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**RESEARCH STRATEGY 2023-2026**

# Research Strategy 2023-2026

It is impossible for large numbers of people to be lifted out of poverty without sustained growth, and impossible for a country to experience sustained growth without a vibrant private sector. Each underdeveloped private sector is underdeveloped in its own way. Some dysfunctional domestic private sectors coexist with dynamic export sectors. Some are in countries which are conflict ridden or prone to natural disasters. Some lack small and medium-sized enterprises, while others have dynamic small firms which fail to grow into larger firms. A research programme which can inform policies for private sector development must therefore address a variety of issues and incorporate a variety of approaches.

These approaches must, however, reflect one key aspect of growth dynamics: sustained growth which leads to rising income and creation of jobs is impossible to achieve without growth in productivity. Innovation is a key to productivity improvement, and innovation can take many forms. Sometimes new industries can be traced to a single, significant leap. Klepper and Mostafa (2018) trace the success of the garment sector in Bangladesh to the entry of Dosh and its partnership with Daewoo in 1978. Atkin et al (2016a, PEDL) conduct an experiment among carpet producers in Egypt which provides randomly selected producers with access to export markets. They find that the firms experience rapid increases in productivity through “learning by exporting.” These are examples of discrete changes in circumstances that produce discrete changes in productivity. Hendel and Spiegel (2014) instead show the power of small innovations accumulated over many years. Using data from a large scrap steel mill, they document steady productivity increases of two per cent annually without any single substantive change. Growth in their steel mill comes from continuous learning by employees. Atkin et al (2016b, PEDL), however, show that the details of labour relations can affect incentives to adopt new innovation. Piece rate contracts in the ‘soccer ball’ sector in Pakistan give production workers incentives to resist technological changes that involve even short periods of learning.

Several recent and influential papers show that productivity varies substantially across countries and industries, and even within industries across firms (Hsieh and Klenow 2008). While productivity is lower in low-income countries, the substantial variance within countries implies that firms and even sectors which are highly productive coexist alongside firms and sectors which are much less productive. Understanding why this is the case, and why productivity does not “percolate up” is an overarching goal of PEDL. Bloom and Van Reenen (2010) show there is substantially more dispersion in management practices in India and China than in the United States and northern Europe, and Bloom et al (2013 and PEDL) demonstrate a very high correlation between management practices and income per capita at the country level. In particular, they show that management practices lag by some distance in sub-Saharan Africa. Hsieh and Klenow (2009) present evidence showing more dispersion in total factor productivity in India and China, compared with the United States. Measured either by management practices or productivity, we see a much thicker left-hand tail of low-productivity firms surviving in China and India. Available data suggest that productivity dispersion is also very high, and management practices weak, in sub-Saharan Africa and other LICs.

The evidence on management practices and productivity suggests that not all markets exert pressure on firms to improve productivity. Why should this be so? A well-established literature shows the role of underdeveloped financial markets and regulatory barriers in suppressing entry (see, for example, Djankov et al 2002; Beck et al 2008). But differences between markets in high-income and low-income countries are much broader and more fundamental than finance and entry costs. There is a greater reluctance in low-income countries to switch trading partners, even for standardised products (see, for example, Johnson, McMillan and Woodruff 2002). Information about reliability of firms and products is poor and closely held. Formal legal remedies for contractual non-compliance are slow, expensive and unreliable. Decision-making is more centralised because owners are unwilling or unable to delegate responsibility outside a narrow circle, often limited to family members. Finally, macroeconomic instability and high levels of uncertainty more generally magnify these failings, increasing the perceived costs of establishing new trading relationships (McMillan and Woodruff 2002). Extreme instability is a feature of many low-income countries, especially in conflict ridden areas where the state is unable to maintain basic order. In dysfunctional states, public governance of private sector trading gives way to creation of non-state institutions, which are often imperfect substitutes (McMillan and Woodruff, 2000).

All of these factors result in higher levels of friction in markets in low-income countries, which make markets less competitive and so temper the selection pressure exerted by well-functioning markets. The cost of switching trading partners is high, and, as a result, the demand faced by any individual firm is less elastic. Firms that increase productivity do not gain market share; firms that fail to increase productivity are not forced out of the market. Where reducing costs instead leads both to higher margins and greater market share, the incentive to reduce costs will be greater. Where reducing costs is required for survival, this incentive is even greater. Understanding market frictions is also key to understanding incentives firms face to undertake innovative activities to stay ahead of the competition. The pressure to innovate to stay ahead of the competition creates a dynamic of firm growth and job creation.

