverage is broad. The author uses public World Bank data on participation in PPP contracts to test for the relationship between good governance and the levels of risk transfer. The analysis supports the hypothesis that rule of law and good governance is linked to higher levels of risk transfer from the public to the private sector.

The final two papers address how politics affects how finance is made available. Yuan and Gallagher (2018) focus on sovereign lending in the spirit of supporting green development and the environmental agenda and links this to SDG goal 7 'Affordable and Clean Energy'. Using a data set of lending commitments and covering 11 financial institutions (MDBs, RDBs, ECAs and state-owned development banks), the authors use a probit analysis that demonstrates that banks with strong shareholder commitment to environmental goals are the major providers of finance, and that donor preference is important in defining where the money flows. To that extent, provision of credit is politicised by the donors' agendas. Also, given the wide range of types of development institution, it highlights potential sources of difference and competition between them.

Shareholder structure also can have an effect on borrower behaviour as evidenced by Humphrey and Michaelowa (2013). Here the authors examine the lending patterns of the World Bank, IABD and CAF, but consider the impact from the borrower's

perspective. The data used focuses on 6 Latin American countries. The authors examine the claim that borrowers pursue the cheapest loan for the required maturity. However, they find that the speed at which loans are approved and the approval process that the borrower has to follow are markedly different. Similarly, the external pressure to lend with 'safeguard policies' requiring monitoring can be lower from institutions with greater shareholder/borrower alignment.

The data also suggests that if a borrower faces a loan choice between CAF and IADB and the economic position of the borrower improves, there is more of an incentive for IADB to converge to the CAF position than for CAF to move to the IADB position. This might be true in a generally economically positive environment. However, an incentive to keep World Bank credit lines open might affect this choice.

2.5.2 The financing structure of development projects

A typical development finance initiative in an emerging market is a one-off project and the largest investments flow to infrastructure. In an emerging market, the quality of the financial institutions, the structure of the local legal system and the political environment can strongly affect the financial risk. As a result, a project finance (PF) is often adopted where a new single-purpose company is established with a network of contracts to direct its operations. PF structures are attractive targets for academic research because the simple form can be used to test corporate finance theories more effectively than with traditional listed companies.

Following on from the previous section on politics, it is worth re-considering the manner in which some Chinese FDI has been deployed (Chin and Gallagher, 2019; Shapiro et al., 2018) where a PF structure might still be used, but that projects can be linked to each other or to other government loans. This does not negate the concept of the value of PF as a risk management tool, but it significantly complicates the analysis of any single investment due to overlapping and inter-linked financial covenants. The other implication is that the different Chinese approach to funding described in these papers would not be fungible with the work done by traditional MDBs.

The case for PF as a risk management technique for weak investor protection laws is the focus of a paper by Subramanian and Tung (2016). Using data from the Dealscan database they analyse three types of lending across a population of 18,247 loans: PF, capital expenditure and corporate term loans. They use a Logit analysis to predict the presence of a PF structure and OLS regression to explore the intensity of PF usage by country, industry and over time. Their key finding is that PF usage is more likely in environments with weaker legal frameworks and creditor rights and protections. The paper does not link explicitly to development finance or MDBs, but reinforces the idea that contractual strength is a risk management technique in the absence of strong local legal frameworks which is typical of development finance in emerging markets.

In a similar vein, Hainz and Kleimeier (2012) considered whether increased political risk is more likely to result in a PF structure and analysed whether there is an increased probability of an MDB becoming involved in the syndicated lending. They also used Dealscan data and use a suitably global sample covering 64 countries, but use fewer loans (4,978) because they focus on syndication. They find a highly significant link between the use of PF vehicles and the presence of political risk, particularly in investment-intensive sectors such as mining, transport/utilities and construction. They also find that the involvement of an MDB in a syndicate is significantly related (at the 1% level) to political risk, weak economic performance, long-dated and large transactions. This does appear to be a reflection of what is seen in the development finance space where the largest, riskiest investments require a development bank to provide stability. In the paper they use the World Bank Group as an example of MDB power, although it is worth noting that with the advent of AIIB, NDB and Chinese development finance the power base might have shifted. They use the expression 'political umbrellas' to describe the protection that an MDB is expected to bring to a transaction (also known as preferred creditor status (PCS)). This external influence can also affect the public/private sector balance of risks on a project, as observed by Percoco (2014) as noted in Section 2.5.1, and could have consequences on the crowding in/out of private finance.

The theme of 'political umbrellas' comes up again in infrastructure finance studies in

the context of the risk of appropriation of PF assets (Gurara et al., 2020; Sawant, 2010) that refers to earlier work by Hainz and Kleimeier that is outside the scope of the literature chosen for this review (Hainz and Kleimeier, 2006). Sawant proposes that projects with low volatility cash flows and a low requirement for management expertise run a higher risk of appropriation by a host government (referred to as the 'hold-up problem'). He finds that project finance is a significant mitigation to this risk in that high leverage and syndicate structure provide protection. High leverage increases cashflow volatility and project risk creating a disincentive to appropriate. Similarly, a large diffuse syndicate involving MDBs increases the reputational risk for a government that intervenes, and also provides cover (an umbrella) for the private sector banks. There is only weak support for the idea that PF mitigates country risk itself. The results suggest that part of the responsibility for the crowding-in of private finance belongs with the recipient country and is therefore not something that the MDBs can push unilaterally.

Broccolini et al. (2021) and Gurara et al. (2020) take a more active view of MDBs that they can influence outcomes with governments in a way that private sector banks cannot. This would explain the presence of MDBs in riskier environments and reinforces the distinction between MDBs and private sector banks and investors. These two papers were written contemporaneously and cite each other (albeit in an earlier working paper form in one instance). Both sets of authors work with the Dealogic Loan Analytics database and select syndicated loans over a 24/20 year period respectively and perform regression analyses. Both articles show that MDBs are more often present in transactions with higher risk and longer duration. This should be expected given the role of MDBs to push into areas where the private sector would not operate. The theme of the trade-offs between leverage, contracts and MDBs is explored by Byoun, Kim, et al. (2013) using a data set from Thomson Financial Securities Data Corporation for the period 1997-2006. It incorporates 2,572 PF deals across 124 countries so there is diversity of country risk and industry risk. The authors run a multivariate analysis indicating that higher project risk is associated with greater involvement of MDBs and less supply of private sector syndicated debt. They find that the presence of offtake agreements is associated with lower project leverage.

The paper also suggests that project sponsors will accept lower leverage in the presence of offtake agreements because risk in the project is reduced. Offtake agreements are an alternative to leverage. The reasoning for this is that if there is an offtake agreement, there will be less need for strong cashflow controls and covenants in a project. As the authors themselves suggest, the causality of these associations needs closer inspection. It would also be useful in the context of development finance to focus on a narrower data set and exclude the large developed markets projects and see whether the regression shows significant results for emerging markets. A closer examination of the risk management structures could also provide a deeper understanding of how risk is mitigated (for example, whether political risk reinsured at a project level, by individual syndicate members or through the presence of an MDB).

As a follow up to this work, Byoun and Xu (2014) studied the relationships between contracts, governance and country risk in a similar way to Hainz and Kleimeier (2012). In this instance, they explore the private/public relationships in PF by focusing on government concessions and offtake agreements. The paper develops a theoretical model to examine the agency costs for PF and uses it to propose a series of hypotheses about when government concessions and offtake agreements will be present in a transaction.

The data used to test this model again derives from the Thomson Financial SDC but over a broader period from 1990-2012. The pool of projects is 5,908 although in the series of multiple regressions, not all projects have complete data. The key conclusion is that government concessions or offtake agreements can mitigate political risk for the private sector and provide a net social welfare benefit. However, increased political risk can be a negative factor on obtaining concessions or offtake agreements because it increases risks such as expropriation or "regulatory takings" that might impact specific projects or industries. The implication is that some types of government risk should be avoided. They find that in higher risk environments, an offtake agreement is more likely than government concessions. Their findings also suggest that the presence of an MDB in a PF serves to reduce political risk overall which reinforces the

view of the political protection that they bring. They also find a negative relationship between the use of government concessions and the degree of leverage in a project which is consistent with the previous work on offtake agreements.

Three further papers refer to the structure of PF deals although these papers mainly focus on loan pricing and so will be dealt with in detail in Section 2.5.4. However, there are some pertinent points that relate to project structure so should be discussed here.

Sorge and Gadanecz (2008) observe that traditional PF structures tend to have high initial leverage and construction risk, debt amortisation and other features that decrease risk over time so the structure is not static and suggests that different lenders might be involved at different parts of the project life-cycle.

The relationship between leverage and non-financial contracts (NFCs) such as offtake agreements is analysed by Corielli et al. (Corielli et al., 2010). They take the approach that NFCs are exogenous to the capital structure which contradicts the approach of some of the other authors in this section. This suggests that there should be more work done focusing on causation to establish the better view. The last observation on project structure comes from a paper that focuses on the Ras Gas project which is a Qatar LNG (liquid natural gas) project (Dailami and Hauswald, 2007). This particular project is worth considering because it involved the use of project bonds to complete the financing rather than relying on conventional syndicated debt. This has interesting implications for the crowding in/out debate around private finance because bond investors have different incentives to traditional lenders and potentially has some risk and stability implications.

2.5.3 The composition of lending syndicates

Industry practice for project finance transactions is that a sponsor appoints a lead arranger, known as an MLA (mandated lead arranger), to prepare documentation and get the project into a form that will make it financially viable. This section explores

what the literature says about how financing is sourced for PF transactions and what market forces might affect the way in which this is done.

The issue of the MLA and syndicate structure is explored by Ahiabor and James (2019) in a study of certification. Certification is the act of the MLA performing due diligence on a project and preparing an information memorandum for the syndication process. The purpose of the paper is to examine whether the involvement of a domestic bank in a project finance syndicate serves to reduce information asymmetry which can then result in a reduction in loan spreads. Loan spreads and pricing will be dealt with in Section 2.5.4, but the discussion of MLA selection is relevant to how syndicates are formed and which participants are involved.

The paper focuses on emerging market projects and proposes reasons why a domestic MLA might be chosen in preference to a foreign one. The selection mechanics are not examined explicitly in the paper, but suggestions are made as to the reasons why: higher economic development, more developed banking system, close links to government. A significant finding with regard to syndicate structure is that a domestic arranger is more likely to have been appointed as MLA if the loan is shorter-dated, large, and not related to EXIM facilities. This again shows association although does not help resolve the issue of causation.

On the topic of information asymmetry, Athavale and Edmister (2004) consider whether sequential lending affects bank behaviour with respect to pricing. The value in this article is the evidence of how an information asymmetry problem relating to lending can be solved. This is relevant to the syndicate structure and the crowding in/out of private investment because the MLA has to effectively solve this issue for the syndicate. In the context of development finance, repeated in-country projects are of a similar form to taking repeated country risk with a government. This is in essence what the MDBs are doing for the private sector by their repeated international activity. Even if the MDB is not effectively acting as MLA, its involvement affects the overall project structure and send certain signals to the syndicate (Broccolini et al., 2021; Gurara et al., 2020; Hainz and Kleimeier, 2012; Sawant, 2010). Broccolini et al. (2021) take this further however and design tests for mobilisation of private capital with

extensive robustness checks. They also test for crowding out of corporate bonds and find no evidence that development lending substitutes for securities issuance. They conclude that the entry of an MDB to a market increases the volume of lending from the private sector and the number of banks involved.

This links back to questions discussed in Section 2.5.2 about when and why an MDB might be involved in a transaction, and what motivates the private sector to participate. Analysis focusing on MDBs involvement is useful to build a view on how development finance is operating (Byoun, Kim, et al., 2013; Byoun and Xu, 2014; Hainz and Kleimeier, 2012; Sorge and Gadanecz, 2008), although that does not explain why the private sector would be motivated to co-invest.

Finally, the theme of certification and the role of the MLA is central to the analysis by Corielli et al. (2010) with regard to how the MLA is compensated. Although this study mainly focuses on loan spreads and fees, the issue is circular. Syndicate structures will depend to a large extent on the economics that are available to be shared. This is the subject for the final section on loan pricing and risk.

2.5.4 Loan pricing and risk

A challenge with reviewing papers that address loan pricing is that many datasets used focus on the period before the financial crisis of 2007-2009. In addition, all the data for the studies pre-date the Addis Ababa meeting in 2015, the establishment of the SDGs and the instruction of the G20 to the MDBs to optimise their balance sheets and catalyse private sector funding (G20, 2015a; United Nations, 2020b). The introduction of Basel III, the waves of bank regulation and changes in attitude to the SDGs and the environmental agenda have all developed subsequently. However, the fundamentals of finance have not changed and while private and public sector financial institutions might have changed their credit appetites and pricing models, there is still a market price for a transaction and the analyses are still relevant.

It is important to reiterate that all the papers discussed below focus on transactions that are deemed to be executed at non-concessional prices. The concessional activities

of MDBs are out of scope and it is unrealistic to expect MDBs to mobilise private capital at concessional rates. Humphrey's work on the politics of loan pricing (Humphrey, 2014) makes it clear that MDBs have to price sustainably and avoid capital calls (refer to Section 2.5.1). The relevance of this paper with respect to pricing is that it describes the overall goals of MDBs and explains the cross-subsidies between concessional and non-concessional loans. The net returns across both need to be sustainable for the MDB in question, but it is the cross subsidy and concessional rate that is the political issue rather than the pricing of the non-concessional loans. With this approach, it is possible to set aside the issue of pure concessional pricing and focus on market pricing.

The next issue to consider is how banks come to a decision on pricing. In the academic literature, there is little discussion of how banks transform return on capital objectives into the pricing of individual loans, although the focus on risk-weighted asset and return on capital is evident from bank annual reports and investor presentations. The absence of academic discussion on this could be due to the changes that have occurred since the financial crisis. As a result, analysis that is available in the selected literature focuses on credit spreads. It is reasonable to assume that banks only add new lending business when they perceive the balance of risk and reward to be profitable at the point of execution.

In the selected papers, the work by Athavale and Edmister (2004) is useful as it focuses on how information asymmetry works in bank lending. This is particularly important in the development finance space where the lending can be esoteric, bespoke and high risk. The purpose of the analysis was to determine which of two competing theories better explained the behaviour of banks with regard to ongoing loan pricing. The two competing theories being: (i) through monitoring of a lending relationship, banks resolve information asymmetry and are able to lend at better rates in future as they have superior knowledge, (ii) banks take advantage of serial lending in order to exert market power and increase lending rates. The contribution is to define the existence of a sequence of loans to be the "cleanest evidence of a lending relationship".

The dataset is a US commercial bank loan book with repeated lending activity. Of the initial pool of 8,521 loans, 3,331 are retained for the analysis and categorised according to whether they are 2nd, 3rd, 4th etc in the lending sequence. The authors run regressions to measure the impact of adjacent spreads. A key finding is that there is a reduction in the 2nd loan in a lending sequence (1% confidence). Thereafter, there are insignificant further reductions and they reject the hypothesis that banks are able to increase returns on future lending. They also assert that other banks can compete effectively for these customers, but still have to overcome the asymmetric information costs.

Although the data set is not related to development finance, the result that the information asymmetry can be overcome quickly and does not confer any material strategic advantage is useful for thinking about how development lending works in practice. If it is true that the existence of a sequence of loans is evidence of a relationship, then the MDBs certainly qualify given ongoing lending activities over many years. It is reasonable to assume that MDBs have effectively overcome the information asymmetries at a country level in this way.

Focusing on PF, there are three papers that deal directly with the dynamics of loan pricing and the capital structure of projects (Corielli et al., 2010; Dailami and Hauswald, 2007; Gurara et al., 2020). Corielli et al. (2010) take data drawn from Projectware (Dealogic) and clean it due to the lack of contractual information in many cases. NFCs prior to 1998 are not well documented, so the final pool of loans is from January 1998 to May 2003. They model credit spreads and leverage separately as dependent variables based on a range of economic (e.g. rating, size, etc) and dummy variables (NFC terms) and also with reference to the other dependent variable. The analysis shows that credit spreads are strongly driven by rating and leverage, and that leverage is strongly driven by rating and credit spread. The key conclusions with respect to pricing are that: lenders do rely on NFCs, lenders prefer not to have sponsors as counterparties to NFCs, and NFCs affect leverage. A drawback that they highlight is that fine detail of a contract is lost in the overall data as two contracts can be nominally similar, but economically quite diverse.

The analysis by Gurara et al. (2020) using Dealogic Loan Analytics (see also Section 2.5.2) extends further to analyse loan pricing in emerging markets, although the usable data set shrinks to 7,571 deals and 3,703 borrowers. They find that loan spreads are positively (and significantly) affected by the presence of an MDB, longer maturity, higher leverage and whether the deal is related to infrastructure. Conversely, spreads are negatively affected by larger deal sizes and increased syndicate concentration (using the Herfindahl–Hirschman Index). This reinforces the idea of the MDB as a pioneer lender in difficult markets. The intuition behind lower spreads for more concentrated syndicates is that if a larger pool of banks is required to support a deal it creates a supply-side problem and each marginal lender needs to be paid more to participate.

Dailami and Hauswald (2007) take a different approach and analyse just the Ras Gas Qatari LNG project in detail. This project is unusual because the project bonds used to partially fund the transaction could be actively traded and so a price history of project risk established. The project mechanics and contracts are detailed in the original paper, but the essential component is that the Korean companies KOGAS/KEPCO were the counterparties to the offtake agreements. As the credit spreads for the Ras Gas bonds and also the offtakers are publicly traded, an analysis could be performed to show that markets price the nexus of contracts and that the unmanaged risks are transmitted to the project (in this case the risk of default by the offtaker). The significance is that the project structure can significantly affect the risk sharing and pricing for development projects. Without the public bond issuance it would not have been possible to perform the analysis.

As noted in Section 2.5.2, Sorge and Gadanecz (2008) consider the full term structure of credit spreads in project finance due to the unusual life-cycle of debt and risk. The paper seeks to establish the economic drivers of credit spreads for PF lending by comparing the results with traditional bonds and loans. The analysis finds that the pricing for traditional bonds/loans follows convention, so after controlling for other variables, the pricing appears to increase monotonically with maturity. For PF loans

there is no significant relationship based on this original model so the authors include additional maturity components to test for the shape of credit spreads.

They find that the term structure of pricing is 'humped' and conclude that it is due to peculiar features of PF loans such as high initial leverage and construction risk, debt amortisation and other features that decrease risk through time. They also find that loans costs decrease in the presence of an MDB/ECA guarantee which demonstrates the risk reducing role that the public institutions can perform. The authors go further and suggest that Basel II ought to take account of this reduced risk and allow lower capital requirements. The regulatory environment has evolved since the paper was written as banks now mostly operate under Basel III. Credit substitution can be used for guarantees to reduce RWAs and anything more might require further regulatory change. Banks also now have to contend with IFRS9 and CECL which is a disincentive to participate in long-term PF lending. In the event that Chinese lending contains cross-defaults between projects then this term structure effect would not be so evident.

Following on from the discussion of syndicate structures in Section 2.5.3 there are papers that deal with how value is affected by certification (Ahiabor and James, 2019; Gatti et al., 2013). As Ahiabor and James build on the earlier work of Gatti et al. it is best to take the analyses in chronological order.

Gatti et al. put forward two hypotheses regarding certification. A 'valuable certification' hypothesis (VCH) and a 'direct compensation hypothesis' (DCH). The VCH relates to whether the involvement of a prestigious MLA reduces the lending spreads in a contract, the DCH proposes that the MLA is compensated for arranging. The article suggests that projects might only become viable with the involvement of a prestigious arranger. The authors find that of their two hypotheses that both VCH and DCH are supported, and it is the lesser banks in a syndicate that pay the MLA for certification even if the overall project lending costs are reduced. There is no explicit mention of MDBs in the analysis and there is no differentiation between emerging and developed markets. As such, the analysis might need to be refined to focus it more on development finance.

Ahiabor and James (2019) address emerging markets in their paper which focuses on the role of domestic lead arrangers in PF transactions. The certification role is explained in Section 2.5.3. The authors sourced a selection of 1,270 project finance loans that cover approximately $300bn of notional lending. This is filtered from a universe of 14,000 loans extracted from Dealogic's ProjectWare database after eliminating loans with no spreads shown (9k), developed market loans (3k) and bilateral or club deals (c.700).

They find that loans spreads with a domestic MLA are negatively correlated (1% significance) with size, hard currency (US dollar denomination), improved credit risk and positively correlated with the involvement of an Export Credit Agency (ECA, or 'EXIM' in their paper). The results for foreign MLA loan spreads are negatively correlated with size (5% significance), improving credit quality (1% significance) and the involvement of an ECA (1% significance). A key step in the paper is to imply counterfactual loan spreads based on the regressions to imply what the impact on a loan spread would have been if the MLA was domestic rather than foreign. In this they find that loan spreads would be lower (tighter) if the MLA would have been domestic.

There is nothing in the paper that is counter-intuitive in their reasoning, although the use of counter-factual spreads presupposes that there is a choice when appointing the MLA of whether to choose a domestic or foreign arranger. If domestic arrangers are more likely to be appointed when a local market is more economically developed, it could equally be the case that the global pool of capital available to finance the project is larger and this in turn could drive the lending spread.

The final paper to consider relates to whether it is possible for banks to offload lending risk to other investors and how that would work mechanically. Although a straight loan sale is always possible, Buscaino et al. (2012) focused on the use of PF Collateralised Debt Obligations and the commensurate credit spread levels. Although the financial crisis has radically changed the shape of the securitisation market, deals are still possible and have been executed in the development finance space, notably by

the African Development Bank (AfDB) even if with a high degree of difficulty (Allen, 2018).

This analysis focuses on the pricing of PF transactions using a model that considers default risk, recovery, liquidity, market conditions and portfolio quality. The sample data is 43 tranches of PF CDO loans between 1998 – 2007. To parameterise the model, the authors use credit ratings, attachment levels, size (as a proxy for liquidity), AAA prices (market conditions). Quality characteristics are defined by considering: contract risks, stage of construction, industry and geographical concentration.

The key finding is that credit ratings are the primary driver of pricing accounting for 84% of the variance. All other parameters are significant at the 1% level with the exception of attachment levels (10%) and market conditions (not significant).

A difficulty with the study is that the data is drawn from the pre-crisis period where the ability to price and distribute CDOs is significantly different to today. However, what the article does do is raise some interesting questions about loan availability and the prospect of any potential risk transfer. It also highlights some useful points about project contractual structures that could be relevant for future transactions. It also confirms the ultimate focus on credit ratings as a measure of risk which, although it would need re-examining, is a form of monitoring and resolution of information asymmetry.

2.6 Conclusions

This literature review focuses on loan pricing and availability for development finance with a view to identifying gaps for future research. The four key themes are the political environment, the financing structure of projects, the composition of syndicates and the pricing of loans.

From the political environment, it is clear that although MDBs have similar operating models and are aligned in their support of the SDGs, they each have idiosyncrasies derived from their different mandates and history. Given their different shareholder

profiles, constituents and lending portfolio, there is room for further research into how these characteristics can affect the way in which credit is made available and which projects, sectors and countries might be supported. Some literature does touch on these issues, although there is scope to focus on the power relationships in a more empirical way with respect to syndicated lending. The literature also appears to overlook other providers of finance in this market such as bilateral development banks (owned by a single nation state) and ECAs that also provide credit for development projects but with a national economic interest.

The structure of development projects is shown to be affected by the political risk in the countries that are recipients of funds. There are some trade-offs to be considered such as the strength of local legal frameworks and the need for private sector lenders to secure political cover from MDBs. The shareholder composition and power relationships could also have a bearing on the geographic distribution of credit. In the countries where MDBs are active alongside private sector firms, an important test will be how the actions of MDBs affect the competitive environment. To that end, a study on the competitive conditions for development finance could illustrate the degree to which crowding-in of credit from the private sector is achievable in different countries or regions.

There is strong evidence from the literature for the use of project finance structures to mitigate political and legal risk. This follows corporate finance theory and there appears to be a clear association between the participation of MDBs and risk reduction. In that context, the involvement of an MDB can provide additional protection as a 'political umbrella'. That protection is not a formal contract but is a halo effect from the PCS that MDBs bring to lending arrangements. It would be important to establish whether the value of PCS is driven by the shareholder structure of an MDB. More research could also be done on the value of PCS, whether it is priced, and how it could be monetised by either banks or MDBs. If it can be shown to be of economic value it would be a positive signal for the mobilisation of private sector finance. Similarly, research that can positively demonstrate the catalytic impact of PCS on private sector institutions would add to our existing understanding of how

crowding-in works. This work could also be extended to examine the different catalytic effects of the various types of MDBs, RDBs and national development banks.

The structure of syndicates and project financing offers the opportunity for banks and MDBs to adopt different roles. This broadly falls under the description of 'blended finance'. An MDB could be part of a syndicate and *pari passu* with other lenders, or subordinated in some way, either explicitly or structurally. There is room for further research into which format is likely to produce the better outcomes and could in turn inform how MDBs are involved in projects and how they are structured. For example, is there an optimal mix of public/private sector funding on blended transactions? Or what is the best use of MDBs power to lend for longer tenors than the private sector? This could provide more answers to the question of which existing financial instruments best support MDBs to crowd-in/out private finance. The literature suggests that these choices would also affect the capital structure as it would depend upon how contractual arrangements are organised. Financing needs to be well structured in order to tempt private finance to participate.

As the MDBs are seeking to crowd private finance into transactions, there is room for further exploratory research as to the perceptions of private sector banks about MDBs and the economics of development finance. Where qualitative interviews have been identified in this review, they have been done from the perspective of development banks and funding recipients and not from the private sector lenders' perspective. This viewpoint currently appears to be missing from the literature and research on this specific topic would be valuable in assessing the likelihood and the motivations of banks in being mobilised in the way that the UN and G20 envisage.

As an extension of this, more research could be done on the pricing of credit risk in the new regulatory environment. One of the shortfalls of the articles identified in this review is that much of the data pre-dates the financial crisis of 2007-9 and significantly precedes the focus from MDBs to mobilise private sector finance toward the SDGs. Research that provided a more current review of loan pricing could provide some useful grounds for determining whether previous conclusions are still sound.

Although the initial search process was based on specified search terms, the subsequent article selection process is subjective in that it reflects the views of the author in framing the research around the identified gaps in the literature. The material is organised in a way that will be recognisable and useful to practitioners working in development banks and private sector institutions. There could be merit in expanding the literature search terms beyond those in Table 2.3, although from the selection process highlighted in Section 2.3 the value of doing this is not immediately apparent. It is also hoped that this review provides a useful foundation for researchers focusing on development finance and mobilisation.

2.A Results from Scopus and Web of Science literature searches.

TABLE 2.3: Search term results for academic journal search engines

The table shows the number of academic journal articles found for each search string in Scopus and Web of Science. The figures are as of March 2021.

Search String	Scopus	WoS
(”development bank*” AND ”loan pricing”)	3	1
(”development bank*” AND ”credit spread”)	0	0
(”development bank*” AND ”interest rate”)	87	9
(”development bank*” AND ”pricing”)	37	9
(”development bank*” AND ”lending behavio*”)	51	1
(”development” AND ”loan pricing”)	16	9
(”MDB” AND ”loan pricing”)	3	2
(”MDB” AND ”lending”)	26	10
(”MDB” AND ”interest rate”)	2	0
(”MDB” AND ”pricing”)	3	3
(”project” AND ”loan pricing”)	8	4
(”project” AND ”credit spread”)	16	2
(”infrastructure” AND ”credit spread”)	4	1
(”infrastructure” AND ”loan pricing”)	6	4
(”development bank*” AND ”securitization”)	7	2
(”development bank*” AND ”risk transfer”)	0	0
(”development bank*” AND ”loan rate”)	0	0
(”international financial institution*” AND ”loan pricing”)	0	0
(”international financial institution*” AND ”lending”) AND (LIMIT-TO (EXACTKEYWORD , ”International Financial Institutions”))	81	41
(”development*” AND ”funding spread”)	0	0
(”development*” AND ”lending spread”)	1	0
(”development bank*” AND ”return on investment”)	3	3
(”development bank*” AND ”economic capital”)	0	0
(”development bank*” AND ”raroc”)	0	0
(”development bank*”) AND (”ROE” OR ”return on equity”)	6	0
(”development bank*” AND ”mobili*ation”)	42	6
(”development bank*” AND ”SDG”)	12	5
(”SDG” AND ”finance”)	111	46
(“political economy” AND “international financial institutions”)	93	47
(“political economy” AND “international finance”)	74	44

Chapter 3

Competitive Conditions in Development Finance

Abstract[1]

This paper evaluates the competitive conditions in development finance and the implications for successfully mobilising private sector finance in order to achieve the United Nations Sustainable Development Goals (SDGs). Using a market definition of cross-border development finance, the analysis uses financial data for 61 development banks from FitchConnect from 2010-2019 and applies the Panzar-Rosse test, supplemented with additional tests for market equilibrium, to gauge the competitive conditions. The key finding is that the international development finance market is in long-term equilibrium and is structured as a competitive oligopoly. The implication is that successful mobilisation of private sector finance will require more innovative structural and funding solutions. Crowding-in of private sector banks on existing terms and in large scale is likely to fall short due to lack of profitability and risk appetite. This has direct implications for the ability of the global financial system to deliver the SDGs.

Keywords: Competitive conditions, development banks, Sustainable Development Goals, capital mobilisation, Panzar-Rosse

JEL Classification: D43, F33, F34, G21, O19

[1] As published in the Journal of International Financial Markets, Institutions and Money (McHugh, 2023).

3.1 Introduction

Mobilisation of private sector capital is a cornerstone of the international development community's strategy to achieve the United Nations Sustainable Development Goals (SDGs) and climate transition targets under the Paris Agreement. The traditional multilateral development banks (MDBs) have insufficient capital to fund the transition on their own and so are continuously seeking ways to crowd the private sector into transactions. The funding gap has been characterised as the leap from 'billions to trillions' of investments (Development Committee, 2015). The funding gap persists as the UNFSDR (United Nations Financing for Sustainable Development Report) reconfirmed in 2020 that the private sector will need to participate significantly in development funding if the SDGs are to be fulfilled by 2030 (United Nations, 2020a).

Since the creation of the SDGs in 2015, the instructions to MDBs from international bodies to mobilise the private sector have been explicit. In July of that year, the UN launched the Addis Ababa Action Agenda which mandated development banks to mobilise long-term private capital into infrastructure investments and green finance (United Nations, 2015). At the Antalya Summit in November, the G20 then instructed major MDBs to produce an Action Plan to maximise their impact through a variety of measures to improve capital efficiency and to mobilise private capital with ongoing monitoring (G20, 2015a; IATF, 2016), with particular reference to climate finance (Banks, 2021; EBRD, 2019; Multilateral Development Banks, 2018b). The G20 also established working groups with the express purpose of agreeing principles to crowd-in the private sector (G20 – IFA WG, 2017).

However, mandating an Action Plan for MDBs does not entail that private sector institutions will engage with it fully. The countries and sectors that are priorities for the MDBs in working towards the SDGs do not necessarily match the risk appetites and strategies of the large global banks in the private sector. Transactions that are demanding on bank capital such as infrastructure projects have become more expensive for the private sector (Martynova, 2015; United Nations, 2020a), and the credit appetite for developing markets has reduced due to balance sheet constraints

and compliance complexities (Starnes et al., 2016). There are also some countries in which MDBs operate that are off-limits to the private sector due to international sanctions.

The challenge to mobilising the private sector comes from the different operating mandates that MDBs are given. A common principle among these mandates is that MDBs are required to provide evidence that they are indeed crowding in the private sector and not crowding it out. This is referred to as the principle of 'additionality'. It exists as a control against the risk that an MDB might inadvertently finance deals that the private sector would have done anyway (Arvanitis et al., 2015; Carter et al., 2021). In this regard, a harmonised framework for additionality has been designed by a group of major MDBs (Multilateral Development Banks, 2018a) which makes the intention explicit:

> *'... interventions by multilateral development banks (MDBs) to support private sector operations should make a contribution beyond what is available in the market and should not crowd out the private sector.'*

In addition to demonstrating additionality, transactions need to generate sufficient financial return to attract the private sector. A critical driver of the mobilisation process is intended to be the expansion of MDBs balance sheets by the generation of more bankable projects (and more broadly by development finance institutions, DFIs), with the risk being redistributed to the private sector. Private capital can be mobilised *on a significant scale*, provided that the profitability of transactions can be maintained as the market expands.

Against this backdrop, an unaddressed question in the related body of research is whether, and how, DFIs compete in the market for development finance. The nature of this competition could affect the ability of DFIs to mobilise private capital in pursuing the SDGs. This paper defines a market for development finance by considering the cross-border activities of DFIs, and builds upon diverse strands of existing literature to explain how the activities of MDBs and other types of DFI might overlap and create competition. I evaluate the competitive conditions in the market for development

finance using the Panzar-Rosse test (Panzar and Rosse, 1987), widely used by researchers and regulators for judging the market conditions in banking. The financial data from 2010 to 2019 used in the test are extracted from FitchConnect. However, as the Panzar-Rosse test alone does not necessarily provide a clear-cut representation of the market's competitive conditions, I supplement the analysis with additional tests to refine the outcomes (Bikker et al., 2012). The results demonstrate that the market for development finance is a competitive oligopoly that is in long-term equilibrium. The empirical analysis further shows that the barriers to entry in development finance are low, and that the demand curve is downward-sloping. This second aspect presents a challenge in the search for effective ways to crowd in private capital to development projects. As private sector banks incur a higher cost of funding than state-owned institutions it suggests that the market pricing for development finance is unlikely to provide sufficient incentive for private capital to participate in transactions. A further implication is that the environment may not support mobilisation of the private sector using the same financing techniques, in the same regulatory and political environment. Therefore, alternative financing mechanisms and products may be required to ensure that the SDGs are fully funded. Governments, as shareholders, will need to go further in changing the regulatory, policy and legal frameworks to permit capital to flow in sufficient quantities.

The contribution of this paper to the related literature is three-fold. First, to the best of my knowledge, this is the first comprehensive study to test for the competitive conditions in the market for development finance. Second, unlike the related body of research, I test if the market of development finance is in long-run equilibrium. Third, my research design allows for the shape of the demand curve for development finance to be inferred, leading to practical implications for the ability of DFIs to mobilise the private sector in support of the SDGs.

The structure of this paper is as follows. Section 3.2 provides background to explain how and why the market for development finance has been defined for this analysis. Section 3.3 describes the data underlying the analysis. Section 3.4 details the

econometric models that are employed and Section 3.5 describes the results. Finally, Section 3.6 draws some conclusions and suggests future research around this topic.

3.2 Background: the market for development finance

Creating a shortlist of institutions to apply the Panzar-Rosse test requires some delineation of the market for development finance. This entails considering the types of institutions that are active and how they operate, their geographic coverage and the types of transactions used in private sector operations. The background given here provides the context for the entity selection in Section 3.3.1 and draws from a more extensive review paper on capital mobilisation (McHugh, 2021b).

3.2.1 Types of development finance institutions

Multilateral development banks are distinctive by their ownership structures as they are controlled by a mixture of sovereign donor and recipient states. There are other development finance institutions (DFIs) such as regional and national development banks (RDBs and NDBs respectively). The national development banks generally fall into two categories - either owned by developed countries investing overseas, or local development banks that act as state-owned financial institutions.

The relationships between these different types of entities are complicated by overlaps in the definitions, and also mutual lending relationships where MDBs might be lending to NDBs in developing markets to subsequently on-lend domestically (Schclarek and Xu, 2022). For the purpose of defining the market for mobilising private sector capital and assessing the competitive conditions, the key aspect is that the institutions need to be actively involved in cross-border lending into developing markets. The MDBs alone operate with significant geographic overlaps. The Overseas Development Institute (Engen and Prizzon, 2018) calculates an average coverage range of 5.4 to 7.3 MDBs per country in developing markets (relatively more in lower income countries). Within that there is significant variation and plenty of activity in

markets in which large international banks are active. There is scope for competition between MDBs even without extending the market to encompass RDBs/NDBs.

It is important to note that mobilisation focuses on private sector activities, while much of the MDBs activity is at a sovereign level. There is a rich seam of literature that discusses competition between nation states as it pertains to development lending and the international political economy with a particular focus on the relationship between China and the traditional Western MDBs (Asmus et al., 2017; Dreher, Fuchs, Parks, et al., 2018; Dreher, Fuchs, Parks, et al., 2017; Humphrey, 2019; Swedlund, 2017). Concessional lending to a sovereign might affect the economic environment or the political stability in a given country to encourage more private sector activity. However, in the context of this paper, mobilisation is about the lending operations of DFIs where they invest directly into projects alongside the private sector.

DFIs are not typically considered to be overt competitors, in particular the MDBs. Much of the rhetoric in development finance is around cooperation and coordination which is seen in the number of joint reports that are produced. SDG Goal 17 (Partnerships for the Goals) is about collaboration relating to underlying targets covering finance, technology, capacity building and systemic issues. The UNFSDR cites the findings of the UN Expert Person Group that development banks should coordinate activities. The EPG recommends 'Joining up IFIs' operations, as well as with those of other development partners, to enhance development impact' (United Nations, 2020a).

Although many DFIs share similar multi-lateral shareholders in the form of sovereign states, there are geographic differences, voting differences, and for bilateral development banks (i.e. NDBs) there can be specific national interests. Lending mandates for the DFIs are carefully negotiated and validated by shareholders and it is expected that funding will be deployed to the maximum based on the available capital base. This is exactly what the G20 is pressuring the MDBs to do. So, as all MDBs are under pressure to deploy capital in pursuit of the SDGs, there are reasonable grounds for believing that there is active competition.

3.2.2 The role of sovereigns

The fact that there are numerous MDBs in existence and that new ones are being created is seen in the context that sovereign shareholders (i.e. governments) are not satisfied with the outcomes from other MDBs that they co-own. This has led to studies on the degree of competition between China and the West in particular. The Asian Infrastructure Investment Bank and the New Development Bank are both newer arrivals with a strong Chinese presence and were set up to compensate for a perceived lack of focus on Asian issues in particular and with a different operating model to incumbent institutions (Gu, 2017; Kellerman, 2019; Ransdell, 2019). Kellerman (2019) explains the proliferation of development banks as a reaction against existing institutions when sovereign states are dissatisfied with the status quo. The ongoing creation of new development banks can be viewed as a direct result of competition between sovereign states to ensure that their interests are being attended to.

There is conflicting evidence on whether shareholder structure and attitudes affect the operation of the MDBs. Cormier (2018) takes the position that MDBs have acquired sufficient agency to pursue goals somewhat independently of individual donor politics. He also considers the way in which the culture and processes of MDBs might restrict the ability of an institution to support the SDGs, something that is of material importance given the broader global goals of the G20. In contrast, Dreher, Lang, et al. (2019) found a significant link between the allocation of funds from the IFC and the composition of the board. Humphrey and Michaelowa (2013) provide yet another perspective from testing the lending patterns of the World Bank, IADB and CAF, from the borrower's perspective. Rather than borrowers pursuing the cheapest loan for the required maturity, they find competitive differences in the form of the speed at which loans are approved. Also, the external pressure to conform to safeguards (e.g. Environmental, Social, Governance) can be lower from institutions with less dominant donor shareholders as they are less able to impose their standards onto the MDB in question. Similarly, Yuan and Gallagher (2018) find that the provision of finance (in their case green finance to Latin America and the Caribbean) is dependent upon the

attitude of the recipient country relative to the agenda of the DFI that they are seeking to borrow from.

From a systemic perspective, it is worth noting that MDB lending at a sovereign level has an effect on overall financial market stability given that MDBs can take the role of a counter-cyclical lender (Galindo and Panizza, 2018). Given that there might be an interaction between development lending, mobilisation and the health of a given country's economy, there is useful context in the literature about emerging market prudential regulation (Olszak and Kowalska, 2022), the impact of cross-border lenders (Kanga et al., 2021) and the competition-stability or competition-fragility state of an emerging market (Elfeituri, 2022; Kanga et al., 2021). However, these studies do not distinguish for development lending and it is beyond the scope of this paper to additionally assess that.

3.2.3 Convergence of operating models

There is a degree of convergence of operational models for MDBs that runs deeper than collaboration. This might explain the ongoing process of the creation of new DFIs over time through frustration over lending outcomes as highlighted in Section 3.2.2. With an unusual callable capital structure and shareholders wanting the largest MDBs to maintain AAA credit ratings the financial market effectively forces convergence on balance sheet structure and behaviour toward lending (Humphrey, 2014, 2016, 2019; Humphrey and Michaelowa, 2013). The other convergence factor is that a similar list of shareholders is generally involved in the traditional MDBs albeit in different proportions.

Additionality is also measured and calculated in similar ways across MDBs even though this requires a higher degree of subjective decision-making into their investment decisions than the private sector. The justification of additionality requires a relative benefit calculation compared to a counterfactual baseline. This clearly might lead to investment errors at times, where projects might be over- or under-valued from so many diverse and difficult project variables (Arvanitis et al., 2015; Carmichael

et al., 2016; Carter et al., 2021; Streck, 2017). An example of this is from the implementation of the Kyoto Protocol in 1997 by which the Clean Development Mechanism (CDM) would have required DFIs to consider the value of Certified Emissions Reductions (CERs) as part of a valuation assessment (Dutschke and Michaelowa, 2006; McFarland, 2011). The idea being that the trading of the subsequent CERs would justify over time the value differential. In reality, the carbon market collapsed during 2012 and into 2013 with prices falling from 2008 levels of EUR 30 per tonne to an absolute low of EUR 0.12 per tonne in the spot market in February 2013 (Ervine, 2013). Private sector banks are less likely to be able to warehouse this type of unhedgeable risk in a material size.

