CHAPTER 4

PRIVATE SECTOR FINANCE FOR ADAPTATION

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KEY FINDINGS

- Assessing the extent to which private sector financing contributes to increasing resilience in developing countries is challenging because (i) data are scarce, (ii) the effectiveness of private sector investments is unclear, and (iii) the extent to which private sector finance incentivises maladaptation is unknown.
- There are indications that, perhaps with the exception of remittances, the international private sector is unlikely to be a major source of adaptation finance in the most vulnerable countries. In these countries the emphasis should be on strengthening the domestic private sector, as this sector is often dependent upon resources that are vulnerable to climate change.
- Remittances are an increasingly important source of external finance in many developing countries, and could play an important role in supporting household-level adaptation.
- International public finance can help mobilise domestic private investment in developing countries, provided that the right incentives and policies are introduced.

4.1 INTRODUCTION

An emphasis on private finance has emerged in climate finance discussions, particularly in the context of international climate change negotiations. This is partly because the overall volume of finance needed to support adaptation in developing countries (Chapter 2) is beyond what many expect public finance to be able to contribute.

Despite this emphasis, the depth of empirical analysis on the contribution of private finance to adaptation outcomes is limited (Surminsky 2013, Pauw *et al*. 2015). The growing body of literature on this issue covers four main areas:

- Assessments that seek to identify, and even quantify, private investment relevant to climate change (Buchner *et al*. 2015, Brown *et al*. 2015).[24]
- Reviews of experiences by multi-lateral development banks providing finance to the private sector for adaptation-related expenditure (Vivid Economics 2015, Eurodad 2015).
- Assessments of private financing for adaptation-relevant concepts, such as climate-proofing (UNEPFI 2014) or resilience (Trabacchi and Mazza 2015).[25]
- Descriptions of cases in which the private sector provides financing for adaptation, such as the UNFCCC Private Sector Initiative (Pauw *et al*. 2015).

The literature does not allow for a proper definition of the private sector's contribution to the financing of, and expenditure on, adaptation-related outcomes. In light of this, the goal of this chapter is to outline issues of relevance when considering the prospects of private sector financing for adaptation in developing countries (Box 4.1).

The chapter considers private sector financing for adaptation in general, as opposed to a narrower focus on the extent to which the private sector contributes to meeting international climate finance goals.[26] Not least, it is important to note from the outset the sensitivities that frame any discussion of the contribution of private sector finance to adaptation in developing countries:

- The emphasis on private sector finance is dominant in neoliberal (often Western) political economies. However, countries and communities with different political economies might have other perspectives as to what level and type of private investment is desirable and appropriate. Stated differently, the concept that mobilising private sector financing for adaptation is a goal may not be shared by all.
- Bridging the adaptation finance gap is not only a question of mobilising more resources: discussions about both public and private sector finance should be set against a background of effective delivery. In other words, it matters how finance connects with the priorities and

24 These studies underline the difficulties in defining what constitutes adaptation-relevant finance.

25 Notwithstanding the usefulness of these efforts, they represent narrow proxies for assessing the extent to which the private sector can help bridge the adaptation finance gap.

26 Specifically, the developed countries' pledge under the United Nations Framework Convention on Climate Change to mobilise US$100 billion in climate finance annually by 2020, to support developing countries with adaptation and mitigation.

Box 4.1: Key challenges in assessing private sector financing for adaptation

Unlike bilateral and multi-lateral donors, who have to report on their adaptation-related investments, the private sector has no obligation to do so. For this reason, data on financial transactions involving the private sector generally tend to be unavailable. Therefore, the scant data collected in commercial databases understates the actual level of private sector financing for adaptation (Agrawala *et al*. 2011, Pauw 2015).