The overarching goal of more robust private sector development is to increase income and wellbeing of citizens of lower-income countries. This implies that we pay attention to more than simply growth. Private firms are the most important determinant of the demand for labour in an economy. Similar levels of firm growth may be associated with different levels of formal employment growth depending on choices of technology, costs of hiring permanent labour, and other related factors. We must also understand how and why private sector development leads to the creation of jobs that are fairly remunerated, and in which rights of workers are respected.

### Three Research Themes

Research can inform policy by illuminating the costs of continuing existing policies or the benefits of policy changes. Randomised control trials (RCTs) have been particularly effective in this regard. This proposal recognises the value and contribution of RCTs, while also recognising their limitations. While RCTs are excellent tools for understanding individual decision-making, we believe an understanding of growth processes requires analysis at a more systemic level than is typically possible with RCTs. We will encourage work which incorporates a general equilibrium framework, and which explicitly accounts for the interactions of market participants. For example, recent empirical methods combining rigorous causal identification and structural techniques illuminate the employment spillovers and distributional consequences of policies. These theory-based approaches provide the possibility of understanding how constraints interact, and how particular sectors have been able to grow by overcoming those constraints.

We propose a research agenda focusing on private-sector development in LICs, organised around three specific themes. All of the research will be motivated by the need to develop a better understanding of what determines the strength of market forces driving efficiency in low-income countries and, importantly, how policies affect the efficiency of markets and the incentives faced by entrepreneurs. Because research tools and available data are constantly changing, we would expect the specific questions addressed to evolve over time.

The agenda builds on the research agenda from the previous period of PEDL, recognising both the now-significant body of research on some questions and the remaining gaps in other areas. Therefore, **Innovation, Organisations and Markets** will incorporate the previous themes of market frictions and trade, examining issues that are relevant to the organisation of economic activity within and across organisations in lower-income settings. **Climate and Environment** will focus our attention on the adaptation by firms to climate change and on the role of the private sector more broadly in adaptation and resilience of lower-income countries. The agenda on firms and climate change in a lower-income country context is not well established and an early task of the theme leaders in this area will be working to outline that agenda. **Finance and Entrepreneurship** will build on the previous theme of high-growth entrepreneurship, with an increased focus on venture capital and private equity, particularly in Africa. The result is an agenda which encompasses both continuity and change. The central issues of market frictions and entrepreneurship remain part of the core focus. Other areas evolve to incorporate a decreasing need to stimulate research on some topics but remaining gaps on other topics.

In addition to these three themes, PEDL supports research related to the work of [British International Investment \(BII\)](#), the UK's development finance institution. BII and the Foreign, Commonwealth and Development Office (FCDO) are sponsoring this new research initiative aimed at understanding the impact of

development finance on private sector development.

## **1. Innovation, organisations and markets**

Research under the Innovation, Organisations, and Markets (IOM) theme explores the structures and incentives that guide interactions in the private sector, and how these determine the productivity, efficiency, and distribution of economic activity in developing countries. Innovation covers topics related to measuring and understanding the drivers of improvements in firm performance. Under Organisations, the focus is on how individuals interact and are incentivised within firms. The Markets area studies interactions that cross firm boundaries and are instead governed by market-based incentives and institutions.

Within these three broad areas, six topics offer particularly promising opportunities for PEDL to help push the frontier of knowledge about private enterprise in low-income countries: (1) measurement and new data, (2) drivers of upgrading, (3) domestic impacts of multinational production, (4) determinants of firm boundaries, (5) supply chain architecture, and (6) effective industrial policy. Although the IOM theme is interested in promoting research generally on Innovation, Organisations and Markets, research on these topics would be especially welcome.

### *1. Measurement*

Studies of innovation in developed countries tend to focus on efforts to move the world knowledge frontier and rely heavily on patents and R&D expenditures as empirical indicators. But firms in developing countries typically aim at catching up to the world frontier, rather than moving it forward. Firms are engaged in innovative activities, broadly defined: they learn, they adopt new technologies, they start to produce new products and improve the quality of their existing ones – activities that can be classified under the general heading of upgrading. But these efforts are often not well captured by patents and R&D expenditures. The PEDL IOM theme seeks to promote research aimed at developing new and better empirical measures of innovative behaviour by developing-country firms.