3.2.4 Financing mechanisms

The two principal financing mechanisms that DFIs use to engage with private sector banks with mobilisation as an objective are project finance and conditional lending. DFIs also lend directly to private sector companies but the deal sizes tend to be too small to need private capital in addition. Project finance is commonly used for infrastructure deals because of the contractual arrangements for such investments, and also the risk management frameworks that can be put in place (Ahiabor and James, 2019; Byoun and Xu, 2014; Hainz and Kleimeier, 2012). The use of project finance vehicles and conditionality is a mitigant for weak investor protection laws in environments with weaker legal frameworks and creditor rights and protections (Subramanian and Tung, 2016). These deals tend to be large and suit a process of debt syndication so private sector firms are brought into the transaction alongside the DFI. There is evidence that higher project risk is associated with greater involvement of MDBs and less supply of private sector syndicated debt (Byoun, Kim, et al., 2013). The DFI's additionality comes from making the project 'bankable', which could derive from technical assistance or from the political umbrella that DFIs can bring in the form of Preferred Creditor Status which is seen as a useful risk mitigant (Hainz and Kleimeier, 2006; Sawant, 2010).

There is evidence of competition through the use of different types of financial instruments and structure that vary regulatory standards and layers of structural subordination (Chin and Gallagher, 2019; Shapiro et al., 2018). Further evidence of the manner in which the ownership of the institution can affect the basis for competition is given by Hernandez (2017) who finds that the presence of Chinese institutions in Africa has affected the ability of the World Bank to attach conditions to lending.

Conditional lending describes a ring-fenced bilateral lending arrangement between a DFI and a private sector bank with the intention of delivering prescribed outcomes. The loan may be made at a slight discount to the bank's usual cost of funding, but in return it is obliged to conform to a set of impact measures and targets that are linked to the SDGs. Azmi et al. (2021) find no funding benefit for emerging market banks with respect to a bank's in-house ESG efforts. In this context, 'ESG' (Environmental, Social, Governance) has become a framework with which banks operationalise the principles of the SDGs. However, conditional lending is related to client SDG/ESG metrics rather than the bank's own metrics. It is possible that there is a link between the bank internal ESG goals and its volume of sustainable lending, although the literature appears to be silent on that. As a result, there is no clear link to be made between the lack of funding benefit reported by Azmi et al. (2021) and the actual discount given to banks for accepting conditional funding from DFIs. One way to view the funding discount is as a payment for the additional monitoring and risk that the host bank takes on.

The funding discount also creates an incentive for the local bank to take more DFI funding, although currency mismatches in markets where there is less US dollar liquidity create capacity constraints (Schclarek and Xu, 2022). The diminishing returns to internal ESG activity that Azmi et al. (2021) also report are a reflection of the convex costs of the additional administrative and risk management work required. It is reasonable to expect a similar non-linear cost effect on a bank when considering the ESG metrics for the client portfolios which would limit a bank's appetite to receive conditional funding. For the DFI, this form of mobilisation is more intensive on its balance sheet than traditional syndication as it still bears the full country risk of the

host bank despite not facing the SMEs directly. The convexity of monitoring costs for conditional lending, foreign currency constraints, and the more intensive balance sheet usage for the DFI suggest that there are limits to how much funding can be pushed through this channel.

The degree of leverage of mobilisation through conditional lending is consequently lower than from syndication of deals originated by the DFI itself. The syndication process is also contingent on the DFIs being able to show additionality otherwise the private sector might have funded the deals anyway. The position that MDBs have taken with respect to mobilisation enables them to focus on building a pipeline of 'bankable' projects for the private sector which is a highly granular deal generation process. Evidence from the syndicated loan markets shows that this crowding-in approach is effective even taking into account differences by country or sector (Broccolini et al., 2021; Gurara et al., 2020).

3.2.5 Summary

The environment for development lending contains numerous state-owned development institutions focusing on cross-border lending into developing markets. Lending objectives will align to the SDGs and may be affected by the shareholders' economic and political agendas. The institutions collaborate at an international level which aligns their approach, but also compete to extend their balance sheets to maximise lending. The range of financial structures into which the private sector can be mobilised on a significant scale is limited and has typically followed a traditional approach of lending and syndication into project finance structures. There are also capacity limits on the amount of conditional lending that can be deployed through local bank balance sheets. This is the structure of the market into which the private sector is being mobilised.

3.3 Data

3.3.1 Entity inclusion, selection and classification

The study requires the financial statements of development institutions to be collated on a comparable basis. The data to perform the analysis uses the full-year financial accounts of a selection of institutions from the FitchConnect database from 2010 to 2019. All financial figures are translated into US dollars using FitchConnect's foreign exchange data for the reporting dates of the accounts.

FitchConnect labels a large number of institutions as development banks, so in order to remain consistent with the market definition in Section 3.2 some filtering is required to sort out which entities should be included in the analysis.

The initial pool of entities for possible inclusion is constructed using the Fitch Identifiers for Supranationals (47), Development Banks (320) and Public Entities (432). Eliminating entities for which no accounting information exists and removing duplicates (4) results in a combined portfolio of 344 entities.

FitchConnect does not document how entities are classified, although from inspection it is clear that some authentic development banks are not included. On the grounds that members of the Association of European Development Finance Institutions (EDFI) are genuine development banks, a further 7 institutions are added for which financial information is available. Those EDFI members for which accounts are not available appear to be state-owned and integrated into sovereign accounts. The final institution added to the pool is the multi-lateral Black Sea Trade and Development Bank which is not captured anywhere else giving a total entity list of 352 development institutions.

To refine the pool further, entities are classified in 4 separate groups according to their characteristics. Using the descriptions from the ODI (Engen and Prizzon, 2018) major multilateral development banks (MDB) and regional development banks (RDB) are identified. Banks that are involved in purely concessional or sovereign activities are

excluded (e.g. the IBRD) although it is acknowledged that these activities are blended for some MDBs in their financial reporting.

The next group of entities are development banks owned by a sovereign nation operating on a cross-border basis, sometimes referred to as bilateral development banks. These are labelled in the data set as 'EDFI' or 'SOV' (for a national development bank outside EDFI) and are considered to be similar in nature. Export-import banks (EXIM) are included in the analysis as a separate category - although not formally development banks, they are involved in cross-border development projects and so are part of the competitive environment.

The remaining entities are a collection of state-owned financial institutions (SFIs). SFIs are not necessarily wholly-owned by the state and some have commercial banking operations in addition to a development mandate. Many are institutions that belong to the World Federation of Development Financing Institutions (WFDFI) which have been surveyed occasionally by the World Bank (De Luna-Martinez et al., 2018).

The WFDFI is a federation of regional geographic groups in which there are some international members although these are already captured as either MDBs, RDBs, EDFI/SOV or EXIM:

- Association of African Development Finance Institutions (AADFI)
- Association of Development Financing Institutions in Asia and the Pacific (ADFIAP)
- Association of National Development Finance Institutions (DFIs) in Member Countries of the Islamic Development Bank (ADFIMI)
- Latin American Association of Development Financing Institutions (ALIDE)

Although members of these groups do have development mandates, they do not operate cross-border and so do not fit the market definition in Section 3.2. In addition, MDBs engage with local governments and banks in their work for institution-building so are treated as 'customers' or a distribution channel for funding that is on-lent to

customers as conditional loans as described in Section 3.2.4. Finally, as the World Bank observes, it is not always clear how to disentangle commercial operations (De Luna-Martinez et al., 2018). For those reasons, members of the WFDFI are also excluded from the pool of entities and any other banks that could not clearly be identified.

This final step of exclusion leaves a remaining set of 61 entities are categorised as MDB (13), RDB (9), SOV/EDFI (17) or EXIM (22). The full list of entities is in Appendix 3.A.

The descriptive statistics are summarised in Table 3.1. A plot of the natural logs of total income and total assets separated by grouping is shown in Figure 3.1 which shows a broad size dispersion by entity type

TABLE 3.1: Descriptive statistics

This table summarises the descriptive statistics of the data: number of observations (*Obs*), mean (*Mean*), standard deviation (*SD*), minimum (*Min*), maximum (*Max*). All figures are in millions of US dollars except for Op Profit/Avg Total Assets which is a ratio. All figures reported directly from FitchConnect. Each variable has an associated Code that is used for reference in Table 3.2 and Table 3.3.

Panel A: Financial Variables						
Variable	Code	Obs	Mean	SD	Min	Max
$TotalOperatingIncome$	TI	537	1,578	4,643	-178	38,387
$TotalAssets$	TA	539	95,769	260,438	12	2,450,812
$InterestExpense$	IE	493	2,241	7,439	0	63,361
$TotalFunding$	TF	502	87,806	242,935	0	2,219,328
$PersonnelExpenses$	PE	488	239	671	-4	6,639
$OtherNon-interestExpenses$	ONIE	537	697	2,223	-103	23,685
$FixedAssets$	FA	512	1,012	4,742	0	43,332
$Loans$	LNS	510	59,947	185,369	0	1,708,540
$OtherNon-earningAssets$	ONEA	539	3,919	11,745	-537	174,989
$CustomerDeposits$	DPS	306	35,704	108,171	0	888,722
$LongTermFunding$	LTF	411	67,169	180,115	0	1,329,114
$ShortTermFunding$	STF	411	34,943	100,796	0	925,039
$Equity$	EQ	539	10,658	21,632	8	190,413
$OperatingProfit$	OP_PR	537	634	3,135	-11,316	31,522
$OpProfit/AvgTotalAssets$	OP_ROAA	529	1.5	2.7	-10.7	23.9

3.3.2 FitchConnect API mapping

The notation and data structure used by Bikker et al. (2012) is replicated for the inputs for both dependent and independent variables. The API field mapping between the literature and the Fitch Database is shown in Table 3.2.

FIGURE 3.1: Total Income to Total Assets by entity type

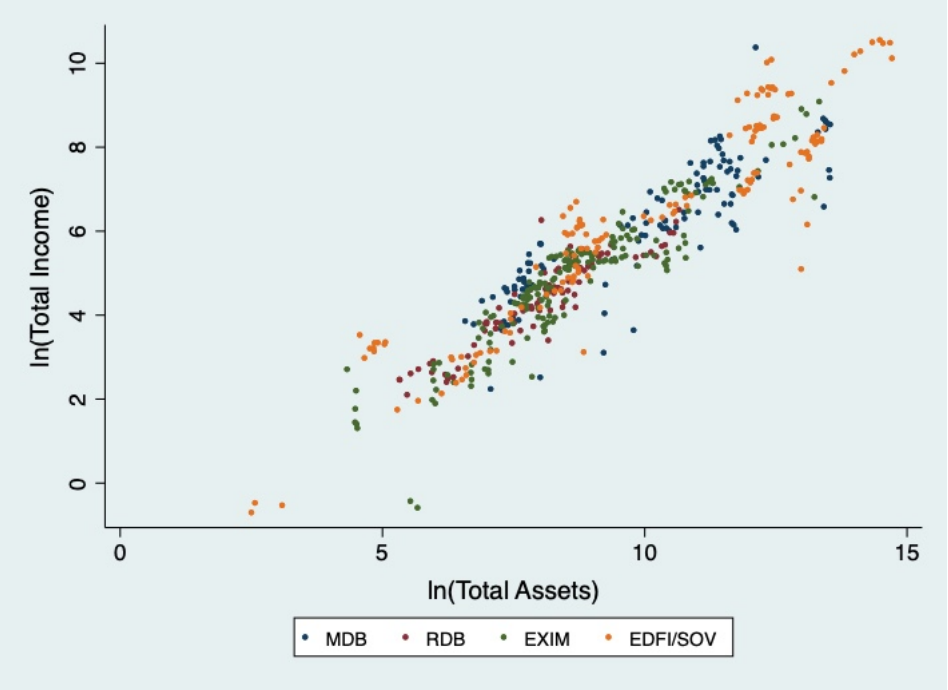


TABLE 3.2: Mapping of FitchConnect API fields

The variable codes align with the conventions in Bikker et al. (2012). The FitchConnect data field is the string required in the API formula to download the relevant data point. Short term funding (STF) is a calculated value as the difference between total funding (TF) and long-term funding (LTF).

Descriptor	FitchConnect data field
TI	FC_TOTAL_OPER_INC_BNK
TA	FC_TOTAL_ASSETS_BNK
IE	FC_TOTAL_INT_EXP_BNK
TF	FC_TOTAL_FUNDING_BNK
PE	FC_PERSONNEL_EXP_BNK
ONIE	FC_TOTAL_NON_INT_EXP_BNK
FA	FC_FIXED_ASSETS_BNK
LNS	FC_NET_LOANS_BNK
ONEA	FC_TOTAL_NON_EARNING_ASSETS_BNK
DPS	FC_DEPOSITS_BANKS_BNK
LTF	FC_TOTAL_LT_FUNDING_BNK
EQ	FC_TOTAL_EQUITY_BNK
OP_PR	FC_OPER_PROF_BNK
OP_ROAA	FC_OPERATING_ROAA_BNK
STF	Derived by [TF - LTF]

3.4 Methodology

Two types of test are available for measuring bank competition: structural and non-structural. Structural tests such as the Herfindahl–Hirschman Index or a simple concentration ratio require some knowledge of the underlying banking market in

which the institutions operate. For development finance this seems impractical as it is not straightforward to define or circumscribe the market.

Non-structural tests include the Lerner Index, Boone Test and Panzar-Rosse test that can rely on financial parameters of firms without requiring knowledge of market structure. Of these, the Panzar-Rosse test has been chosen as the baseline test for this study which has been used extensively to test for bank competition. There is criticism in the literature of the usefulness of the Panzar-Rosse test *on a standalone basis* if the intention of the analysis is to draw conclusions on firm conduct due to market power, as the index produced is not a good measure of competitive conditions or market behaviour (Bikker et al., 2012; Elfeituri, 2022; Shaffer and Spierdijk, 2015, 2017). In order to mitigate this issue, Bikker et al. (2012) show that additional information is required on cost structure and market equilibrium. For this analysis the results of the test are therefore supplemented with the same additional tests as demonstrated by Bikker et al. (2012) to evaluate overall market conditions. The argument against using Panzar-Rosse also relies upon the idea that the market participants are profit-maximisers and will price to their advantage. That assumption is questionable in the context of capital mobilisation by DFIs. In this analysis we are less concerned with the competitive conduct of market participants, but rather to understand the competitive environment in which development banks operate as derived by using Panzar-Rosse supplemented with the additional tests. This environment will shape the potential market outcomes from efforts to mobilise the private sector.

3.4.1 The Panzar-Rosse model

The test for development finance competition is performed using the Panzar-Rosse reduced-form model. The original paper proposing the model (Panzar & Rosse, 1987) lays out the proofs for the hypotheses although the methodology for this study follows Bikker et al. as it provides a clearer starting point for the analysis as applied to banks (Bikker et al., 2012) and builds on the existing literature.

The methodology is informed by Bikker et al. (2012) using Total Operating Income (TI) of the bank as the dependent variable for regression (Equation 3.1). As fees are an integral part of banking income, an analysis restricted to Interest Income would be incomplete.

Following this method, the approach for analysing competition among commercial banks is to define the factor inputs w_p as: w_{FD} – average funding rate calculated as the ratio of interest expense to total funding (IE/TF); w_{LB} – proxy for cost of labour calculated as the ratio of personnel expenses to total assets (PE/TA); w_{FX} – proxy for the price of physical capital calculated as the ratio of other non-interest expenses to fixed assets (ONIE/FA). The subscript j refers to the control factors that are listed in Table 3.3.

$$\log TI_{i,t} = \beta_0 + \sum_{p=1}^{P} \beta_p \times \log w_{p,i,t} + \sum_{j=1}^{J} \gamma_j \times \log CF_{j,i,t} + u_{i,t}, \tag{3.1}$$

From this an index (H) is calculated as the sum of the factor inputs w_p. H is the input factor elasticity, which measures the competitive conditions in the banking market. The sum of the estimated coefficients β_p in Equation 3.1 is hereafter denoted as H^r in Equation 3.2.

$$H^r = \sum_{p=1}^{P} \beta_p, \tag{3.2}$$

Table 3.3 also shows the mapping of the regression parameters to the financial data collected and follows the procedure used by Bikker et al. (2012) to use bank-specific factors reflecting the risk profile. It highlights the notation used for the remainder of this paper as used in the tables of regression results.

Testing for different values of H^r can indicate the competitive conditions for a given market. Based on the revenue equation, it is shown that for a market in long-run equilibrium that H is expected to be negative for a classic monopoly or a collusive oligopoly. The argument is that the monopolist (or oligopolistic colluders) will keep marginal revenue equal to marginal cost. In the event that costs rise, the monopolist

TABLE 3.3: Mapping and notation of regression parameters relative to the data

The table shows the regression parameters for each model used. The regression takes the natural logarithm of each ratio or number in the table. Revenue and Price are used as dependent variables. w_{FD} is the average funding rate calculated by dividing interest expense by total funding (IE/TF). w_{LB} is the average labour cost calculated by dividing personnel expenses by total assets (PE/TA). w_{FX} is the average cost of fixed capital calculated by dividing other non-interest expenses by fixed assets (ONIE/FA). The regression coefficients for these three factor inputs are added to produce the value for H in Equation 3.2. The Notation column shows how each control factor is referenced throughout the paper.

Variable	Ln(Calc)	Notation	Description
Revenue	TI		Dependent variable (Equation 3.1, Equation 3.3)
Price	TI/TA		Dependent variable (Equation 3.4)
w_1	IE/TF	w_{FD}	Proxy for cost of funding
w_2	PE/TA	w_{LB}	Proxy for cost of labour
w_3	ONIE/FA	w_{FX}	Proxy for cost of fixed assets
CF_1	LNS/TA	CF_{LNS}	Ratio of customer loans to total assets
CF_2	ONEA/TA	CF_{ONEA}	Ratio non-earning assets to total assets
CF_3	DPS/STF	CF_{DPS}	Ratio of customer deposits to short-term funding
CF_4	EQ/TA	CF_{EQ}	Ratio of equity to total assets
CF_5	STF/TF	CF_{STF}	Ratio of short-term funding to total funding
$logTA$ (for δ)	TA	$logTA$	Total assets (Equation 3.3)

will reduce production and will experience a resulting drop in revenue. The elasticity with respect to factor inputs is therefore negative and in this case the H statistic will be negative.

In another scenario, if a market is in a state of monopolistic or oligopolistic competition, it is expected that the H statistic for the revenue equation will be positive but in the range of 0 to 1. The reasoning is that near substitutes will create economic competition and that participants will behave in a more competitive manner. In the context of development finance, a 'near substitute' for a development loan could be risk offset through a bank guarantee or insurance contract, or a traditional private sector bank lending relationship with associated ancillary services such as cash management, foreign exchange or liquidity facilities.

The last case is for a perfectly competitive market in long-run equilibrium where the H statistic is expected to be equal to 1. Increases in factor prices can be passed on fully suggesting a flat demand curve and where competitors can freely enter and exit the market. Further tests are explained in Section 3.4.2 that consider what happens if these assumptions are relaxed.

The Bikker et al. (2012) study reviews the application of the Panzar-Rosse model across 31 different previous papers. They identify different treatments of the dependent variable $R_{i,t}$ and also for the control factors. Two further variations of Equation 3.1 are also tested but adjusted for scaling which is not part of the original theoretical model. The first of these is where an additional control factor is added to control for scale using the natural log of Total Assets (Equation 3.3). The second variation uses a price measure calculated by dividing Revenue by Total Assets (Equation 3.4). It can be shown that the H statistics calculated by these different approaches will invariably be greater than 0 which changes the way in which the results can be interpreted.

$$\log TI_{i,t} = \beta_0 + \sum_{p=1}^{P} \beta_p \times \log w_{p,i,t} + \sum_{j=1}^{J} \gamma_j \times \log CF_{j,i,t} + \delta \log TA_{i,t} + u_{i,t}, \tag{3.3}$$

$$\log(TI/TA)_{i,t} = \beta_0 + \sum_{p=1}^{P} \beta_p \times \log w_{p,i,t} + \sum_{j=1}^{J} \gamma_j \times \log CF_{j,i,t} + u_{i,t}, \tag{3.4}$$

These two equations give separate competition measures for respectively scaled revenue (H_s^r) and price (H^p). Table 3.4 shows the range of potential market power scenarios for different combinations of the three types of H statistic but also puts them into context with questions regarding the nature of competition in the market and the shape of the average cost curve.

TABLE 3.4: Summary of H statistics under various cost conditions

The table is adapted from Bikker et al. (2012) illustrating the different possible scenarios for Market Power. For each case, there is an expected average cost (AC) function and predicted values of H^r, H_s^r and H^p.

Market Power	AC Function	H^r	H_s^r	H^p
Long-run competition	U-shaped	=1	=1	=1
Long-run competition	Flat	<0, from 0-1	=1	=1
Short-run competition	U-shaped	<0, from 0-1	>0	>0
Monopoly	U-shaped	<0	>0	>0
Monopoly	Flat	<0	>0	>0
Oligopoly	U-shaped	<0	>0	>0
Oligopoly	Flat	<0	>0	>0
Monopolistic competition	U-shaped	<0, from 0-1	>0	>0
Constant markup pricing	Flat and U-shaped	<0	=1	=1

These additional market factors can affect the interpretation of the results and so require further investigation with some additional tests and analysis.

3.4.2 Additional tests and analysis

Bikker et al. (2012) propose an additional test to supplement the Panzar-Rosse model in order to determine whether the market is in a long-term structural market equilibrium. Provided there is free market entry, economic forces should make RoA equal for all market incumbents and therefore insensitive to input prices. An additional regression test using Equation 3.5 produces a similar sum of coefficient H^{RoA}. If we cannot reject $H^{RoA} = 0$ then we also cannot reject that the market is in equilibrium, and that marginal costs are equal to average costs.

$$\log(RoA)_{i,t} = \beta_0 + \sum_{p=1}^{P} \beta_p \times \log w_{p,i,t} + \sum_{j=1}^{J} \gamma_j \times \log CF_{j,i,t} + u_{i,t}, \tag{3.5}$$

A final step is to consider average costs in the market to visualise the average cost curve. This also helps to characterise the competitive position and market power. The approach that has been taken is to use the sum of the factor inputs (refer to Table 3.3 for IE, PE, ONIE) and compare this to the 'unit of production' which is the size of the balance sheet (TA). The graph of this is shown in Figure 3.2.

3.4.3 Expectations with regard to the model

The operating model for development banks is highly dependent upon wholesale funding and maintaining top-quality credit ratings. As a result, increases in funding costs will be more affected by the general level of interest rates than by credit spreads. Conversely, the customers of MDBs are lower-quality rated and so lending rates will be affected primarily by credit spreads rather than wholesale market interest rates. A negative coefficient for w_{FD} would suggest that MDBs are unable or unwilling to pass on changes in their funding costs to their borrowers.

The cost of administering development work can be high and a significant portion of non-interest expenses pertain to people and consultants which should be evident from w_{LB}. As this factor input is also disconnected from the lending rates to customers, w_{LB} should have a similar directional impact to w_{FD} so the coefficient should have the same sign. Given that the balance sheet structure of development banks is not reliant upon customer deposits it is not clear how economically relevant the price of physical capital w_{FX} would be. Rather than maintaining branch networks, MDBs do often maintain a physical presence in countries in which they operate and so the operating model is more similar to an investment banking operation. A similar argument applies to either the inability or reluctance to pass on cost increases and again it would be expected for the coefficient of w_{FX} to be similar to the other input factor prices.

The control factors that ought to have a significant impact on revenue will relate to the efficiency with which capital is deployed. To that end, the equity to asset ratio (CF_{EQ}) should have a strong influence, as might the ratio of customer loans to total assets (CF_{LNS}). Given the lack of significant branch networks, the relevance of non-earning assets is expected to be limited (CF_{ONEA}). As the large DFIs are not reliant on customer deposits to function, controlling for this is unlikely to be meaningful (CF_{DPS}). Instead of customer deposits, controlling for the proportion of short to long term funding could show an alternative sensitivity to capital structure (CF_{STF}).

Each of the three models (revenue, scaled revenue, price) are run using pooled OLS with the control factors as specified, and controlling for entity type. Additional robustness checks are included in Section 3.5.5.

3.4.4 Alternative estimation methods

The OLS estimation methodology described in this section is the standard implementation of the Panzar-Rosse model because the derivation of the original work is based on a static equilibrium framework. This estimation method is standard in the related literature, which is also recognised by Bikker et al. (2012).

There are variety of arguments against using a static linear regression model that have been put forward. A criticism of the use of OLS for the Panzar-Rosse test is that markets do not re-adjust instantaneously and that a dynamic model is a more realistic framework with which to estimate the H statistic. Goddard and Wilson (2009) argue that if the market is dynamic, then the fixed-effects estimator would bias the H statistic toward zero. Along similar lines, Hsieh and Lee (2010) argue that even if a static model with fixed effects might control for the characteristics of individual entities, it would still not take endogenous variables and dynamic adjustment into account. Delis et al. (2008) make the case for using GMM by respecifying the Panzar-Rosse model in a dynamic format and comparing the results from OLS and GMM side-by-side. In their study, they find that OLS can potentially *understate* the degree of market power.

When the dynamic nature of relationships is ignored, the predictable variation in the dependent variable is captured by serial correlation in the random disturbance term. In order to explore the potential of a dynamic model specification, the data was tested for serial correlation as proposed by Wooldridge and implemented by Drukker (2003) for each of the specified models for H^r, H^r_s and H^p. In all cases the null hypothesis holds that there is no serial correlation in the data, which suggests that the panel might not be dynamic in nature.

Even though the static framework appears to be supported by the data, the complexity of the market for development finance constitutes an opportunity for future research and this is addressed in Section 3.6.

3.5 Results

Following the methodology in Section 3.4, the Panzar-Rosse test uses standard OLS regression techniques.

3.5.1 OLS regression analysis

The full range of regression results are shown in Table 3.5 for the revenue model and revenue scaled by total assets. Robust standard errors are shown in brackets under each coefficient. Table 3.5 shows the coefficients for the factor inputs w_{FD}, w_{LB} and w_{FX} with various combinations of control factors in order to observe individual effects (models 1 to 7). The models for Equation 3.1 (model 8) and Equation 3.3 (model 10) are very similar and only differ from the inclusion of a control factor for total assets (CF_{TA}) and so are both presented in this table. As MDBs generally do not collect customer deposits, the impact of CF_{DPS} (the ratio of customer deposits to short-term funding) is potentially unreliable and so in models 9 and 11 this control factor is removed and is the preferred model. The exclusion of this control factor allows additional observations to be included and would otherwise exclude some important MDBs from the analysis such as the IFC and the EBRD. It is notable that including CF_{DPS} approximately halves the number of observations (Models 4, 8 & 10). All models are shown for completeness throughout but greater reliance will be place on results excluding CF_{DPS}. This slightly reduced model is shown with a minus sign (e.g. H^r compared to H^r-). The removal of this control factor does not significantly affect the fully-specified model.

TABLE 3.5: OLS regression for revenue (H^r) and scaled revenue (H_s^r)

Notes: This table summarises the coefficient estimates of the panel data models, outlined in Equation 3.1 and Equation 3.3. The model is estimated by means of the Pooled OLS estimation method. Robust standard errors are indicated in round parentheses. The dependent variable is total operating income (TI). The key explanatory variables are defined as follows. w_{FD} is the average funding rate calculated by dividing interest expense by total funding (IE/TF). w_{LB} is the average labour cost calculated by dividing personnel expenses by total assets (PE/TA). w_{FX} is the average cost of fixed capital calculated by dividing other non-interest expenses by fixed assets (ONIE/FA). The control variables are defined as follows. CF_{LNS} is the ratio of customer loans to total assets, CF_{ONEA} is the ratio of non-earning assets to total assets, CF_{DPS} is the ratio of customer deposits to short-term funding, CF_{EQ} is the equity to total assets ratio, CF_{STF} is the ratio of short-term funding to total funding, and $logTA$ denotes total assets. The sample period runs from 2010 to 2019. The cross-sectional dimension comprises multilateral development banks (MDBs), regional development banks (RDBs), development banks owned by a sovereign nation that operate on a cross-border basis (SOV/EDFI), as well as export-import banks (EXIM). Robust standard errors are reported in parenthesis. Asterisks ***,**,* denote the 1%, 5%, 10% significance levels, respectively.

	Models										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8) H^r	(9) H^r-	(10) H_s^r	(11) H_s^r-
w_{FD}	-0.550***	-0.490***	-0.550***	-0.679***	-0.511***	-0.723***	0.0474	-0.490***	-0.591***	0.385***	0.172***
	(0.108)	(0.105)	(0.109)	(0.172)	(0.105)	(0.112)	(0.0388)	(0.162)	(0.105)	(0.0598)	(0.0459)
w_{LB}	-0.830***	-0.826***	-0.829***	-0.658***	-0.521***	-0.753***	0.303***	-0.386***	-0.417***	0.239***	0.149***
	(0.0897)	(0.0833)	(0.0953)	(0.125)	(0.105)	(0.0996)	(0.0528)	(0.146)	(0.0975)	(0.0636)	(0.0518)
w_{FX}	-0.242***	-0.286***	-0.242***	-0.424***	-0.188***	-0.245***	0.00349	-0.431***	-0.256***	0.156***	0.0736**
	(0.0492)	(0.0539)	(0.0504)	(0.0778)	(0.0533)	(0.0579)	(0.0259)	(0.0987)	(0.0682)	(0.0437)	(0.0292)
CF_{LNS}		-0.257*						-0.640***	-0.600***	0.122*	0.0853
		(0.132)						(0.229)	(0.166)	(0.0644)	(0.0573)
CF_{ONEA}			-0.00151					0.105	0.139**	0.121***	0.113***
			(0.0638)					(0.0868)	(0.0685)	(0.0344)	(0.0284)
CF_{DPS}				-0.117**				-0.102*		0.0256	
				(0.0498)				(0.0567)		(0.0252)	
CF_{EQ}					-0.705***			-0.934***	-0.857***	0.318***	0.349***
					(0.126)			(0.217)	(0.148)	(0.0856)	(0.0591)
CF_{STF}						0.0123		-0.118	-0.142**	0.165***	0.113***
						(0.0504)		(0.107)	(0.0589)	(0.0441)	(0.0256)
$logTA$							0.878***			1.006***	0.945***
							(0.0241)			(0.0366)	(0.0303)
Const.	-0.582	-0.423	-0.583	0.0574	0.105	-0.769	-0.771***	0.337	0.0786	0.0320	-0.658***
	(0.550)	(0.533)	(0.551)	(0.753)	(0.579)	(0.546)	(0.236)	(0.872)	(0.572)	(0.293)	(0.223)
Obs.	419	406	418	221	419	350	419	213	337	213	337
R-sq.	0.340	0.344	0.340	0.239	0.394	0.316	0.882	0.371	0.418	0.888	0.891

TABLE 3.6: OLS regression for price (H^p)

Notes: This table summarises the coefficient estimates of the panel data models, outlined in Equation 3.4. The model is estimated by means of the Pooled OLS estimation method. Robust standard errors are indicated in round parentheses. The dependent variable is total operating income divided by total assets (TI/TA). The key explanatory variables are defined as follows. w_{FD} is the average funding rate calculated by dividing interest expense by total funding (IE/TF). w_{LB} is the average labour cost calculated by dividing personnel expenses by total assets (PE/TA). w_{FX} is the average cost of fixed capital calculated by dividing other non-interest expenses by fixed assets (ONIE/FA). The control variables are defined as follows. CF_{LNS} is the ratio of customer loans to total assets, CF_{ONEA} is the ratio of non-earning assets to total assets, CF_{DPS} is the ratio of customer deposits to short-term funding, CF_{EQ} is the equity to total assets ratio and CF_{STF} is the ratio of short-term funding to total funding. The sample period runs from 2010 to 2019. The cross-sectional dimension comprises multilateral development banks (MDBs), regional development banks (RDBs), development banks owned by a sovereign nation that operate on a cross-border basis (SOV/EDFI), as well as export-import banks (EXIM). Robust standard errors are reported in parenthesis. Asterisks ***,**,* denote the 1%, 5%, 10% significance levels, respectively.

	Models							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	H^p	H^p-
w_{FD}	0.131***	0.121***	0.133***	0.357***	0.116***	0.250***	0.379***	0.216***
	(0.0378)	(0.0379)	(0.0372)	(0.0583)	(0.0377)	(0.0453)	(0.0573)	(0.0409)
w_{LB}	0.461***	0.472***	0.407***	0.394***	0.348***	0.379***	0.235***	0.182***
	(0.0445)	(0.0475)	(0.0440)	(0.0495)	(0.0561)	(0.0450)	(0.0597)	(0.0481)
w_{FX}	0.0377	0.0491*	0.0495*	0.107**	0.0182	0.102***	0.152***	0.0928***
	(0.0293)	(0.0290)	(0.0299)	(0.0474)	(0.0264)	(0.0346)	(0.0455)	(0.0307)
CF_{LNS}		0.0727					0.117**	0.125***
		(0.0441)					(0.0547)	(0.0478)
CF_{ONEA}			0.116***				0.121***	0.112***
			(0.0257)				(0.0343)	(0.0285)
CF_{DPS}				0.0628***			0.0249	
				(0.0203)			(0.0240)	
CF_{EQ}					0.258***		0.310***	0.420***
					(0.0625)		(0.0815)	(0.0591)
CF_{STF}						0.0736***	0.164***	0.128***
						(0.0219)	(0.0415)	(0.0243)
Const.	-0.797***	-0.722***	-0.712***	-0.398	-1.049***	-0.748***	0.0338	-0.701***
	(0.250)	(0.270)	(0.239)	(0.276)	(0.260)	(0.250)	(0.291)	(0.230)
Obs.	419	406	418	221	419	350	213	337
R-sq.	0.353	0.359	0.382	0.318	0.389	0.352	0.426	0.472

A key observation in Table 3.5 is that the sign of all three price factors is negative in all the revenue models without scaling as a control factor (Models 1-6, 8-9). The statistical significance is very high at less than 1% across the board and is substantially unaffected by individual control factors. The elasticities for w_{FD} and w_{LB} are of similar magnitude and the effect of w_{FX} is strongly statistically significant but of lower magnitude.

Models 8 shows a fully specified Panzar-Rosse revenue model, model 9 shows the same minus the control factor CF_{DPS}. It is striking that in both cases the two strongly statistically significant control factors are the ratios of loans to total assets (CF_{LNS}) and the ratio of equity to total assets (CF_{EQ}). Both show strongly negative coefficients. The intuition for a negative coefficient for CF_{EQ} seems clear, a proportionately higher percentage on the balance sheet suggests a less leveraged business which would result in lower total revenue. This is perhaps not surprising given that a bank's capital ratio is at the heart of its business model. However, for DFIs this is particularly important because of the need to maintain the best possible credit ratings. It seems that a binding constraint for development finance could be the credit assessment criteria that are imposed upon them.

The strong negative coefficient for CF_{LNS} is both economically significant and has implications for capital mobilisation. The data suggests that the higher the proportion of the balance sheet is dedicated to customer loans, the lower that total income would be. A possible explanation for this would be if DFIs that endeavour to stretch the balance sheet more for clients are lending at inferior marginal rates. In other words, potentially pushing to the limit to maximise the balance sheet. This would be a bad omen for mobilising private sector institutions as it suggests that the universe of bankable projects might be right at the viable limit. The last variable for revenue model 9 is a 5% significance for control factor CF_{STF} which relates to the ratio of short-term funding to total funding. This shows a small negative coefficient that intuitively makes sense if a greater proportion of short-term funding is a sign of a less flexible balance sheet, and hence less long-term and more profitable lending.

The fully specified models linked to scaled revenue (10-11) introduce total assets (CF_{TA}) as a key control factor. The positive coefficients for the factor inputs w_{FD}, w_{LB} and w_{FX} when controlling for scale is a consistent result with the expectations of Bikker et al. (2012) that scaling turns the coefficients positive. The control factor for total assets (CF_{TA}) shows very strong significance at the 1% level and a very significant economic impact of approximately 1. This is not very surprising given the pattern shown in Figure 3.1 as this shows a strong relationship between size and revenues. A coefficient of 1 shows that revenue is proportionate to total assets. That being said, the control factors that appear to be significant for these models are the ratio of other non-earning assets to total assets (CF_{ONEA}) which is statistically significant at the 1% level but not economically large at 0.113 (model 11). The stronger effects come from CF_{EQ} which is the same as for the revenue model and reflects the equity position of the balance sheet, and also CF_{STF} relating to short- term funding. The link to short-term funding is statistically significant in the same direction as for the revenue models, but not very economically significant. One extra unusual feature of these models is a very high r-squared of 0.89 which suggests unusually good explanatory power and is consistent with previous research on the use of scaled models for the Panzar-Rosse test.

Table 3.6 is a similar analysis where the dependent variable is the ratio of total income to total assets (the price model in Equation 3.4). Models 7 and 8 are the fully specified models albeit with model 8 dropping the customer deposit control factor CF_{DPS}. These models again show very high levels of statistical significance for nearly all the factors except for CF_{DPS}. The direction of the effects is similar between these price models and the scaled revenue models. This again is predicted by Bikker et al. (2012) in their analysis of the various Market Power scenarios in Table 3.4.

3.5.2 OLS regression controlling for entity type

The next step is to consider the impact that controlling for entity type could have on the fully specified models. Table 3.7 shows 6 models for the revenue, scaled revenue and price equations and either fully-specified or reduced in the preferred model to

exclude control factor CF_{DPS} linked to customer deposits. The number of observations increases significantly with the exclusion of CF_{DPS} from 213 to 337 which on balance reduces the robust standard errors and having a material effect on the coefficients. This discussion will focus on models 4-6 which are the preferred set of models. It is notable that controlling for entity type increases the r-squared for the revenue model (4) to 0.705 (from 0.418) and the price model (6) to 0.536 (from 0.472).

The revenue model (model 4) shows strongly statistically significant coefficients for the factor inputs w_{FD}, w_{LB} and w_{FX} which is consistent with previous results. The impact of the proportion of equity on the balance sheet (CF_{EQ}) is also consistent with the previous results and is strongly negative. This reflects the loss of revenue from running a balance sheet that has a large proportion of equity capital. None of the other control factors (CF_{LNS}, CF_{ONEA}, CF_{STF}) show any significance in model 4. However, the entity type does appear to differentiate for RDBs and SOV/EDFI when compared to the base case of the MDBs. The coefficients for RDBs and SOV/EDFI of -1.849 and -2.188 respectively suggests that these entities make less revenues than MDBs and EXIMs when controlling for other factors. When considering the scaled revenue (Model 5) and price models (Model 6), RDBs look very similar to the base case of MDBs, but both SOV/EDFI and EXIM have statistically significant positive coefficients respectively of 0.420 and 0.581 for Model 5, and 0.536 and 0.603 for Model 6. This suggests that these entities produce more revenue per unit of assets than the MDBs.

Using risk appetite as a lens with which to view the results could explain some of the relative differences to MDBs. For models 5 & 6, the fact that SOV/EDFI and EXIM achieve higher revenues per unit of total assets could be that they seek higher margins for lending than MDBs/RDBs. Given that some of the data for MDBs/RDBs might contain some concessional activity that would make sense. In model 4, it suggests a reduction in total revenues from being an RDB or SOV/EDFI. It is less easy to see the intuition with this in a way that is consistent with the previous argument on risk. It would suggest that these entities lend to less risky projects overall. Is it probable that SOV/EDFIs can lend more profitably to less risky projects compared to other types of

TABLE 3.7: OLS regression by entity type

Notes: This table summarises the coefficient estimates of all models both fully-specified (Models 1-3), and minus the CF_{DPS} control for customer deposits (Models 4-6). The baseline entity type is multi-lateral development banks (MDB). The model is estimated using the Pooled OLS estimation method. Robust standard errors are indicated in parentheses. The explanatory variables are as follows. w_{FD} is the average funding rate calculated by dividing interest expense by total funding (IE/TF). w_{LB} is the average labour cost calculated by dividing personnel expenses by total assets (PE/TA). w_{FX} is the average cost of fixed capital calculated by dividing other non-interest expenses by fixed assets (ONIE/FA). The control variables are defined as follows. CF_{LNS} is the ratio of customer loans to total assets, CF_{ONEA} is the ratio of non-earning assets to total assets, CF_{DPS} is the ratio of customer deposits to short-term funding, CF_{EQ} is the equity to total assets ratio and CF_{STF} is the ratio of short-term funding to total funding. The sample period runs from 2010 to 2019. Additional controls for entity type show regional development banks (RDBs), development banks owned by a sovereign nation that operate on a cross-border basis (SOV/EDFI), as well as export-import banks (EXIM). Robust standard errors are reported in parenthesis. Asterisks ***,**,* denote the 1%, 5%, 10% significance levels, respectively.