Private investments in adaptation can create public benefits. However, the private sector is not accountable for creating them. As a result, the extent to which private sector financing for adaptation is delivered effectively, and how it affects regulatory efficiency and distributional equity, is unclear. Public sector expenditure for adaptation outcomes can help increase the accountability of private sector financing for adaptation, by creating enabling conditions that incentivise the right kind of private sector investment.

While some (private sector) finance flows may support adaptation priorities, other flows may erode community resilience and reduce adaptive capacity. Identifying the latter is particularly relevant in the case of private sector investments, due to the lack of accountability mentioned above, as well as for informing public responses and frameworks for private action.

needs of recipient countries and communities, and how lasting the outcomes are.

At present, the debate about private financing for adaptation focuses on climate-proofing in the infrastructure, water and agriculture sectors. Such a focus on responding to impacts is arguably too narrow, and neglects key pre-conditions for adaptation, notably those related to human health and ecosystem resilience. For this reason, further consideration of the private sector's potential to facilitate investment at scale in such public goods is warranted.

The remainder of the chapter is structured around two sections. The first section summarises the information available regarding private sector financing for adaptation in developing countries, with a focus on climate bonds, remittances and domestic private investment. The second section outlines financial and non-financial tools that can be used to mobilise private sector financing for adaptation in developing countries.

4.2 EVIDENCE ABOUT PRIVATE SECTOR FINANCING FOR ADAPTATION

In addition to ODA, foreign direct investment, portfolio equity, private debt, and remittances make up the largest components of financial inflows to developing countries.[27] Although there are no quantitative estimates of the adaptation-relevance of these flows (Chapter 3), there are some indications of their potential relevance as outlined in the following paragraphs.

4.2.1 CLIMATE BONDS

Over the last decade interest has grown in using bonds to raise capital specifically for climate change and environmental objectives – climate bonds, and green bonds, respectively. Bonds can raise capital for either private or public expenditure, depending on who issues the bonds in the market. It is estimated that 4.3 per cent of the US$65.9 billion outstanding green bonds are linked to climate adaptation projects (CBI 2015), while a

27 Least-developed countries generally receive very little foreign direct investment, equity, debt and remittances. In per-capita terms, upper-middle income countries receive substantially more foreign direct investment, and public and private debt, compared to all other countries.

larger percentage are in sectors that may be relevant for adaptation.[28]

At present, there are no international standards for delineating green bonds from other bonds, and questions have been raised as to whether the apparent rapid growth in green bond finance actually generates new capital for green investments, or instead reflects a re-labelling of traditional bonds and investments. Further analysis is therefore needed to properly explore the potential of the bond market to substantially contribute new capital to adaptation investment flows in developing countries.