Many commonly used methods can be termed “residual-based.” Standard total factor productivity (TFP) measures associate productivity with the part of sales, output, or value-added that cannot be explained by observable inputs; common measures of estimating product quality draw inferences from variation in market shares conditional on prices. These methods require assumptions which may be less applicable in developing countries than in developed ones. More research to improve such methods, under assumptions that are appropriate to developing-country settings, and taking advantage of increasingly available data at the firm-product level, would be valuable. At the same time, the IOM theme seeks to promote research to develop more direct measures of technology adoption, product innovation, quality improvements, and other dimensions of innovative behaviour by developing-country firms. Developing such measures is likely to involve detailed surveys of entrepreneurs and their employees, but also creative use of administrative records, internal firm data, and new forms of information on transactions, digital and otherwise.

In addition to improved measures of innovation, the PEDL IOM theme also seeks to develop new and improved measures of the structure of supply chains, market power, consumer behaviour, and other aspects of the business environment in developing countries.

### *2. Drivers of upgrading*

Beyond the measurement issues, the PEDL IOM theme seeks to improve our understanding of the determinants of innovative behaviour by developing-country firms. What are the factors that encourage or discourage such behaviour? The drivers of upgrading can be classified as input-side drivers, output-side drivers, and drivers of know-how.

On the input side, a key question is how the cost and availability of different types of inputs affect firms' upgrading decisions. How does the relative cost of workers of different skill levels shape firms' decisions to upgrade? What roles do the cost of capital and limited access to credit markets play? To what extent do difficulties in sourcing high-quality or customised materials limit firms' ability to upgrade? Infrastructure can also be considered an input-side driver; research on how various types of infrastructure shape firms' decisions also falls within this sub-theme.

On the output side, more research is needed on how the characteristics of markets that firms sell into affect

firms' choices. Is it market access per se that matters, or access to particular types of markets? How do the preferences of consumers in different destinations matter? To what extent does competition spur upgrading? Do firms learn more from selling to some types of customers than to others? Also relevant here is how contracting frictions due to information asymmetries and weak legal enforcement shape firms' behaviour. Regulation of pollution and environmental hazards generated by firms can also be considered an output-side driver of upgrading decisions.

The heading of drivers of know-how includes factors that influence how firms acquire capabilities and learn about techniques, products, or market conditions. Such learning may occur through many different channels. Firms may learn from customers, from other firms, from outside consultants, from their own employees, or from public sources. Research that aims to convincingly document learning on these or other dimensions – and forces that facilitate or inhibit learning, such as for example intra-organisational dynamics or the use of artificial intelligence – is welcome.

### *3. Role of multinational production in domestic development*

Foreign firms can influence poor countries' domestic economies substantially. Most obviously, multinationals may bring sophisticated technology and know-how to countries where wages are low and domestic suppliers have had limited learning opportunities, thereby increasing job creation and positive spillovers to domestic firms. There is some evidence quantifying such first-order impacts, but better understanding of the underlying pathways and context-dependence is needed. Additionally, the PEDL IOM theme encourages research more broadly on the consequences of multinationals' activities in developing countries. Are there environmental or health externalities associated with multinationals' production in low-wage regions? How are workers' safety, psychological wellbeing, or aspirations affected? Do domestic vocational education or tertiary education institutions respond to multinationals' presence? Do domestic regulations and standards influence multinationals' role in domestic development, or do multinationals themselves shape domestic policy?

### *4. Boundaries of the firm*

Economists and policy-makers have long been interested in the size and boundaries of firms and other production units such as farms. Many see the process of development itself as a move from individual to organisational production, with the latter facilitating specialisation, division of labour, and economies of scale. However, there is also evidence that firms in some distorted economies grow in size because integration can help overcome market frictions. In other contexts, nominally independent firms collectivize certain inputs or production or marketing tasks, blurring the definition of the "unit of analysis" in research on production. So what are the boundaries of the firm and what is their impact on growth? What are the frictions that distort these boundaries? How do regulations, infrastructure, institutions, and taxes affect the underlying frictions and economic agents' responses to them?

### *5. Supply chain architecture*

Classic frameworks in industrial organisation and international trade take a simplified view of production and distribution, assuming that all activities take place within one firm, or focusing only on a single layer of firm-to-firm transactions without considering that layer as one link in a longer chain. Newly available value-added tax (VAT) and survey data make it clear that these are major simplifications. And, recent advances in modelling have found ways to make consideration of larger structures tractable. In reality, complex chains connect producers to consumers, determining how prices, product availability, information, and risk are transmitted within and across countries.

It is increasingly clear that these supply chains matter for farmers, firms, and consumers. But our empirical understanding has been limited by the paucity of data on firm-to-firm linkages. More work is needed, both to describe what supply chains look like, and to understand their determinants and impacts. How long are production and distribution chains, and why are they longer or shorter in some places than others? How are prices passed through supply chains, and what is the role of one- or two-sided market power? What role do links between firms play in transmitting shocks or information about demand or technology?