Models	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	H^r	H^r_s	H^p	H^r-	H^r_s-	H^p-
w_{FD}	0.197**	0.508***	0.513***	-0.302***	0.214***	0.237***
	(0.0863)	(0.0639)	(0.0610)	(0.0830)	(0.0476)	(0.0438)
w_{LB}	-0.661***	0.0776	0.0885	-0.504***	0.0900*	0.116***
	(0.0853)	(0.0791)	(0.0566)	(0.0769)	(0.0507)	(0.0434)
w_{FX}	0.0893	0.202***	0.204***	-0.158***	0.0970***	0.108***
	(0.0720)	(0.0388)	(0.0400)	(0.0481)	(0.0286)	(0.0282)
CF_{LNS}	-0.214*	0.0630	0.0671	-0.161	0.0887*	0.0998**
	(0.119)	(0.0604)	(0.0561)	(0.123)	(0.0494)	(0.0459)
CF_{ONEA}	0.114**	0.104***	0.104***	0.0346	0.0893***	0.0917***
	(0.0490)	(0.0305)	(0.0304)	(0.0462)	(0.0261)	(0.0259)
CF_{DPS}	0.159***	0.0665***	0.0652***			
	(0.0473)	(0.0213)	(0.0214)			
CF_{EQ}	-0.0259	0.775***	0.786***	-0.659***	0.575***	0.630***
	(0.198)	(0.109)	(0.112)	(0.116)	(0.0668)	(0.0629)
CF_{STF}	0.150**	0.0763*	0.0752*	0.0407	0.104***	0.107***
	(0.0713)	(0.0436)	(0.0432)	(0.0374)	(0.0231)	(0.0227)
$logTA$		0.985***			0.958***	
		(0.0578)			(0.0331)	
RDB	-2.375***	-0.272	-0.241	-1.849***	-0.0220	0.0590
	(0.263)	(0.253)	(0.233)	(0.159)	(0.138)	(0.126)
SOV/EDFI	-2.615***	0.617**	0.664***	-2.188***	0.420***	0.536***
	(0.254)	(0.288)	(0.245)	(0.158)	(0.137)	(0.120)
EXIM	0.758**	0.967***	0.970***	0.0771	0.581***	0.603***
	(0.327)	(0.251)	(0.251)	(0.174)	(0.120)	(0.117)
Constant	4.870***	-0.0933	-0.166	2.315***	-1.007***	-1.154***
	(0.520)	(0.423)	(0.361)	(0.444)	(0.253)	(0.254)
Observations	213	213	213	337	337	337
R-squared	0.790	0.909	0.533	0.705	0.903	0.536

institutions? It is possible, but it suggests that a more forensic analysis of loan data is needed to unpack what is happening. It is also fair to note that there are relatively few entities in the model per entity category which could result in some over-fitting and high r-squared results.

Using the fully specified model and controlling for entity, the H statistics can be recalculated. Table 3.8 shows the sum of the factor inputs w_{FD}, w_{LB} and w_{FX} to calculate the H statistic for all three models, including and excluding the control factor for customer deposits. The preferred models (4, 5 & 6) show very clear results. For the revenue model (4) the H statistic is -0.9643 and is significantly different to 0. The scaled revenue model (5) and the price model (6) show H statistics of 0.4006 and 0.4612 that are statistically significantly at the 1% level in the range of 0 to 1 which will assist later when evaluating the Market Power case as described in Table 3.4. There are additional tests that need to be performed in order to narrow down the potential competitive conditions.

TABLE 3.8: Panzar-Rosse test values - all models

The values for H shown in this table are from a full model controlling for entity type as in Table 3.7. H is the sum of the three factor input coefficients: w_{FD} is the average funding rate calculated by dividing interest expense by total funding (IE/TF). w_{LB} is the average labour cost calculated by dividing personnel expenses by total assets (PE/TA). w_{FX} is the average cost of fixed capital calculated by dividing other non-interest expenses by fixed assets (ONIE/FA). The probability of H=0 or H=1 is tested in each case.

Models		(1)	(2)	(3)	(4)	(5)	(6)
		H^r	H^r_s	H^p	H^r-	H^r_s-	H^p-
Panzar-Rosse	H	-0.3748	0.7880	0.8052	-0.9643	0.4006	0.4612
	p (H = 0)	0.0164	0.0000	0.0000	0.0000	0.0000	0.0000
	p (H = 1)	0.0000	0.0408	0.0091	0.0000	0.0000	0.0000

3.5.3 Additional regression tests

The tests for market equilibrium using H^{RoA} are described in Section 3.4.2 and the results are shown in Table 3.9. Results are shown for a fully specified model and the preferred model dropping CF_{DPS} as it relates to customer deposits (models 1 & 2). The same two models are then shown using entity type as an additional control factor (models 3 & 4). The key test is that if H^{RoA} is zero, the market can be considered to be in long-term equilibrium. A negative result would suggest that the market is only in

short-term equilibrium that that market entrants might still be anticipated, or that the market is monopolistic or oligopolistic.

For the two models including CF_{DPS} (models 1 & 3), the H statistic for return on assets is not significantly different from 0 which suggests that the development finance market is in long-term equilibrium. For the two models excluding CF_{DPS} (models 2 & 4) which allow more observations to flow, model 2 cannot be rejected at the 1% level and model 4 cannot be rejected at the 5% level. However, as the H statistic estimate is a positive number it is most unlikely to be negative in practice and imply any potential instability. So, while the test is not conclusive, a positive H statistic does not suggest that the market is therefore in disequilibrium.

The final test required in order to place the analysis in the context of Table 3.4 is to estimate the average cost curve for DFIs. It is not practical to observe this directly. In order to build a picture of what it might look like, a reasonable option is to run regression of the log of average costs controlling for entity type as shown in Table 3.10. As with the previous analyses, results are given both including and excluding CF_{DPS} for reasons previously stated.

The key coefficient for this regression is to refer to total assets ($logTA$) as this is the metric for the quantity of 'production', being the size of the bank balance sheet. There is a significant negative coefficient as measured by the t-statistic which indicates that the negative relationship is statistically significant at the 1% level. A test for a quadratic relationship by taking the square of $logTA$ was also statistically significant at the 1% level although does not materially increase average costs. It does, however, imply that there are major economies of scale with regard to costs. This can be seen by inspection of the data, the linear regression and the STATA lowess estimate as shown graphically in Figure 3.2. There is a flatting out of the estimated cost curve for larger institutions but there is no evidence to suggest that the average cost curve could be U-shaped.

TABLE 3.9: Return on Assets regression models

Notes: This table summarises the coefficient estimates of four model variations with Return on Assets as the dependent variable. The model is estimated by means of the Pooled OLS estimation method. The key explanatory variables are defined as follows. w_{FD} is the average funding rate calculated by dividing interest expense by total funding (IE/TF). w_{LB} is the average labour cost calculated by dividing personnel expenses by total assets (PE/TA). w_{FX} is the average cost of fixed capital calculated by dividing other non-interest expenses by fixed assets (ONIE/FA). The control variables are defined as follows. CF_{LNS} is the ratio of customer loans to total assets, CF_{ONEA} is the ratio of non-earning assets to total assets, CF_{DPS} is the ratio of customer deposits to short-term funding, CF_{EQ} is the equity to total assets ratio and CF_{STF} is the ratio of short-term funding to total funding. The sample period runs from 2010 to 2019. Additional controls for entity type show regional development banks (RDBs), development banks owned by a sovereign nation that operate on a cross-border basis (SOV/EDFI), as well as export-import banks (EXIM). H^{RoA} is the sum of the three factor input coefficients with RoA as the dependent variable. The probability of H=0 is tested in each case. DF is the degrees of freedom. Robust standard errors are reported in parenthesis. Asterisks ***,**,* denote the 1%, 5%, 10% significance levels, respectively.

Models	(1)	(2)	(3)	(4)
w_{FD}	0.251***	0.141*	0.269***	0.124
	(0.0934)	(0.0748)	(0.0906)	(0.0775)
w_{LB}	0.111	0.158**	0.0918	0.0717
	(0.0711)	(0.0780)	(0.0848)	(0.0803)
w_{FX}	0.00849	0.00850	0.0332	0.0617*
	(0.0401)	(0.0320)	(0.0516)	(0.0334)
CF_{LNS}	0.0106	0.0663	0.0280	0.0934
	(0.0693)	(0.0671)	(0.0739)	(0.0658)
CF_{ONEA}	0.00253	-0.00891	-0.00463	-0.0461
	(0.0507)	(0.0458)	(0.0531)	(0.0471)
CF_{DPS}	0.0241		0.0352	
	(0.0320)		(0.0339)	
CF_{EQ}	0.208	0.427***	0.248	0.588***
	(0.129)	(0.0947)	(0.201)	(0.121)
CF_{STF}	0.185***	0.189***	0.197***	0.191***
	(0.0674)	(0.0457)	(0.0703)	(0.0432)
RDB			0.0692	0.417**
			(0.346)	(0.202)
SOV/EDFI			0.0222	0.404*
			(0.330)	(0.209)
EXIM			0.168	0.794***
			(0.361)	(0.210)
Constant	2.144***	2.462***	2.100***	1.573***
	(0.392)	(0.386)	(0.511)	(0.486)
Observations	193	304	193	304
R-squared	0.174	0.259	0.178	0.307
H^{RoA}	0.3702	0.3069	0.3939	0.2570
p (H = 0)	0.0031	0.0079	0.0019	0.0309
DF	184	296	181	293

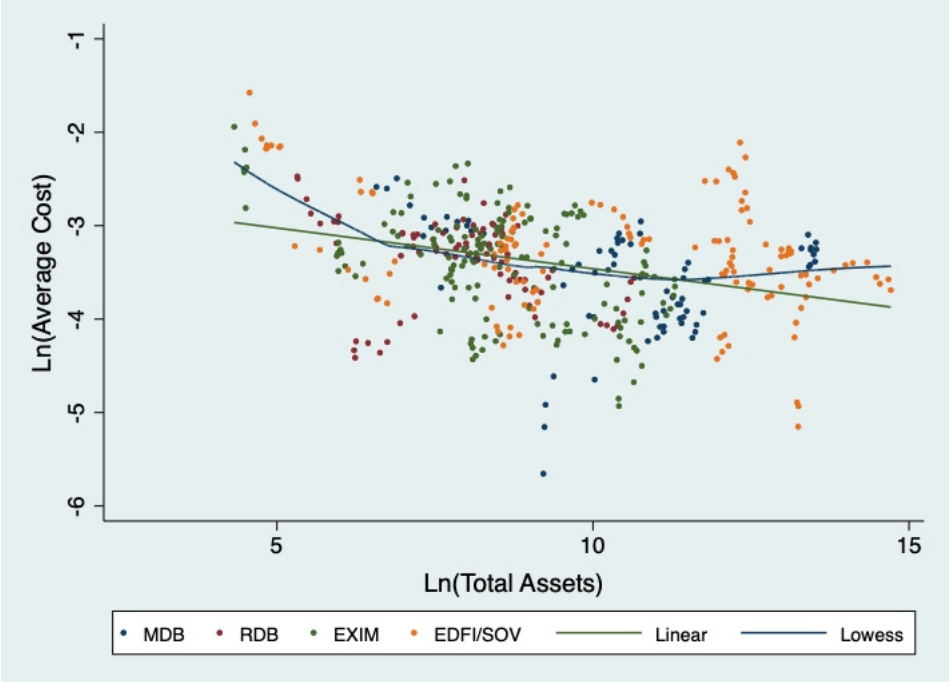
TABLE 3.10: Average Cost regressions

The regression uses a dependent variable of the natural log of Average Costs (AC is the sum of interest expenses (IE), personnel expenses (PE) and other non-interest expenses (ONIE)), against all factors in the fully specified model. The base case entity is multi-lateral development banks. The lower table removes CF_{DPS} from the regression. The log of Total Assets ($logTA$) is the key coefficient as this represents the 'quantity' of production and the chart of AC. The log-log graph of AC against TA is shown in Figure 3.2. The sample period runs from 2010 to 2019. Robust standard errors are reported in column 3. P>t shows the probability of a coefficient being equal to zero. The 95% confidence interval is shown in the final two columns.

Log of Avg. Cost	Coef.	Robust Std Err.	t	P>t	95% Conf Int.	
CF_{LNS}	-0.0418	0.0518	-0.8100	0.4200	-0.1438	0.0603
CF_{ONEA}	0.0674	0.0293	2.3000	0.0220	0.0096	0.1252
CF_{DPS}	0.0074	0.0210	0.3500	0.7260	-0.0340	0.0487
CF_{EQ}	-0.1137	0.0724	-1.5700	0.1180	-0.2565	0.0291
CF_{STF}	0.0161	0.0408	0.3900	0.6940	-0.0644	0.0966
$logTA$	-0.1468	0.0313	-4.6900	0.0000	-0.2084	-0.0851
RDB	-0.2893	0.1913	-1.5100	0.1320	-0.6665	0.0879
SOV/EDFI	-0.3849	0.2202	-1.7500	0.0820	-0.8190	0.0492
EXIM	0.1392	0.1875	0.7400	0.4590	-0.2305	0.5089
Constant	-1.7462	0.4084	-4.2800	0.0000	-2.5513	-0.9411

Log of Avg. Cost	Coef.	Robust Std Err.	t	P>t	95% Conf Int.	
CF_{LNS}	-0.0008	0.0534	-0.0100	0.9880	-0.1058	0.1042
CF_{ONEA}	0.0663	0.0236	2.8100	0.0050	0.0199	0.1127
CF_{EQ}	-0.2548	0.0619	-4.1200	0.0000	-0.3766	-0.1330
CF_{STF}	0.0252	0.0273	0.9200	0.3570	-0.0286	0.0790
$logTA$	-0.1887	0.0180	-10.4800	0.0000	-0.2241	-0.1533
RDB	-0.1680	0.0834	-2.0200	0.0450	-0.3319	-0.0040
SOV/EDFI	-0.4061	0.0938	-4.3300	0.0000	-0.5905	-0.2216
EXIM	0.1565	0.0911	1.7200	0.0870	-0.0226	0.3357
Constant	-1.5997	0.1798	-8.9000	0.0000	-1.9534	-1.2460

FIGURE 3.2: Average Cost to Total Assets by entity type



3.5.4 Assessing the competitive environment

The final step is to pull all the different tests together to evaluate the overall competitive conditions. Table 3.11 is an extension of Table 3.4 showing the range of potential market environments based upon prior research and the propositions that they put forward in their paper. This table contains two extra columns to show clearly whether a Market Power scenario is rejected and the reasons to justify this rejection.

TABLE 3.11: Evaluation of market power scenarios based on modelled values for the H statistics

Notes: This table is an extended version of Table 3.4 and includes two extra columns to explain whether a Market Power case is rejected and the reasons for doing so. For each Market Power case, there is an expected average cost (AC) function and predicted values of H^r, H^r_s and H^p. The Reject column states whether scenario 2 is consistent with a given market power case and it can be shown that only one case is valid. The final column 'Reason' explains the grounds for rejection of a given market power. Only one case (Oligopolistic competition, flat AC curve) can be valid for scenario 2 because: 'H' values are not equal to 1, the RoA test shows the market to be in long run equilibrium, the 'AC' function is not U-shaped, there are multiple firms in the market.

Market Power	AC Function	H^r	H^r_s	H^p	Reject	Reason
Long-run competition	U-shaped	=1	=1	=1	Yes	H≠1
Long-run competition	Flat	<0, from 0-1	=1	=1	Yes	H≠1
Short-run competition	U-shaped	<0, from 0-1	>0	>0	Yes	RoA stable, AC flat
Monopoly	U-shaped	<0	>0	>0	Yes	AC flat
Monopoly	Flat	<0	>0	>0	Yes	Multiple firms exist
Oligopoly	U-shaped	<0	>0	>0	Yes	AC flat
Oligopoly	Flat	<0	>0	>0	-	-
Monopolistic competition	U-shaped	<0, from 0-1	>0	>0	Yes	AC flat
Constant markup pricing	Flat & U-shaped	<0	=1	=1	Yes	H≠1

In this analysis cases are rejected for the following reasons:

- Both long-run competition cases require the H statistics for H^r_s and H^p to be equal to 1, as does the last case for constant markup pricing. The evidence from Table 3.8 does not support this;
- The case for short-run competition seems highly unlikely. Bikker et al. (2012) suggest that H^{RoA} ought to be negative if there is short-run competition. In this instance, the H^{RoA} test is statistically positive at the 5% level using the preferred model and reinforces the idea that there are significant economies of scale in development lending. The average cost analysis also appears to rule this out;

- The analysis for the shape of the average cost curve seems conclusive enough to permit the U-shaped AC Function to be ruled out;
- The monopoly case seems unrealistic given that DFIs are generally active in many countries and there is significant overlap in operations.

This process of deduction leaves a single most likely outcome which is that the development finance market is an oligopoly with a downward sloping demand curve. That of itself is not necessarily an anti-competitive environment, but it does have implications for crowding in private sector finance which will be addressed in Section 3.6.

3.5.5 Further statistical considerations and robustness

The development bank financial data has two characteristics that have the potential to reduce the value of introducing fixed effects for individual institutions into a panel data analysis. The first characteristic is that the data is relatively static over time at the level of an individual bank. This is because the long-term nature of development loan portfolios leads to slower turnover of assets on the balance sheet. Income in any given year stems mainly from loans made in previous years. For instance, Figure 3.1 is indicative of significant variations between institutions, albeit a limited variation over time for a given bank. The second reason to doubt the value of using fixed effects owes to the operational convergence of business models as described in Section 3.2.3. Convergence between entity types can increase multicollinearity in the data undermining the value of the fixed-effects estimation method. The differences between banks are more likely to be apparent when comparing across entity types, meaning that MDBs or NDBs could function similarly as groups, but each group has its own distinctive operating characteristics.

A variety of robustness checks were performed by changing the mix of entity types in the regression, by applying fixed effects, separating the data set into pre- and post-2015 and finally by controlling for the regional location of the DFIs' headquarters. The significance of 2015 as highlighted in Section 3.1 is that this was the year of the

Antalya Summit at which the G20 instructed major MDBs to mobilise private sector capital. Controlling by region of domicile accounts for the possibility that there might be different regional imperatives even though many of the MDBs share similar sovereign shareholders.

Table 3.12 contains a full set of H statistics for the six models shown with robust standard errors and controlling for entity type (as in Table 3.7). The R^2 and F-test are reported for each model and scenario.

Focusing on H^r initially in models 1 & 4, H is broadly negative across all scenarios. For the preferred model 4, H is statistically less than zero in all scenarios except for Fixed Effects (scenario D). For model 1, there are other cases where H is not significantly different from zero although as this model controls for customer deposits and therefore excludes several major DFIs it is a less reliable representation of development finance. For fixed effects (model 4, scenario D), the R^2 (within) is estimated at 0.0422 and the F-test probability is 0.1643. This suggests that controlling for specific entities is not statistically helpful and perhaps unreliable as explained above.

The results are broadly similar for H^r_s and H^p in that both measures are statistically between 0 and 1 with a couple of exceptions. For scenario C (MDB/RDB only), H^r_s turns negative which is not consistent with the theory and H^p is not statistically different from zero. For scenario D (Fixed effects) model 5 estimates a value for H^r_s that is not statistically different from zero. Breaking the data set into the periods before and after the events of 2015 (scenarios E & F) makes no real difference to the outcome, and neither does separation of the DFIs by region of domicile (scenario G).

The landscape of values for H is broadly consistent with the basic pooled OLS model which shows that H^r is statistically negative, and that H^r_s and H^p are generally between 0 and 1. This gives further support the conclusion drawn in Table 3.11 about the potential competitive conditions in development finance. The results for fixed effects leave a question mark over whether there is an improvement that can be made to a model that considers fixed effects by entity. However, this might require a

different approach to using Panzar-Rosse to test for competitive conditions and is beyond the scope of this analysis.

TABLE 3.12: H statistics and standard errors with varying scenarios

The values for the Panzar-Rosse H statistic shown in this table are for all models controlling for entity type as in Table 3.7 with robust errors. The probability of H=0 or H=1 is tested in each case. The R^2 is reported in each case and the F-test for the overall model. The first set of values for H shown in this table are replicated from Table 3.8. Scenarios A, B & C vary the mix of entity types included in the test. Scenario D tests for fixed effects. Scenarios E & F separate the data into pre- and post-2015. Finally scenario G controls for region in which they are headquartered.

	Models	(1)		(2)		(3)		(4)		(5)		(6)	
Scenario		H^r	$\sigma(H^r)$	H^r_s	$\sigma(H^r_s)$	H^p	$\sigma(H^p)$	H^r-	$\sigma(H^r-)$	H^r_s-	$\sigma(H^r_s-)$	H^p-	$\sigma(H^p-)$
A: All entities	H	-0.3748	0.1549	0.7880	0.1029	0.8052	0.0739	-0.9643	0.1212	0.4006	0.0784	0.4612	0.0587
	p(H = 0)	0.0164		0.0000		0.0000		0.0000		0.0000		0.0000	
	p(H = 1)	0.0000		0.0408		0.0091		0.0000		0.0000		0.0000	
	R^2	0.7901		0.9090		0.5328		0.7047		0.9035		0.5364	
	Prob > F	0.0000		0.0000		0.0000		0.0000		0.0000		0.0000	
B: All minus EXIM	H	-0.0996	0.1914	0.7768	0.1651	0.8410	0.1269	-0.7884	0.1250	0.2430	0.0980	0.3754	0.0803
	p(H = 0)	0.6038		0.0000		0.0000		0.0000		0.0140		0.0000	
	p(H = 1)	0.0000		0.1793		0.2130		0.0000		0.0000		0.0000	
	R^2	0.7792		0.8839		0.5534		0.7686		0.8950		0.5481	
	Prob > F	0.0000		0.0000		0.0000		0.0000		0.0000		0.0000	
C: MDB/RDB Only	H	-1.8790	0.4227	-0.6666	0.5763	0.0875	0.3485	-1.0875	0.1428	-0.3410	0.1056	0.1226	0.1309
	p(H = 0)	0.0001		0.2548		0.8031		0.0000		0.0017		0.3510	
	p(H = 1)	0.0000		0.0064		0.0126		0.0000		0.0000		0.0000	
	R^2	0.8710		0.8896		0.6597		0.8300		0.9024		0.4281	
	Prob > F	0.0000		0.0000		0.0000		0.0000		0.0000		0.0000	
D: All entities Fixed Effects	H	-0.1138	0.1829	0.2286	0.2475	0.2869	0.2376	-0.0048	0.1372	0.2189	0.1394	0.2656	0.1445
	p(H = 0)	0.5388		0.3635		0.2369		0.9723		0.1236		0.0729	
	p(H = 1)	0.0000		0.0041		0.0055		0.0000		0.0000		0.0000	
	R^2 (within)	0.0796		0.3215		0.1121		0.0422		0.3526		0.1787	
	Prob > F	0.0000		0.0000		0.0000		0.1643		0.0000		0.0000	
E: All entities < 2015	H	-0.2400	0.2636	0.8344	0.1410	0.7933	0.1124	-0.9543	0.1683	0.4308	0.1136	0.4948	0.0792
	p(H = 0)	0.3649		0.0000		0.0000		0.0000		0.0002		0.0000	
	p(H = 1)	0.0000		0.2428		0.0690		0.0000		0.0000		0.0000	
	R^2	0.7795		0.9236		0.5877		0.7230		0.9215		0.6287	
	Prob > F	0.0000		0.0000		0.0000		0.0000		0.0000		0.0000	
F: All entities>= 2015	H	-0.2486	0.1668	0.7824	0.1850	0.9130	0.1296	-0.9895	0.1653	0.3537	0.1090	0.4188	0.0913
	p(H = 0)	0.1397		0.0001		0.0000		0.0000		0.0014		0.0000	
	p(H = 1)	0.0000		0.2426		0.5039		0.0000		0.0000		0.0000	
	R^2	0.8412		0.9007		0.5088		0.7118		0.8871		0.4444	
	Prob > F	0.0000		0.0000		0.0000		0.0000		0.0000		0.0000	
G: By Region	H	-0.9913	0.2875	0.7571	0.0911	0.7374	0.0810	-0.7942	0.1870	0.4896	0.0713	0.5852	0.0670
	p(H = 0)	0.0007		0.0000		0.0000		0.0000		0.0000		0.0000	
	p(H = 1)	0.0000		0.0083		0.0014		0.0000		0.0000		0.0000	
	R^2	0.4218		0.9111		0.5433		0.4807		0.9070		0.5440	
	Prob > F	0.0000		0.0000		0.0000		0.0000		0.0000		0.0000	

3.6 Conclusions

The international community has committed to delivering the United Nations Sustainable Development Goals by 2030 and delivering under the Paris Agreement on climate change. The financial world has been left in no doubt that the private sector needs to be part of the solution. The G20 has made that explicit and the MDBs are actively cooperating to mobilise private capital in support of those goals. Motivating private capital to participate in development finance on the scale that is required according to the United Nations ('billions to trillions') will require a realignment of economic incentives, potential adjustments of risk appetite and changes in regulation and government policy.

Reshaping the development finance market on such a grand scale requires a clear view of the competitive economic forces affecting it. This research addresses this challenge directly. The competitive conditions for development finance will affect the probability of succeeding in mobilising the private sector using existing tools and techniques. This paper shows that the best explanation for the competitive conditions in development finance is a state of competitive oligopoly in long-term equilibrium which would be characterised by a downward-sloping demand curve.

The traditional implications of a competitive oligopoly would be that incumbent firms can tacitly cooperate and stifle competition. This could result in limited new market entrants, less innovation and higher prices.

Although, from this analysis, we have the economic conditions of an oligopoly, there is no obvious anti-competitive intent. MDBs collaborate together to try and increase the volume of bankable projects and are positively encouraging private sector banks to enter the development finance market. The barriers to entry would ideally be as low as possible to encourage more competition and lending. However, the barriers are not just economic (e.g. pricing, capital), technical (e.g. contracts, legal systems) or from MDBs solving for information asymmetries. The large international private sector banks also need to have a vested interest to lend into developing countries in

line with their corporate strategy and in support of their chosen client base. That is a harder gap to bridge.

Another practical economic implication of a downward-sloping demand curve is that the market is unlikely to support crowding-in of private sector capital on the scale that is required to meet the SDGs by relying on traditional loan syndication where MDBs take a similar economic position to private sector banks. Expanding loan funding on a significant scale for development finance could be counterproductive as increased competition might depress pricing and actively discourage private sector firms to participate. This could inhibit, rather than encourage, mobilisation. It suggests that the stock of 'bankable' projects is too limited and that something more innovative will be required to scale the necessary private sector financial investment.

The answer seems to point toward MDBs focusing more on how they can make different contributions to transactions. This suggests that efforts to create co-investment funds and similar 'vertical' risk sharing structures are less likely to succeed. Conversely, 'horizontal' risk sharing structures such as credit enhancement or securitisation do create differentiated economic roles for IFIs and the private sector, although we should recognise that these also have their limitations and will not always be the correct solution.

The Harmonized Framework for Additionality in Private Sector Operations (Multilateral Development Banks, 2018a) is a useful guide for how all IFIs could choose to allocate their resources toward direct and indirect efforts to mobilise the private sector. Indirect mobilisation perhaps has the most scope for IFIs to leverage their special position as it has the least impact on a bank's balance sheet. Direct mobilisation is a useful mechanism for IFIs to pilot new ideas and test them in the markets.

It should be stressed that many IFIs/MDBs are already focused on mobilisation and striving to discover how to increase private sector mobilisation. At the same time we should also acknowledge that as long as a significant funding shortfall exists, there are still more solutions to be discovered. DFIs and governments are likely to continually have to refine their approach including considering more aggressive government

intervention through regulation or fiscal policy to deal with economic externalities. There is certainly scope for future research into the interaction between mobilisation methods and competitive structures.

This type of competitive analysis has not been applied to development finance before even though it has frequently been used for assessing competition in domestic financial markets. This might be because non-structural tests have often been used to assess potential issues of market conduct and efficiency and DFIs are not thought of in that context. DFIs do not collude in the way that bank regulators are concerned about commercial banks and abuse of market power. MDBs in particular certainly cooperate and coordinate given that they are mandated to do so by the G20. They aim to work as a group with common goals and avoid competition, but this is not a market conduct issue in the sense that would apply to private sector banks. Do DFIs actively compete? There are certainly pressures for DFIs to deploy finance internationally where their operations can overlap which might create competition to lend. On the other hand, the coordination of activity might mitigate this risk. This is inconclusive and needs further research. As highlighted in Section 3.2.2, development lending at both a sovereign and private sector level cannot really be separated from local macroeconomic and regulatory conditions. Further research could evaluate the impact of DFI mobilisation (through syndicated and conditional lending) relative to the debate around market competition-stability versus competition-fragility.

Another important finding that this analysis reinforces is the dependence that DFIs have on their capital structure. Throughout Section 3.5 we see that the ratio of equity to total assets has a highly significant impact on the financial outcomes for DFIs. The combination of credit rating assessment methods, a desire to maintain the highest rating possible and the risk profile of lending portfolios with regard to concentrations and country risk conspire together to make this a binding constraint. It is not clear that private sector lenders and investors would be able to share the burden or diversify away this type of risk which is another potentially significant challenge for mobilising private capital. This argues for a more detailed study of risk appetite in developing markets across the public and private sector.

As noted in Section 3.4.4, the data appears to support a static model although the complexity of development finance presents opportunities for future research. This could involve the exploration of more advanced models from the conceptual/theoretical perspective, which might, for instance, account for less tangible drivers of competitive conditions, such as corporate governance in MDBs, the preferred creditor status of MDBs, political interests embedded in development finance projects, or strategic considerations of the governments of donor countries.

These conclusions point to an operating model where the distinct roles of DFIs and private sector banks are maintained. More thought should be given as to how additionality can be leveraged. We already see this in project finance transactions and conceptually this comes through the 'political umbrella' that the DFIs bring to financing and preferred creditor status. However, we still do not know enough about how these intangible qualities are valued and treated by the private sector which is beyond the scope of this paper and would be a worthy subject for future study.

3.A List of entities

TABLE 3.13: List of entities selected for the Panzar-Rosse analysis

Category	Name	Fitch ID
MDB	International Finance Corporation	135922
MDB	Multilateral Investment Guarantee Agency	1007550
MDB	African Development Bank	107349
MDB	Asian Development Bank	140172
MDB	Asian Infrastructure Investment Bank	1473722
MDB	European Bank for Reconstruction and Development	140235
MDB	European Investment Bank	104895
MDB	European Investment Fund	143426
MDB	Inter-American Development Bank	108096
MDB	Inter-American Investment Corporation (IDB Invest)	108098
MDB	Islamic Corporation for the Development of the Private Sector	1006044
MDB	Islamic Development Bank	108116
MDB	New Development Bank	1493075
RDB	East African Development Bank	140227
RDB	Fondo Financiero para el Desarrollo de la Cuenca del Plata	1068915
RDB	Black Sea Trade and Development Bank	107585
RDB	Banque Ouest Africaine de Developpement	1461858
RDB	Central American Bank for Economic Integration (CABEI)	140218
RDB	Corporacion Andina de Fomento (CAF)	116633
RDB	Eastern and Southern African Trade and Development Bank (TDB)	1003581
RDB	Eurasian Development Bank	1104338
RDB	Gulf Investment Corporation G.S.C.	115002
SOV	Development Bank of Japan Inc.	1003299
SOV	Agence Francaise de Developpement (AFD)	112173
SOV	Caisse des Depots et Consignations (CDC)	111731
SOV	Cassa depositi e prestiti SpA	1009074
SOV	China Development Bank	112981
SOV	Industrial Bank of Korea	111716
SOV	KfW	108758
SOV	Korea Development Bank	111757
EDFI	Societe De Promotion Et De Participation Pour La Cooperation Economique	108421
EDFI	CDC Group PLC	1002134

EDFI	Compania Espanola de Financiacion del Desarrollo, COFIDES S.A., S.M.E.	1002580
EDFI	DEG - Deutsche Investitions- und Entwicklungsgesellschaft mbH	1003162
EDFI	Norfund	1384351
EDFI	Oesterreichische Entwicklungsbank AG	1286750
EDFI	SOFID-Sociedade Para O Financiamento Do Desenvolvimento - Instituicao Financeira De Credito, S.A.	1464072
EDFI	Simest SpA	1497740
EDFI	Nederlandse Financierings-Maatschappij voor Ontwikkelingslanden N.V.	107969
EXIM	AB Svensk Exportkredit	105940
EXIM	Arab Trade Financing Program	1000794
EXIM	Export Development Bank of Egypt S.A.E	112386
EXIM	Export Development Bank of Iran	1003956
EXIM	Export Development Canada	1003154
EXIM	Export-Import Bank of Romania-EximBank S.A.	1501503
EXIM	Exportno-Importna Banka Slovenkej Republiky	1003967
EXIM	KLP Kreditt AS	1008305
EXIM	National Export-Import Bank of Jamaica	1003964
EXIM	The Export-Import Bank of the Republic of China	1003691
EXIM	Trade and Investment Development Corporation of the Philippines	1094810
EXIM	African Export-Import Bank (Afreximbank)	1000130
EXIM	Export-Import Bank of India (EXIM)	150393
EXIM	Export-Import Bank of Malaysia Berhad	1003961
EXIM	Export-Import Bank of Thailand	112104
EXIM	Finnvera plc	1004277
EXIM	Hungarian Export-Import Bank Private Limited Company	108065
EXIM	Lembaga Pembiayaan Ekspor Indonesia	1003713
EXIM	MFB Hungarian Development Bank Private Limited Company	1007172
EXIM	The Export-Import Bank of China	1003975
EXIM	The Export-Import Bank of Korea	112445
EXIM	Turkiye Ihracat Kredi Bankasi A.S.	1011472

Chapter 4

Qualitative Data Collection and Coding

4.1 Introduction

The purpose of this chapter is to explain the qualitative data collection methods and coding exercise for the set of interviews that form the basis of the next three qualitative chapters (Chapter 5, Chapter 6 and Chapter 7). This section has been separated out to avoid repetition, as the data collection from the interviews and coding is common to all three chapters. Instead, each of the following three chapters includes a methods section that is unique to that individual paper and this chapter is incorporated by reference.

4.2 Interview data collection

The research was conducted in collaboration with the International Association of Credit Portfolio Managers (IACPM[1]), a global industry association headquartered in New York that largely represents commercial and investment banks, but also has members in development finance (MDBs, DFIs, NDBs), export credit agencies,

[1]IACPM website, http://iacpm.org

insurance and associated professional service firms. The Board of the IACPM reviewed the research documentation and recommended to its members that it would be valuable for them to participate if they had the time to do so.

4.2.1 Interview approach & methods

The majority of research into mobilisation is empirical in nature. These studies generate useful inductive theories about financial markets, but are limited in their ability to explain the causal mechanisms in play between different financial institutions. Successful mobilisation requires a deeper understanding of which 'levers' DFIs can pull on to influence the private sector. A multidisciplinary approach to research can uncover the deeper processes that operate in development finance and capture participants 'causal beliefs' that develop from unwritten market practice (Brooks, 2020). Lagoarde-Segot (2019) argues that statistical techniques alone are inadequate for discovering qualitative phenomena that lie outside of numerical data sets. The value and the need for qualitative research in this context is to test the validity of the existing literature and uncover new ideas for future analysis (Birkinshaw et al., 2011; Doz, 2011).

The qualitative research method which best aligns with this direct, realist approach is thematic analysis (Braun and Clarke, 2006, 2012). This is a form of natural experiment using the framework created by Welch et al. (2011) which combines a positivist approach with testing of established (inductive) theories from empirical research with a focus on causal explanation. Given this theory-to-confirmatory approach, and in the absence of questions of a quantitative nature, the aggregation and interpretation of qualitative interviews is a recommended approach (Harrison, 2013; Hoon, 2013). The use of semi-structured interviews is a similar approach to that used by McCoy and Schwartz (2023) in their assessment of the bankability of development projects for the water sector. Questions posed to participants needed to be direct and solicit responses in the right form for the intended analysis. It is an approach that is deductive in nature with a goal of discovering, or uncovering, reality rather than trying to develop new theory.

All interviews were conducted on a confidential basis and were held either online or over the telephone due to Covid restrictions. Interviews were recorded with permission, transcribed and coded according to the themes as laid out in the questions and prompts in Appendix 4.A, which were available to participants prior to the interviews. As many of the transaction examples used to illustrate points during the interviews were specific to certain DFIs, banks and companies it is not possible to use them directly to preserve anonymity. The interviews were conducted from February to April 2021.

4.2.2 Participants

The primary route for recruiting research participants was by written invitation to the IACPM membership comprising private sector banks, supplemented by invitations to a small number of institutions that were not current members. A total of 69 institutions were contacted initially, although of these just less than half (32) were deemed unlikely to have much involvement with DFIs so the focus was on the 37 larger institutions.

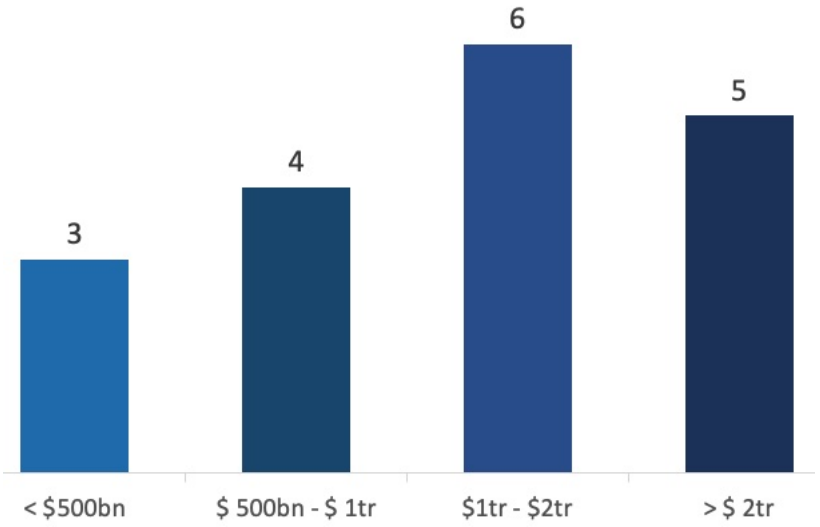
An important requirement of the interviewee selection process was that prospective participants needed to be 1st line (risk owners), senior within their organisation and with clear responsibility for clients and transaction decisions. Prospective participants were informed that participation was on a pseudonymous basis and that neither individuals nor their institutions would be identified as part of the research findings. Although it was explicit to participants that they were not formally representing their institutions, the process of securing an interviewee generally involved an exchange of emails and a pre-interview discussion of up to one hour in some cases to ensure that candidates fully understood the purpose of the research. In approximately half of the cases the research documentation was submitted to the bank's compliance department for review for consent to be given to participate.

Of the 37 focus institutions:

- 18 banks agreed to be formally interviewed (of which 16 were active IACPM members at the time of the interviews)
- 8 institutions agreed to a preliminary discussion about the research although concluded that they did not have enough DFI business to warrant a formal interview
- 1 bank with a significant DFI business was ultimately too busy to be interviewed
- 10 banks did not respond

At the time of the interviews, the latest financial information for the 18 banks that were formally interviewed showed them to have total assets of $25.6 trillion (2020) and to be operating on a global basis. The relative size of the banks by total assets is shown in Figure 4.1. There was a total of 22 participants spread across 20 separate interviews as some banks felt it would be helpful to offer diverse opinions from their institutions by offering 2 interviewees.

FIGURE 4.1: Number of participating banks by total assets at year-end 2020 in US dollars



All participants were working in a front line (1st line) role across a range of different business units. Of the 22 interviewees, 17 had the corporate title of Managing Director (MD) or higher (i.e. with MD direct reports) and 5 were Executive Directors or equivalent which is one rank below MD (see Table 4.1 for more detail on titles and function).

The views of different business lines interviewed included participants from:

- Credit Portfolio Management
- Debt Capital Markets
- Project Finance
- Relationship Management (SSAs, Banks, NBFIs)
- Sustainable/Responsible Finance
- Syndicate Trade Finance
- Treasury/Funding

Given that the range of questions and themes was very broad ranging, it was necessary to have participants with a diverse range of roles to ensure a variety of perspectives and to make sure that all questions were covered. Notwithstanding the list of questions, participants were free to range across other topics and issues that they deemed relevant as is often the case with elite interviews.

TABLE 4.1: Participant profiles

Participants were interviewed from February to April 2021 during the pandemic. All interviews were conducted online or by telephone, recorded with permission, and subsequently transcribed and coded. The roles of the participants are as close as to the formal corporate titles as possible, although a small number are generalised where the participant's title was so specific that it might enable identification.

Participant	Role	Function	Interview Date
1	Head of Risk & Resource Management	Pricing, Portfolio & Resource Management	February 12, 2021
2	Global Co-Head Portfolio & Pricing Management	Pricing, Portfolio & Resource Management	February 12, 2021
3	Credit & Portfolio Management	Portfolio & Resource Management	February 15, 2021
4	Global Head of Asset Optimization	Portfolio & Resource Management	February 19, 2021
5a	Head of Structuring	Capital Markets	March 2, 2021
5b	Head of Funding	Treasury/Funding	March 2, 2021
6	Global Head of Project Finance	Project Finance	March 3 & 4, 2021
7	Director, Debt Capital Markets	Capital Markets	March 11, 2021
8	Head of Emerging Markets Bank Coverage	Relationship Management	March 15, 2021
9	Head of Intermediaries, Private Capital & Government	Relationship Management	March 19, 2021
10	Head of Sustainable Finance, Global Markets	Capital Markets/Sustainable Finance	March 19, 2021
11	Executive Director, Global Markets	Capital Markets	March 31, 2021
12	Director of Development Finance	Sustainable/Responsible Finance	April 2, 2021
13	Public Sector and Institutional Client Relationship Manager	Relationship Management	April 8, 2021
14	Senior Advisor Sustainable Finance	Sustainable/Responsible Finance	April 9, 2021
15	Head of FIG Trade and Working Capital Origination	Trade Finance Origination	April 12, 2021
16	Head of Syndicate	Capital Markets	April 12, 2021
17a	Head of Trade Finance	Trade Finance Origination	April 14, 2021
17b	Head of SSA Relationship Management	Relationship Management	April 14, 2021
18	Head of Public Sector clients	Relationship Management	April 20, 2021
19	Head of Sustainable Finance	Capital Markets/Sustainable Finance	April 22, 2021
20	Head of Responsible Investment	Sustainable/Responsible Finance	April 23, 2021

4.3 Coding structure and organisation

The structure of the interview questions (Appendix 4.A) was guided by the themes that derived from the literature review in Chapter 2. Section A dealt with the high-level positioning of the SDGs with banks (the political environment), Section B addressed how projects are structured and relationships with DFIs, and Section C focused on the detail of execution. Section D was included to ensure that there was time for participants to discuss their views about how mobilisation could work differently, or indeed how DFIs could make better use of the banks. Participants used this opportunity to send messages to DFIs that they might not have been able to articulate in the context of a client relationship.