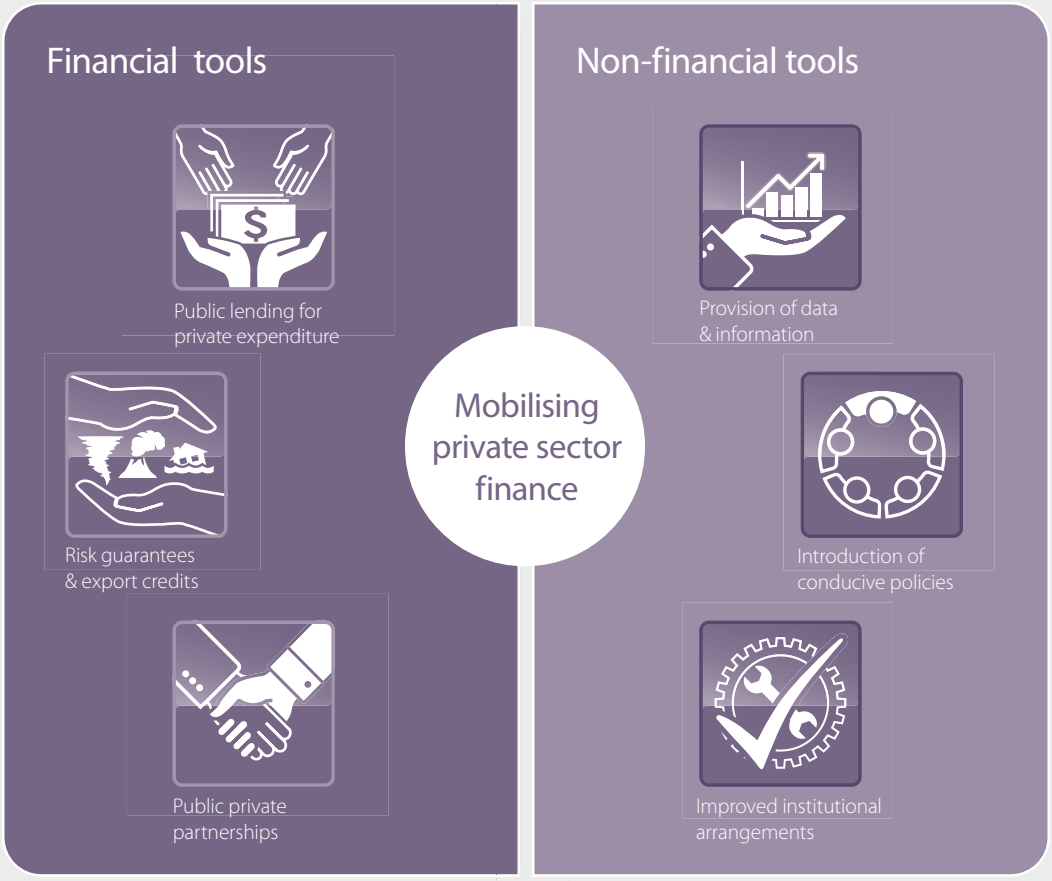
28 For example, local governments in the United States have issued green bonds for investment in water management. Among other interventions, these bonds finance the widening of storm water tunnels and more efficient waste-water treatment (CBI, 2015).

4.2.2 REMITTANCES

The value of remittances to developing countries is expected to increase to US$516 billion in 2016 (World Bank 2015). This is roughly 3.5 times the size of total ODA flowing to developing countries in 2015 (OECD 2016), illustrating the importance of remittances for developing countries' economy, for individual households, and for small businesses and entrepreneurs. Remittances may be valuable from an adaptation-perspective because they tend to increase, for instance, in the case of catastrophic weather events, natural disasters or economic crises in the migrants' country of origin. Furthermore, remittances reach households directly, including those in remote and vulnerable areas, more so than public finance flows (Bendandi and Pauw 2016).

Remittances can help fund adaptation-related investments ranging from short-term priorities, such as irrigation equipment, to longer-term goals related to health and education. For example, in water-stressed communities in the Himalayas, remittances can be an important source

Figure 4.1: Tools for mobilising private sector financing for adaptation



of finance for meeting basic household needs, including following disaster events (Banerjee 2011).

4.2.3 DOMESTIC PRIVATE INVESTMENT

There is little empirical evidence about the extent to which domestic private investment finances climate change adaptation. In developing countries, micro- and small-enterprises, and informal businesses provide the largest contribution to GDP (Dalberg 2011). Many of these enterprises are active in sectors that are sensitive to climate change, notably agriculture (World Bank 2012)[29]. Therefore, when engaging the private sector in adaptation, particular attention should be paid to micro- and small-enterprises. Investments in adaptation by these companies can directly contribute to strengthening community resilience (Dougherty-Choux *et al.* 2015).

4.3 MOBILISING PRIVATE SECTOR FINANCING FOR ADAPTATION

Interventions by donors, DFIs, bilateral agencies and governments can help to lower barriers (Box 4.2) to private sector financing for adaptation (Chapter 3). Broadly, these interventions can be classified as either non-financial or financial.