### *6. What works (and doesn't work) in industrial policy?*

The PEDL IOM theme also seeks to deepen our evidence base about policy interventions that aim to improve firm performance and promote productivity growth – about what works and doesn't work in industrial

policy, or what might be termed productive development policy. Such deepening of the evidence base may take several forms: conceptual work to identify market failures and guide the design of policies to address those failures; descriptive studies of the experiences of countries that have implemented such policy, aiming to identify best practices; and perhaps most importantly, econometrically well-identified studies that allow one to draw credible conclusions about the causal effects of policy interventions and how the impact depends on the context.

## 2. Climate and Environment

Developing countries are disproportionately exposed to the consequences of climate change, local pollution and environmental degradation. Whether making comparisons between or within countries, the poorest and most vulnerable tend to be more exposed, suffer greater losses following environmental shocks, and have fewer resources to cope with the consequences. While developed economies are largely responsible for generating or consuming most emissions historically, developing and emerging economies, including PEDL-focus countries, account for an increasing share of GHG emissions and will produce almost all emissions growth going forward (Wolfram et al, 2012). Alongside the clear imperatives for continued progress on reducing poverty, increasing living standards and adapting to the impacts of environmental change, mitigation will also be central to achieving global emissions reductions; helping developing economies to capitalise on green growth opportunities and diversify out of income streams dependent on extraction of natural resources; and readying them for constraints on carbon. Achieving a bigger, cleaner, and more inclusive global economy requires decoupling emissions and environmental degradation more broadly from the process of growth and development.

Private enterprise plays a crucial role in addressing these challenges. Investments in new low-carbon solutions can fuel a new industrial revolution, but this is not guaranteed. Differences in values and political constraints could limit innovation, the implementation and enforcement of regulations, and the structural transformation needed to mitigate climate change (Besley and Persson, 2023). Moreover, even as a low-carbon industrial revolution unfolds, constraints on technology adoption and integration may impede the decoupling of emissions in developing and emerging economies. The design of incentives and regulations to limit pollution, GHG emissions and environmental degradation in low-income contexts – and ameliorating the extent to which pre-existing market failures and government capacity constraints may undermine their efficacy – must be informed by research focused on private enterprise, with careful attention to the design and implementation of second-best environmental policies. The private sector will also be key in determining how environmental shocks are translated into economic damages; mediating adaptation to environmental risks; and facilitating access to insurance.

Importantly, even with deep global emissions cuts, a large proportion of the world's population will bear disproportionate costs of climate change, rendering adaptation critical. We thus welcome proposals that investigate the role of the private sector in climate adaptation, as well as what policies and interventions may facilitate climate adaptation by firms. This could include the use of financial technologies, location choice, innovation, management practices, networks, and policies that build resilience. We also encourage proposals that explore the political economy constraints and the market frictions interfering with the implementation of policies on firms' adaptation.

Set within this research agenda, outlined below are examples of specific topics and policy-focused questions where PEDL research may help to build the evidence base on the role of the private sector in environmental adaptation and driving climate resilient industrial development in low-income countries, and to link firm-level evidence to economy-wide outcomes.

*Energy.* The private sector plays a role in developing a reliable electric grid necessary to meet the growing demand of firms and households. There is an interaction between investment and regulatory policy, especially as the latter relates to long-term power purchase contracts.

- How can renewables and storage support the development of reliable electricity grids?
- What are the sources of regulatory and investment risk for private sector investment in renewables, and how can these be mitigated?

*Transport.* Adoption of electric vehicles is increasing in high-income countries, and investment in electric motorcycles and three-wheelers is increasing in Africa and South Asia. But electric mobility is only one aspect of transport. Mass transit systems and streamlining transport logistics are also very active areas in PEDL-focus countries.

- How can firms help to overcome challenges to adoption of electric transport?
- What is the role of the private sector in mass transit?
- What are the constraints to increasing efficiency of transport of goods? What role can the private sector play in addressing these?

*Industrial Production.* Energy use in industrial processes is responsible for around one-quarter of CO<sub>2</sub> emissions globally. From a development perspective, the effect of industrial production on air quality is at least as important. Brick kilns alone are estimated to be responsible for as much as 58% of PM 2.5 in Dhaka in the dry season.

- What is the role of innovation and technology adoption in reducing emissions of both PM 2.5 and GHGs?
- How can policy interact with the private sector to achieve results?
- What determines the uptake of energy-saving innovations by private sector firms?