The high-level codes for the interviews were organised as follows:

- **Definitions:** Adoption of the SDGs and the Paris agreement; alignment with bank strategy; taxonomies.
- **Transactions:** Valuation and pricing; risk appetite and limits.
- **Relationship:** Challenges of working with DFIs; types of DFIs; other financial institutions.
- **Bank Operations:** Logistics of execution; risk management; bank resources.
- **Messaging:** Areas of success and opportunity for banks working with DFIs.

A close reading of the interviews resulted in 43 second level codes spread across the 5 high level codes. Where necessary additional third level codes were created if a specific topic was discussed that seemed to merit additional focus. The codes reflected a combination of hypothetical, thematic and causal codes to frame the participants' views (Saldaña, 2016, pp. 291-298). A list of all the codes, the number of interviews ('Files') in which it was discussed and a count of the total references is shown in Appendix 4.B. The totals for the second level codes include the third level codes. As an example, there are 33 references to the code 'Definitions\SDG Alignment', of which

13 were tagged with a more detailed third level code when a participant's comments were very specific. The other 20 comments in that topic were more general.

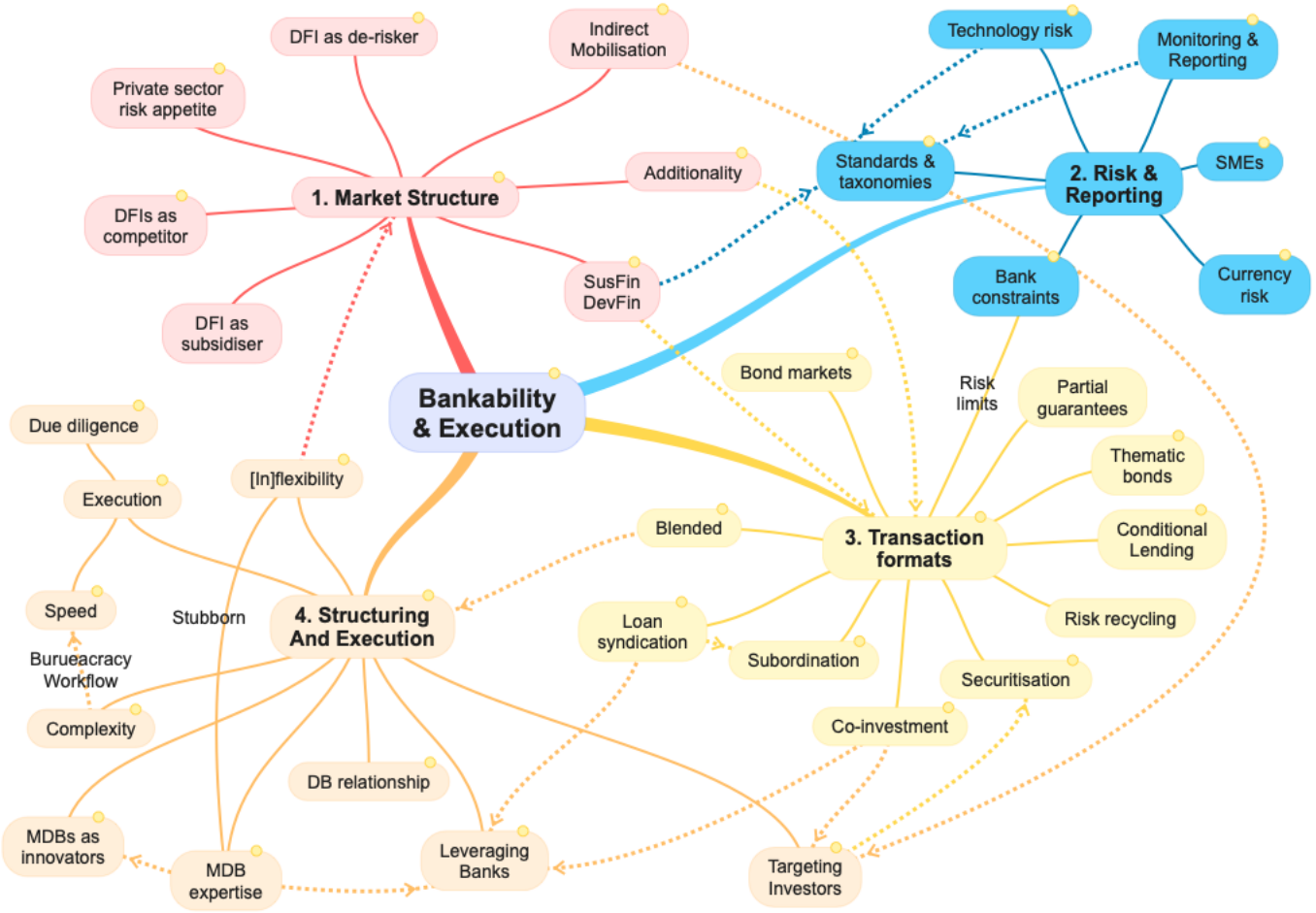
The analysis of the interview data set resulted in a total of 558 coded items across the 20 interviews. The process for organising the coded data used the original research questions in Section 1.2 and the research gaps highlighted in Figure 1.1 as the framework.

The discussion of the codes that related to PCS in Chapter 5 is self-contained, so further explanation of those themes is confined to that chapter. Organising the data around bankability and execution was a more challenging task as there were so many overlaps and linkages. Ultimately, the best arrangement was to follow the sequence of the interview questions. Figure 4.2 is a graphical illustration of the relationships between the relevant themes and sub-themes.

The focus on bankability in Chapter 6 addresses the higher-level issues relating to market structure and risk/reporting (the first two groupings in Figure 4.2). In other words, what types of deals would banks consider and why? It answers the question by considering what types of transaction attributes facilitate private sector engagement, and conversely identifies factors that frustrate the mobilisation process.

The discussion of deal structuring and execution in Chapter 7 is a lower-level discussion of the views from participants relating to transaction formats and how deals get completed in practice. Similar to the discussion of bankability, it identifies the pros and cons of mobilisation, but by focusing on this lower level of detail it identifies different factors that can either oil the mobilisation machine, or throw sand into the gears.

FIGURE 4.2: A thematic map of the key codes that relate to Bankability and Deal Execution.



The thematic map shows the relationships and linkages between the codes for Bankability in Chapter 6 which addresses '1. Market Structure' and '2. Risk & Reporting', and Deal Execution in Chapter 7 which addresses '3. Transaction Formats' and '4. Structuring & Execution'.

In each of the following qualitative chapters (Chapter 5, Chapter 6 & Chapter 7), the methods section explains which themes and sub-themes were relevant to each topic, and conceptually how the ideas needed to be ordered to create a coherent narrative. This explanation of the qualitative data collection and coding should be considered an integral part of each of these chapters.

4.A Interview question guide

Private sector bank interaction with development finance institutions.
The objective of the interviews is to explore the relationship between private sector banks and development finance institutions (DFIs). It is intended that the interviews are conducted with senior bank staff with practical experience of bank's relationship with DFIs. The frame of reference is the DFIs aim to mobilise private sector capital in support of the UN Sustainable Development Goals (SDGs).

TABLE 4.2: Interview question guide.

(A)	Lending framework with respect to Sustainable Development Goals
1	What is your awareness of the SDGs?
2	How do the SDGs affect corporate objectives and culture in your organisation?
3	What are the biggest challenges in aligning to the SDGs? *Prompt: Policies, staff engagement, regulation, relevance*
4	How can the SDGs be achieved in practice? *Prompt: how does mobilisation work? What are the constraints?*
5	How does your organisation integrate the SDGs? *Prompt: Filters to the lending process, integrated metrics, ongoing due diligence*
(B)	Risk/Reward of lending to development projects
6	What is the bank's approach to project finance involving DFIs?
7	How does the bank take account of any 'political umbrella' that a DFI might bring against default? *Prompt: Preferred creditor status, credit policy filters, PD/LGD adjustment*
8	How does the involvement of a DFI affect risk appetite? *Prompt: Country, sector, SDGs*
9	How does the involvement of a DFI in transaction affect valuation measures? *Prompt: Loan provisioning and potential losses given default (LGD), risk-weighted assets, probabilities of default*
10	What are the key factors affecting pricing of deals involving DFIs?
(C)	DFI relationship
11	What is the banks attitude toward working with DFIs and why? *Prompt: business lines, priorities, political pressures*
12	How is the success of a DFI relationship measured?
13	How does lending to DFI projects affect success in other business areas? *Prompt: capital markets, derivatives*
14	What conflicts of interest, if any, might arise in dealing with DFIs?
15	How does ownership of DFI-issued bonds by your bank treasury affect the relationship with DFIs?
16	How has the impact of Covid-19 affected your strategy and relationships with DFIs? *Prompt: future plans, financial & non-financial risks*
17	How does your work with DFIs align with other corporate objectives? *Prompt: Geography, business lines, brand*
(D)	Future
18	What should DFIs be doing differently when engaging with private sector banks on lending to projects?
19	What role do regulators and governments play in nurturing the relationship between DFIs and private sector banks?
20	How can DFIs mobilise the private sector more effectively?

4.B Interview codes and references

Coding structure for the interviews

The codes were organised into major categories ('Folder') and into more detailed second and third level sub-codes with a descriptor ('Name'). The column 'Files' refers to the number of separate interviews in which the code was used. The column 'References' is a count of the total instances of the code. The figures for second level codes include instances of the third level codes.

TABLE 4.3: Coding structure for the interviews.

Folder	Name	Files	References
Definitions	ESG	2	3
Definitions	Political Influence	3	5
Definitions	SDG Alignment	16	33
Definitions	SDG Alignment\Climate focus	1	1
Definitions	SDG Alignment\DB attitude to SDG	1	1
Definitions	SDG Alignment\ESG as SDGs	5	5
Definitions	SDG Alignment\Market Evolution	4	4
Definitions	SDG Alignment\PRB	1	2
Definitions	Sustainability	1	1
Definitions	Taxonomy	13	29
Definitions	Taxonomy\Taxonomy Processes	3	5
Definitions	Taxonomy\Taxonomy Regulation	4	7
Definitions	Taxonomy\Taxonomy Risk	1	1
Definitions	Taxonomy\Taxonomy Washing	2	3
Definitions	Taxonomy\Taxonomy Reporting	5	7
Transactions	Bank Funding	2	2
Transactions	Deal Pricing	4	6
Transactions	Deal Structures	18	63
Transactions	Deal Structures\Blended Finance	1	1
Transactions	Deal Structures\Conditional Lending	4	6
Transactions	Deal Structures\Currency	3	14
Transactions	Deal Structures\Investment Structures	1	3
Transactions	Deal Structures\Private Sector Lending	1	2
Transactions	Deal Structures\Risk Transfer	4	6
Transactions	Deal Structures\Securitisation	4	7
Transactions	Deal Structures\Syndication	5	7
Transactions	Deal Tenor	4	5
Transactions	Emerging Markets	1	2
Transactions	Financial Impact of DB	15	41
Transactions	Financial Impact of DB\DB Impact on Pricing	4	6
Transactions	Financial Impact of DB\Default Workout Advantage	1	1
Transactions	Financial Impact of DB\PCS & Political Umbrellas	9	19
Transactions	Financial Impact of DB\Risk policy exceptions	3	4
Transactions	Financial Impact of DB\RWAs	7	9
Transactions	Ratings	1	3
Transactions	Thematic & SL-Linked	10	24
Transactions	Thematic & SL-Linked\Gender L&B	0	0
Transactions	Thematic & SL-Linked\Green L&B	2	3
Transactions	Thematic & SL-Linked\Transition & SL L&B	4	6
Transactions	Working with DBs	2	5
Relationship	Central Banks	0	0
Relationship	Competitor Banks	0	0
Relationship	Crowding In & Out	7	18
Relationship	DB Relationship	19	84
Relationship	DB Relationship\DB as client	9	17
Relationship	DB Relationship\DB as competitor	7	9
Relationship	DB Relationship\DB as mobiliser	13	22

Relationship	DB Relationship\DBs as Different	8	13
Relationship	Development Banks	15	23
Relationship	Development Banks\ECAs	4	6
Relationship	Development Banks\EIB	2	2
Relationship	Development Banks\MDBs	1	1
Relationship	Governments	3	4
Relationship	Investors	7	26
Relationship	Organisational Complexity	0	0
Relationship	Regulators	1	1
Bank Operations	Balance Sheet Realignment	2	2
Bank Operations	Bank Clients	6	10
Bank Operations	Bank Regulation	1	2
Bank Operations	Bank Regulation\Regulation Risk	2	3
Bank Operations	Bank Regulation\Regulatory Differences	5	9
Bank Operations	Bank strategy	9	20
Bank Operations	Bank strategy\Bank as Innovator	1	4
Bank Operations	Bank strategy\Bank Reporting	1	1
Bank Operations	Internal Investment	4	4
Bank Operations	Internal Investment\Staffing	3	4
Bank Operations	Internal Investment\Training	3	4
Bank Operations	Internal Knowledge	5	7
Bank Operations	Reporting	1	1
Bank Operations	Risk Appetite	1	1
Bank Operations	Risk Management	2	3
Bank Operations	Risk Management\Hedging	2	4
Bank Operations	Risk Management\Risk Policies	1	1
Bank Operations	Risk Management\Workouts	2	2
Bank Operations	SMEs	2	3
Bank Operations	Stakeholders	1	3
Messaging	DB as bureaucratic	8	17
Messaging	DB as bureaucratic\DB as structurally difficult	6	10
Messaging	DB as demanding	14	23
Messaging	DB as innovator	11	21
Messaging	DB as slow	8	12
Messaging	DB as standard maker	3	6
Messaging	DB communication	3	6
Messaging	DB with wrong priorities	5	19
Messaging	DBs as inactive	3	3
Messaging	DBs not understanding	6	17

Chapter 5

How do Private Sector Banks Perceive the Preferred Creditor Status of Development Banks?

Abstract[1]

Multilateral development banks (MDBs) are depending upon the mobilisation of private sector capital to fund the Sustainable Development Goals (SDGs). The Preferred Creditor Status (PCS) of MDBs is a key component of the system of mobilisation. PCS is framed as being 'extended' or 'given' to the private sector. This paper brings a new perspective to the impact of PCS on the private sector from interviews conducted with 22 senior, front-line investment bankers from 18 banks with a total asset base of $25.6 trillion. Using a thematic analysis, the interviews demonstrate that (i) PCS is rarely taken into account by banks when pricing deals, (ii) PCS is often understood by banks as a risk mitigant that affects the overall quality of a transaction, removing internal barriers for banks to participate in a deal, (iii) PCS can affect a bank's risk appetite, and (iv) banks generally follow existing clients and seldom lend opportunistically; this means that PCS is not a determining factor in whether a bank would consider a deal in the first instance. This paper contributes to the IPE literature by providing new insights into the impact of PCS on the MDBs' plans to deliver the SDGs.

[1]Elements of the findings in this work were published in an IACPM white paper in September 2021 (McHugh, 2021a).

Keywords: Multilateral development banks, Sustainable Development Goals, capital mobilisation, development finance, Preferred Creditor Status

JEL Classification: F33, F34, G21, O19

5.1 Introduction

Preferred Creditor Status[2] (PCS) is an institutional characteristic of multilateral development banks (MDBs) that uniquely separates them from private sector lenders. A common understanding of PCS is that MDBs would be paid back first in the event of a borrower running into difficulty (Martha, 1990). This is typically with reference to sovereign borrowers, although PCS can also be considered to extend to MDBs' private sector operations (Broccolini et al., 2021; Gurara et al., 2020). The International Finance Corporation (IFC), which is responsible for the private sector operations of the World Bank Group (WBG), refers to PCS as a benefit in its mobilisation offering (IFC, n.d.[a]). The definition of PCS that IFC provides explains PCS as mitigating 'transfer and convertibility risk' (IFC, n.d.[b]), thus highlighting the practical issues that investors face in being repaid when a counterparty defaults in a developing market. The IFC also describes PCS as *de facto* in the sense that it is not a legal concept that a bank could reference in a contract, and this is broadly reflected in the literature (Degl'Innocenti et al., 2022; Galindo and Panizza, 2018; Galizia et al., 2021; Gurara et al., 2020; Humphrey, 2018b; Settimo, 2017; Zendejas, 2021). This perspective of PCS is established as a market norm in the sense that market participants behave as if PCS exists even if it is not enforceable in a court of law. It is a very long-established market phenomenon that reaches back to the League of Nations in the 1930s, so preceding the establishment of the current group of MDBs (Zendejas, 2021).

PCS has risen in importance because of the increased pressure on MDBs to mobilise the private sector to support their work in development finance. Since the United Nations Sustainable Development Goals (SDGs) and the Paris Agreement were

[2] Also often referred to as Preferred Creditor Treatment (PCT). PCS will be used consistently throughout in this article.

launched in 2015, a key tenet has been that the private sector is needed to fill the SDG funding gap with 'billions to trillions' of investments through capital mobilisation. The original projected funding gap of $2.5 trillion per year has not been closed yet and this effort seems to have been substantially set back during the Covid-19 pandemic (Development Committee, 2015; UNCTAD, 2020, 2021).

Capital mobilisation means that MDBs and development or international finance institutions (DFIs or IFIs respectively) can orchestrate transactions or influence the private sector to change its lending behaviour. The goal of mobilisation is to maximise the relative contribution from the private sector for each marginal MDB dollar. As PCS is a unique attribute of MDBs, and could positively affect the outcome of a transaction, it is an intrinsic part of the mobilisation landscape. The outcomes from the SDG mobilisation process depend to some extent on whether the private sector can capture the benefits of PCS.

Similar to PCS, the creation of the SDGs and the decision to mobilise the private sector are both products of the international political economy (IPE). Thérien and Pouliot (2019) provide a rich account of the making of the SDGs and explain the process as 'global governance bricolage', meaning that the SDGs emerged from a series of global negotiations in a path-dependent manner by building on the past rather than a redesign from first principles. While the SDGs and underlying goals define the desired outcomes for the year 2030, the G20 identified the MDBs as critical agents for implementation. The major MDBs were mandated by the UN as part of the Addis Ababa Action Agenda in 2015 to mobilise long-term private capital into infrastructure investments and green finance. This was taken further by the G20 at its annual meeting in Antalya, Turkey in 2015 which resulted in major MDBs being instructed to produce an action plan. This plan was intended to maximise the MDBs' impact through a variety of measures to improve capital efficiency and draw the private sector to invest into the SDGs (G20, 2015a,b).

Gabor (2021) has named this preference for private sector financing the 'Wall Street Consensus' (WSC), in that development finance is being designed to fit the needs of the private sector and align with US-style capital market structures. This carries a risk

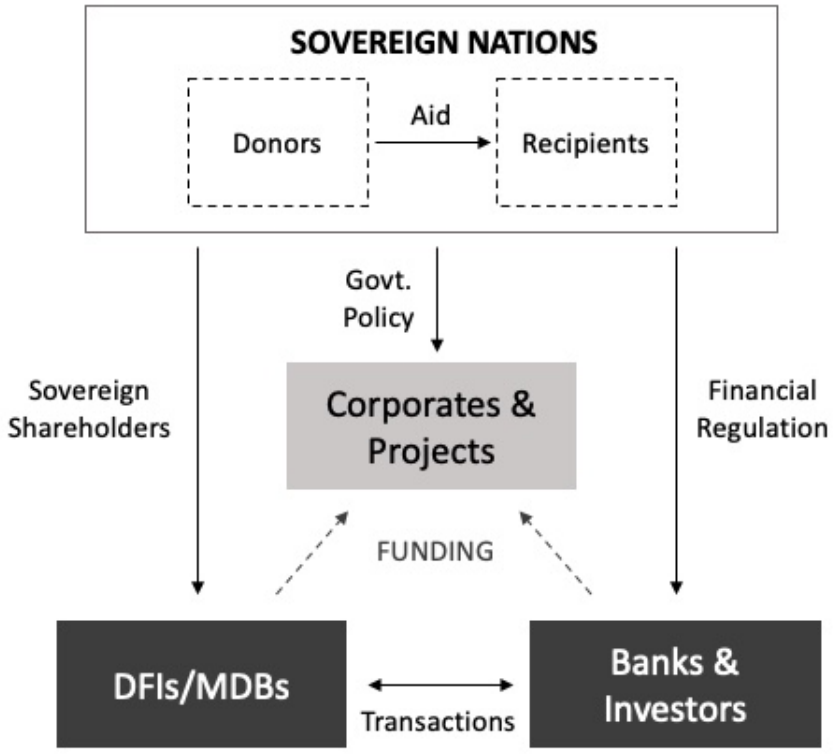
of loading future problems onto host nations that are providing assurances or contractual features to de-risk development projects. Alami et al. (2022) make a similar point that, if these types of financing structures are systemic, they reflect a form of international financial subordination that reinforces the North-South divide. It creates a dependency on cross-border financing from the North to the South that perpetuates the historic roles of the countries involved and the operations of MDBs (Güven, 2018).

Thérien and Pouliot (2019) provide another example of North-South subordination related to the targets and indicators underlying the SDGs. These authors describe the process for setting the underlying goals to the SDGs as a 'reification of numbers' which marginalised countries with less scientific representation and served to sustain the existing political order rather than reinventing it. They further describe the outcome of the SDGs as 'obscuring' conflicting perspectives on issues between the countries of the North and the South. This again suggests that the SDGs are, by design, constructed with the financing model for mobilisation in mind. The lack of clarity around outcomes, taxonomies and definitions also raises the risk of green/social washing in the private sector (Gabor, 2021).

Whilst acknowledging these views, private sector mobilisation is still considered by MDBs to be the solution for the implementation of the SDGs. When considering how PCS affects the mobilisation process, it is useful to visualise the market as a system to show how the various participants interact. Hartmann et al. (2022) position the MDBs in a triality involving national governments and the corporate world although this omits a reference to private sector finance. For the purposes of explaining the nuances of mobilisation this extra dimension needs to be added in and we can view the market for development finance as a 'quadrality' instead. The configuration in Figure 5.1 contrasts with Gabor's diagram of the 'WSC de-risking state' (Gabor, 2021, p. 435) as in this instance we are concerned with a broader view of the operations of financial markets rather than the relationship between the state, citizens, and PPP/infrastructure assets.

This portrayal of mobilisation serves to highlight the parallel investment roles of MDBs and the private sector finance, with each group operating in the market with its

FIGURE 5.1: Quadrality: Mobilisation represented as a system of bilateral relationships



A quadrality: 'Mobilisation represented as a system of bilateral relationships surrounding the funding of corporates and projects'. Reproduced from *Climate Change: Managing the Financial Risk and Funding the Transition* with permission from Risk Books (McHugh, 2022)

own incentives and constraints. If PCS is a useful asset for the private sector, it would increase the quantity of projects that are funded. This would entail that the presence of a development bank in a transaction changes the relative attractiveness of a deal either by de-risking and/or improving the return on capital.

However, banks and investors lack some economic flexibility as they are constrained by regulations, laws and shareholder expectations that create a degree of convergence of operating models. Although MDBs are not formally regulated there are economic and political forces that similarly create a convergence of MDB business models but in a different way to the private sector. These convergent effects set up the conditions for MDBs to function as a cooperative regime (Heldt and Schmidtke, 2019). The implication is that any newly established MDB is likely to conform to the status quo operating model over time.

These convergent forces on MDBs conspire to align operational activities across the sector and lead MDBs to behave in very similar ways. Another key constraint imposed on MDBs that also demonstrates convergence is the need to demonstrate 'additionality'. An MDB should always be adding value either directly or indirectly as laid out in the Harmonized Framework for Additionality in Private Sector Operations (Multilateral Development Banks, 2018a) to ensure that the public sector is not crowding out the private sector. It does not guarantee that it will prevent overlap at times, but at least ensures some checks and balances (Carter et al., 2021). The push to harmonise reporting metrics for additionality and mobilisation creates extra pressure to conform across institutions (Brooks, 2020).

PCS is therefore inextricably bound up with the identity of MDBs and how they implement additionality with the private sector. If mobilisation works, there needs to be something about working with a development bank that is either qualitatively or quantitatively different that gives the private sector an incentive to participate in transactions.

In the context of a system of mobilisation as it exists today, it is critical for the MDBs and their shareholders to address the question of 'what works?'. Existing quantitative work related to mobilisation has mostly focused on loan portfolio data and, with a few exceptions (Broccolini et al., 2021; Gurara et al., 2020), the datasets pre-date the launch of the SDGs in 2015 so would not capture the more recent efforts of MDBs to engage with the private sector. Nevertheless, there are inferences made from the results of empirical work about the causal mechanisms for private sector lending on MDB-led transactions. There is less qualitative work studying mobilisation and lending, but where it does exist it leans more toward the lending behaviour of IFIs/MDBs rather than the interaction with the private sector (Humphrey and Michaelowa, 2019; Ray and Kamal, 2019). Given that PCS has a relatively long history in finance, it is surprising that research into its effects on the behaviour of private sector banks is lagging behind.

A missing element in this discussion of mobilisation is the view from the private sector itself. If capital mobilisation is to be optimised, there is an imperative to understand

how banks perceive and deal with PCS. Does the practice of lending to development projects match the theory or the views of the MDBs? Or perhaps most fundamentally, does the private sector itself feel mobilised? If there is an expectation from sovereign shareholders and MDBs that PCS will help with the mobilisation process and make deals more attractive to the private sector, the MDBs need to understand what influence PCS has in practice rather than what they would like it to do.

To bring this private sector view alive and to fill the gap in the literature, I conducted a series of confidential interviews with some of the largest global commercial and investment banks. All the participants work in the '1st line' (from the 3 Lines of Defence model used in banking), meaning that they are risk owners and take pricing, investment and/or transaction decisions on behalf of their institutions. The interviews were framed against the existing literature, providing an opportunity to bring more explanatory power to the causal mechanisms that are suggested by previous work.

This study contributes to the existing body of literature in three ways. This is the first study that scrutinises the views of private sector banks in relation to the implications of PCS for economic value creation, transaction risk assessment, and capital mobilisation in lending and securities markets. For the IPE, the relatively recent creation of the SDGs and the efforts to mobilise private sector finance mean that mobilisation has not been heavily researched and is still considered a new phenomenon. Second, the study was able to access senior 1st line staff which is critical regarding inferences drawn from the interviews. Decisions to pursue an investment or lending opportunity are taken by the 1st line, so the views provided by participants reflect the professional risks that they take at a personal level. Third, the findings validate and enhance assumptions made in previous studies about how banks respond to the presence of PCS and MDBs in transactions. Although empirical work on the structure of syndicated loans using secondary data shows evidence of the risk-reduction that MDBs bring to transactions (Broccolini et al., 2021; Gurara et al., 2020), it cannot explain the decision-making process that banks go through. These three contributions have implications for the ways in which mobilisation could work even more effectively.

The structure of this paper is as follows. Section 5.2 provides background to previous studies and their understanding of PCS and mobilisation that frame this thematic analysis. Section 5.3 outlines the key themes that were adopted for the interviews (to be read in conjunction with Chapter 4 for the full methodology). Section 5.4 uses the findings from the interviews to explore: the economic value of PCS to banks in lending transactions, the non-financial effect of PCS on lending decisions, and PCS as a driver of private sector mobilisation. Finally, Section 5.5 and Section 5.6 link the findings back to the literature and draw some conclusions about how mobilisation efforts can be better targeted.

5.2 Background

PCS as it is currently understood first dates back to loans made to European nations by the League of Nations in the 1920s following the First World War (Zendejas, 2021). The economic climate was extremely difficult in that period eventually resulting in a string of sovereign defaults. The debt restructuring that took place was complicated by war reparations and existing pledges on issued debt. However, in substance, the League loans in many cases ranked *pari passu* with other issued debt and so *de jure* were not contractually senior obligations. Nevertheless, the evidence presented by Zendejas (2021) shows that the behaviour of borrowers in prioritising payments to the League and secondary market pricing suggested the existence of a *de facto* PCS. The arguments made for the justification of PCS, namely the risk of a borrower defaulting on the League and losing access to future funding, are echoed in the modern discussion of PCS. Eventually, as the League was unable to provide ongoing support to the defaulting nations, the League lost its PCS status.

The existing Bretton Woods institutions, the International Monetary Fund (IMF) and the World Bank, were established in 1944 in the closing stages of the Second World War. However, it is not until 1988/9 that PCS appears to re-emerge in importance. Martha (1990) highlights the reaffirmation of PCS by the IMF in a 1989 communiqué and concludes that commercial banks have effectively 'acquiesced' regarding the *de*

facto PCS status of these institutions despite the legal vagaries. The threat for a country in debt distress is that the IMF and the World Bank can effectively control future access to international capital markets, thus ensuring their status as preferred creditors (Fisher, 1999). Similarly, during the European sovereign debt crisis 2010-2012 there is some evidence of *de jure* seniority (Steinkamp and Westermann, 2014) but mainly a heavy reliance on PCS as a market convention or mechanism. The lack of literature around PCS from an IPE and economic perspective is arguably due its relatively recent renaissance, limited market events by which to assess it and the lack of a legal foundation by which to judge it. Nevertheless, PCS is an important concept that is being relied upon to help mobilise private capital in support of the SDGs. IFC claim its preferred status as a benefit on their website for syndicated loans.

> *'Today, the B Loan structure enables commercial banks, investment funds, and other private investors to access direct impact lending opportunities in more than 60 countries while enjoying the same preferential status as IFC's own loans.'*
>
> IFC (n.d.[a])

The principal literature on the mobilisation of the private sector banks can be organised around a spectrum of themes that range from a high-level economic and political perspective, down to a detailed focus on the structure of transactions. The four interlinked themes are: the international political economy, the financial and contractual structure of investment projects, the structure of bank lending syndicates, and the pricing and risk on transactions (McHugh, 2021b). A particular gap exists around determining the value of PCS for the private sector and whether it has other practical uses. For example, Gurara et al. (2020) suggest that PCS 'could' affect lending spreads, but there is insufficient evidence to demonstrate it. As a result, we do not have a clear view of whether PCS feeds directly into loan pricing decisions, or whether there are other quantifiable benefits that it can bring to the mobilisation process. To position PCS for the purpose of the interviews that form this study, it is necessary to consider (i) how PCS is said to benefit MDBs, (ii) how it might impact the behaviour of private sector banks, and (iii) how it affects mobilisation in practice.

5.2.1 The relative benefits of PCS to MDBs

The operational benefits of PCS have a strong impact on the economic model and market activity of an MDB that is bestowed with PCS. The credit-worthiness of MDB shareholders, and the callable capital structure that is often in place, enable MDBs to maintain the highest credit ratings (e.g. AAA) and effectively borrow at the risk-free rate of interest. This enables them to raise funds at significantly cheaper levels than the private sector and can provide a subsidy to borrowers if necessary (Humphrey, 2018b; Perraudin et al., 2016; Settimo, 2017). The focus on credit ratings also has the effect of aligning the operating models of the larger MDBs, resulting in similar balance sheet structures, risk appetites and funding strategies (Humphrey, 2014).

A low cost of funding can affect the behaviour of an MDB in financial markets and places a constraint on the amount of lending it can do. Cordella and Powell (2021) explain that institutions that are deemed to possess PCS would deliberately need to limit lending to maintain its relative value. At the extreme, if all lending is 'preferred' then PCS ceases to have any meaning. Similarly, lending at concessional or discounted rates needs to be limited to ensure that it is economically sustainable. Cordella and Powell (2021) go further to suggest that an IFI (and/or MDB) cannot price loans in the same way as the private sector because it suggests to borrowers that they are indeed risky and might default. This perspective sets up an interesting conceptual problem for mobilisation. With this view, it should be a requirement for IFIs to have different economic positions in transactions when working with the private sector. Additionality certainly reflects this idea, although it raises questions about MDB strategies such as co-investment (i.e. MDBs and the private sector banks transact on economically equal terms). Cordella and Powell (2021) also posit that '… IFIs add value precisely because they behave differently'.

The risk of 'not behaving differently' is cited by Galizia et al. (2021) as a potential issue with Paris Club deals where PCS could be lost in risk transfer transactions as MDBs seek to leverage their balance sheets. It is also argued that that country-level access to concessional finance is deemed to be highly prized in period of stress (Galizia et al., 2021; Mates, 2004). The motivation to repay, or otherwise ensure that there are no

adverse consequences on MDB-led transactions keeps access to concessional funding open. This sets up a potential conflict between maximising the leverage effects of MDB balance sheets, and being able to keep PCS alive. Reisen (2015) suggests that traditional MDBs could lose PCS if alternative development funding sources compete for projects and MDBs lose market share. This argument is framed against the formation of the Asian Infrastructure Investment Bank (AIIB) and the New Development Bank (NDB), although Heldt and Schmidtke (2019) suggest that these new MDBs will tend to imitate existing ones and create more conformity.

A discussion about international competition between development banks and the risks to mobilisation efforts inevitably starts to focus on the role of China and its lending activities in developing markets. This is an important discussion, but the existence (or not) of PCS in the future is not strictly relevant to how banks deal with it today.

Several authors approach the mobilisation challenge from the perspective of having rating agencies change their analytical method towards MDBs and to permit more lending for a given capital base for a AAA rating, or perhaps for MDBs to accept a 1 notch downgrade (to AA+/Aa1) to facilitate more lending. There are suggestions that rating agencies do not understand MDBs properly and are too conservative (Humphrey, 2018b; Perraudin et al., 2016). Munir and Gallagher (2020) advocate that MDBs accept a credit rating downgrade in order to scale up lending. There is a risk that focusing on rating methodologies as a solution to mobilisation could lead to gaming of modelling techniques. Conversely, perhaps this apparent conservatism of rating agencies needs to be subject to more scrutiny and is a topic for future research.

The behaviour and strategies of MDBs are therefore harmonised through the pressures to maintain credit ratings, the directives of G20 shareholders and MDB joint strategy and policy statements. This environment makes the corporate governance of MDBs 'mobile' across borders and between institutions (Cumming, Filatotchev, et al., 2017) even if there are local contexts for MDBs such as the Asian Development Bank or the African Development Bank. PCS appears to belong to the MDBs as a group, much as it did for the League of Nations in the 1930s.

5.2.2 The effects of PCS on bank behaviour

The operating models of large multinational private sector banks are guided by financial regulations. Prudential regulation of banks is primarily driven by the standards laid out in the Basel Framework, although noting that the speed and nature of implementation of Basel standards varies somewhat by country. These standards are a convergent force on bank operating models that will tend to harmonise financial incentives, corporate governance and behaviour. What we might expect from this is a tendency for banks to collectively conform to certain norms of market behaviour. Corporate governance for international private banks and major investors is as mobile as for MDBs (Cumming, Filatotchev, et al., 2017). This is helpful when analysing PCS because it justifies a generalisation of multinational bank perspectives without being limited to a particular geographic or cultural context.

A discussion of PCS cannot be complete without considering 'political umbrellas'. The term 'political umbrella' is used to describe the power that an MDB has to influence the outcomes on transactions due to their superior connections and influence over host governments (Gurara et al., 2020; Hainz and Kleimeier, 2012). The presence of an MDB is seen to be a deterrent for any borrower to default. The image of an 'umbrella' represents the idea that if a private sector firm is working with the MDB, it receives additional protection to reduce risk in a transaction by association. This is the basis by which authors write about PCS being transferred or extended to a bank.

Although PCS is not contractual in the legal sense (*de jure*), it is expected that if private sector banks are part of a syndicate there would be a manifestation of the 'political umbrella', so that a bank belonging to an MDB-led syndicate will benefit by association (Fernandez-Duque, 1998).

In developing markets, MDBs often form syndicates to lend to project finance (PF) vehicles. These vehicles are generally considered to be a useful mechanism to protect against weak investor protection laws and weak governance (Cumming, Filatotchev, et al., 2017; Hainz and Kleimeier, 2006, 2012; Subramanian and Tung, 2016). A theoretical grounding for this argument is that a highly-leveraged transaction makes it

riskier for an external party to expropriate the assets and reduces the decision-making capability of management (Jensen and Meckling, 1976). Given that these projects are often for developing market infrastructure, the host government also has a direct interest in their success, and so the PCS mechanism also works through an MDB's lending relationship with the sovereign. It should be noted that this de-risking feature is a cause of concern for Gabor (2021) if the sovereign makes ill-advised commitments as a consequence of creating a bankable project for the private sector.

PCS is relevant to syndicate formation as MDBs are perceived to not only have a risk reducing role, but also because they are seen to have an information advantage. Solving for any information asymmetries is a fundamental part of risk reduction in lending. In this sense, PCS is analogous to the idea of 'social trust' identified by Brockman et al. (2020) as a partial remedy for information asymmetry and agency problems. PCS in this context is also intertwined with the idea of MDBs having preferential access to governments and potentially better information about borrowers (Chelsky et al., 2013).

The way that this might manifest itself in syndicate formation would be through deal sizes, number of banks in a syndicate, the mix of domestic to foreign banks, syndicate structure (e.g. choice of the mandated lead arranger (MLA) or lender of record) or perhaps the mixture of MDB to private sector lending in a given deal.

The presence of an MDB can lead to more concentrated syndicates with fewer banks participating (Esty and Megginson, 2003). The argument in favour of this is based upon a deterrence motive, in that an MDB helps to avoid the risk of a strategic default and can smooth over legal issues in more challenging jurisdictions, reducing the need for syndicated-based deterrence. It is not clear that risky lending environments cause these outcomes. It could equally be argued that if fewer private sector banks have the appetite to engage in riskier lending environments, or take on the longer maturity loans and sub-economic rates, then it is less surprising that fewer of them are present. Cumming, Lopez-de-Silanes, et al. (2020) perform a significant analysis of the syndicated loan market with respect to deal tranching and, although they do not explicitly include development banks as a control factor, there is a suggestion in their

conclusions that tranching could be a useful tool to address development funding gaps.

The strongest claim about the financial effect of PCS comes from Gurara et al. (2020) in the context of A/B loan structures. They suggest that the extension of PCS to participants in the syndicate could result in tighter pricing on transactions. This would be a direct expression of the value of PCS in financial terms. Broccolini et al. (2021) and Degl'Innocenti et al. (2022) also refer to the extension of PCS as an important factor in the reduction of credit risk and reducing information asymmetries but do not make any further claim on the impact on pricing. They focus instead on whether banks are drawn to join a lending syndicate because of the presence of an MDB. A third effect on syndicate formation is political risk reduction which reduces the chance of PF assets from being expropriated, acting not only as an incentive for private sector banks to participate (Sawant, 2010), but also suggesting a clear need for MDBs to be present (Hainz and Kleimeier, 2012).

With respect to deal maturities, Gurara et al. (2020) and Broccolini et al. (2021) both show that the presence of an MDB is associated with longer-dated transactions. This would be consistent with additionality as it suggests that banks are able to vary risk appetite because of PCS.

The implication from these various sources is that the presence of an MDB can change a private sector bank's attitude toward a transaction from a 'no' to a 'yes'. All other things being equal, that suggests there must be some value that a private sector institution can extract from MDB participation. Deals can be larger in the presence of an MDB, longer-dated, and potentially that banks can absorb cheaper pricing, meaning that PCS has a value as a financial asset.

5.2.3 Implications for mobilisation

Considering the range of meanings attributed to PCS in the literature, a key factor with respect to capital mobilisation is to understand how banks take account of PCS in their operations, explicitly or otherwise. It is this underlying 'use case' of PCS that will

provide a deeper explanation for the associations that are put forward in the literature and strengthen the foundations for the justification of additionality.

Capital mobilisation by MDBs is dependent upon the private sector achieving the right risk/reward balance in a transaction to make it economically acceptable. If the MDB truly brings additionality to a transaction, it is because of that MDB's identity, which in turn is bound up with the idea of PCS. PCS exists because of what the MDB represents and can achieve; additionality is an explicit expression of that different identity. PCS should crowd in the private sector and provide protection against the risk of crowding out.

The decision to lend (or not) in the private sector, is a function of a complex internal process which is not directly visible from looking at the distribution of syndicated loans for an empirical study. Lending criteria and decision-making can be inferred by looking at secondary transaction data, but it cannot fully explain the causation. From a mobilisation perspective, the crucial element is to have better explanations for why some of these effects are observed. If PCS is something that is given to private sector banks, what do they do with it? Can this risk mitigant be valued in some way or otherwise integrated into the decision-making process for lending? Does it affect a bank's strategy or its engagement with the SDGs? This study is motivated by these questions and seeks to provide a better view of the process of mobilisation with specific reference to PCS.