4.3.1 NON-FINANCIAL INTERVENTIONS

Non-financial interventions are policies and regulations that influence both investment conditions, and the specific kinds of

29 Micro- and small-enterprises are particularly affected by disasters, and many go bankrupt after a natural disaster, because they lack the financial means to face the costs of it (UNISDR 2013, UNDP 2013).

Box 4.2: Barriers to private sector financing for adaptation

Private sector financing for adaptation faces many of the same generic barriers to private sector investment in developing countries, which climate change could magnify. In addition, it faces barriers that are specific to adaptation to climate change:

- **Long-term planning needs.** The long time-scales and uncertainties inherent in climate change are at odds with the much shorter time horizons within which most businesses operate when making investment decisions (Danielson and Scott 2006).
- **Unclear costs and benefits.** While adaptation is often framed as a measure to reduce future costs, businesses tend to invest in actions that promote expansion and increase revenue, rather than in cost-saving measures (UNEPFI 2014).
- **Limited autonomous earning power.** Some kinds of adaptation, such as infrastructure projects, may offer limited autonomous earning power for the investor, which is a barrier particularly for attracting equity (UNEPFI 2014).
- **Social and cultural barriers.** Adaptation is essentially a social change process, and social and cultural factors may resist change, as evidenced, for instance, in the context of community adaptation to extreme weather events (IFRC 2014).

These kinds of barriers are especially challenging for small- and medium-sized enterprises, whose ability to understand the implications of climate change is limited, compared to that of larger businesses (Stenek *et al.* 2013, Ballard *et al.* 2013). In addition, small- and medium-sized enterprises have more limited access to finance, and even shorter planning horizons.

investments that are incentivised. Examples include (see also Stenek *et al.* 2013):

- **Provision of data and information.** The private sector is unlikely to invest in climate and hydrological data, or in decision-support tools for climate change-related risks, as these are often perceived as public goods.
- **Improved institutional arrangements.** Ensuring appropriate coordination among public agencies, and nurturing public-private partnerships that facilitate implementation can foster private sector engagement.
- **Introduction of conducive policies.** These include, for example, inducements such as technical standards or local zoning regulations that take into account changing climate risks, or financial incentives for adaptation-relevant technologies and practices.

Another important role for the public sector is to remove those policies that potentially create maladaptation. For instance, low water prices can lead to over-extraction and make investments in drip-irrigation unattractive (IFC and EBRD 2013).

4.3.2 FINANCIAL INTERVENTIONS

To shift private sector finance towards adaptation, public actors can rely on three main financial interventions: public lending, risk guarantees and export credits, and public-private partnerships (with a specific financial focus).[30] These are described in the following paragraphs, which complement the findings presented in Chapter 3.

PUBLIC LENDING FOR PRIVATE EXPENDITURE

Of all providers of international climate finance, only multi-lateral development banks report on the level of support provided directly to private sector recipients (IDFC-MDB 2015). These data reveal two interesting patterns. Firstly, while roughly one-third of the multi-lateral development banks' overall climate finance in 2014 was borrowed or received by private actors, less than 3 per cent of the US$5 billion spent in adaptation finance went to private recipients. Secondly, although approximately 30 per cent of all multi-lateral development bank adaptation finance went to LDCs and SIDS, only a tiny fraction of this (US$3 million) went directly to private recipients.

Directing public finance towards private recipients does not necessarily ensure good or diverse adaptation outcomes in all sectors, or with all types of private actors. For example, an analysis of development finance institutions and climate funds that provide private finance argues that (i) they tend to focus on large projects, often involving foreign corporations, and (ii) they deploy a wide array of tools to support private companies, but most do not reach the informal economy, and are frequently inadequate for supporting micro- and small-enterprises in developing countries (Pereira *et al*. 2013).[31] Moreover, reliance on financial intermediaries can result in weak monitoring and transparency, and limit accountability (Dzebo *et al*. 2015).