5.3 Methodology

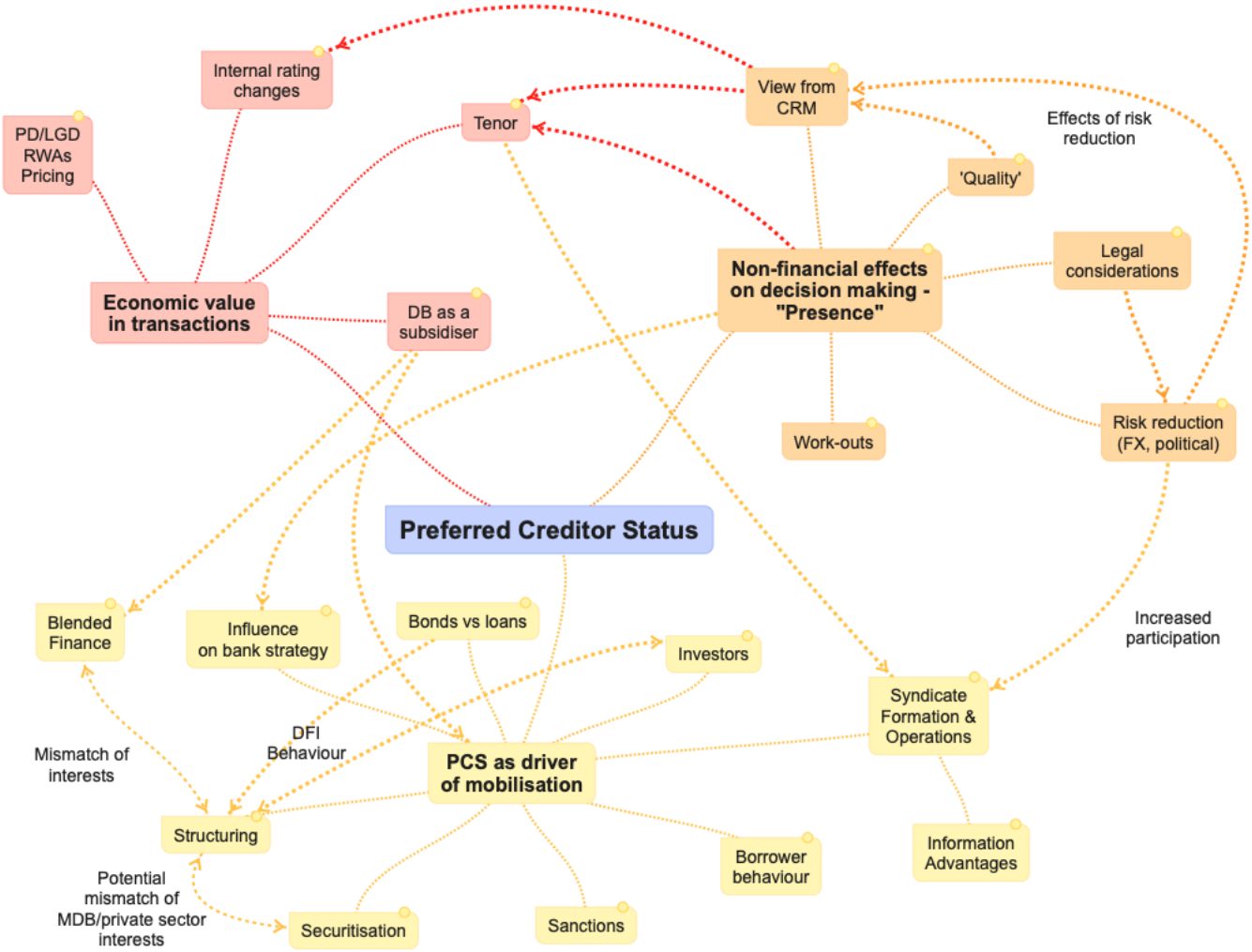
This section should be read in conjunction with Chapter 4 which lays out the full methodology for data gathering, participant profiles and coding of the interviews. The interview questions are in Appendix 4.A.

5.3.1 PCS themes

Despite the precise IFC definition of PCS, it is ultimately for a bank to decide what PCS means to it in practice for its operations. As part of the interviews in this study, participants were asked to explain how PCS is used or acknowledged at their institution. The questions posed in relation to PCS initially focused on whether PCS has an explicit financial value that a bank can benefit from. In practice, this turned out to be a gateway question leading to a wider-ranging discussion about how banks interpret and use PCS.

With such a broad range of views, the data had to be aggregated accordingly to reflect the range of ideas that were provided by the participants. To explain the way that this data was organised, Figure 5.2 is a graphical illustration of the themes from the interviews that directly related to PCS. The first colour grouping relates to the economic value of PCS in transactions and whether it can be considered as a financial asset. The second area is whether the presence of PCS affects the risk management decision-making inside a bank. Third, whether PCS actually drives mobilisation by affecting the behaviour of a financial institution (also investors). The next section (Section 5.4) expands on these issues using this framework and the contributions from the participants.

FIGURE 5.2: A thematic map of the key ideas that relate to Preferred Creditor Status.



5.4 The role of PCS in the mobilisation of private capital

5.4.1 The effect of PCS on bank risk management

There is a strong belief across the participants that MDBs (and some other DFIs) occupy a special place in the financial system with the powers to manage the outcomes from transactions in a way that the private sector cannot.

A small number of participants described PCS in terms of the IFC's definition as it relates to transfer and convertibility risk [P6, 16][3], but quickly focused on how a DFI would need to work in practice to mitigate these risks. This is variously described in terms of DFIs' privileged access to governments and their ability to 'persuade' [P6] counterparties to a transaction to continue paying and keep things on track. The best example of this comes from a participant who described an 'institutional belief' [P6] in the existence of PCS as a risk mitigant. The use of the word 'belief' is not accidental – as there is no legal framework the participant used evidence of conversations with MDBs as the basis for relying on PCS [P6], or from a memory that a couple of jurisdictions in Latin America had incorporated it into local law. Another participant was equally convinced of MDBs' special powers, but could not think of an occasion where PCS might have been used in a market where international banks lend significant amounts [P13]. This mismatch between where PCS might have been used and where the banks operate in practice feeds into the difficulty of monetising the value of PCS because the banks mostly have not experienced the benefits.

The way in which MDBs are considered to exercise their special powers are through access to governments [P4] giving them a stronger negotiating position. MDBs have privileged access to government as they are already operating across both the public and private sectors for a given country. The intimacy of the relationship between MDBs and host governments was cited as a mechanism for how PCS is executed in practice [P6]. This is a description of the 'political umbrella' that banks can shelter under on problematic transactions. If a transaction becomes problematic, the MDBs are expected to 'send in the cavalry' [P16] and rescue the situation but only as it

[3]The numbering in square brackets maps to the interviews in Table 4.1.

pertains to FX convertibility and transfer risk. A poorly designed project with insufficient revenues can still default from a credit perspective even in that environment. There is a sense that the presence of an MDB gives confidence on a transaction, and if there is a problem, banks should feel comfortable working for a resolution through the MDB [P13].

With this perspective, PCS is either extended or transferred to banks as a free risk mitigant. If a bank agrees to participate in a transaction involving an MDB, it experiences the benefit of PCS in the same way as if it were to purchase political risk insurance, but without paying. It is perhaps unsurprising that one participant viewed DFIs as a significant source of risk offset, and so would seek them out on transactions for that specific purpose [P18].

Given that PCS is viewed as a benefit to a bank, participants were asked how it affects the assessment of a transaction from the perspective of the Credit Risk function. The relationship between the participants in this study and the Credit Risk function is that of 1st line to 2nd line respectively. The participants (1st line) are risk takers and seek out deals to bring to the bank, the Credit Risk function (2nd line) assesses counterparties and transactions against bank risk policies, assigns ratings and can decline deals on behalf of the bank. There were divided opinions and practices between banks on how the presence of an MDB in a transaction affects the credit assessment. Many participants were clear that PCS does not affect the credit assessment of a transaction in any way [P3, 4, 10]. There was a sense in one bank that 'everyone remembers a moment when PCS has been a benefit, but nobody will allow it to be a mitigant for credit risk' [P4]. Conversely, in a small number of banks, some minor positive adjustments might be made to the internal credit rating to improve it 'by a notch or two' to acknowledge the presence of an MDB. This has beneficial downstream financial effects for the bank although quite limited (discussed in Section 5.4.2). There was also some sensitivity around the practice of adjusting internal credit ratings. That practice was qualified, meaning that it only ought to happen in exceptional cases where there were clear reasons that could justify a manual adjustment to the credit modelling [P2, 6, 15]. Ultimately all banks need to stay within

the regulatory framework in which they operate and so policy exceptions would be reviewed and queried.

For the majority of participants, if their bank makes no adjustment for credit risk, there was universal recognition that participating in transactions with an MDB enhances the 'quality' of a deal. This is a critical point because it revealed that the risk appetite of a bank can change in the presence of an MDB which is evidence of additionality. While most banks cannot assign a value to PCS, it does affect the types of transactions that they are willing to do.

The word most often used in this context was 'comfort', or a sense that a deal is just better if an MDB is involved [P4, 7, 13, 15, 18, 20]. 'Comfort' in the context of these discussions was mostly used in the financial sense, meaning a non-contractual reassurance to a lender from a 3rd party that a transaction is less risky than it seems (i.e. similar to a 'comfort letter'). The meaning of PCS here is that the presence of an MDB in a transaction bringing benefits, or creates a 'halo effect' [P12]. This seems to be a true qualitative benefit – 'there is no algorithm to quantify the potential benefits' [P8]. Participants struggled to define the precise benefits of the value of comfort, although some of the more common statements reflected risk reduction in developing markets and a positive credit mitigant [P2, 4, 7, 8, 13, 15, 18, 20].

From these discussions it seems clear that the meaning of PCS is broader than a technical definition of risk mitigation for transferability and FX conversion. For these participants, PCS is a synonym for the presence of an MDB in a transaction and the consequent beneficial effects. It is the opportunity to be under the 'political umbrella'. In the following section it will become clearer how this affects the economic behaviour of banks – in essence a practical demonstration of additionality that derives from MDB participation.

5.4.2 The economic value of PCS in transactions

For PCS to have an economic value it needs to cause a bank to change its lending behaviour in some way. There are a few different dimensions to this. The first is to

consider whether the transaction becomes cheaper for the bank to execute. This could result in a reduction in pricing for a loan, leading to a direct economic benefit to the borrower. The second aspect relates to the availability of credit to a borrower which could affect the size and the tenor of loan that a bank is willing to make. Changing the quantity and maturities of available loan might facilitate transactions that could not have been executed otherwise.

Loan pricing is driven by a bank's target return or hurdle rate. The numerator for this calculation is the future income from a transaction which is composed of spread income on a loan plus any additional ancillary revenues (e.g. fees, hedging). The denominator will either be the capital that the bank needs to set aside, or often the risk-weighted assets (RWAs) that the transaction incurs. The bank's target capital ratio creates the link between a bank measuring return on capital or return on RWAs.

The mechanism for monetising PCS would be through the risk-weighted asset (RWA) calculations that a bank is required to make. Lowering RWAs effectively reduces the capital that a bank is required to allocate against a transaction and so lowering the cost of participation in a deal. As a result, the cost of the loan could be reduced for the borrower without the bank making sacrifices toward any return on capital hurdle rates that it might have. The two critical inputs to the RWA calculation are a counterparty's Probability of Default (PD) and the Loss Given Default (LGD). Essentially, a measure of how likely a transaction is to fail, and how much money will be lost if that happens.

There are established regulatory processes for changing PDs and LGDs if there are documented (*de jure*) transactions where the credit risk is transferred or guaranteed. These substitution methods are well-established and permit a bank to recalculate RWAs to reflect legally binding support from 3rd parties. This is an established practice in banking, but is not a demonstration of additionality and is unrelated to PCS. In the context of this study, most participants clearly stated that there is no value to PCS and that contract-based PD/LGD substitutions are the absolute limit of what they can do [P4, 5, 8, 9, 13, 16, 17].

In contrast, a small number of banks have selectively been able to adjust RWAs on a case-by-case basis. Modifying the PD or the LGD is challenging when PCS is not a

legally binding element of transaction documentation. This is a sensitive area because regulatory norms require banks to model credit risk and cannot override this without good grounds. The small number of participant banks that can adjust the credit risk 'by a notch or two' could experience a financial benefit due to reduced RWAs [P2, 6, 15, 18]. This would not necessarily result in a pricing benefit for the borrower unless the whole syndicate can reduce pricing. Another barrier to varying pricing comes from the redistribution of risk to investors as transactions would be judged relative to comparable deals from the same country/sector combination. The practice of valuing projects relative to other market comparables could lead to a PCS-adjusted deal to be uneconomic for end investors [P20].

The magnitude of financial benefit from adjusting a PD would be a function of the granularity of the bank's internal ratings scale, and the counterparty ratings before and after the change. Altering the LGD would require a different type of argument, entailing that the restructure of a transaction with an MDB would have better outcomes in terms of recovery values. This might take place on significant transactions where it could be argued that a manual override was appropriate [P15]. Having said that, and as highlighted in the previous section, some participants felt that there is little evidence to support this in markets where international banks have significant activity [P6, 13].

The second dimension of the impact of PCS relates to the size and tenor of transactions that banks are willing to participate in because of the presence of an MDB. What does this MDB presence enable banks to do differently? It might be the catalyst for a bank credit department to turn a 'no into a yes' [P10], where the participation of an MDB opens the door to lend. In syndicated structures where there are loans of varying tenors, the ability of the MDB to take on the longer maturities enables the private sector banks to participate where it would not have done otherwise [P6]. This is particularly interesting as a form of structural subordination. By taking the longest loans, the MDB is effectively signalling that it is comfortable to be the last in line to be paid back. Although the loans are not contractually subordinated, there is a sense that the MDB is de-risking the deal.

The presence of an MDB might make it possible for a bank to lend longer than its standard credit policies would normally allow. It might enable a bank to increase maturities from 7/10 to up to 15 years. In this case, the presence of an MDB creates a valid case for a bank to make exceptions to standard credit risk policies [P6].

It seems that the ability to increase tenors is a powerful effect that can be catalysed by MDBs participation. This aligns with the findings of the empirical studies of loan portfolios and provides an explanation for how it occurs. However, long maturities are not an unqualified success story for mobilisation. A potential negative effect is that, even if the credit risk of a transaction is not a concern, providing liquidity for long-dated loans becomes a bigger problem [P3]. Pricing is no longer an issue, but liquidity concerns can cause banks to 'pull up the drawbridge' and limit lending [P3].

A small number of participants also hold the view that the role of MDBs (and DFIs more generally) is to subsidise transactions through concessional funding [P1, 3, 10]. This presents a problem for the idea of co-investment where private sector banks are *pari passu* with DFIs and hold identical assets by tenor and price. For these banks, co-investment is an unsuitable transaction structure and will not scale. One participant felt strongly that private sector banks have no need for co-investment structures with DFIs and that they might as well team up with competitor banks instead [P14]. Co-investment did not add value to the bank's activities and was not an 'integrated' way of working.

In summary, there were some fairly strong majority opinions across the participants. When it comes to pricing, PCS generally makes no difference to the economics of a transaction, and even those banks that could make adjustments would only do so on a case-by-case basis. Conversely, most participants felt strongly that DFI/MDB presence increased their ability to lend more and for longer maturities. The mechanism for this being the ability of a credit risk department to make policy exceptions and is perhaps a manifestation of the value of the 'quality' improvement in a transaction. Finally, the relative position of the private sector to the DFI/MDB is perceived to be important. Generally, the participants wanted a development institution to have a different role

in a transaction relative to the private sector banks, such as mismatched lending maturities or contractual subordination.

5.4.3 PCS as a driver of capital mobilisation in the lending market

The previous two sections reviewed the ways in which banks apprehend PCS, and then the ways in which it affects bank behaviour through pricing and participation in transactions. The next step is to position this with respect to the greater objective of capital mobilisation in pursuit of the SDGs and Paris Agreement and to consider the value of PCS as a catalyst. It is important to remember that banks seem to interpret PCS in a wider sense of DFI/MDB presence rather than the technical definition of what PCS might be with respect to convertibility and transfer risk.

Does the presence of a development bank in a transaction influence bank strategy in any way? The answer from participants is a resounding 'no' across the board. While it might tip the balance for individual deals there was a unanimous view that these transactions would have to fit into the existing strategy of a bank. Banks make up their own minds on policies and lending criteria and generally ignore the agenda of the MDBs [P5]. As such, speculative lending opportunities are strictly limited or non-existent [P6]. Participation in any deal regardless of the participation of an MDB needs to align with a bank's core strategy and interests [P5, 8, 9, 17]. This also extends to the case of a bank that takes conditional funding from an MDB in a developing market. Even if there is a pricing advantage to receiving funding from the MDB, the bank will not take the funding unless the target borrowers fit the bank's customer profile [P3, 10]. Some of this reluctance comes from not wanting the MDB to impose its own agenda onto the bank [P10].

The power of MDBs to crowd the private sector into less developed countries is not only limited by economic development but also by sanctions. Given that some countries are strictly off-limits to the private sector, the MDBs would need to operate on a standalone basis in any case [P14].

The behaviour of borrowers was cited by some participants as a material consideration as to the effectiveness of efforts to mobilise the private sector. For some, there is a clear belief that the borrower can choose how the funding is sourced for different project types [P13]. As an example, if there are projects that have defined cashflows such as airports or toll roads, then a borrower might encourage private sector participation. Other infrastructure projects such as hospitals and schools would be steered toward the host government asking for funding at the MDB sovereign level rather than trying to work out how to structure transactions to incorporate the private sector. There are some projects such as water infrastructure that participants said that they would like to participate in, but were excluded by the borrower because funding requests were diverted to a relevant ministry of finance and so not available to the private sector [P3, 13].

Syndicate formation and operations are clearly affected by MDB presence, and this aligns with findings in the existing literature. Certain banks derive significant comfort from having the MDB as the lender of record [P4, 8], while noting that these syndicates are governed by different constraints to fully private sector syndicates. The transfer restrictions on loans in a syndicate led by MDBs are more constrained to avoid a 'mess' amongst the lenders if something starts to go wrong [P3]. This clearly has risk management benefits from a control perspective, but limits the ability of banks to manage their credit portfolio risks so can also act as a deterrent to participate. One European bank was quite particular about the question of whether an MDB acts as lender of record or not. While on occasion the bank would be quite comfortable to let an MDB take the lead, in cases where it felt that it needed to be very close to the cashflows it might only participate as the lead on a transaction and insist on being the lender of record [P17]. Clear benefits are attributed to having an MDB as the lender of record that align with the theory around information efficiencies. There are opportunities to make the transaction due diligence process more efficient and cheaper to operate [P12, 14], and also an expectation that working with a DFI brings deeper insights into a borrower and its business [P15].

5.4.4 PCS as a driver of capital mobilisation in securities markets

The benefits of working with DFIs are not confined to the lending market. For bond deals, the presence of a DFI can be very catalytic provided that its participation in a deal can be made public [P12], otherwise there is no value beyond the provision of additional capital. This participation was described as an example of the 'halo' effect, principally because a bond deal does not afford the same rights to the MDB to manage a transaction in the way that it could when it lends. There is the power of the deterrent that borrowers 'would think twice before defaulting on a DFI' [P18]. Another particularly interesting characteristic is that of the DFI behaviour in the secondary bond market. DFIs tend to be 'buy and hold' investors which gives a few interesting advantages: signalling to other investors, price stability and the ability to be 'wall-crossed' [P16] to provide private information. Wall-crossing describes the separation of public and private markets to avoid insider trading and conflicts of interest. If an investor is given private information (deliberately or accidentally) it would be prohibited from trading the bonds in the secondary market. However, as the DFI is not an active trader it can potentially be wall-crossed and taken into new discussions if there are concerns with a borrower [P16]. Generally, having a DFI participate in a bond deal in a public way is good for all parties. A potential drawback is that the buy-and-hold approach to investment would inhibit a DFI from recycling its balance sheet, so while buying bonds can be catalytic for mobilisation, there is scope to leverage a DFI's balance sheet further. The participation of a DFI as a co-investor is seen to be very positive in the bond market [P20], which is a clear contrast to the role of DFIs as co-investors in the lending market.

There was a broad consensus with participants that capital mobilisation would be significantly increased if there was a way to unlock greater securitisation of DFI assets. MDBs are perceived to be reluctant to engage in securitisations in a scalable way because of their reluctance to cede control of the structuring process [P3, 20]. However, securitisation is clearly seen as the route to mobilisation [P13] because the 'trillions' of dollars required are sitting with the investors and not with the banks [P12]. As a result, focusing on bank lending as the primary tool for mobilisation is not

considered to be sufficient. Banks do not have the capital to support mobilisation alone and so risk transfer techniques need to be sorted out [P15]. The biggest challenge in securitising or transferring risk to investors is the misalignment of mandates for liquidity and risk [P14, 20]. Part of this stems from the fiduciary duty challenge with investors, but there is also inertia to overcome in encouraging investors to change their business models. There was some disappointment with organisations such as the Global Investors for Sustainable Development (GISD) Alliance where the actual outcomes do not match the stated commitments [P14, 20].

Changing the operating model for development finance is clearly challenging and it does require some changes at the DFIs themselves. There were requests for DFIs to use their ability to provide technical assistance more imaginatively given the limitations on private sector banks [P12, 13]. This might entail providing technical assistance to transactions where the DFI is not lending directly, but being able to structure the assistance as a loan of itself to a project. There were several opinions that DFIs need to do more to repackage and figure out how to redistribute assets to investors, and to be more market sensitive to the degree of complexity that is embedded into transactions as this make them less attractive and harder to transfer to the private sector [P3, 12, 13, 19].

5.5 Discussion

The bank interviews provide useful additional context to position the existing literature relative to actual lending operations in financial markets. The causality suggested by existing empirical research is reinforced by market practice in some respects, although there are some areas where further research enquiry seems necessary.

It is clear from the interviews that the participants are fully engaged with the capital mobilisation process that the MDBs have initiated. Perhaps the least surprising finding is that the private sector banks are fully in favour of finding ways to leverage private sector investors through financial markets. The ideas, preferences and views

of participants mirror the description of the Wall Street Consensus described in Section 5.1 (Gabor, 2021).

The first question is to ask what kind of value PCS has for private sector banks? The interviews show that only a small number of banks are able and willing to adjust their internal credit ratings because of the presence of an MDB in a transaction. Prudential regulation does not permit banks to monetise benefits in the absence of concrete, modelled evidence. The evidence on the benefits of PCS is sparse or non-existent, and so banks need to work with their existing credit models and internal ratings. The financial impact of changing internal ratings by a 'notch or two' in absolute financial terms would depend on the magnitude of change in the applicable PD. The PD change could result in RWA reductions and could in theory change transaction pricing. However, that would only be meaningful if the bank concerned could affect the overall syndicate pricing which seems unlikely given that most banks would be unable or unwilling make such an adjustment. In this respect, while lending spreads could theoretically be reduced, as suggested by Gurara et al. (2020), and also by Brockman et al. (2020) in the context of social trust, it seems unlikely that banks would reduce lending spreads in practice. There is a clear contrast between actual credit outcomes and regulatory norms. In practice, participants generally acknowledge and accept that PCS reduces the probability of default and should produce better outcomes. However, as PCS is rarely taken into account for RWAs and pricing, the carrying cost of a transaction would be unchanged, which in turn suggests that PCS brings no direct financial benefit to private sector banks. A potentially transformative project for the future would be to find a solution to credit modelling that incorporates PCS and that is acceptable to prudential supervisors.

In contrast, it is clear that PCS is understood by banks as a risk mitigant that affects the overall 'quality' of a transaction. 'Quality' in this context means that there are some non-financial benefits that can remove internal barriers to participating in a deal. This clearly reinforces findings in the empirical literature. PCS is recognised as facilitating transactions that would otherwise not take place by reducing and mitigating political and credit risk as suggested by Chelsky et al. (2013), Broccolini

et al. (2021) and Degl'Innocenti et al. (2022). The participants in this study use similar language to the literature in acknowledging the information asymmetries that the MDBs help to resolve which aligns with the work of Cumming, Lopez-de-Silanes, et al. (2020) and Brockman et al. (2020). Considering the role of an MDB as a mitigator of risk, there appears to an alignment between theory, research and practice.

At a higher level, there remains a complex relationship between the borrower/project, the host nation-state and an MDB, which may be simultaneously lending to the government and to the private sector. As highlighted in the interviews, the private sector banks do not feel empowered to influence the types of projects that are available for financing, nor to dictate which risks are absorbed by nation-states. The critique of the WSC (Gabor, 2021) does not contradict the findings on PCS, but serves to highlight an important gap with regard to a 'theory of capital mobilisation' that considers the economics of mobilisation incorporating MDB subsidies and externalities experienced by nation-states from the mobilisation process. This theory might provide an additional framework for considering which types of SDG-related projects ought to be funded by nation-states versus the private sector.

The participants also frame risk mitigation in syndicates in the language of 'political umbrellas' which agrees with Hainz and Kleimeier (2012) and Gurara et al. (2020). Banks describe PCS as being 'extended' or 'given' to them. Ironically, given the lack of practical experience of the benefits of PCS, this perhaps also chimes with Martha (1990) that the banks have acquiesced to the existence of PCS with little evidence to demonstrate the benefits.

On a positive note, the qualitative effect of having an MDB present in a transaction appears to change the risk appetite of banks, which is evidence of mobilisation and additionality in practice. The discussion of tenor extension confirms the findings of the two studies by Gurara et al. (2020) and Broccolini et al. (2021) in that banks stated they are willing to extend tenors for MDB-led deals and make credit exceptions. Given that these two research studies took place around the same time as the bank interviews, this is an encouraging sign for current mobilisation efforts.

The evidence around the reasons that banks might join syndicates is less conclusive. For example, while Esty and Megginson (2003) link syndicate concentration to the presence of an MDB, this did not seem relevant to private sector banks. Banks do appreciate the deterrence power of an MDB and that might change the decision to join a syndicate. However, the interviews only seem to support this if the borrower is already a client of a bank, and do not support the idea that banks will lend speculatively to non-clients. Although tranching is commonplace in development finance (e.g. A/B loan structures) the interviews do not suggest that this facilitates more lending and is seen more in operational terms. This leaves a question mark over the suggestion by Cumming, Lopez-de-Silanes, et al. (2020) that tranching would really have an impact on development funding.

There is clear message from participants that is important for mobilisation – banks will follow their clients first and foremost. Unless the banks' clients are investing in projects that support the SDGs and the Paris Agreement, the banks will not join syndicates just because they are MDB-led. In addition, there was some push back from the participants on the idea of co-investment as a solution to leverage the private sector. The message from the banks is that they value MDBs *because* they are different, echoing the point made by Cordella and Powell (2021).

5.6 Conclusions

The system of mobilisation highlighted in Figure 5.1 (the 'quadrality') is complex, and PCS is just one of the forces in play that affects the flow of finance. However, as the stakes of fulfilling the SDGs are so high, and the investment needs in the trillions of dollars, a careful unpacking of 'what works' in mobilisation is essential. The qualitative perspectives gathered in this set of interviews brings a deeper understanding to banks' decision-making processes and how they can engage with MDBs on capital mobilisation. For multinational corporations working in emerging markets, it helps to illustrate some of the effects of MDB financing.

PCS is clearly viewed as a benefit to private sector banks and through this series of interviews it is possible to position financial markets practice more closely to the existing literature. PCS means a lot more to banks than convertibility and transfer risk. Although PCS does not appear to have an explicit value in a bank's financial statements, it can unlock capital for mobilisation by reducing risk. This in turn can affects banks' risk appetite, remove barriers to lending and extend transaction maturities.

Mobilisation through bank lending will continue to have natural limits to what can be achieved if it needs to align with banks' geographic and sector strategies. There might be an opportunity here to understand how MDBs might mobilise the corporate sector and entice the banks to follow their own clients. However, the real opportunity, as presented by the participants in this study, is for MDBs to engage more with large investors such as asset managers and owners. As private sector banks have responded to regulatory change and reduced the amount of long-dated assets on their balance sheets, working more closely with such investors is now perceived to be essential for capital mobilisation. It is the investors that are sitting on the 'billions and trillions', not the banks.

There are clearly further challenges with finding the right mix of investment structures to match investors' mandates and that should be a fruitful field of future research. There have been successes with investors, and in particular the presence of a DFI/MDB as a publicised lead investor in a bond transaction is viewed as truly catalytic. Acting as an anchor investor on development transactions is within the current harmonised definition of additionality that has been agreed by larger MDBs. An area which therefore needs further consideration is the structure of financial transactions that are intended for eventual distribution to private sector investors. This could include an extended study of the value of tranching in syndicates to make the contribution to the gaps in developing funding explicit.

The results from this study will hopefully provide encouragement to the ongoing mobilisation effort. Being able to bring the views of the private sector and add them to the overall body of work in this field helps to reinforce prior findings, and to challenge

others. It is acknowledged that generalisation from qualitative research is not always possible. However, in this instance it is hoped that that the new questions raised by this work, and the suggestions for future research, are sufficiently compelling to inform future mobilisation efforts.

Chapter 6

Financing the Sustainable Development Goals: Private Sector Perspectives on 'Bankability'

Abstract[1]

Mobilisation of the private sector in support of the United Nations Sustainable Development Goals relies on creating bankable projects that align to the risk appetite of private sector institutions. This paper brings a new perspective to the opportunities and constraints to mobilisation through interviews conducted with 22 senior, front-line investment bankers from 18 banks with a total asset base of $25.6 trillion. Using a thematic analysis, the interviews demonstrate that (i) market structure and practices of MDBs are not always aligned with the private sector, and (ii) the technicalities of risk, reporting and taxonomies create mismatches between the goals of MDBs and private sector banks. These findings explain some limitations on the scope of bankable projects that could be financed, but also highlight avenues for future research and policy action to mitigate the constraints and increase capital mobilisation.

Keywords: Sustainable Development Goals, capital mobilisation, investment banks, commercial banks, sustainable finance, bankability

JEL Classification: F33, F34, G21, O19

[1]Elements of the findings in this work were published in an IACPM white paper in September 2021 (McHugh, 2021a).

6.1 Introduction

> *'The real challenge is not a matter of money but a lack of bankable projects'*
>
> *World Bank President Jim Yong Kim.* Reuters (2014)

> *'While the key challenge is typically explained as one of insufficient financing, the real issue holding infrastructure investment back is lack of investable projects.'*
>
> *World Bank Blogs.* Zelikow and Savas (2022)

There is an accepted belief in development finance circles that multilateral development banks (MDBs) need to mobilise private sector banks and investors to fulfil the Sustainable Development Goals (SDGs) and the Paris Agreement. The economic justification comes from the initial reported funding gap of $2.5 trillion per year (UNCTAD, 2020, p. xiv) and the continuing identification of significant gaps in subsequent years (UNCTAD, 2021, 2022; Zhan and Santos-Paulino, 2021). MDBs do not have sufficient capital to complete the task on their own if these funding gaps are correct, and commercial banks are increasingly capital-constrained given the Basel reforms since the global financial crisis (GFC) of 2007-9 (Bayliss and Van Waeyenberge, 2017; Martynova, 2015; Mendez and Houghton, 2020; Starnes et al., 2016).

In following the 'billions to trillions' agenda (Development Committee, 2015), the development finance community, led by the MDBs and with the support of the G20, is now also seeking to find ways to tap into the funds under management by investment management firms rather than relying principally on bank lending. It seems clear that a major constraint is not availability of funds but the lack of bankable (investable) projects. For SDG-focused or climate-driven projects, there is an additional uncertainty about the actual project risks and outcomes that is a further obstacle to scaling private finance as it tends to increase the required return on capital (Mendez and Houghton, 2020).

The G20 International Financial Architecture Working Group published principles for crowding-in private sector finance in which mobilisation is defined as 'Private financing on commercial terms due to the active and direct involvement of MDB

leading to commitment [of funds]' (G20 – IFA WG, 2017). The World Bank Group responded to the crowding-in initiative by inverting its thinking about development finance into a 'cascade' model, whereby private sector finance would always be the preferred choice, followed by policy reform, de-risking through subsidies or guarantees, and then direct public sector lending as a last resort (Heldt and Dörfler, 2021; Gabor, 2019, p. 13).

This way of thinking about mobilisation has gained primacy in financial markets with private sector banks, investors and development finance institutions (DFIs) more generally. However, it runs the risk of portraying the private sector as passive participants (the 'mobilisee'), waiting for a DFI (the 'mobiliser') to come up with an investment opportunity which it can lend against or invest in. Much of the literature highlighted in Section 6.2 is also framed in this way which can lead to misunderstandings of the difficulties that arise from mobilising such significant financial sector flows.

This paper provides new insights into the challenges and opportunities of creating a pipeline of bankable deals from the perspective of private sector banks. The investment opportunities are clearly immense given the funding gap. Improvements in infrastructure, in particular in the least developed markets, would transform economic development. The challenges are equally large – investment appetite for the countries where the SDGs are most impactful is limited and would require significant reallocation of capital to riskier markets. The typical structuring solution is to work with project finance vehicles, although this limits the pools of investment capital available as this type of structure is inherently more complicated than traditional lending.

The findings in this study are based on confidential interviews with some of the largest commercial and investment banks and explore their working relationships with MDBs and other DFIs. The focus is on how projects can fall within the scope of SDG-related financing and be deemed 'bankable' rather than how the transactions are ultimately executed, noting that the two issues are closely aligned.

This paper contributes to the existing body of literature by bringing new insights from private sector banks to the debate on capital mobilisation. It highlights both constraints and opportunities to increase the flow of bankable transactions. First, it confirms how MDBs/DFIs are viewed as helping to de-risk transactions from a private sector bank perspective. Second, it demonstrates that the difference between development finance and sustainable finance is a factor in the persistence of the SDG funding gap. Third, it explains how some elements of the market activity of DFIs can affect mobilisation. This might be in a positive way through resolving information asymmetries, or negatively through competition and price compression. Fourth, it highlights the constraints that banks experience from their own risk mandates from issues such as technology or currency risk. Finally, it explains how completing reporting standards and taxonomies should facilitate greater mobilisation.

The structure of this paper is as follows. Section 6.2 provides background to previous studies that explores bankability and mobilisation. Section 6.3 outlines the key themes that were adopted for the interviews related to bankability (to be read in conjunction with Chapter 4 for the full methodology). Section 6.4 uses the findings from the interviews to explore both the impediments and opportunities relating to the origination of bankable projects and links back to the literature. Section 6.5 draws some conclusions about practical ways to alleviate some of these impediments to private sector mobilisation.

6.2 Background

The persistence of the SDG investment gap and an increasing desire to engage private sector capital flows are signs that the market for development finance is capacity-constrained. The persistence of the funding gap can potentially be explained through an examination of the market structure. In an assessment of the competitive conditions of development finance, McHugh (2023) shows that the market is a competitive oligopoly. The implication of this is that there is a shortage of bankable projects with the right risk/reward profile for the private sector. This empirical work

supports the idea of the existence of 'bankability' as a binding constraint on the pipeline of projects that can be originated based on current practices.

It is important to note that the idea of using the private sector to fill the investment gap is not universally accepted despite the G20 and UN mandating the MDBs to do exactly that (G20, 2015a; IATF, 2016). Gabor (2021) argues that this Wall Street Consensus (WSC) runs the risk of distorting financial flows to benefit the private sector, but at the potential cost of creating externalities for nation-states that are providing contractual commitments or guarantees to infrastructure projects. This portrayal of an MDB as 'the mobiliser' and the private sector as 'the mobilisee' seems to overlook the role of the borrower in deciding which financial institutions to ask for funding. This alternative view is important because it raises questions of what limitations should be placed on mobilisation, and whether it is realistic or desirable for the private sector to fill the entire SDG funding gap (Gabor, 2021; Zhan and Santos-Paulino, 2021). Schindler et al. (2022) seek to reconcile the rise of state capitalism and the WSC as they seem to be contrary ideas. They argue that a de-risking state can benefit from gaining control over industrial policy, and so in this way the WSC is a benefit to the host nation rather than subordination. However, this debate is beyond the scope of this paper and does not negate the need to understand how projects can become bankable for the private sector in line with the G20/UN position.

There are also some nuances around the nature of the existence of an investment funding gap for the SDGs. At an individual bank or investor level, this seems to be an asset allocation problem given that a financial institution has a capital constraint. Lagoarde-Segot (2020) argues that this way of thinking (i.e. the loanable fund theory (LFT)) is misleading at a macroeconomic level. He argues that it is debt-driven investment that creates savings which is the reverse of the thinking behind the LFT. His proposed solutions to influence SDG investment flows include ideas such as the issuance of thematic bonds, or governments setting hard sustainability targets. These ideas are similar to forcing banks and investors to align to taxonomies. In that case, it is up to governments to set the frameworks through policy, financial regulation and the law. In Lagoarde-Segot's logic, there is no investment gap, but that investments

are simply not going projects that are deemed to be SDG-aligned. This is also anticipated by Cingolani (2022) who argues that only governments can provide the 'deeply transformative' thinking needed to fund the SDGs. In short, to intervene through regulation. Unless governments can correct for externalities through pricing, the private sector might remain limited to ESG-linked projects.

6.2.1 Deal bankability

What exactly is bankability? The terms 'bankable' and 'bankability' often appear in the literature without being closely defined. The Global Infrastructure Hub (formed and supported by the G20) explains that if a transaction has a suitable return on capital profile, and if the risks are fairly allocated between participants and lie within the risk mandate of the private sector, then the project is deemed bankable. 'Put simply, a project is considered bankable if lenders are willing to finance it' (GI Hub, 2018). The high-level nature of this definition hides the complexity of the underlying problem and is not particularly useful.

In contrast, McCoy and Schwartz (2023) provide a much more granular illustration of how complicated the investment process becomes by presenting a framework for bankability as it pertains to the water sector (focusing on SDGs 6.1 and 6.2). They lay out 6 dimensions of bankability: 2 supply side (investor appetite, investment structure), 2 demand side (underlying asset type, project phase) and 2 in the 'enabling environment' (local legal/economic environment, project 'modality' - meaning the overall shape of the deal). The value of this type of framework is that it expresses the bankability problem in a form that is familiar to practitioners working in banks and investment management firms.

The definition of bankability matters because the risk mandate given to a financial institution is as important as the profitability metric. There will be certain deals that the private sector will not tolerate because the risk mandate might be limited by country, maturity, industry sector or currency risks. Other non-financial constraints might also apply such as political, compliance, sustainability and/or reputational

risks, or overarching corporate strategy. Bankability is the combination of profitability and an acceptable overall risk profile. When we ask the question of whether a deal is bankable (or not), it is a combination of the 6 dimensions (as per McCoy and Schwartz (2023)) of investment and not all of them are within the control of an MDB.

There is perhaps one additional 7th dimension for bankability for capital mobilisation, which is the requirement for MDBs to demonstrate 'additionality' and avoid crowding out the private sector. Additionality can be direct or indirect, with the key tenet that an MDB should only be present in a transaction where the private sector would not do the deal otherwise (Multilateral Development Banks, 2018a). By redistributing the risks in a transaction, the deal economics can be rebalanced such that the private sector component becomes bankable due to the presence or actions of the MDB. This is often referred to as 'de-risking' a transaction because the MDB mitigates sufficient risk factors for the private sector to invest at a suitable rate of return (Bayliss and Van Waeyenberge, 2017).

Methods of de-risking through additionality are explicit in the Harmonized Framework for Additionality in Private Sector Operations (Multilateral Development Banks, 2018a). Non-financial additionality can derive from actions that an MDB takes to de-risk a transaction through improving the commercial environment in which a transaction is situated. This could be from influencing policy change in the target market, setting standards, education or from an MDB's ability to give sufficient comfort to encourage the private sector to participate in deals that it would have otherwise avoided. This comfort could derive from a bank's acceptance of an MDB's Preferred Creditor Status (PCS) or from its ability to resolve apparent information asymmetries for the private sector if it has a long operating history in a sector or country.

As the rebalancing of risks is closely related to the choice of financial structure used to execute the transaction it can be difficult to untangle financial structuring from risk appetite. However, there are some fundamental barriers to bankability that cannot be eliminated by financial structuring such as misalignment of investment or lending

mandates (e.g., country or sector restrictions). In McCoy and Schwartz (2023) this is the difference between the supply dimensions and the enabling environment.

Financial additionality addresses the supply dimensions and pertains to the mechanics of a transaction and the role that the MDB plays. The MDB could be providing additional funding to complete a syndicate, taking local currency risk or assuming different financial and contractual risk to the private sector on a transaction (e.g. taking a subordinated loan) (Bayliss and Van Waeyenberge, 2017). This might also entail the MDB providing a subsidy for a transaction to close a deal following the logic of the WBG's cascade model. This could be the case for portfolios with concessional or sovereign lending (Galizia et al., 2021, p. 36), or explicit in the design of a transaction such as a debt-for-climate swap (Chamon et al., 2022).

It is important to distinguish between the different types of de-risking described in the literature. Gabor (2019) addresses the question of whether securitisation will help to achieve the SDGs by focusing on the role of MDBs as agents to de-risk transactions. In this context, de-risking means tranching the risk on a deal through subordination which is a structural form of financial risk reduction. The non-financial risk reduction is perhaps implicit if the deals are already sitting on an MDB's balance sheet. Gabor (2019) is equally clear that providing subsidies in transactions is not de-risking.

One missing element from this positioning of deal bankability relates to whether the private sector has sufficient incentive to participate in funding the SDGs in the first instance. Are their interests aligned? This is a fundamentally different question and relates to the types of investors that MDBs could target for mobilisation.

6.2.2 Alignment of interests

It is not enough to de-risk a transaction and expect the private sector to finance it. There also needs to be an alignment of interests between the investment objectives and mandate that a private sector bank or investor has been given. Although many financial institutions explain sustainable finance as a combination of the SDGs and the Paris Agreement, the implementation may use slightly different frameworks under

the banner of ESG (Environmental, Social, Governance). By necessity, the 169 SDG targets are drafted at a relatively high level and, while they might provide general guidance, are not detailed enough for a financial institution to use them on a standalone basis for operational policies. Chamon et al. (2022) advocate for more standardisation of key performance indicators (KPIs) between the SDGs and ESG frameworks to improve this alignment.

The framework mismatch leaves room for 'interpretation gaps' between what an MDB wants and what a private sector institution is willing to do. To create some global coherence, the UN has created a family of Principles for Responsible Investment (PRI) (UNPRI, n.d.), Responsible Banking (PRB) (UNEPFI, n.d.[a]) and Sustainable Insurance (PSI) (UNEPFI, n.d.[b]). The principles are necessarily quite open-ended and non-specific so that they can appeal to the maximum number of global institutions. A downside of the general nature of such principles is that it leaves room for interpretation and therefore divergence. The risk is a lack of genuine impact and the possibility of sustainability-washing by participants. Kim and Yoon (2023) go as far as to suggest that the PRI appears to be more of a marketing tool for the private sector than an effective way to create impact from ESG investing. As the PRI is the longest standing set of principles (since 2006) this raises similar questions of effectiveness for the PRB and PSI.

The governance constraints for banks and for investors are different. Bank activity is largely defined by prudential regulation so the sustainability taxonomies and reporting that are being enacted in law will enable banks to control what they can do. In the absence of clear guidance and reporting, effective SDG funding might be taking place but remain under-reported (Barua, 2020). Investors on the other hand are constrained by their fiduciary duty to maximise returns and structurally by their own investment processes. Fiduciary duty is often a contentious point with different market participants asserting different legal positions. Schanzenbach and Sitkoff (2020) highlight the legal framework for the US where they strongly reject assertions by the PRI that risk-return ought to be mandatory for US trustees. Sandberg (2013) is equally clear in his rejection of the PRI position arguing that excluding investments in

a fund for ethical reasons is only permitted when 'they have reason to believe that all beneficiaries consent to doing so.' The point here is not to take sides, but to recognise that there is disagreement and that a trustee can only rely on their own legal advice and cannot accept an opinion from an external body such as the PRI.

Effective mobilisation needs to close some of the gaps and bring the alignment of interests closer together, whether that is MDB to bank, or MDB to investor. Although there have been moves to create a 'SDG Finance Taxonomy' that might facilitate reporting for financial institutions (Nedopil Wang et al., 2020), it is unlikely to inform internal credit, risk and lending policies as it would not be sufficiently detailed and each project would still need comprehensive due diligence. For Van Tulder et al. (2021), the SDGs run the risk of falling into an investment void as they are not compulsory or legally enforceable. Significantly, based on existing financial practices and pricing, Cingolani (2022) anticipates a potentially permanent gap between MDBs focusing on the SDGs, and the private sector focusing solely on ESG frameworks. Nevertheless, there are strong arguments in favour of bringing consistency to markets through taxonomies to minimise the potential divergence of ESG measurement (Dumrose et al., 2022), or otherwise identifying the gaps between different frameworks such as the Paris Agreement and the SDGs (Dzebo et al., 2019).

6.2.3 Summary

The academic literature that directly addresses the impediments to mobilisation is relatively sparse, but from the above sections it should be clear that there are some potential barriers to overcome. Deals need to be adequately structured from a risk/reward perspective, investment interests need to be aligned and there is a need for simplicity of execution to ensure that transactions can be scaled.

Given that the existing strategy for the UN/G20 is to use the private sector to fulfil the SDGs, and that the flow of bankable projects is too limited, there are some questions to be asked about mobilisation initiatives. First, is the current additionality assessment too restrictive and filtering out otherwise bankable deals? Projects that are being

developed need to have an adequate risk reward profile for the private sector and fit a prevailing risk mandate. Second, are the interests of the various parties aligned? MDBs are motivated to pursue the SDGs, whereas the private sector might have to follow different geographic and sustainability targets.

The literature supports the view that there is plenty of private sector finance available, but it is not being invested in line with the SDGs. Is there something about the SDGs and the interactions between MDBs and the private sector that causes this gap to persist? Are there impediments that could be eased to facilitate the MDBs' mobilisation efforts? This study is motivated by these questions and provides insights into how private sector banks perceive their own role in this market, and the actions of the MDBs that they work with.

6.3 Methodology

This section should be read in conjunction with Chapter 4 which lays out the full methodology for data gathering, participant profiles and coding of the interviews. The interview questions are in Appendix 4.A.

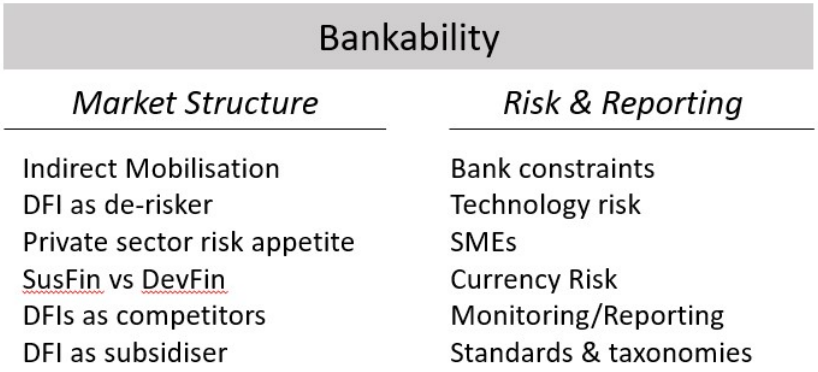
6.3.1 Bankability themes

In Section 6.2 the themes in the literature fall into two broad categories. First, a discussion of the types of transactions that DFIs can bring to market and how they are structured, and second, the alignment of interests between the public and private sectors. Coding of the interviews followed a similar logic. Consequently, this section is organised along similar lines and explains where there are potential overlaps and interdependencies.

The contributions from the interviews were wide ranging and so in Figure 6.1 the relevant sub-themes are grouped in the order in which they are presented to facilitate reading through this section. The term 'DFI' is mostly used throughout this section

noting that it encompasses a variety of types of institutions. Where appropriate a specific type of institutions (e.g. MDB) is specified.

FIGURE 6.1: Summary of principal themes from the interviews related to bankability



6.4 Bankability: private sector perspectives

The perspectives from the interviews are significant because they reflect a set of views from institutions that DFIs are trying to mobilise. It is an alternative perspective on cause and effect from the 'mobilisee' rather than the 'mobiliser'. The value comes from identifying where there might be agreement on how mobilisation works, where there are differences of opinion, and in identifying if there are gaps or opportunities to improve the mobilisation process and provide the scale of investment that is required to fulfil the SDGs.

6.4.1 Market structure

Creating bankable projects is a balancing act between the risk appetites of private sector banks and the markets in which development banks operate. The responses from the participants show that while there is a high-level sense of agreement on what 'bankable' means, there are diverse opinions on how to achieve it.

Development banks are appreciated for the work done in the background helping companies come to market with debt or equity issuance [P20][2]. This is seen a form of

[2]The numbering in square brackets maps to the interviews in Table 4.1.

capacity building that resolves an information asymmetry by ensuring that companies meet, and adhere to, IFC Performance Standards. This could be an example of additionality, although it is not clear why private sector banks would not be able to perform this function themselves [P12, 14].

The lack of suitable projects for investment opportunities is explained in different ways, although there was general agreement that it is not due to the lack of available funds [P6, 12, 20]. A limiting factor can be that a commercial bank is not permitted to approach an MDB for support on a project, and that the request needs to come from the borrower [P17]. Given that the borrower has an incentive to obtain the cheapest funding possible, the borrower might choose to fund a project through a sovereign loan instead [P13]. In that sense, a lower financing cost from a MDB to a sovereign is a limiting factor in creating a volume of suitable investment opportunities as the borrower has an option to decide how to fund a deal. Projects remain unavailable to the private sector because they are being funded via a sovereign loan instead.

Another constraint is the way in which DFIs manage their balance sheets. For a DFI to make a fair market return for the risks it is assuming it might need to hold assets to maturity. This would limit incentives to redistribute credit risk to the private sector through risk participation agreements, syndication, or securitisation [P19]. DFIs were perceived to be reluctant to execute this type of risk 'recycling' because they have their own budgets to meet. Any capital released would need to be deployed into new projects to maintain financial returns [P16].

6.4.1.1 Indirect Mobilisation

The SDG funding gap persists not just from the shortage of bankable projects, but also because the banking system does not have sufficient capacity on its own. To make the 'billions to trillions' leap it is going to be necessary to mobilise large capital markets investors for whom the transaction format of choice is going to be public securities and bonds [P12]. The traditional A/B loan syndication structures are not enough to bridge the gap – the transaction structure will need to graduate to a security format because that is where the funds are located [P12].

An important but controversial form of indirect mobilisation has been the implementation by the United Nations of the various sets of international 'principles' as highlighted in Section 6.2 (PRI, PRB, PSI). One participant [not to be identified] was involved with the drafting of UN Principles for Responsible Banking (PRB) and highlighted a problem that derived from the process taken to agree them. This participant felt that in the desire to have as many signatories from as many geographic areas as possible, the PRB were watered down to the point that they have no impact. In the view of this participant, the PRB became a consensus document. The starting text became unrecognisable as a result and solved for the lowest common denominator rather than having real traction.

6.4.1.2 DFI as de-risker

A positive attribute for DFIs in developing a pipeline of bankable deals is that they are clearly recognised as de-risking transactions [P1, 2, 10, 16, 20]. However, there was a range of views about what the nature of de-risking is in practice. For some it reflects a resolution of information asymmetry, such that the DFI brings additional trust to a client relationship. The DFI has access to borrowers to obtain information that a private sector would not be able to get on its own. The information does not necessarily have to be passed to the private sector. The presence of an MDB partially resolves this information gap [P20]. [P16] provided a specific example of a bond deal in Africa where some major DFIs came in to participate in the transaction (CDC, EIF, IFC) which made the deal 'too big to fail' in the eyes of private sector investors.

For other participants, de-risking also comes from providing support in the form of additional funds and/or guarantees [P1, 2, 10, 19]. This relates to the choice of transaction structure and is pertinent in the context of the discussion of what affects the volume of bankable deals. Examples given of the institutions that were expected to support in this way included EIB, EBRD, KfW, SACE and so this does appear to have a European, developed market flavour to it and less related to the implementation of the SDGs.

One participant focused on technical assistance as an important factor in de-risking projects, and as a constraint on the stock of available investment opportunities [P12]. This participant gave an example from the Caribbean of where an MDB could have provided technical assistance to unlock a funding package to address a particular need for a climate impact assessment, but the MDB would not do so because it was not part of the lending syndicate. Neither would the MDB consider constructing the technical assistance as a loan so that could be repaid. [P12] considered this to be a missed opportunity.

6.4.1.3 Need to fit private sector risk appetite

The question of fitting deals to private sector risk appetite is contentious. On the question of profitability, as private sector banks are regulated, there is a sense that a required return on risk-weight assets (RWAs) needs to be reached. In practice, this threshold is somewhat arbitrary for both banks and investors as they cluster around a 'market clearing' rate of return rather than there being an absolute number. There is nothing to stop a private sector institution increasing (or decreasing) the required rate of return for a specific deal.

One way to manufacture the private sector return threshold is through debt subordination [P6], where the DFI would take a junior position in the capital structure to create the additional gearing required to get a deal to work for a client. This clearly has an element of feedback, in that the higher the investor return requirement, the more leverage is required or MDB debt pricing must be tighter. This is the subsidy risk that the DFI runs and is a hazard for the public sector. This is not crowding in/out or mobilisation, but a pass-through of value from a DFI to the private sector for no additional gain. If the private sector had lower return requirements there would arguably be more mobilisation [P6].

Risk appetite has several dimensions and extends beyond profitability thresholds. Banks have risk limits for countries, industry sectors, loan tenors, currencies and cross-border lending. With the recent trend toward sustainability reporting, the

restrictions on industry sector become more nuanced and borrower-specific, although given that DFI activity is by its nature 'sustainable', it is unlikely that the private sector would balk at the industries that the DFIs pursue.

There is a sense from the participants that some DFIs (more specifically MDBs) are too restrictive on what they will do. Some MDBs are taking a hard line on climate transition and stopping funding to certain sectors such as coal. This is often mirrored by banks in the private sector, but some participants highlighted the potential lost opportunities in being able to fund firms that are in climate transition [P13, 18]. If MDBs choose not to fund or incentivise transition, then there will be a gap between what they are willing to mobilise and where investor flows might go.

In a similar vein, [P8] wanted DFIs to engage with more transactions that are 'borderline ESG' and align with what the banks are trying to do on transition. While acknowledging that this might not align perfectly with a given DFI agenda, it could be an area for DFIs to explore if they wanted to leverage the private sector more. [P8] considered it to be a missed opportunity.

Other participants identified constraints related to conditional lending where there is a mismatch between an MDB's desired agenda and what the private sector can deliver given its customer base. [P3] provided an example:

> *'[We have been asked to] focus on Egyptian start-ups with founders under 30. We simply wouldn't have that kind of risk. I think you need to be realistic. We are a bank'* Participant 3

Banks that have a more developed-market corporate client base are less able to deliver against the MDB agenda to lend to emerging markets in support of the SDGs unless there is a link back to export activity from these domestic clients [P9]. The opportunity here is a potential overlap between MDB and ECA agendas and the way that investment from the developed-market corporate sector flows overseas.

6.4.1.4 Sustainable Finance and Development Finance are different

A striking feature of the interviews was the different interpretations of what the question of mobilisation means in practice if framed against the SDGs and the Paris Agreement. The participating banks universally talked in terms of 'sustainable finance' (SusFin) rather than 'development finance' (DevFin). It is more than a semantic difference as it highlighted a gap between how lending activities are explained to the market, and how they are operationalised inside the banks. Some participants consider the SDGs to be a subset of ESG, and a reporting mechanism rather than a framework in which to operationalise its lending [P8, 11, 13, 14, 17, 18, 19, 20].

The SDGs are considered an important communication framework that is readily understood by external parties. One participant [P12] described how their bank consciously aligned its reporting framework with the work of IFC in order to report and explain its activity in terms of development finance. The bank felt that investors were increasingly seeking out assets which would be 'qualified' as transactions with positive impact, whether categorised as ESG, sustainable or development finance. Ultimately, the bank decided that this approach is good business. Critically, it did not necessarily change the transactions that the bank executed. It was presented more as a framework against which to explain its activity.

For operationalisation of sustainable finance, external communication and internal policies are different around ESG/climate compared to the SDGs [P8]. There is a distinction between what the bank needs to say and represent to stakeholders as external communication, and the policies that are used internally for running businesses. There is an obvious need for alignment between the two, but it is important that they are different because policies that apply to transaction execution need to be closely risk-managed. This view was also reflected by [P11]:

> *'SDGs are for reporting and not for internal controls. Internal ESG targets are the real drivers of bank behaviour.'* Participant 11

Similarly, [P17] described the SDGs as:

> *'...a useful starting point for setting the sustainability goals for the bank, but to create something operationally useful the bank had to go much further.'*
>
> Participant 17

This point was echoed by [P18] where the bank had to organise workstreams around the SDGs to interpret what it meant for the bank, and by [P19] where the bank uses the SDGs as a mapping tool rather than a means to operationalise sustainability. It is this process of adding operational detail that leads to organisational divergence and lack of standardisation.

When asked about the SDGs and the Paris agreement, [P2] immediately responded by reframing the question to be about ESG. For [P3], SDG alignment is topical and important within the bank, but the loan book is not categorised in that way. There are challenges in defining what would qualify and align to each SDG (the example given was female economic empowerment). Vetting smaller deals is tricky which presents a significant issue for reporting [P3, 10].

Several participants wanted to discuss their own bank's priorities as a counterpoint to the SDGs. [P1] described sustainability as a 'megatrend which drives the market'. This presents sustainable finance as an overarching idea that ought to align to everything in both developed and emerging markets. It is what the private sector is willing to fund, and it would be helpful (for [P1]) if the DBs could align their thinking on how they could tap into that willingness.

It became evident from the interviews that climate and the 'greening' of the balance sheet are much bigger priorities than anything else. The internal green agenda is seen to be more important for shaping the balance sheet than the SDGs [P4, 5]. When it comes to portfolio risk transfers there can be other mismatches. Banks focus on capital optimisation, whereas MDBs might focus on other issues such as credit concentration or borrower type so there is a possible misalignment of monitoring and transaction criteria [P5].

The fact that many DFIs are not regulated as banks is seen to be somewhat divisive. Although said somewhat flippantly, [P14] observed that banks 'essentially do what the regulators tell them to do'. In other words, banks are rules-driven by definition and bank regulations will dictate what happens. The activity of regulators to define and categorise sustainable finance and ESG are arguably more impactful than the SDGs. The challenge is that financial regulation is so complex and driven to a large part by the variation of regulations between geographies and spheres of influence. It requires a huge amount of energy to report and follow the rules which are often not aligned across jurisdictions [P14]. Banks are driven by regulators and politicians rather than clients, and it is hard for banks to re-align to the SDG agenda [P14].

One participant had a sense that some MDBs are frustrated in how the SDGs are being used [P20]. The participant felt that it was not intended to design the SDGs as an investment framework even if investors have started to use them in that way, and that some SDG goals are fundamentally not investable. As an example, gender equality is problematic from an investment perspective (similar to [P3]), because it is either very difficult, or simplistic and not impactful. Measurable KPIs such as the number of women on boards raises other questions about how meaningful that measure is from a practical perspective. For [P13]'s bank, while noting that MDBs have some specific objectives that they might be focusing on, the bank is not looking at the transactions through the same lens. Conversely, for [P15], they did not see a significant difference between the MDB and private sector bank agendas. If anything, [P15] felt that the private sector is moving closer to the MDBs.

6.4.1.5 DFIs as competitors

Sometimes the actions of a DFI are reported to lead to competition and squeeze out the private sector. This derives from a tension between tighter pricing from a DFI to make projects viable that compresses margins to make the projects unattractive to the private sector. [P6] gave an example of renewable energy deals in Africa where the competition has been head-to-head, and occasionally in corporate lending in Eastern Europe where the competition effect has been more subtle.

In the Eastern European example from [P6], the DFI believed it was being 'additional' by lending for 12 years which is longer than a typical commercial bank lending appetite. However, the spread it was willing to lend at compressed the entire pricing curve making it less attractive for the private sector to lend for 7/10 years.

[P3] also had experienced direct competition in some South East Asian countries for lending in local currency. However, in general participants overwhelmingly view DFIs as partners first and foremost.

6.4.1.6 DFI as subsidiser

There was a broad view from participants that DFIs should be thought of as a subsidy-provider to make lending terms attractive enough for the private sector. The logic is clear – if the private sector is unwilling to do a transaction on standalone terms, something needs to change the economics to make it worthwhile. The improvement in economics does not just have to come from price. It can equally come from tenor extensions and other risk reduction techniques. [P10] saw this as a mechanism to unlock more new financing rather than refinancing of old deals.

As if to reinforce the majority view of DFIs being subsidy-providers, [P19] explained that a typical private sector institution would view the role of a DFI as being to guarantee (de-risk) or subsidise a transaction, and that the DFI does not need to receive a proper market return. [P19] felt that there might have to be an 'education' process to change this view and make sure that market participants realise that DFIs should not just be subsidy-givers, and that they need to be paid appropriately for the risk that they are taking.

Providing a subsidy might help to get a deal over the line but creates potential tension between public and private sectors on pricing. [P3] explained this as a fear from the public sector that banks will try to take advantage of them. The example given was the first Clifford Capital CLO closed in Singapore. The transaction is said to have worked from a pricing perspective because there was concessional capital for the

equity tranche and the return expectation for the public sector tranche was very low compared to what the private sector would demand. Is that sustainable? Probably not:

> *'You can't just do it once and then walk away and say, "Oh, we've finished now, this market's now open for private capital. Off you go, folks" '* Participant 3

At the time of the interview Clifford Capital were said to be attempting a second CLO with the equity no longer priced at a discount.

> *'They're not prepared to take any sort of shortfall and they want pricing to be at market levels. Well, I think it's premature to try and push it back up now… I think they sense that maybe they've been taken for a bit of a ride.'* Participant 3

This example serves to demonstrate that pricing is not a science, and that the level at which a transaction will clear is a negotiation.

6.4.2 Risk and Reporting

6.4.2.1 Bank constraints

There are governance constraints placed upon DFIs that limit the scope of potential projects that could be worked on. IFC was cited as an example of an institution that is not able to lend or invest into projects where there is any government ownership [P12]. While that is understandable to avoid any conflicts of interest with lending to the sovereign, that leaves a mobilisation gap given the number of wholly or partially state-owned institutions in emerging and developing markets [P13]. The binary view of the world as 'public versus private' is not a good reflection of the way that the developing world is organised in reality [P12].

Private sector banks have other constraints deriving from legal restrictions (e.g. sanctions) and controls on credit and political risk that limit the capacity for capital deployment into emerging markets [P6]. By extension, in emerging markets, client

overlaps between DFIs and the private sector can be quite small as private sector banks would tend to focus on 'Tier 1' clients (the largest domestic corporates) and leave Tiers 2 and 3 to the development banks [P15]. Scaling investment into such markets therefore requires new institutions and sources of capital to be found (either directly or synthetically), or alternatively to find solutions to unlock local capital [P6].

Taking the narrowest case of MDB restrictions (i.e. no state-owned enterprises), this paints a picture of mobilisation where the scope will be Tier 1 privately-owned companies in emerging markets, or project finance vehicles. The Tier 1 companies may be able to tap the international capital markets for themselves in any case. Based on the views provided by the participants, there is not much scope to scale up mobilisation in partnership with MDBs except by executing more project finance.

6.4.2.2 Technology risk

Banks also have self-imposed constraints on the amount of risk that they are willing to run when focusing on new environmental technologies [P1]. This is one of the major concerns around the green taxonomies that are being developed by bank regulators. If prudential regulation starts to 'bake in' specific technical solutions it is critical that the choices are correct otherwise banks will mis-direct their balance sheets. Banks can choose to shorten lending maturities or avoid certain projects altogether to manage the risk of technology change [P1].

An additional technology risk would arise if regulators started to consider altering risk weightings for green assets linked to taxonomies. This could be consequential for bank balance sheets and significantly affect deal pricing [P1].

6.4.2.3 Small and medium-sized enterprises

Small and medium-sized enterprises (SMEs) present special challenges for banks regarding sustainable and development finance. Of the banks interviewed, a large majority have an onshore emerging market entity somewhere in the world engaged in

SME lending in local currency. In the context of the sample, these entities are mainly lending in South East Asia, Eastern Europe and Africa.

Smaller companies have less reporting transparency and fewer resources to invest in the infrastructure required to demonstrate the sustainability performance [P1]. The lack of knowledge and dedicated staff in SMEs creates a monitoring issue for assessing additionality from conditional lending [P1, 3, 10, 16]. It can be challenging to ensure that the bank continues to receive the correct management information to complete its monitoring obligations once a loan has been disbursed. For conditional lending to make sense for a bank, there needs to be a natural fit between the existing client base and the DFI's objectives [P3, 10, 16].

6.4.2.4 Currency risk

Several participants highlighted local currency as a constraint on mobilisation due to lack of liquidity, lack of internal currency risk limits or convertibility restrictions. There was a sense that solving these local currency issues would be a significant factor in unlocking mobilisation flows [P3, 6, 10]. One bank was very keen on the idea of MDBs setting up more vehicles to absorb cross-currency risk (i.e. providing the example of TCX as discussed further in Section 7.2) and felt that this would be a great demonstration of additionality as the private sector is either unwilling or unable to manage the illiquidity risk (due to market risk capital) or convertibility [P6].

The provision of conditional funding by DFIs can also create currency risk problems. A participant working for a bank in receipt of US dollar conditional funding from an MDB felt that there is too much hard currency funding and the cost of swapping into local currency is too onerous for the local bank. This then acts as a disincentive to accept conditional funding in the first place. When the funding is provided directly to projects in hard currency, this participant also felt that the hard currency loans are too often going to companies who could issue in the international bond markets in any case [P10].

A point of contention with local currency lending arises when a DFI (typically an MDB) ends up in competition with an international bank with a local branch. One of the participants with operations in Asia highlighted this as a sometimes-complementary activity, where the commercial bank and the DB take different tenor loans, but sometimes direct competition where an MDB (in the example, the IFC) has got ahead of the private sector bank on a deal that they would have done anyway. In their own words: 'I certainly don't think they're particularly nuanced about where they play versus where they would encourage us to play'.

6.4.2.5 Reporting

The requirement for sound reporting is as essential for the private sector as it is for DFIs, although the requirements are different. There is still a need for development banks to create more consistent reporting, both across a single DFI's portfolio but also between DFIs for a single client [P7]. This matters because investors need standardisation, and it is an essential part of scaling up a market. The lack of standardisation affects how, and whether, projects can be 'certified' as sustainable because it makes it harder for transactions to be compared against each other [P13]. The counter-example is from the bond market where standardisation around thematic bonds (such as green bonds) have been a signature example of how to scale investment even if there are pending questions about greenwashing that still need to be resolved. The presence of a bond prospectus, and often a rating, makes it easier for investors to participate [P13].

When it comes to conditional lending, reporting is described as a tool that makes the DFI's life easier and is pitched to the bank in the same way. However, it can often be a costly and difficult exercise and shifts the reputational risk onto the bank [P10].

6.4.2.6 ESG/SDG taxonomies, standards and regulations

Aligning a transaction structure with ESG/SDG taxonomies and regulation is considered important and is reflected in Section 6.4.1 in the discussion of how to align

sustainability and development finance philosophies. The desire for standardisation comes through strongly at a transaction level.

Participants highlighted the broad use of the Equator Principles and the IFC performance standards which help to harmonise the approach to project lending [P12, 17]. Participants also expressed a desire to have more alignment between sustainability goals and regulation to facilitate the creation of broader frameworks.

Who should determine the standards? Here there is a diversity of views. Some participants are looking for regulators to provide direction [P1, 2] because of the way in which banks are managed. However, [P2] remained somewhat sceptical of regulators being able to provide a complete solution given the lack of consistency that already exists with Basel III regulations. Conversely, [P8] felt that regulators are well-positioned to impose a general structure from above, and it would be down to the private sector to determine the market solutions in much the same way as it has done with green/sustainable bond frameworks. Crucially, this participant did not sense that regulators are in any reasonable position to start making changes to capital charges based on either ESG or climate metrics. A third perspective was that it is for the DFIs to figure out how to standardise taxonomies [P16] . Although DFIs can be 'slow and bureaucratic', they have extensive experience on ESG and they are best placed to find the solution. This would have the advantage of providing consistency between DFIs, although it seems unlikely that this would facilitate mobilisation unless the private sector had significant input.

In the absence of standards, each bank seems to have developed their own internal frameworks leading to inconsistency between banks [P11]. For a participant that is active in Africa [P10], the bank has had to develop its own definition of sustainability and, although it is fully aware of the SDGs, it has felt the need to approach the challenge from an African perspective with a focus on the environment and inclusive growth. This has been built by working with the International Capital Market Association (ICMA) definitions and relying on geographically relevant taxonomies. Similarly, in the absence of a global framework, [P19]'s bank is focusing on the Task Force on Climate-related Financial Disclosures (TCFD) reporting because it is

compulsory. Voluntary frameworks are likely to be of second (or no) priority. For [P19] there are so many frameworks that reporting has become a 'minefield'.

Even if a successful global taxonomy were possible, there is still some scepticism about whether that will work. For one European bank, a taxonomy is necessary but not sufficient because it does not take 'impact' into account [P14]. Another flaw that this participant identified is the amount of self-declared data which potentially opens the door to significant 'sustainability-washing'.

In summary, regarding risk and reporting, the banks want more order, standardisation and stability.

6.4.3 Comparison with the literature

The literature in Section 6.2 deals with the reasons for mobilisation, explains the environment and proposes some solutions relating to standards, reporting and risk sharing. The interview participants also discussed these factors, but understandably were more focused on how mobilisation works in practice because they are animated by the problems of deal execution. This section lifts the key ideas that emerge from the interviews and frames them against the literature with a focus more on the actions of MDBs than the broader universe of DFIs.

The first dimension of bankability highlighted in Section 6.2 relates to the alignment of interests between the MDBs in pursuit of the SDGs and the risk mandates and strategies of the private sector banks. It is clear from the interviews that there was agreement by the banks that standardisation of taxonomies and definitions would be highly desirable (as suggested by Barua (2020), Chamon et al. (2022), Cingolani (2022), Nedopil Wang et al. (2020), and Zhan and Santos-Paulino (2021)). The subtle difference from the interviews compared to the ideas in the literature is that, for the banks, the priority appears to be to achieve clarity around the regulation and reporting rules rather than to agree on a set of definitions that forces convergence between the SDGs and their own sustainability strategies. The incentive for banks to

converge on the SDGs would be driven through government regulation affecting both banks and their clients.

While a MDB might prioritise the interests of countries or specific sectors such as infrastructure, private sector banks prioritise the interests of their chosen client base. This certainly suggests that there will be some overlaps, but that some priorities for the SDGs will be of little or no interest to the private sector. It seems most unlikely, based on the interviews, that the private sector banks will adjust their strategies to start lending to Tier 2/3 firms in emerging markets. The prospects for project finance seem brighter, but it does not solve the problem of generating a pipeline of bankable projects. On the premise that some participants believed that the mandate that the MDB's operate with is too narrow (because some will not deal with private sectors firms with any state ownership), there is a misalignment of target markets on both sides and so the universe of bankable projects will remain limited.

Given that banks will follow their existing clients, initiatives that create an incentive for more direct investment into emerging markets by international corporations could provide a route to increasing private sector funding. This would entail focusing on indirect means of additionality to improve the investment climate which is likely to link back to the sovereign activities of development banks rather than the private sector operations. The broader United Nations initiatives such as the PRI, PRB and PSI seem unlikely to have a significant influence on mobilisation with respect to the SDGs. The principles have more traction with the Paris Agreement given the various sovereign commitments to reduce emissions. However, as noted by one participant that has been close to the PRB, the effectiveness of the principles is unproven as argued by Kim and Yoon (2023).

This leads to a second key observation that sustainable finance and development finance will remain different. It is not a self-evident observation because sustainable finance is often defined in terms of the SDGs and the Paris Agreement, and MDBs have the SDGs as guiding principles. The difference comes in terms of implementation. This chimes with the detailed explanation of the difficulties of implementation provided by McCoy and Schwartz (2023). From the interviews, the

participants frame the SDGs as a reporting, or explanatory, framework rather than an investment objective. They explain their activities in a language that maps to the SDGs rather than organising their business to deliver on the SDGs. It perhaps also explains the lack of multinational enterprise engagement as observed by Van Tulder et al. (2021) that as long as the SDGs remain voluntary there will not be progress. Individual governments will need to legislate for change.

This might seem like a rather negative outcome, but is potentially a missed opportunity. Much as Lagoarde-Segot (2020) argues that the investment gap might be illusory, there might be private sector activity that is aligned with the SDGs but remains unrecognised because it has not been identified by MDBs as capital that has been mobilised. This aligns with the idea that there is more than enough private capital available, but that it is not flowing in line with how the SDGs have been defined.

6.5 Conclusions

The term 'bankable' is a simple way to describe a transaction that can be executed but is too generic to be useful in practice. The detail of what makes a deal bankable quickly becomes a problem with many dimensions. This is the reality of capital mobilisation by MDBs as it exists today – it is a painstaking, detail-driven process of assembling a pipeline of projects. Unfortunately, the SDG funding gap persists and there is still a shortage of bankable projects. The universe of projects or opportunities that could potentially be in scope is limited in part by the risk appetite and incentives for private sector banks. This paper uses the views of private sector banks to add to the literature on how to find opportunities to increase capital mobilisation in support of the SDGs.

It confirms that a misalignment of interests between MDBs, and private sector banks and investors, is a limiting factor on mobilisation and partly explains the lack of progress towards filling the SDG funding gap. There will never be complete congruity between the objectives of the MDBs and private sector as otherwise the purpose of

having MDBs is unjustified. However, there are initiatives underway to bring the two groups closer together. More standardisation is coming through the creation of taxonomies, regulation and reporting standards. This is seen to be an important factor for the private sector banks in helping them align their work. As a future topic for research and policy development, this suggests a need for a greater focus on identifying inconsistencies and gaps between the different frameworks.

As banks follow their clients, the work that MDBs do in improving the investment climate in emerging markets is critical to create more incentives for the underlying corporate clients of banks to invest overseas. There is a need for more research into increasing the incentives for multinational enterprises to invest in alignment with the SDGs. From an MDB policy perspective, it would be useful to review their procedures and rules around investing and lending to state-owned enterprises to broaden the potential scope of projects.

The qualitative approach taken in this paper is useful to tease out new issues and explore causality that would be invisible to the quantitative empirical researcher. It is a sound way to identify new avenues for future research. At the same time, it is acknowledged that it is hard to generalise from a limited number of individuals and firms regardless of their expertise. However, by creating a confidential space to share views it is hoped that the frankness of the discussions will have highlighted some key issues that would not have otherwise appeared in the public domain.

Chapter 7

Challenges of Mobilising Private Sector Capital: Financial Structures and Deal Execution

Abstract[1]

Mobilisation of the private sector in support of the United Nations Sustainable Development Goals relies on creating bankable projects in which the risk can be shared or transferred to private sector banks and investors through suitable financial instruments in an executable format. This paper brings a new perspective to the opportunities and constraints to mobilisation through interviews conducted with 22 senior, front-line investment bankers from 18 banks with a total asset base of $25.6 trillion. Using a thematic analysis, the interviews demonstrate that (i) complex structuring as a means to demonstrate additionality increases some transaction risks, (ii) risk distribution using securitisation has limitations and will require redesign, (iii) banks strongly prefer economic separation from MDBs and have a disincentive to co-invest, and (iv) MDB governance is a potential limiting factor on mobilisation. These new contributions highlight practical actions that could be taken to increase capital mobilisation.

Keywords: Sustainable Development Goals, capital mobilisation, financial structuring, transaction execution, development banks, commercial banks

[1]Elements of the findings in this work were published in an IACPM white paper in September 2021 (McHugh, 2021a).

JEL Classification: F33, F34, G21, O19

7.1 Introduction

Private sector mobilisation by multilateral development banks (MDBs) relies on identifying and structuring bankable projects for the private sector to invest in. It is a balancing act between borrowers, host nation governments, MDBs and banks/investors. A project or investment needs to be within the risk appetite and mandate of the private sector before it can even be considered. This already requires an alignment of interests with respect to industry sector, a bank's existing client base and its strategy. In addition, a transaction needs to be structured and executed efficiently with adequate pricing for all parties. It is shown in this study that the private sector welcomes the partnership with MDBs, but with some important qualifications.

Pricing itself is not a precise science, and it is tempting in financial markets to believe that there is a price for everything. However, the conditions imposed on development finance transactions have so many dimensions and intricacies that each one needs careful negotiation (see McCoy and Schwartz (2023) for a detailed example relating to the 'water finance gap' and SDGs 6.1 and 6.2). It has also become clear in market developments since the financial crisis of 2007-9 that there are deals that banks are unlikely to do because of capital constraints (Martynova, 2015; United Nations, 2020a), country restrictions (Starnes et al., 2016), or from outright sanctions. If nothing else, mobilisation of the private sector is a complicated and detail-orientated process.

The World Bank Group (WBG) responded to the push to mobilise the private sector by inverting its thinking about development financing into a 'Cascade' model. The Cascade describes a waterfall of project financing priorities in order 'to maximize the impact of scarce public resources' (Development Committee, 2017, paras. 18-23). Private sector (commercial) finance would always be the preferred choice. If that were not cost-effective, the WBG would next see whether investment conditions could be improved by in-country market and policy reforms. If that still would not stimulate

the private sector, the WBG would see whether it could de-risk an investment through credit structuring (i.e. guarantees or first-loss structures). Only after that would the WBG consider direct public sector or concessional lending as a last resort (Gabor 2019; Heldt and Dörfler 2021, p. 13; Development Committee 2017, p. 6, Box 1). This is a very useful conceptual structure to frame the pricing and structuring issues that MDBs and the private sector face, and it is explored in more detail in Section 7.2. One potential ambiguity is whether the pricing of any credit structures or guarantees might include some form of implicit subsidy by the WBG due to different approaches to risk/return requirements. This would not be considered concessional lending, but in substance is economically similar.

There is an important missing component from the discussion of mobilisation which is the view from the private sector itself. How does the structuring and execution of development finance transactions affect the private sector's behaviour and preferences? What works best in practice? How is mobilisation affected? This paper fills some important gaps in the literature by providing unique insights into the challenges and opportunities that banks experience working with MDBs (and DFIs more generally). The findings are based on confidential interviews with some of the largest global commercial and investment banks with a focus on (i) the choice of financial structure to distribute or share financial risks, and (ii) factors that affect the execution process.

This study contributes to the existing body of literature by bringing new insights to four different aspects of mobilisation. First, it explains how the use of complex structures by MDBs, as a means to demonstrate additionality, reduces the attractiveness of transactions for the private sector. Although complexity might reduce contractual risk on a project, it makes the financial structure riskier in other ways. Second, the study brings new insights into the limitations of securitisation as a mechanism to redistribute risk. Third, the interviews demonstrate that the private sector has a strong preference for maintaining different economic positions to MDBs in transactions. This suggests that co-investment strategies on private sector

transactions might have limited scope. Fourth, and finally, the research presents new evidence about MDB governance being a limiting factor on mobilisation.

The structure of this paper is as follows. Section 7.2 provides background to previous studies that explore mobilisation techniques and financial risk-sharing transactions, and proposes a model of mobilisation to illustrate the mechanics. Section 7.3 outlines the key themes that were adopted for the interviews (to be read in conjunction with Chapter 4 for the full methodology). Section 7.4 uses the findings from the interviews to explore the impediments to mobilisation. Finally, Section 7.5 and Section 7.6 link the findings back to the literature and draw some conclusions about ways to mitigate some of the impediments to private sector mobilisation.

7.2 Background

The concept of mobilisation hinges on 'additionality', meaning that MDBs can contribute to transactions in ways that the private sector cannot (Multilateral Development Banks, 2018a). Additionality resolves externalities that would otherwise prevent the private sector from investing in a particular project or transaction. This could be indirect, where the MDB positively affects the investment environment in a given country, or direct, in the structuring and pricing of a transaction where it might be resolving information asymmetries or more overtly subsidising a transaction to make the economics work for the private sector. These ideas are explicit when institutions use the term 'blended finance'. The OECD defines blended finance as 'the strategic use of development finance for the mobilisation of additional finance towards sustainable development in developing countries' and has published guidance and principles on how to unlock private sector finance (OECD, n.d.).

Assessing additionality remains subjective despite efforts by MDBs to harmonise their approach (Multilateral Development Banks, 2018a; Puerta et al., 2023). The difficulty with judging additionality is that there is no counterfactual case to show that the deal would not have happened otherwise (Carter et al., 2021). As a result, there is a risk of accidental crowding out of the private sector.

Other more fundamental gaps might exist to assessing additionality in that traditional finance models either (i) do not account for externalities appropriately, or (ii) cannot capture qualitative decision-making inputs to investment and lending decisions (Lagoarde-Segot, 2019). Cingolani (2022) sees a clear difference in SDG projects as having a 'public good element' and so are likely to fall short of commercial funding return requirements. Nevertheless, assuming that a deal is bankable and interests can indeed be aligned, the actual structure chosen and execution process must also be viable.

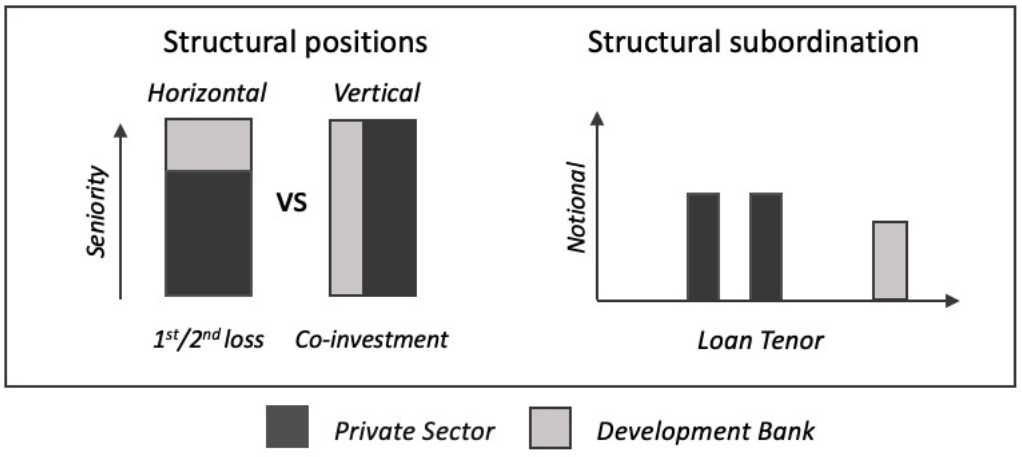
There are some overt criticisms of using the private sector to fund the SDGs as it limits the role of the state to provide complete solutions (Gabor, 2019), or the danger of an over-reliance on overseas funding from international investors (Dafermos et al., 2021). Conversely, Heldt and Dörfler (2021) find that it is natural for an international organisation (IO) such a resource-constrained DFI to pursue the private sector and change its 'structures, rules, and practices to target valuable actors or new domains'. This suggests a degree of organisational agency and flexibility within DFIs, but only extending as far as a functional gain (i.e. more resources) rather than inviting input from the private sector into enforcement and decision-making. Heldt and Dörfler (2021) are also optimistic about a DFI's ability to adjust to new internal incentive schemes and innovate new transaction structures.