RISK GUARANTEES AND EXPORT CREDITS

Public finance can help reduce investment risks in projects through instruments such as credit guarantees, political risk insurance, hedging products such as currency and interest swaps, and public catastrophe and weather risk insurance. For example, insurance can spread and transfer the risks of coping with climate-related natural disasters, and may provide incentives for risk reduction and preventative behaviour (and thus private adaptation expenditure) (Box 4.3). However, insurance coverage is still much broader in developed countries than in developing countries (Naidoo *et al*. 2012). To mobilise more private investment in innovative insurance products in developing countries, public finance is often needed to fund research, pilot projects, and the data collection that underpins local index-based insurance (Pierro and Desai 2011, GIZ 2014).

Export credit agencies are another mechanism sometimes used to support private investment. In 2014, the OECD issued a revised sector understanding on export credits for renewable energy, climate change mitigation and adaptation, and water projects (OECD 2014). In an effort to make investments in adaptation more attractive, it sets favourable conditions for repayment of export credits to adaptation projects. It is too soon to determine the extent to which the revised sector understanding will contribute to making export credit agencies a more useful tool for private sector financing in adaptation. In the context of climate change mitigation, concerns have been raised about the small share of renewable energy projects financed through export credits, in spite of the more favourable terms that these projects receive, compared to projects that rely on fossil fuel-powered technologies (ECA-Watch 2010).

PUBLIC-PRIVATE PARTNERSHIPS

Public-private partnerships have been depicted as a useful vehicle for distributing risk, and thus drawing in private sector investment. Infrastructure projects, where private finance provides between 15 and 20 per cent of total investment in developing countries, are a case in point (Eurodad 2015).

In recent years, the financial value of public-private partnerships in developing countries has increased dramatically. Nonetheless, most partnerships are clustered in the energy and transport sectors in upper middle-income countries. For example, between 2009 and 2014,

30 Public institutions are also able to blend public finance with private finance in order, for instance, to lower the cost of capital (blending commercial debt with grants to provide concessional lending), to provide credit lines to local finance institutions for adaptation-related investments, or to provide risk-sharing instruments such as first-loss guarantees, and separate treatment of political risks (UNEP 2011).

31 These tend to be important economic actors in developing countries, including from the point of view of employment.

Box 4.3: The R4 Rural Resilience Initiative

The R4 Rural Resilience Initiative (R4) is a joint effort by the World Food Programme and Oxfam America. It exemplifies how public finance can help reduce investment risks though the use of instruments such as weather-index insurance.

R4 promotes the use of four risk management strategies: risk reduction, risk transfer, prudent risk-taking, and risk reserves. It seeks to build resilience to weather-related shocks by fostering risk reduction in the form of communal and/or individual asset creation, and by promoting risk sharing and risk transfer. The initiative comes as a response to the lack of insurance mechanisms for addressing aggregate risk in developing countries, and minimal uptake of insurance when it is made available.

During the 2015 agricultural season, R4 provided weather-index insurance and supported the creation of disaster-risk reduction assets for more than 32,000 farmers in Ethiopia, Senegal, Malawi and Zambia. R4 works with local private insurance companies and microfinance institutions, as well as global reinsurers such as SwissRe.

only four partnerships out of 189 were finalised for water infrastructure across all low-income countries.[32] This pattern may change over time, as many countries are still developing institutional frameworks to support such partnerships (Kennedy and Corfee-Morlot 2012).

However, the benefits of public-private partnerships in supporting public goals, like adaptation, are sometimes contested. Based on an analysis of public-private partnerships for development purposes, it has been suggested that (i) resource mobilisation is the main rationale driving these partnerships, and (ii) there is little evidence of them delivering better quality outcomes in terms of either cost-effectiveness or environmental benefits (IOB 2013).

32 An inventory of public-private partnerships is available online at: http://ppi.worldbank.org/~/media/GIAWB/PPI/Documents/Data-Notes/PPI-Note-IDA-Countries-to-2009-2014.pdf