7.2.1 Viability of structures

The call by the G20 in 2015 for MDBs to optimise their balance sheets focused on how to increase lending while maintaining their credit ratings (G20, 2015b). Balance sheet optimisation is not a financial structure as such, but is rather a risk management process of controlling and rebalancing exposures. The process of risk management entails decisions about which exposures to avoid, transfer, mitigate and keep (Crouhy et al., 2013, p. 2). Choosing which deals to avoid pre-execution is a key filter in risk management given the amount of time that they will sit on a balance sheet.

Item 4 in the G20's list of instructions (G20, 2015b) asked MDBs to explore a broad range of instruments for non-sovereign activities including syndications (vertical), subordinated positions such as equity or mezzanine finance (horizontal), or exposure transfer structures such as portfolio exchanges and guarantees. The relative positions are shown diagrammatically in Figure 7.1 where in horizontal structures the participants are differentiated in a credit hierarchy, and in vertical structures where they share the same economic risk across the capital spectrum. Structural subordination is a special case where even if the loans are technically *pari passu*, the development bank lends for the longest tenors and so is last in line to receive its money back subject to any refinancing. The MDB is taking additional risk and so is considered to be de-risking for the other participants.

FIGURE 7.1: Visual depiction of relative investment positions



Structural positions reflect the relative position in the credit hierarchy on a transaction. A horizontal split reflects different credit seniority on a transaction (e.g. a partial guarantee on a 1st loss tranche), a vertical split reflects a *pari passu* transaction such as an A/B loan syndication. Structural subordination occurs when the development bank lends at longer maturities even if the loan tranches are *pari passu*. Prepared by the author.

In 2022, an Expert Panel commissioned by the G20 performed an independent review of the MDB approach to capital adequacy which again focused primarily on overall balance sheet management and maintenance of credit ratings (G20 CAF Panel, 2022), although it did make some recommendations relating to more financial innovation (G20 CAF Panel, 2022, pp. 33-40). The report from the Expert Panel suggested that MDBs could migrate to an originate-and-distribute model to sell risk to the private sector using true sales, insurance and synthetic securitisation to relieve capital for

additional lending using the African Development Bank's (AfDB) Room2Run deal in 2018 as an example (Allen, 2018). Securitisation is often promoted as the best way to leverage the participation of the private sector into sustainable development. Both Gabor (2019) and Galizia et al. (2021) also reference the Room2Run deal. Room2Run was a synthetic securitisation of loans to private sector firms with an investment fund taking the mezzanine tranche of the transaction to give relief to the AfDB's balance sheet and free up more capital. Synthetic securitisation is considered a preferred transaction structure as the underlying loans remain on the MDB's balance sheet. If this type of securitisation is the way ahead, then perhaps there should have been more similar transactions? If not, why not? A partial answer could be the nature of the underlying assets.

In a review of securitisation in emerging markets, Barbour et al. (1997) consider some of the factors that facilitate or otherwise impede transactions. Although the article was written shortly after the Asian financial crisis, many of their fundamental observations appear to remain true as seems evident in Gabor (2019). Deals with standardised documentation and regular cashflows are preferred, and an extensive payment history is beneficial. Conversely, assets with large back-end payment flows, low levels of diversification/granularity in the portfolio, lack of data and lower credit ratings all can conspire to make a transaction difficult to execute (also highlighted in Jobst, 2011).

By these metrics, securitising development finance portfolios exposed to private sector firms in emerging markets would come with a high degree of difficulty. MDB balance sheets already struggle with concentration limits that feed through into external rating agency models (Galizia et al., 2021). The underlying borrowers will often not have long payment histories and the deals can generate high transaction costs in particular for legal, accounting and due diligence services. Monitoring costs on development finance structures can also create friction on transactions (Chamon et al., 2022).

Various investment platforms have been set up in an attempt to generate suitable portfolios of projects for private sector investors with a particular focus on infrastructure deals. Bayliss and Van Waeyenberge (2017) give the example of the Asian Development Bank encouraging public-private partnerships (PPP) to divert

funding away from sovereign loans. The authors also propose infrastructure pooling platforms to create assets with the benefit of portfolio diversification. There are hazards to this approach as highlighted by Gabor (2019), Dafermos et al. (2021) and Bayliss and Van Waeyenberge (2017), in that the underlying projects are reconfigured with the motivation of attracting private sector funding which might conflict with additionality objectives. Similar to securitisation, PPP appears to be too complex to scale up private sector funding in a meaningful way (Taguchi and Yasumura, 2021).

The trade-off between a simple, scalable product and ensuring compliance with sustainability standards is a difficult balance. For example, Gabor (2019) sees a risk that achieving market scale in green bonds entails weakening performance standards and increased greenwashing. This might be true, although if the objective of mobilisation is to create successful capital markets it might be better to build the capital flows and tighten standards through regulation and taxonomies over time rather than trying to structure the perfect transaction from the start. This is largely the process that has been followed so far with thematic bonds standards (ICMA, 2020).

Local currency risk is a market factor that limits the potential pipeline of bankable projects as there is a smaller pool of potential investors (Gabor, 2019; Jobst, 2011). Investors often need to be able to hedge away currency risk or lend in hard currency (typically US dollars) rather than taking local currency positions. This seems to present a challenge to the MDBs as projects solely financed in hard currency could reach a capacity limitation for a developing country. Many of the countries targeted by the MDBs do not have a liquid capital market for hedging foreign exchange risk which suggests that mobilisation will only increase if there are more local currency investors, or that MDBs are able to absorb the currency risk in some way. There are initiatives to try to solve this issue – notably TCX Fund which was founded in 2007 and is supported by multiple governments and supranationals. TCX seeks to provide hedges in illiquid or non-existent markets to investors (Hirschhofer, 2019; TCX Fund, n.d.). However, the gross reported derivatives portfolio in 2021 was $5.07bn which is very small compared to the stated trillions required for mobilisation so there is clearly a need for more capacity and demand facilitation (TCX Fund, 2021).

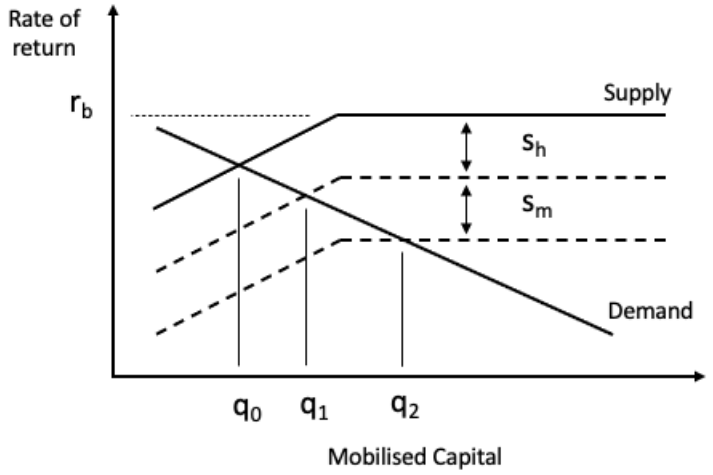
7.2.2 Mobilisation model

Based on the literature of how mobilisation is supposed to work, it is useful to construct a model of mobilisation to illustrate the financial mechanics. The model requires two inputs. First, it requires an assessment of the impact of the actions of an MDB on the market supply and demand of projects or investments. Second, it requires a model for the financial pricing of projects by both banks and MDBs.

The graph in Figure 7.2 shows a modification of the adjusted supply curve suggested by Carter (2015) considering a spectrum of investors from the philanthropic, to the concessional, to the traditional financial investors (McCoy and Schwartz, 2023). The supply curve flattens at rate of return that is fully acceptable to the private sector (represented by r_b) in the sense that supply of capital would be totally unlocked. According to the WBG's cascade model, de-risking or the enabling environment (McCoy and Schwartz, 2023) comes before any direct financial subsidy. The cost of this is represented by s_h and, as per Gabor (2021), represents externalities in the form of social costs that might be incurred by the host nation. Direct financial subsidies to a project are represented by an additional adjustment lower in the supply curve by s_m. The demand curve is downward sloping as proposed by McHugh (2023). The marginal impact of mobilisation is shown on the horizontal axis where the effect of de-risking increases mobilisation from q_0 to q_1, and direct subsidies would increase mobilisation further from q_1 to q_2.

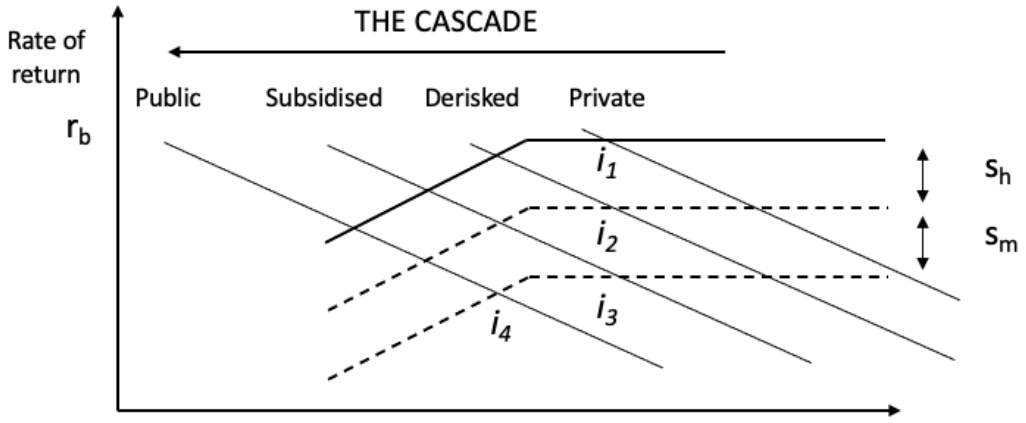
In the example in Figure 7.2, the demand curve shows that subsidies would be required. This is because mobilisation at a private sector rate should only happen beyond the point of inflection where the supply curve turns horizontal (capital is unlocked). The Cascade contemplates a variety of cases from the fully private to the completely public. This is shown conceptually in Figure 7.3. As the demand curve moves to the left, the intersection points (i_1 to i_4) show where the market would clear. At i_1 there is a complete private sector solution. De-risking alone would provide the answer at i_2, and at i_3 mobilisation can only take place with subsidies. Finally at i_4 there is no private sector solution and the answer would be public funding.

FIGURE 7.2: Effect of de-risking and subsidies on mobilisation



The supply of financing for development is upward sloping until a return of r_b is reached which unlocks private capital. As the demand curve intersects below that point, the MDB can synthetically shift the supply curve lower either by de-risking which potentially loads extra costs onto the host nation (s_h) or by overtly subsidising a transaction (s_m). The quantity of capital mobilised (q_0, q_1, q_2) depends upon the intersection between the adjusted curves. Prepared by the author.

FIGURE 7.3: Mobilising through the Cascade



The figure shows four separate demand curves to represent four stages of preference of the WBG's Cascade from the public sector to the private sector. The intersection points i_1 to i_3 shows the market clearing point for the private sector for each scenario relative to the shifted supply curves adjusted for de-risking (s_h) and subsidy (s_m). At intersection i_4 no private sector solution is viable unless through philanthropy or sub-market investment returns. Prepared by the author.

The next step is to construct cashflow model for a project (or group of projects) as shown in Figure 7.4. All cashflows are conceptualised as running spreads to facilitate easy addition. The MDB and the Bank fund at the risk free (r_f) rate plus their own funding spread (r_m and r_b respectively).

The project has a notional N and pays out a spread of r_p. The Bank finances x percent

of the project and receives a spread of r_b which would be adjusted to reflect for any ancillary income a_b. The MDB finances the balance $(1 - x)$ and receives a spread of r_m that is adjusted to incorporate any subsidy s_m. The project also receives a potential subsidy from any contractual commitments it makes for de-risking and this is represented as s_h as a value contribution even though no cash flow necessarily exists. For completeness, the Host Nation is shown as paying a funding spread of f_h to the MDB to represent any sovereign lending. In principle this would be affected if the contractual burdens (s_h) became too great but the mechanism to link the two is unclear.

The final key parameters relate to the probabilities of default (PDs - pd_m and pd_b) and the loss given defaults (LGDs - LGD_m and LGD_b). It is assumed that both the bank and the MDB (before any subsidy) will price for the same return on capital to achieve the same all-in returns by calculating the risk weights and taking their funding costs into account. In the event that there is ancillary income for the bank, this allows the bank to reduce r_b as it would be offset by a_b. The pricing is kept distinct for each entity type to allow for the MDB and the bank to have different inputs to their models. The data underlying this assumption this is not complete and in the public domain, although as it will be seen in Section 7.4 there is some evidence that MDBs do make adjustments which would in turn affect the relative required rates of return.

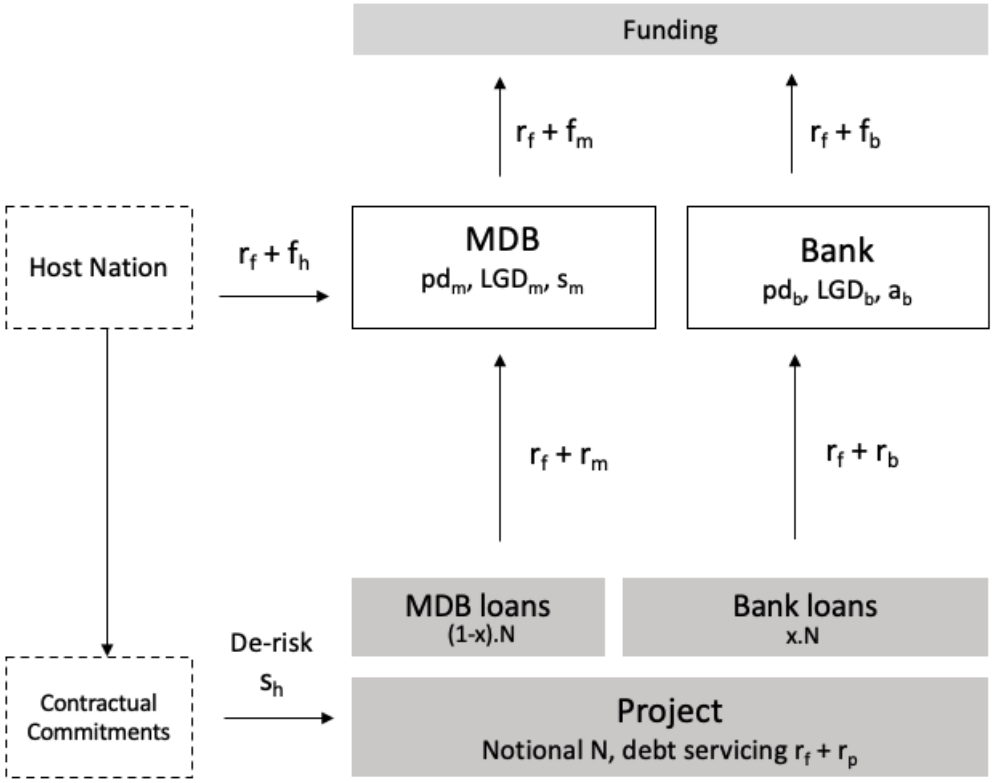
7.2.3 The mechanics of mobilisation

This section brings together the two concepts in Figure 7.2 and Figure 7.4 to determine the dynamics of mobilisation. The objective is to make the mechanics more transparent without over-complicating the analysis.

The net cashflows received by the MDB and Bank in cashflow model are shown in Equation 7.1. The funding costs are not relevant at this stage as it is assumed that the returns r_b and r_m take these into account.

$$r_p = r_b \cdot x + r_m \cdot (1 - x) \tag{7.1}$$

FIGURE 7.4: Cashflow model of project mobilisation



Project debt is financed by an MDB and a Bank (or syndicate), each with its own pricing requirements (r_m, r_b) and funding spreads (f_m, f_b). Pricing is based on risk weights derived from PD/LGD marks, ancillary income (a_b) and MDB subsidy (s_m). The MDB is also funding the host nation (f_h) and derisking is a benefit to the project (s_h). All cashflows are represented by running spreads. Prepared by the author.

The variable we are most interested in for mobilisation is the mobilisation fraction x as this dictates how the cashflows are shared. Rearranging for x gives Equation 7.2.

$$x = \frac{r_p - r_m}{r_b - r_m} \tag{7.2}$$

It is assumed that the private sector does not vary its required rate of return and so the lever which the MDB can pull on to affect mobilisation is its own income r_m whether adjusted due to risk weights or from a subsidy. Taking the partial differential of x with respect to r_m gives Equation 7.3 which is a measure of the price elasticity of demand of mobilisation (ϵ_m) that an MDB can affect by changing r_m. Similarly, ϵ_b shows the impact of varying the bank return r_b in Equation 7.4.

$$\frac{\partial x}{\partial r_m} = \frac{r_p - r_b}{(r_b - r_m)^2} = \epsilon_m \tag{7.3}$$

$$\frac{\partial x}{\partial r_b} = \frac{r_m - r_p}{(r_b - r_m)^2} = \epsilon_b \tag{7.4}$$

As $r_b > r_p > r_m$, both elasticities are negative and concave functions. This is perhaps no surprise – an increase of r_m reduces the cashflows available for banks, and an increase in r_b increases the amount of value that the private sector wants from a deal relative to the project cashflows available for debt. Similarly, the more that banks are mobilised (i.e. x increases), the marginal impact of a basis point reduction on r_m has less impact because the effect is spread over a larger proportion of private sector bank loans. Viewed from the perspective of the MDB as a catalyst for mobilisation through the provision of a subsidy (s_m) , there are diminishing returns and an increasingly expensive marginal cost of mobilisation.

The mechanics of how r_m and r_b can change is important and requires looking through to the various pricing parameters shown in Figure 7.4. There needs to be a concept of a 'correct' price for a deal. This can come from the idea that there is a consistent return on capital for a transaction that is based on the riskiness of the deal.

The credit spread required for a market return c based on a given PD and LGD is approximately $c \approx pd \cdot LGD$. Given that the MDB and the private sector bank price economically on this basis, the following relationships should hold in Equation 7.5 and Equation 7.6. The assumption for the bank is that the auxiliary income compensates for a lower lending spread, whereas the subsidy from the MDB is an absolute reduction.

$$r_m = pd_m \cdot LGD_m + f_m - s_m \tag{7.5}$$

$$r_b = pd_b \cdot LGD_b + f_b - a_b \tag{7.6}$$

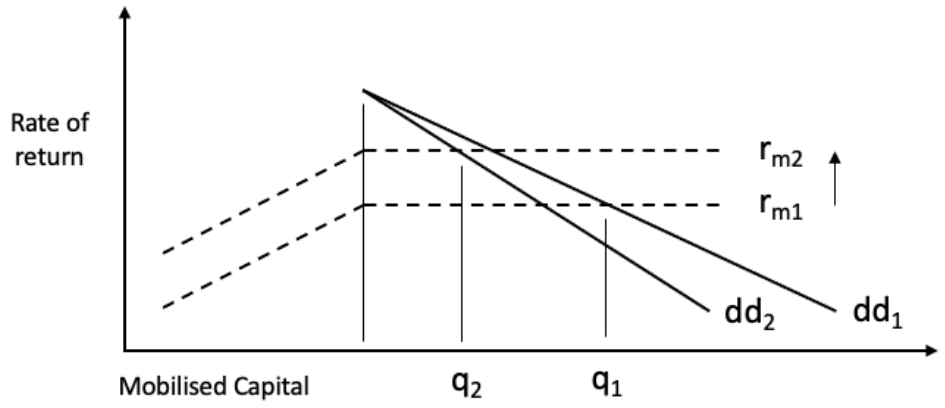
Starting with Equation 7.5, what can a MDB do to influence the value of r_m and what effect would it have on profitability? The MDB can vary its behaviour in a few different ways. It might take a different view of the PD/LGD combination for a counterparty. Evidence from the GEMS database of the default rates of MDBs and DFIs suggests that the actual default rates they experience are lower than market pricing would suggest for emerging markets (EIB, 2021). Unfortunately, recovery rates (the opposite of LGDs) are not available in the public domain for this data set (Lee et al., 2021). There is a suggestion from MDB public documents that LGDs might be adjusted lower to reflect preferred creditor status for sovereign lending, but no clear evidence that this happens for private sector operations.

The MDB could elect to provide a subsidy (s_m) by knowingly under-pricing a transaction to achieve a certain outcome. This may be easier to do where the MDB is subordinated (legally or structurally) to the private sector banks. When a deal is a true co-financing this seems highly unlikely. Finally, although it is not a current strategy, an MDB *could* opt to increase the leverage of its balance sheet to move closer to the AAA/AA+ boundary with a consequent increase in its funding spread f_m. The tricky aspect of choosing to do this is that the impact would be felt across the entire MDB's operations including all the sovereign lending and is a bigger question than the mechanical improvement on private sector operations.

Changing r_m affects mobilisation in two different ways and is reflected in Figure 7.5. If the MDB reduces the amount of subsidy, the MDB return increases from r_{m1} to r_{m2} causing the supply curve to move upward. Simultaneously, the demand curve rotates from dd_1 to dd_2. This is because as r_m increases, the elasticity of mobilisation ϵ_m decreases in Equation 7.3 which steepens the demand curve. These effects combine to amplify a negative impact on mobilisation as it changes from q_1 to q_2.

MDBs could additionally find ways to try to reduce the bank return r_b. The private sectors banks are faced with similar variables as shown in Equation 7.6. Clearly an MDB could do nothing about other banks' funding costs, but could they help to reduce PD/LGD marks? Possibly yes, but this would require much greater sharing of data and most likely an opening up of the GEMs data set to permit banks to calibrate

FIGURE 7.5: Mobilisation shift as r_m changes



An increase in the required return by an MDB from r_1 to r_2 has the effect of shifting the adjusted supply curve higher, and rotating the demand curve from $dd1$ to $dd2$. The steepening of the demand curve reflects decreased elasticity (ϵ_m) as r_m increases (Equation 7.3). These two effects combine to reduce capital mobilisation from q_1 to q_2. Prepared by the author.

their models to the satisfaction of prudential regulators. The impact of this could be far greater than any deal-specific subsidy adjustment. However, if MDBs have similar marks to the banks in their books for PD/LGDs then this will not be a fruitful exercise. The fact that GEMS might show lower default rates is a comfort, but unless banks can carry the risk-weighted assets at these lower PDs then the economic saving cannot be captured.

7.2.4 Summary

This section has reviewed the literature around structures and execution related to capital mobilisation. Previous authors identify some of the barriers to overcome: deals need to be adequately structured from a risk/reward perspective, investment interests need to be aligned and there is a need for simplicity of execution to ensure that transactions can be scaled. Clearly this is not as straightforward as it may sound given that there is still a significant funding gap for the SDGs. The literature supports the view that there is plenty of private sector finance available, but it is not being invested in line with the SDGs. Is there something about the SDGs and the interactions between MDBs and the private sector that causes this gap to persist?

The model in Section 7.2.3 takes the concepts from the literature and presents them in line with the WBG Cascade framework, taking into account the potential impact of pricing and subsidy decisions. A framework like this cannot easily incorporate the actions of individual actors in the private sector. How does this theoretical framework hold up against the real world of mobilisation? Are there impediments that could be eased to facilitate the MDB's mobilisation efforts? This study is motivated by these questions and provides insights into how private sector banks perceive their own role in this market, and the actions of the MDBs and DFIs that they work with.

7.3 Methodology

This section should be read in conjunction with Chapter 4 which lays out the full methodology for data gathering, participant profiles and coding of the interviews. The interview questions are in Appendix 4.A.

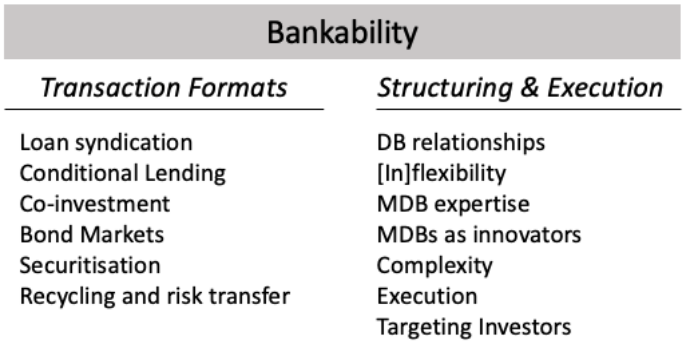
7.3.1 Structuring and execution themes

In Section 7.2 the themes explored in the literature and the mobilisation model highlight certain questions about the mechanics of mobilisation. These themes relate to the relative positioning of an MDB in a transaction (*pari passu* or subordinated), the way in which deals are priced or subsidised, and the complexity of transactions and execution. Consequently, the next section is organised along the same lines and explains where there are potential overlaps and inter-dependencies. The contributions from the interviews were wide ranging and Figure 7.6 shows the relevant sub-themes to facilitate reading through the section.

7.4 Mobilisation: Financial structures & deal execution

The perspective of the interviews is significant because it reflects a set of views from the institutions that DFIs are trying to mobilise. It is a unique, alternative perspective

FIGURE 7.6: Summary of principal themes from the interviews



from the private sector that has been absent in the literature and is complementary to the quantitative studies that have been published. The value comes from identifying where there might be agreement on how mobilisation works, where there are differences of opinion, and in identifying if there are gaps or opportunities to improve the process and provide the scale of investment that is required to fulfil the SDGs.

7.4.1 Transaction Formats

On the assumption that a project or lending opportunity might be bankable, one important dimension is the transaction structure itself. What financial instrument or transaction is used to transfer the risk and reward to the private bank or investor? This is part of making a deal bankable overall, although the decision around the structure affects the type of private sector institution that might be able to participate. [P14] provided an example of the gap between public and private sector thinking when it comes to 'blended finance'.

> *'Nothing is aligned. And so, so you take ..when you create a blended [finance structure] you take all the misery of the public sector, and you take all the misery of the private sector and you add it up, so it's two times more complicated.'*
>
> Participant 14

The high-level guidance and principles around how to mobilise the private sector do give a useful context for the issues that need to be considered, but cannot extend to

how a transaction is structured in detail. Should the risk sharing between the DFI and bank be *pari passu* (vertical) or senior/subordinated (horizontal)? Or maybe with a maturity mismatch? In cases where there is a need for different tenor loans then for [P16] it is fine for a DFI to bridge the gap. [P16] used an example where a DFI might lend for 10 years to a solar project where the bank appetite is generally at 6 years, but the DFI needs to be careful not to get involved if there is commercial capacity [P16].

Financial markets function best with standardisation and simplicity and so the transaction structure does not have to be complicated. Getting the structure right on the projects might help increase the pipeline of deals and enable them to be de-risked [P6]. Participant [P6] was also strongly of the view that risk-splitting (horizontal) is a more powerful mobilisation tool than risk-sharing (vertical). Different types of organisations are equipped to take different risks, and so transactions should be organised accordingly. [P6] provided examples of risks that could be delineated such as currency, political or construction.

7.4.1.1 Loan syndication

The 'A/B' loan structure is a long-standing and successful mechanism for DFIs and private sector banks to work together on funding projects. Lending is normally on a *pari passu* basis but there are advantages in having different roles. With the A-loan, the MDB acts as the lead arranger and essentially relieves the banks of the reporting requirements [P2, 15, 16]. This gives the MDB control over the transaction and the B-loan participants can be restricted in transferring or selling the underlying risk which is a limitation on recycling the balance sheet for the banks [P6, 12]. As a market becomes less risky ([P6] used Chile as an example), banks have less need for A/B structure and would prefer to lend bilaterally with other relationship banks rather than be present in an MDB syndicate.

Although A/B loan structures are a form of co-investment due to their *pari passu* nature, there is scope for maturity mismatches within the syndicate. [P3, 6, 14, 15] held the view that it is the role of MDBs to lend to longer maturities rather than to

share the exact same economic risk. Lending to a longer maturity introduces an element of structural subordination as the MDB theoretically would get paid back last if there were a problem. In practice this might not mean much as the MDB would control any financial restructuring in the event of financial distress, although the provision of longer-term loans can facilitate a deal that would not have been financed otherwise [P6].

[P2] suggested that there should be more exploration of truly subordinated or mezzanine lending with 'C/D' loans in a junior position to the 'A/B' layer. This type of horizontal structure would help to cater to different levels of risk/reward from the private sector.

7.4.1.2 Conditional Lending

Two participants [P10, 16] had close experience of working with development banks with conditional lending structures, where the MDB passes funds to the bank for specific lending purposes in an emerging market. This was explained as sometimes difficult for the private sector bank. The structure involves the MDB making a term loan to the treasury at the target bank at a slight discount (e.g., 3-year loan with a 10-20 basis point discount to the bank's usual funding rate). This type of lending is reported as having advantages and disadvantages.

Beyond the obvious economic benefit of a lower funding rate, the target bank benefits through extra transaction assistance and training that comes with the conditional loan. The participants understood that the bank is effectively being paid to use its infrastructure, and lending on these terms would have to be related to some underlying expertise within the bank (e.g. short-term loans focusing on agricultural lending). The banks would not enter a new market with DFI money, so it cannot be used as a tool to expand lending but more likely a 'reformatting' of existing loans [P10, 16].

There are two features of the conditional loan that are unattractive to the treasuries of private sector banks [P16]. First, the typical lending structure is inflexible if the target

bank is unable to deploy all the funds. In that instance, the bank is left with a relatively expensive source of funding compared to customer deposits. Second, the conditional loan is likely to be in hard currency and so, by the time this is swapped out to local currency, the funding gain may be reduced or lost depending on market conditions.

Another interesting aspect of conditional lending is the perceived power balance between the bank and the DFI. [P10] presented a perspective that DFI funding is a mechanism to try to 'drive behaviour in our bank' with the DFI getting to tell the 'good news story'. Furthermore, conditional lending is described as a mechanism to 'enforce' the DFI's own agenda in a 'very subtle way'. There is an additional problem in practice as the conditional lending can end up being for customer refinancing rather than new money, so there is no net change in impact. This somewhat negative view suggests that conditional lending might not be as effective as imagined or reported.

7.4.1.3 Co-investment

DFIs have in recent years developed co-investment initiatives with a view to having a bank or asset manager sit alongside in the financial structure (i.e., a vertical structure). [P14] was sceptical of the value of such initiatives and questioned whether any additionality is created by simply sitting alongside an MDB, and it would not be dissimilar to just investing jointly with competitor banks.

> *'Why should [I] co-invest? What is . . . the advantage [of] co-invest[ing] with the [EIB]? I can co-invest with Société Générale, it's the same for me.'* Participant 14

This is echoed by [P20] who also had direct experience of working with DFIs on co-investment structures. This participant reported DFIs being uncomfortable with claiming additionality if they are just side-by-side with the private sector. [P15] felt that the main client overlap between banks and DFIs would be Tier 1 firms in emerging markets and that there is ample room for funding by both sectors. However, this came with a caveat that these Tier 1 firms could probably tap the bond market anyway and so the case for co-investment is not strong.

7.4.1.4 Bond Markets

There was strong support by participants for the use of bond markets to mobilise the private sector rather than relying on lending. Structuring a transaction as a security rather than a loan ensures that the format is correct for investors [P12]. Bond markets are venues where innovation happens [P6] and the success of thematic bonds such as green, social, and sustainable bonds are seen as evidence of this.

The characteristics of a successful bond product were variously described by participants as something simple to explain, with standardised terms that enable it to be compared to similar bond issues, that is freely tradeable, and that has the right degree of flexibility for the issuer [P4, 7, 13, 16, 19]. As a counterexample, [P4] cited 'project bonds' as ultimately being too complicated and difficult for the private sector and so showed limited growth despite the best efforts of DFIs and the banks to promote them. There is a sense from this that the DFIs solve for what they want to happen rather than what the market will invest in.

> *'I'm not sure development banks always make sure that the product they want to promote can be well received in the market.'* Participant 4

Use-of-proceeds bonds are seen to have the advantage because there is a clear line of sight to the end investment [P16]. This appears to fit better to the work of DFIs because of the reporting that they need to do [P13]. There is also a good fit with investor requirements who want a better attribution of funds [P19]. From a structuring perspective, [P7] advocated an approach for pooled asset reporting where there is a minimum percentage threshold of funding deployment to enable the management of assets over the life cycle of the bond issuance and to handle pre-payments. This type of structural flexibility is seen to be useful in potentially increasing the number and volume of potential bond issuance.

Sustainability-linked (SL) bonds and loans are seen as important innovations for the private sector, but are more challenging than use-of-proceeds structures. Participants did not anticipate much DFI involvement in SL products and some expected them to

avoid them entirely [P13, 19]. As DFIs need to show additionality on everything they do, all their lending and bond issuance is about sustainability. As such, it would make no sense for a DFI to issue a sustainability-linked bond.

Another disadvantage to SL products is the need to negotiate with corporate issuers about which targets are suitable [P13]. The outcomes are essentially based on behavioural change and some SL products should 'fail' [P16] (i.e., the corporate does not reach its targets). If none of the products fail in practice then there is either a problem with the structure or with the companies. As [P16] stated: 'some will fail because of fraud, and some will fail because they were flawed'. The final characteristic of SL bonds that is potentially problematic is that the product has evolved to incorporate a step-up (or down) interest rate toward maturity. This is a potential hurdle for investors to overcome because the bonds come with uncertain terms which is non-standard for investors.

7.4.1.5 Securitisation

Securitisation is often presented as the best way in which to generate assets and recycle them to investors. As a strong proponent of securitisation, [P3] advocated an originate-to-distribute model where the investment catalyst is provided by a DFI taking a junior tranche of a structure to help de-risk a deal. This was presented as a potential positive feature for the DFI because the higher risk would come with a higher return.

There are several hurdles that would need to be overcome to create a successful securitisation model for sustainable development. Prior to the execution of a securitisation, a portfolio needs to be built up over time until it reaches a critical volume of suitable homogeneous loans [P13]. If the lending is related to project risk and the loan tenors are longer than usual for bank lending (e.g., up to 15 years) then private sector banks will find it hard to participate for two reasons [P1]. First, the regulatory cost of carrying longer-dated loans is already very expensive, and second the regulatory risk on changes to environmental and sustainability regulation in the

short term is quite large. [P13] perceived a problem of the level of homogeneity that can be achieved in a portfolio which might limit the volume of suitable securitisation assets. Resolving this homogeneity problem would require DFIs to originate assets for the purpose of re-distribution and there is a sense that this might pull too far away from their core mission.

Structurally, securitisation is best achieved through synthetic structures where the underlying loans never leave the balance sheet on which they are originated. However, [P3] believed that this type of structure is potentially 'toxic' for the MDBs and they get nervous about getting involved. The MDB list of dislikes is said to include the type of documentation required, the type of transfer constraints that would be needed, and otherwise just a general dislike of synthetic structures. Nevertheless, [P13] still advocated this as a mechanism to mobilise investors and used the AfDB's Room-2-Run corporate securitisation deal as an example. [P13] believes that the structure could be re-designed in a format that would suit more vanilla asset managers. This suggest reversing the structuring process and designing transactions around the investors rather than what the MDBs want to do.

7.4.1.6 Recycling and risk transfer

The final comments from the participants around structures related to the ability to recycle assets and transfer risk in a more general sense. These conversations focused on what the participants wanted the DFIs to do more of given that there are known constraints about loan transfers.

[P12] observed that there is an opportunity for DFIs to recycle their balance sheets once assets have been suitably seasoned and deemed performing. Given that DFIs might take early-stage risks, the pricing could work for the private sector after that initial period while a project settles down. The act of recycling would free up new balance sheet capacity, but the incentives must be present for the DFI to sell performing assets rather than hold them to maturity.

The documentation around transactions could use further simplification and streamlining [P13]. Speed of execution is covered in the following section, but complex documentation is seen to be a factor in limiting risk transfer. More flexibility around partial guarantees could also increase the universe of eligible transactions [P13]. Similarly, the range of suitable assets for risk transfer could be expanded if DFIs would consider a broader range of asset classes such as structures linked to trade receivables [P15].

7.4.2 Structuring and Execution

The previous section describes the participants views as to the limitations that are created by the choice of financial structure. This second section summarises the participants views about the way in which MDBs (and DFIs more generally) and banks interact that either support or confound the mobilisation process. Most participants (the quote below from [P6] being typical) stressed that there are some big differences in approach between development banks of all types.

> *'... there are differences between some multilaterals being more innovative and willing to work to find more creative solutions, acknowledging that this type of innovation will typically attract risk capital and interest from the private side. And there are some that are basically doing the same stuff as they've done every year.'* Participant 6

The relevant sections of the interviews covered aspects such as the mechanics of the bank/DFI relationships, the level of innovation and expertise in MDBs, the operational challenges of deal execution, and the constraints imposed by MDBs' organisational and governance structures.

7.4.2.1 DB relationship

The relationships with major MDBs and private sector banks were reported as similar to any other major bank-to-bank relationships in the sense that there are a multitude

of entry points and activities between institutions [P6, 8, 14, 18, 20]. Conversations are fragmented across a bank and so it is hard to be aware of everything that is happening at all times with a given MDB [P8]. With truly global institutions such as IFC, there can be continuous discussions taking place with the bank in multiple departments. [P8] observed that there are sometimes gaps in regions where there is far less activity. For a European bank, if an Asian development bank deal were to be presented through a Singapore or Hong Kong branch, there might be little track record of working together and so it can be more challenging from an execution perspective. This is echoed by [P15] as the bank has sporadic deal flow with bilateral DBs meaning that internal coverage is more disjointed.

> *'And those [MDBs] are .. they're giant, many people everywhere. So we don't know exactly by which way to enter. We don't know the entry point... it's [like] a house when you never enter by the main door, you always enter by the garage or by the back door or somewhere . . . and when you enter by the main door, [they] tell you to go [to] the back door anyway. So, you have to. And then after that, you have to find your way.'* Participant 14

The large MDBs are sometimes described as confusing organisations to work with and often the responsibility for certain pools of funds or deal approvals is unclear [P14, 20]. [P20] described the organisational structures of MDBs to be obscure, sometimes with competing interests between internal departments around which there ought to be more clarity. As most of the MDBs are not regulated, they are not forced into having clear lines of responsibility for ownership of risk. At times [P14] has been under the impression that there are multiple owners of the same risk mandate and gave examples of the IFC in North Africa and the ownership of the New Deal within the European Union. [P15] was the only participant able to give an example of delegated risk authority which was an isolated case of trade finance limits with IDB Invest. Otherwise, decision-making at the MDBs was reported to be highly centralised and lending decisions are escalated for Board approvals. It seems somewhat contradictory that less formal regulation apparently leads to a more rigid organisational structure. [P14] attributes this to the original intent that the public

sector was the only funding needed for development and that organisational structures needed to be as corruption-proof as possible.

There are structural differences to engaging with bilateral DBs as compared to MDBs. Bilateral DBs are perceived as being more limited in the types of transactions that they can consider, but if there is an alignment of interests then they are more flexible and can act far more quickly than an MDB. Participants used FMO and CDC (now renamed British International Investment - BII) as examples of effective bilateral DBs. In contrast, with organisations such as IFC, any transaction could potentially be within scope, but then the internal prioritisation and requirements to allocate resources slowed transactions down [P12]. [P18] delineated between the types of institutions based on their working relationship. With bilateral DBs, it was possible to agree deal origination characteristics for the bank to work with to create pools of assets for distribution, whereas with MDBs the relationship revolved more around providing hedging and risk management to manage deals originated by the MDB to enable the deals to become commercially viable.

Overall, participants felt that MDBs based in Washington DC and other more 'pragmatic' institutions such as the EBRD were most in tune with the private sector [P6, 12, 20]. As the interviews mostly focused on the SDGs and emerging markets, there were fewer comments on institutions such as the EIB. DFIs/MDBs are seen as partners by all participants, although as with all partnerships there can be tensions. [P10] explained that at times DFIs can appear to want to impose solutions on the bank, and sometimes according to [P4] these interests are not aligned.

> *'They are a partner and sometimes... we may see them as a competitor, but they are most of the time a partner. Although we may partner, we may not have always the same objective.'* Participant 4

There can sometimes be barriers to mutual understanding. [P15] had experience from working in a DFI and believed that as MDBs are not regulated, they are not sensitised to the changes that take place within private sector banks. The relationship can be complex because the MDBs have no incentive to understand bank regulation.

Furthermore, although the relationships between banks and MDBs stretch back for many decades, staff turnover inside a private sector bank can cause a persistence in the lack of mutual understanding and knowledge [P15]. An example of this is as a bank's legal department turns over, the knowledge of legal rules around supranational institutions might need to be re-learned by the new staff. It is easier for commercial banks to understand each other because they have more homogenous organisational structures. In general, [P12] believed that banks understand DFIs better than DFIs understand private sector banks.

7.4.2.2 [In]flexibility

Most of the participants described DFIs as being relatively inflexible in their approach to business and attribute this largely to governance structures, historical precedence and internal incentives. The downside from this is that the DFIs are seen as missing opportunities to innovate and mobilise in greater scale.

The governance structures of MDBs are described by [P5] as bearing 'administrative heaviness and political interference' in their programmes. The MDBs are seen as very demanding in terms of deal criteria and reporting, and very 'rigid' which creates problems for the bank. This is not necessarily a criticism of the MDB as the degree of controls that are in place are seen to be a necessary mechanism, but in this case [P5] felt that the MDBs are somehow 'afraid of flexibility'.

There was a sense that the older MDBs are less flexible than some of the smaller, newer banks such as CAF and CABEI [P13]. Even AIIB and NDB are seen to fall back onto lending rather than work with new financial structures because it is easier to do. The desire to lend rather than innovate is also seen in sovereign lending as loans can count toward a country's overseas aid, whereas giving guarantees would not be measured in the same way ([P13] cited AFD (France) as an example). This behaviour appears to be a result of how national mandates are set and measured. The mechanisms to mobilise are not necessarily aligned with what the DBs are asked to do by their shareholders. A policy implication might be to make sure that guarantees can legitimately count as overseas aid.

Shareholder influence was also evident for [P14] in the drive for blended finance. [P14] believed that the blended finance initiative is being pushed by the OECD, the UN and the MDBs rather than responding to private sector demand. There is a sense here that the MDBs have decided how blended finance ought to work and are insisting on doing it 'their way' and need to lead the project. They do not like others to run deals and want to control the transactions [P14].

There was an interesting contrast made by [P6] between IFC and IDB Invest being the two Washington-based private sector arms of the World Bank and the IADB respectively. On the one hand, there was a sense that the IFC has 'stagnated' and that the 'thinking has changed quite dramatically'. The implication is that there had been a recent change of priorities even though the staff and funding model had remained consistent. Conversely, IDB is seen as much more innovative and progressive. Although there are differences in shareholder voting rights between the two institutions, a desire to mobilise was highlighted as a common cause. This suggests that MDB Boards do exert operational autonomy from shareholders in creating incentives and affecting organisational culture.

The difference of approach to innovation might not appear to exist at Board level but might manifest itself lower down the MDB hierarchy. [P12] observed that there are plenty of aspirations from the Boards, but further down the organisation layers there are staff at some MDBs with a job description to 'generate more loans'. This was seen to be fine in principle, but that it did not promote collaboration with the private sector or increase mobilisation. [P12] felt that to change behaviour, staff KPIs need to be focused on mobilisation targets rather than lending.

The organisational focus on lending reinforces the idea that the DFIs think like lenders rather than private sector investors [P20]. The Washington-based DFIs are seen to be more sophisticated. Outside of Washington, [P20] saw a need for significant explanation of investment concepts with other MDBs. The knowledge gaps are around parameters such as investment benchmarks, liquidity requirements and fiduciary constraints that institutional investors are obliged to work with. MDBs on the other hand are seen to enjoy structuring and this does not necessarily align with

investors' interests. Away from Washington, [P20] saw evidence of MDBs wanting to execute transactions in the way that they felt is appropriate for their region rather than listening to what investors are willing to do. Ideally, [P20] would have had the MDBs spending more time understanding the constraints of international investors and to come with fewer assumptions about how the world operates. If the intention is to mobilise private sector investors rather than banks, [P20] believed that MDBs are getting insufficient direct access to asset managers, and even less to asset owners.

At a transaction level, inflexibility is manifested as difficulties with deal execution and limited room for negotiation resulting from governance constraints. Participants [P5, 6, 8, 15, 17, 19] shared numerous examples. With B loans, there is little room for negotiation or for discussing terms [P8]. Transactions are generally presented 'as is' and after an overall project shape has been determined and is set in stone. This is not necessarily a problem for the bank as the MDBs are generally quite good at structuring transactions and do retain residual exposures. However, it limits the range of transactions that the bank might find interesting. This was also cited as a limitation in a failed restructuring [P6] on a South American deal where the MDB was only permitted to add senior debt on a *pari passu* basis, when a small, subordinated tranche might have kept the transaction alive.

[P5] identified an unwillingness, or inability, to adapt from different definitions on ESG and sustainability.

> *'… where our own data do not really match their classification of the [development] criteria… the issue is that probably each [development bank] has its own criteria. There is no harmonisation yet.'*
>
> Participant 6

These mismatches create inefficiencies in finding common ground. There is every reason to expect this to be a problem for investors too as they can be selective and investments need to match portfolio themes [P1, 5, 17]. The policy implication seems obviously to lead toward the need for a common set of standards for deal classification and reporting.

Deal documentation also creates friction in transaction execution. When it comes to renegotiating documents or changing procedures, the MDBs were described as tending to be very rigid as they want to have consistency across the banks that they deal with [P15]. However, the banks in turn have orders of magnitude more clients and so, while the MDB stance is understandable, standardisation for a single MDB turns into non-standardisation for the banks. MDBs often do not understand that what can work for one bank will not necessarily work for another because they operate under different regulatory regimes. As a result, the MDB creates a non-level playing field for itself and the MDBs become exceptions to private sector norms [P15].

7.4.2.3 MDB expertise

The knowledge limitations of regional or national DFIs were attributed by [P6] to the limited in-house expertise and staff available to them. If the traditional MDBs are seen as the top end of sophistication, the staffing levels at other institutions are an order of magnitude smaller than the private sector banks that they are seeking to mobilise. A typical European bilateral DFI will have a few hundred staff compared to the many thousands of staff employed in wholesale lending and markets at a commercial or investment bank. Participants felt that the smaller the DFI, the more it ought to lean on private sector experience and be less 'dogmatic' about taking a prominent role or leading a transaction. Smaller DFIs need to do more to promote themselves and take advantage of private sector expertise [P4, 6, 8].

7.4.2.4 MDBs as innovators

MDBs were often described by participants as pioneers and creators of new markets. Although green bonds took some time to find traction, the credit for being the first mover lies with the MDBs [P7]. As trusted institutions, the presence of an MDB in a transaction can be useful in persuading investors and issuers to experiment with new structures.

However not all MDBs are equal, and while some want to push the boundaries and innovate, others were described as quite 'sleepy' [P13]. The reluctance to innovate limits the partnership opportunities for banks if the MDB chooses to focus on sovereigns or lending directly to projects. It seemed to [P16] that a MDB or DFI's governance framework is unlikely to provide upsides to staff for being innovative or taking significant risks.

7.4.2.5 Complexity

Demonstration of additionality requires a DFI to differentiate and show that it has contributed something unique to a transaction that the private sector cannot. This can sometimes result in a structure or proposal that is too complicated or over-structured and difficult to execute [P4, 11, 13, 20]. Project bonds were highlighted in Section 7.4.1 as an overly complex structure that did not fit market demand. The reason that these types of instrument float to the top of an MDB's priority list is because the internal governance creates an incentive to solve for internal goals and metrics. If the internal goals are 'dogmatic' and require the MDB to 'tick a lot of boxes' [P4], the product tends to reflect these requirements. While project bonds were well-intended, they were too convoluted for the market to develop properly. This is where there is a breakdown of alignment of interests. At [P4]'s bank they spent a lot of time and effort into developing the product, but the 'bureaucratic approach' to the product resulted in the market never materialising.

Excessive credit enhancement can also create a problem of over-structuring. [P13] gave an example of a specialised project finance transaction in Eastern Europe that was double credit-enhanced that took 4 years to execute. On a standalone basis, the transaction was a success, but the deal structure would never be repeated and would be impossible to sell to investors [P13]. It took too much effort and concentration to construct and was a function of a project team working with 2 DFIs that effectively talked between themselves. If the goal of mobilisation is to scale investment, then for [P13] the time would have been better spent focusing on the creation of instruments that could be traded more easily.

From an investor perspective, even straightforward single credit-enhancement can create problems for the marketing and distribution of transactions. The credit-enhancement might solve the additionality question for the DFI, but the investment mandate for a fund might be either investment grade bonds or high yield emerging markets instruments. A credit-enhancement can be stuck between the two and be impossible to place with an investor. In the words of [P20] in an imagined conversation with an MDB:

> *'I know you love it, and it's what you do, but we've got a triple-A buyer, and we've got a high yield buyer, and you can't credit enhance from single B or double B to triple-A. There's no way you're going to get there. There isn't a triple B buyer. So can we just forget all of this funky structuring that you love?'* Participant 20

The lesson to be drawn from the participants on this is that structural complexity does not scale with respect to mobilisation. In contrast, relatively simple structures such as thematic bonds are seen to be much better suited to scaling investment. This is also reflected in the ease with which banks can engage issuers on sustainability-linked loans and bonds [P11].

7.4.2.6 Execution

The governance structure of a DFI can present constraints on the deal execution process. Capital markets work more quickly than the DFIs can sometimes move, and a window of opportunity can open and close before a DFI is ready to proceed on a deal [P12, 15]. Given that mobilisation is drawing the private sector into deals, [P14] noted that the execution processes do not work smoothly. [P14] felt that the DFI execution processes are probably very effective at managing corruption risk and creating fairness, but that they create too many internal walls and bulkheads for the organisations to work efficiently.

Speed of execution was highlighted by many participants as a problem although, as was pointed out numerous times, this should not be a surprise. [P12] believed that the

DFIs know that they are slow, and that the biggest hold-ups on execution are caused by the DFIs trying to assess whether they are providing additionality. This can be arduous for the private sector if the execution period is quite long and there is a risk that investors could lose interest or find easier, quicker transactions to deploy funds into [P13]. It can also be a deterrent to bringing DFIs into a deal because it changes the dynamics. Front line bankers at [P10]'s institution reportedly did not want DFIs involved in their transactions because it slows deals down too much. DFIs are seen as a drag on execution rather than enablers and this has a knock-on effect for the underlying corporate borrower [P16].

> *'[front line bankers] have a huge amount of resistance to work with DFIs because they think it takes too long, makes deals go very slowly. And there's a huge amount of resistance that I've got. 'DFI - do I really want to do this?' So they'd rather refinance a deal later on than bring the DFI in the beginning.'* Participant 10

This is not a criticism of DFIs/MDBs, but more an acknowledgement that the governance and oversight processes require them to work in a particular way [P10, 17, 19, 20]. For [P15], banks benefit from having delegated authority to execute transactions which enables decisions to be taken more quickly than DFIs. In the absence of regulatory oversight, if a DFI could develop a robust governance process for delegated authority it might speed up the execution process and open the door to new opportunities [P12, 15]. [P15] believed that it is fair to say that banks can also be slow, and that staff turnover in functions such as legal means that there is an ongoing learning process about MDBs. As some of the transaction master agreements can be 15/20 years old, there is an ongoing need to revisit documentation as the private sector bank regulation changes. This idea links back to the earlier relationship discussion where the MDBs are exceptions to the norm for a bank client base.

The need for multiple due diligences is also a drag on execution that can slow both MDBs and the private sector. [P14] described an aspiration to develop deal generation platforms to reduce the friction from multiple due diligence work and find a way to standardise the process in a particular jurisdiction. For a more complex transaction

such as a dedicated fund with joint MDB and private sector investors, there is a universal principle that every institution involved in the marketing process needed to retain some portion of the risk. Consequently, the complexity from documentation and due diligence multiplies with the number of institutions involved [P20].

7.4.2.7 Targeting Investors

There was a general sentiment from the participants that involving private sector investors is necessary to mobilise the trillions of dollars needed and that banks alone do not have the financial capacity to bridge the investment gap. In the context of this section, the question is whether DFIs/MDBs are organised in a way that will facilitate this distribution channel.

Private sector banks will always be closer to the underlying borrowers than investors so there is tremendous trust required for pass-through structures [P1]. This trust can be demonstrated by retaining portions of the underlying risk on transactions or demonstrated to investors by having a DFI/MDB as an anchor investor in a bond transaction [P12, 16].

Shaping transactions to fit into investment mandates is a difficult task and might require a change of approach by DFIs. DFIs need to learn about the constraints that investors face and should organise themselves accordingly [P20]. Culturally this would be a shift away from thinking of the DFI as the customer in a relationship and learning to think more like a sell-side institution. Investors can be just as inflexible as DFIs [P13, 14, 19, 20] and so considerable effort would be required to bridge the gaps. This might require greater focus on creating a standardised asset class such as infrastructure lending [P13] even though those efforts are already underway. Standardisation would speed up the work of rating agencies and speed up deal execution.

Investors also have their own governance and inertia that would need to be overcome. [P14] pointed at investors' procedures and processes as barriers to innovation and market-building. [P14] gave an example of an investor turning a deal down by giving

the excuse that they did not like the risk. However, the actual explanation turned out to be that the investor would need to change the internal investment policy which reportedly felt like too much work. The easy thing for the investor was to do nothing. [P20] cited similar inertia issues with sovereign wealth funds (SWFs). The dynamic here is that the SWFs are big buyers of the primary issuance of DFIs own bonds in addition to their sovereign owners being shareholders of the DFIs. The SWFs challenged back that if they are providing capital for development, why should they be asked again for money for co-investment? 'What barriers are being broken down?' [P20]. This suggests a greater need for engagement and discussion between DFIs and investors that is separate from the traditional roadshows for the DFIs own funding needs.

Unblocking the distribution channel to investors requires a systematic removal of the barriers to investment which mirrors what the DFIs have been doing in the past with banks. [P19] found that investors want more prescriptive reporting for labelled bonds so they can report back to their own asset owners. This suggests more standardisation, which appeared to be a recurring theme. A focus on simpler structures that fit investment risk buckets would make it easier to match investment mandates as complexity inhibits investors' participation [P20].

A significant constraint with smaller investors that is largely unappreciated is that these firms do not have the resources to perform their own investment analysis on a fundamental basis [P20]. As soon as the markets get more 'frontier' and the companies are not sovereign, investors start to have potential issues. The presence of a DFI helps to resolve this information gap, but requires additional effort from the DFI to make the case to investors.

The overall sense from the interviews is that there is a gap with investors. The DFIs do not have enough exposure to institutional investors with respect to mobilisation. There is a sense that the DFIs are unaware of the business pressures and constraints of being an investor because they are so attuned to lending. This will require work by the DFIs and, because that is a hard road to take, there is a risk that the DFIs might fall back onto traditional vanilla lending. The policy prescription could be to adjust

further the DFI incentive structure to reward investment of staff time and money into the more difficult task of mobilising investment funds.

7.5 Discussion

7.5.1 Structuring of transactions

The manner in which additionality is demonstrated has implications for direct mobilisation. While the participants appreciated the value that MDBs bring to resolve information gaps and asymmetries, there is a sense from banks that MDBs have a preference for more structuring and complexity. The explanation of financing water projects by McCoy and Schwartz (2023) illustrates how this might arise as there is an alignment between demonstrating additionality through complex structuring and the incentive that MDBs have to prioritise de-risking in the WBG Cascade model (as in Section 7.2.3). Complex contracts and project structures lead to that complexity being imported into the funding decisions. The value-added preference through structuring is attributed by the banks to either a need to demonstrate additionality, or because the transactions are being structured to solve for specific outcomes. Financial markets thrive on standardisation and simplicity which is illustrated by the success of green bonds compared to the limited reach of project bonds as described by the participants. There is an apparent conflict between demonstrating additionality through structuring, and being able to scale up markets with simpler ideas.

There is demand from the banks to receive more securitised assets to redistribute to investors with the request that the products are designed with the end investor in mind. This approach is criticised as a financialisation of development creating mission drift on the part of the MDBs and potentially introducing new elements of financial instability (Gabor, 2019). There is some irony that the products and solutions proposed to mobilise the private sector are similar to those that became unstable during the 2007-09 financial crisis. The irony being that the Basel reforms implemented to de-risk the banking system are one of the factors that has made banks pull back from emerging market lending and to make mobilisation more difficult.

This raises a question of whether it is appropriate for MDBs to design products for re-distribution to the private sector if there are risks of diluting the development agenda. As intermediaries, the banks have a vested interest to find ways to match supply and demand for capital, and so lean toward MDBs having an originate-and-distribute model as suggested by G20 CAF Panel (2022). If the incentives and operating model of the MDBs cannot manufacture sufficient assets that are suitable to redistribute (in terms of format and pricing), then this mobilisation channel might be limited in scope and scale. While synthetic securitisation could be an effective risk transfer mechanism, the MDBs might have to think again about how the origination process works for private sector assets. The other key message for the MDBs was that they need to find ways to talk to and listen to investors' needs and interests if they intend to distribute risk outside of the banks.

Most participants respect the MDBs for their ability to pioneer new markets even if they do not always succeed. This form of innovation relies on being able to take risks or experiment with new ideas as a prototype for the private sector. Thematic bonds, especially green bonds, are a great case study in market development. Although there are concerns about green-washing, sustainability-washing and taxonomies, it is clear that investment flows have been re-orientated overall in pursuit of lower emissions. That can be considered a success and is reflected in the views from the participants. When compared to securitisation, it suggests that the truly scalable mobilisation opportunities are likely to come from simpler products that are easier for investors to understand and execute.

Another area which is acknowledged in both the literature and the interviews is the importance of trying to solve the local currency problem for funding borrowers. The banks are looking to the DFIs to absorb more local currency risk and/or facilitate more local funding in illiquid currencies. While some of this has been effectively outsourced to the MDB-supported entity TCX, it is too small in scope and scale to make a transformational difference.

7.5.2 Risk transfer: horizontal or vertical?

Given the long list of possible types of risk transfer transactions, how is an MDB supposed to know which to focus their efforts on? MDB reports and websites give lists of eligible financing instruments, although it is not possible to prioritise them in a vacuum. The value from the interviews is to elicit from the participants how the banks would like to engage with the MDBs.

The majority answer from the participants is that the banks would like the DFIs to maintain a distinctly different role to the private sector in transactions. This is consistent with the principles of additionality such that the development bank should be doing something that the private sector would not. It is also consistent with the idea of reducing the risk of crowding out the private sector. Being different entails horizontal structures (Figure 7.1) where the DFI perhaps retains a 1st loss piece of a portfolio or transaction to signal its confidence in the borrower and to de-risk the deal for the private sector regarding the risk/reward payoff. There is a tricky balance here to avoid subsidies, but it might be necessary in certain cases. There are examples from the interviews of instances where subsidies are expected from a development bank, and where deals have been subsidised to get them executed. Balancing DFI pricing with a view to redistribution, and still to avoid crowding out is a tricky space to navigate although contemplated in the WBG Cascade.

The A/B loan syndication structure is considered by most participants to be a differentiated structure even if the loans are *pari passu* and without any structural subordination through tenor mismatches. This is a very interesting nuance and leans on theories of information asymmetry and signalling. The majority opinion from the participants as B-loan lenders is that they are willing to let MDBs lead a transaction as it relieves them of responsibilities such as monitoring, servicing the loans and other agency issues. They appreciate that they are reducing their ability to control the possible credit outcomes on a transaction, but can reconcile that with the reduced perception of risk on a deal. This is more explicit with tenor mismatches where although the DFI is equal in terms of default risk, the carrying position for the private sector banks is better by having the shorter tenors.

Co-investment is a more controversial area as it felt to the participants as qualitatively different to the A/B loan structure. The sense from the banks is that they do not need risk assets to be generated in this way and might as well deal with competitors directly. Similarly, there is a sense that the MDBs do not fully understand the mismatches with investors mandates' which will make it problematic to scale as a market. The opportunity here though might be to mirror the ethos of the A/B loan syndication in a securitised fund format. At present, it seems that investors are not ready to work with the MDBs on that basis.

Based on the model in Section 7.2.3 and the comments from banks about being able to reduce risk through credit transfer and mitigation, there is an opportunity to help banks calibrate PDs/LGDs if the data were freely available. This is anticipated by Lee et al. (2021) in reviewing the GEMS data released by the EIB (2021). If there is an opportunity to help banks assess risk, then there is a good case for more data being made available. The structure of the financial transaction and the subsequent liquidity of the instrument is a form of risk that can be reduced or mitigated. Complexity is explained by banks as increasing risk and decreasing liquidity.

7.5.3 Working relationships

The literature is silent about the working relationship between banks and DFIs. DFIs are important clients for private sector banks and so in the public domain there is little commentary. Through the process of confidential interviews, it has been possible to learn more about some of the factors that either confound or support the mobilisation process. Some of the conclusions could be anticipated, an obvious one being that the governance processes of DFIs (in particular MDBs) make them slow to operate. Similarly, transaction execution rules require doubling up of some procedures relating to legal work which increases friction through higher costs.

A more unexpected outcome is that banks might seek to avoid working with DFIs precisely because of the slow speed of execution. This does have implications for mobilisation and how progress is tracked. If deals that are SDG-supportive are

happening outside of the purview of DFIs (even with slightly inferior terms and monitoring) it is an opportunity missed in two different ways. First, the deal would be unobserved and not accounted for. Second, the economics of the deal might have been better for the borrower and the banks with the involvement of a DFI.

The banks certainly are not asking DFIs to downgrade governance in order facilitate more transactions. What they are asking is that DFIs re-consider how their governance and processes affect mobilisation, and to think about how they might streamline operations or create pockets of delegated authority to simplify and speed up deal execution.

7.6 Conclusions

Capital mobilisation is a multi-dimensional process. It starts with the formation of a bankable project, then the selection of the financial instrument or transaction best suited to transfer or hold the risk, and finishes with the execution of the transaction itself. There are clearly inter-dependencies between these three activities, although for the purpose of unpacking different constraints on mobilisation – or spotting opportunities – it helps to have a framework to separate them out.

With regard to financial structures and deal execution, the process of interviewing private sector banks has provided useful new insight to the literature by explaining the impact of the actions of MDBs/DFIs on private sector banks in new ways.

Securitisation is often proposed as a key structure for facilitating mobilisation. Synthetic structures are shown to be preferable to true sales in both the literature and from the interviews. If this is to work, then more attention needs to be paid to the way in which the underlying assets are generated. The limited number of successful securitisations suggests that existing portfolios are difficult to distribute. Future research could look at the constraints to securitisation and explore the viability of alternative structures and revenue streams, in particular for local currency portfolios.

MDBs play a clear role of solving information asymmetries for the private sector. This research confirms that the private sector banks look for this quality in working with MDBs. The banks also want structural asymmetry on transactions and expect the MDB to perform a different function or assume a different economic position. This has policy implications for co-investment structures as it suggests limitations to this strategy. Banks do not appear to want to share in the same economics. Increased data sharing might be a way to unlock greater flows by helping banks learn how to calibrate models for development finance projects. This data is available through GEMS and there is a good case for making this more widely available. In a similar vein to the research suggestions above, this argues for more work on investor requirements and transaction constraints to understand whether securitisation structures can be improved.

The final observation is that DFIs/MDBs could consider the effect of their own governance processes and procedures on their efforts to mobilise the private sector. This research shows that the speed of execution and the balance of control on a transaction can serve as disincentives to engage with SDG financing. This is not to suggest that governance should be relaxed or downgraded because it has been organised that way for a reason. However, it would be worthwhile exercise for the MDBs to ask themselves the question of whether there are alternative ways to delegate authority or to streamline deal execution.

The purpose of conducting the interviews was to add colour to the existing literature on capital mobilisation and to provide better answers to the question of 'what works?'. Although it is difficult to generalise from an interview-based study, the participants are all experts in this field and the synthesis of their views brings important new information to the effort to mobilise the private sector. The new ideas generated in this study could help MDBs/DFIs, and private sector banks and investors prioritise their efforts to bridge the SDG funding gap.

Chapter 8

Conclusions

8.1 Overview

The purpose of this research project was to investigate the activities of DFIs as they have worked to mobilise the private sector to fill the funding gap for the SDGs and the Paris Agreement on climate change. The unifying theme was to identify 'what works?' in practice, with the intention of producing research that can have a real-world impact.

The focus on capital mobilisation by DFIs/MDBs is truly multi-disciplinary. This was borne out in the literature review (Chapter 2) in positioning the research questions relative to the existing body of literature, where there are relevant contributions from economics, finance, international political economy and development journals. It is also clear from the literature review that there are more gaps to fill than can be accommodated in the scope of this project. However, the topics chosen for this thesis follow a logical sequence and seek to solve some elements of the mobilisation puzzle, and in turn providing ideas for policy development and future research.

One of the key challenges of mobilisation is the mismatch in incentives and operating models between the public and private sectors, which in turn would affect the market dynamics. The need to determine the competitive conditions as shown in Chapter 3 is critical in demonstrating the capacity constraints that exist. Given that the market for development finance is a competitive oligopoly, how can a DFI bring value or

otherwise crowd in the private sector? It would require either the price of lending to be reduced or for transaction to be made less risky. Part of this puzzle is addressed in Chapter 5 by determining what the private sector can actually 'do' with Preferred Creditor Status. It turns out that even though banks cannot monetise PCS as an asset or pricing discount, PCS is understood by banks as a de-risking feature that can affect risk appetite. This can unlock lending to certain markets, or increase lending amounts or loan tenors. There is an important caveat however that banks need to follow their existing clients and so there are limits to what can be mobilised this way. Also, not all DFIs would be considered to have PCS so this power is not available to all institutions.

The question then to ask is how can DFIs expand the scope of projects and countries that the private sector might consider investing in? This is about increasing the flow of 'bankable' projects which has been a persistent constraint as demonstrated by the two quotes at the beginning of Chapter 6. It is clear that de-risking is valuable to the private sector, but also that some of the misalignment of organisational objectives and approaches of DFIs can blunt the incentives for banks to lend. Finally, even if a project is bankable in principle for the private sector, the financial structuring and deal execution still need to work. This is explored in Chapter 7, with important conclusions about the risk of complexity in transactions, the limits of securitisation and of co-investment structures.

Following this flow of ideas has generated some new contributions to the existing body of literature and helped to shape the problem of mobilisation with respect to the various academic fields that it touches. The conclusions from the preceding chapters have implications for the policies and practices surrounding mobilisation which are explored in the next section.

8.2 Contributions and implications for policy and practice

Chapter 2 is the first comprehensive literature review of development finance to be organised around the theme of capital mobilisation. Positioning the existing literature around four key themes (the political environment, the financing structure of projects,

the composition of syndicates and the pricing of loans) and the identification of specific research gaps is an important contribution of itself. The positioning process matters because it creates a frame of reference against which to think about mobilisation and ties together what are potentially diverse strands of academic literature. The review helps to view the overall system of mobilisation from the highest-level issues of the international political economy down to the detail of pricing individual loans. The thematic structure will help researchers from different disciplines identify how their work is relevant to research fields that they are less familiar with. This has the potential benefit of creating channels for cross-fertilisation of ideas between disciplines and broadening understanding of the mechanics of mobilisation. The identification of research gaps is useful of itself and sets the starting point for the chapters that follow. There are still gaps shown in Figure 1.1 that are still less researched. As will be shown by following the trail of ideas, each subsequent chapter also raises new potential avenues for research. These ideas are discussed collectively in Section 8.4.

The analysis of competitive conditions in Chapter 3 is an important addition to the literature as it is the first comprehensive study on the market structure of development finance. The key findings are that the market is a competitive oligopoly, it is in long-run equilibrium and has a downward-sloping demand curve. An important step in the analysis is being able to define the market as international in order to apply the Panzar-Rosse test on a cross-border basis. This captures the idea that development banks compete with each other to source projects and deploy funds even though the G20 exhorts them to work together.

The downward slope of the demand curve suggests a particular mobilisation challenge in that an expansion of lending would require the private sector to accept tighter lending margins. This in turn would require one of two things to take place. First, the private sector reduces the return on capital that they require for investment or lending. This seems highly unlikely to happen because lending to emerging markets, and development finance lending as a smaller subset of that, is a minor part of a global bank or investor's portfolio. If the pricing of development finance reduced,

portfolios would shift away to more profitable investments. Similarly, it is not reasonable to expect a private sector firm to lend on a partly philanthropic basis. The second possibility is that DFIs discover a way to reduce the risk in the transactions that they bring to market - effectively de-risking. This is why Chapter 3 stresses that significant scaling of mobilisation is highly unlikely *using the range of instruments and techniques currently available*. In other words, a large expansion of syndicated lending through project finance is unlikely to scale sufficiently.

Larger mobilisation flows will require a change in the risk/reward balance that the private sector perceives. The efforts that DFIs put in to improve the investment environment in emerging markets is surely one useful approach. On the grounds that a sovereign nation can create a more attractive legal/investment environment, establish a stable and convertible currency and improve its credit risk, this form of indirect additionality would facilitate a positive mobilisation effect. It is, however, a very long and uncertain road. Another approach would be to change the risk-sharing balance in transactions, although it is not realistic to believe that there is a yet-undiscovered financial instrument that will miraculously change the economics of transactions to stimulate large mobilisation flows.

In practical terms, the financial tools to mobilise the private sector are already available. What might make a difference is how these tools are deployed and the risk appetite associated with them. However, it is important in finance to understand not only what you think a financial structure does, but also how it is used and perceived. This is the backdrop for Chapter 5, Chapter 6 and Chapter 7 and explains the importance of being able to conduct confidential interviews with the private sector banks. The interviews yielded a unique data set on mobilisation from a group of interviewees that rarely appear in the literature as they were all 1st line bankers with ownership of clients and risk mandates.

Chapter 5 focused on the relevant and importance of PCS. This is a good example of a concept which needs to be understood from the private sector perspective. It matters less what a DFI or MDB believes what it might do (or would like it to do), but more how it affects banks directly. On a positive note, it aligns with some of the more recent

empirical work on loan syndication (Broccolini et al., 2021; Gurara et al., 2020) explaining that the presence of a DFI in a transaction can encourage banks to lend for longer tenors and in larger amounts. The specific contribution is to reveal how PCS is treated or valued within banks. It is useful to know that PCS generally has no impact on pricing, although it poses an interesting regulatory/policy question. Banks stated that they believe that PCS reduces risk in transactions, but that there is insufficient evidence available to justify changing the regulatory risk weight parameters (i.e. PDs, LGDs) to reflect the lower risk. As a result, the carrying cost of development lending cannot be adjusted for PCS. Calibration of credit risk models relies on data to justify the risk weights being used. Could DFIs share data to enable banks to calibrate their books differently? Possibly, but as long as the data is not shared then banks are unable to form a view on it.

Another key contribution that seems less important at first glance but that potentially has great significance is that banks follow their own client base. This might seem self-evident, but perhaps a key to mobilising private sector finance is to mobilise their clients. To the extent that a given sovereign can attract direct investment from multi-national corporates (MNCs) or focus on infrastructure projects, if the corporates come then the finance will follow. This has a potential added advantage that this would constitute indirect mobilisation as it would not necessarily require DFI funding. A typical MNC will have a syndicate of relationship banks to provide funding in any case. The policy question here for DFIs and their shareholders is to ask what can be done to stimulate FDI with mobilisation in mind. How can FDI be aligned with financial flows to support the SDGs?

Chapter 6 explains how the bankability of a project could be affected by the different actions and agendas of DFIs and the private sector. The two over-arching themes are the market structure and dynamics as they exist today, and the dynamics of risk and reporting. The opportunities and challenges for capital mobilisation seem to arise precisely because this is the interface at which DFIs and the private sector meet and they have different needs and objectives. Almost by design, every transaction will

have some kind of attribute that could be beneficial or awkward deriving from the need for a DFI to demonstrate additionality.

In the context of bankability, DFIs de-risk by their presence in transactions. The ability to indirectly mobilise the private sector is a potentially powerful tool and the evidence suggests that this can be of particular importance in the bond market. This matters given that investors need to be much more closely involved in mobilisation as the banks do not have sufficient capital. That seems to be well understood given the various UN frameworks to appeal to the activities of various segments of the private sector (e.g. PRB, PRI, PSI) even if these frameworks are perceived by banks to be relatively ineffective. Relying more heavily on the securities markets for mobilisation presents an operational challenge for DFIs. With a loan syndication there is a significant degree of operational control that a DFI can retain based on its role in the transaction. In a bond deal, the DFI is more exposed as it cannot control the ownership of the securities in the same way. It also does not have the same due diligence rights and access to information that it would in a private side transaction. The policy question arising from this is how can the DFIs make the shift to working more heavily with bond issuance, and satisfy their own governance and risk control needs? Is it possible to realign the balance sheet toward securities instead of loans and retain the necessary oversight? These trade-offs might be very hard to manage in practice. Future research could assess the relative risk of relying on bond markets for mobilisation in the context of DFIs' needs to demonstrate additionality.

The second important contribution from Chapter 6 is the impact on bankability of the different interpretations of development finance and sustainable finance. Although the SDG targets are measurable, they had to be drafted quite generically and each country was left to its own decision on how to implement a national SDG strategy. This has led to variation between countries on which SDGs are prioritised and how they are implemented. Consequently, any bank trying to implement a strategy linked to the SDGs has had to devise their own detailed policies on what sustainability means. This gap between the definitions cannot reasonably be closed because the SDG targets will not change. However, it would be worthwhile to invest in research to

align and map between the different reporting standards and structures. Increasing reporting requirements is an unavoidable burden on all financial institutions if the transition pathways are to be met, not just for climate-related goals but for other SDGs as well. From a DFI policy perspective, there is a need to rethink how monitoring and impact are measured. Simple, measurable metrics do not necessarily provide meaningful measures of impact. MDBs should focus on publishing a harmonised transaction monitoring framework to avoid a proliferation of different measures.

There is an important question for DFIs to consider about when to subsidise a transaction. Subsidies are explicit in the WBG Cascade model, but determining when they need to be applied is not a science. Is it additional to subsidise a transaction? Arguably a transaction would not have happened otherwise, but the loss of financial return is a drain on the resources of a DFI. There is a gap in the literature here about how far a DFI should go to subsidise mobilisation, and whether it would be better to make concessional loans to the sovereign instead. To that end, the challenge for a DFI is how to coordinate its public and private sector operations in the best interests of sustainable development. This linked to the third contribution from this chapter with regard to the market behaviour of DFIs as sometimes competitors, and the reluctance of DFIs to recycle their balance sheets. A review of DFI incentive structures would be a good way to ensure that the outcomes make the most efficient use of capital.

Finally on bankability, banks face various constraints that DFIs cannot overcome directly. This is particularly important with respect to climate-related technology as the future is so uncertain. This has two dimensions. First, that governments ultimately will set the taxonomies of what is considered 'green' or not. Second, new technologies are inherently riskier and it will be harder for banks to invest heavily at first. To mitigate these risks, governments need to endeavour to keep taxonomies as predictable as possible. Second, there is an argument for government investment in more environmental research and development to reduce the technology risk.

Finally, Chapter 7 explores how the choice of financial structure or instrument to execute a transaction, and the execution process itself, affect the ability of MDBs to mobilise the private sector.

Perhaps the most important contribution from this chapter is to highlight the shared view across the banks that complexity is a barrier to mobilisation. There is a conflict between the requirement for DFIs to demonstrate additionality and the desire to scale private sector finance. Additionality requires a bespoke justification for a transaction, whereas a large and liquid financial market will only scale with standardisation and simplicity. In the context of the WBG Cascade model this is problematic because contractual de-risking invites complexity regardless of whether there is a subsidy or not. The increase in complexity is also perceived as an increase in risk as a structure becomes more bespoke and the chances of an exit from the transaction or refinancing are more remote.

Can this additionality-by-complexity problem be resolved? There seem to be two areas in which it can at least be mitigated, and from a DFI perspective suggest some policy priorities. When a DFI is a co-investor in a bond issue rather than a co-lender in a syndicated loan, the documentation is simpler and the liquidity options are greater for the private sector investors. This argues for a greater emphasis on bonds and asset owners/investors rather than lending alongside banks. The de-risking quality of the DFI (also captured in Chapter 5), can be the demonstration of additionality. The second area of focus should be local currency investors and unlocking onshore pension funds as sources of finance. This would entail structuring transactions with local currency revenue streams and debt funding rather than working in hard currency. DFIs might need to be prepared to take more local currency risk as a consequence.

The complexity issue equally applies to the contribution on the limits of securitisation as a solution to mobilisation. Securitisation clearly works in principle with DFIs as it has been executed in practice (i.e. the Room2Run deals by AfDB). However, the portfolio granularity, geographic concentration and asset characteristics (e.g. tenor, credit history) are unlikely to change for existing borrowers. The efforts to develop infrastructure platforms to generate portfolios should continue, but DFIs need to recognise that this still will not scale quickly enough to meet the SDG targets by 2030. There is no magic bullet to fix the characteristics of the asset generation process. The

apparent solution again links back to closing the gap between the SDG targets and the ways in which banks and investors have to operationalise investments through risk management and reporting frameworks. The policy recommendation here would be for DFIs to consider whether they can invest more resources into transaction facilitation where they are not principal investors. This type of indirect mobilisation work is different to reforming economic policy in an emerging market – it would relate more to providing technical assistance without lending.

This broader consideration of what a DFI should do in a transaction is reflected in the contribution of new evidence about the impact of governance (in particular of MDBs) as a limited factor on mobilisation. The policy implication from Chapter 7 bears repeating that there is a case for greater delegation of authority, more streamlining of decision-making, and simplification of deal execution requirements. DFIs should reconsider whether the historic governance processes that they have in place are consistent with their new objective of fulfilling the SDGs by 2030. This does not entail a reduction in standards, it might instead require considering whether some of the private sector processes and practices can be adopted depending on the type of transaction.

The fourth and final contribution relates to the finding that banks prefer horizontal structures to vertical structures when working with DFIs. If so, the prospects for co-investment initiatives are quite poor. However, there is an opportunity for DFIs here to exploit their superior knowledge of borrowers, their 'PCS aura' as explained in Chapter 5, and the proprietary data in the GEMS database. In line with the mobilisation model proposed in Section 7.2.3, if the PD/LGD characteristics in practice are better than private sector prudential regulation can allow, then DFIs should feel comfortable to subordinate themselves in financial transactions without having to offer a real financial subsidy. This may be the best way to contractually demonstrate confidence in PCS and convert it from a *de facto* concept to one that is truly *de jure*.

8.3 Limitations

One of the key challenges, and indeed a major motivator for the project, has been that the research was contemporaneous with changes in the methods and thinking of DFIs themselves. During the project, some MDBs have more formally organised staff into specific mobilisation teams or have subtly 're-branded' the loan syndications desk to include mobilisation as a role (e.g. EBRD, IFC). The data used in the preceding chapters is clearly a from a moment in time, in particular the interviews supporting the qualitative chapters that were conducted in the first half of 2021. In that sense, it is difficult to capture the dynamics of how the market for mobilisation is changing, although it reinforces the scope for ongoing research as highlighted in Section 8.4.

A common criticism of qualitative research is that it is difficult to generalise results. Can qualitative interviews really explain the workings of mobilisation? While this is a valid epistemic question, this project has taken a realist approach given the nature of the issues being studied in the belief that there are certain aspects of market dynamics that cannot be captured by quantitative analysis alone. In a study of mobilisation, the two approaches ought to be complementary. The qualitative work giving a deeper explanation to quantitative findings, and in turn suggesting new avenues for future work.

8.4 Future research opportunities

'Two roads diverged in a yellow wood,
And sorry I could not travel both' *from 'The Road Not Taken' (Frost, 1915)*

In the Introduction in Figure 1.1 there are too many identified research gaps for them all to be covered in this study. It was therefore necessary to select some, and pass by the others.

The relationships between the shareholders of DFIs, in particular MDBs, and the lending behaviour of institutions still seems under-explored. The key question here

would be to explore whether the political imperatives of shareholders significantly affect DFI lending and how much agency the DFIs really have.

In Chapter 3 there were some interesting follow up research ideas that were prompted by the analysis. It would be worth exploring whether a more refined dynamic model could provide a better explanation of the competitive forces in development finance. The chapter also suggests a closer look at the interaction between methods of mobilisation and competitive structure. Perhaps a route to doing this would be to build upon the mobilisation model in Section 7.2.3.

With regard to deal pricing, the principles in the mobilisation model could also be expanded upon to take a closer look at the relative cost/benefits of subordination and the size of first loss tranches. The realities of emerging market PDs/LGDs might be different in the GEMS database or other empirical data set. This would provide an opportunity to demonstrate whether there is a pricing opportunity for the DFIs relative to the strictures of capital adequacy under Basel III, and effectively end up monetising PCS in a contractual format.

The exploration of PCS in Chapter 5 expanded in practice to discuss political umbrellas and the risk mitigating characteristics of DFIs. However, the nature of the political umbrellas is changing as the political environment evolves, so this is not a static problem. Similarly, the roles of MDBs are continually being scrutinised as evident in the G20 Expert Panel review (G20 CAF Panel, 2022) which took place after the literature review in Chapter 2 was completed. Chapter 5 also proposes a closer look at the types of deal structures that would work better for investors. This type of project could examine the legal and fiduciary constraints that investors face relative to the methods of mobilisation that are being deployed. This is also suggested in Chapter 6 with regard to identifying and eliminating the inconsistencies, or closing the gaps, between reporting frameworks, SDGs and other taxonomies. Similarly, this applies to understanding investor constraints with regard to securitisation as highlighted in Chapter 7.

8.5 Closing remarks

The unifying theme across this thesis, and the potential research projects described above, is that there is an alignment between original contributions to knowledge on mobilisation, and having a real-world impact on delivery of the SDGs. Researching such contemporary, real-world issues has ensured engagement from many of the institutions and people affected by the work in this thesis. Success in mobilising the private sector to invest in the SDGs ultimately depends on identifying 'what works?' for private sector mobilisation. It is hoped that this study will prove to have had a lasting positive impact on that mission.

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