*Trade.* GHG emissions of producers of exported goods may be thought of as induced by the final consumers of those goods. Tariffs in both producing and consuming markets may skew prices of carbon-intensive and non-intensive goods.

- How do import policies impact production decisions and technology adoption?
- How are the climate mitigation demands of consumers in higher-income countries transmitted through buyers to producers in lower-income countries?

*Markets for risk.* Insurance is an important factor in resilience at the level of the farmer or firm. Insurance may also be necessary to encourage investment in capital-intensive sectors like grid-scale renewables.

- How are the effects of climate change distributed across firms of different sizes, sectors and locations?
- What innovations are required in local insurance markets to mitigate the increased risks arising from climate change?
- In the absence of full insurance markets, what are the adaptation strategies of firms in PEDL-focus countries?

*Innovation.* Innovation will play a major role in the resolution of the crisis of climate and environmental degradation.

- What are the constraints that private enterprises face with respect to the creation, adoption, diffusion, and financing of new climate-friendly technologies, be they internal (e.g., management) or external (e.g., finance, market prices) to the firm?
- How amenable are these constraints to policy intervention?
- How far is green tech imported versus produced domestically in PEDL-focus countries?

### 3. Finance and Entrepreneurship

A majority of the labour force in LICs works in firms with fewer than five workers. But we know from both cross-country and time-series evidence that the process of development is associated with a decrease in the share of the labour force that is self-employed and an increase in average firm size. Most small-scale entrepreneurs in LICs are motivated by subsistence, with little interest in or prospect for sustained growth (de Mel et al 2010; Breza et al 2021). The recent decade has seen the rapid emergence of a large body of (primarily experimental) work aimed at identifying what works and what doesn't for (micro)entrepreneurs in LICs (see, e.g., Woodruff 2018; Quinn and Woodruff 2019; Jayachandran 2020; Woodruff and McKenzie 2021 for reviews of the literature). Consistent with the prevalence of subsistence entrepreneurs, neither small amounts of capital (grants or micro loans) nor training generate sustained growth for the average business (De Mel et al 2008; Banerjee et al 2015; McKenzie and Woodruff, 2012.) Much less attention has been paid in the research to the larger and more innovative firms, which have been dubbed "dynamic" and "high

growth". The lack of research is striking given their disproportionate importance to growth (exceptions include Banerjee and Duflo 2014 and McKenzie 2017).

A key question in development remains what constrains firm growth, and what institutions and policies help to overcome those constraints. This requires more research on the subset of microenterprises with growth potential and the broader set of dynamic and high growth firms. Moreover, given the potential for multiplier and equilibrium effects through prices and competition, more work is needed to link the firm-level evidence to economy-wide impacts.

Recent evidence on microenterprises shows that there is a set of financially constrained firms with growth potential. We see larger effects of grants and loans where the pool of participants is skewed toward those with more ambition or ability (McKenzie 2015; Anderson-MacDonald et al 2014; Hussam et al 2022) or, in the case of microfinance, among the sub-set of borrowers with a pre-existing business (Meager 2019; Banerjee et al 2021). Moreover, giving larger loans yields higher returns for the better-targeted firms (Bryan et al 2022). Because of information and various institutional constraints, financing for small entrepreneurs has typically been limited to inflexible debt (from both banks and microfinance institutions). However, recent evidence also shows that improving the financial contract design, for example, by matching debt payments to cash flows (Beaman et al 2022) or better accommodating their inherent riskiness (Field et al 2013; Battaglia et al 2021), can lead to increases in business profits and scale. Recent work on asset-based finance shows the promise of expanding collateralized lending (Bari et al 2022). These findings also suggest there could be substantial benefits from innovations that permit more equity-like financing for microenterprises, which we view as a promising avenue for future work.

New innovations in Fintech and digitisation have the potential to address both the selection and contract design issues. New data sources (e.g., cell phone or point of sale terminal data) and advances in Machine Learning and Artificial Intelligence (Bjorkegren and Grissen 2020) can potentially improve the targeting of financing and customise the design of repayment terms (for example, by more flexibly matching payments with cash flows). Moreover, the expansion of digital transactions opens up new sources of observable and collateralizable cash flows (Gertler et al 2021).

Moving beyond debt financing is even more important for encouraging the entry and growth of more innovative firms with larger start-up costs and riskier early-stage cash flows. Other than grants (which are unlikely to be scalable), most of the current evidence is on debt as a financing tool. But we know debt rarely works well for small firms. Moreover, given their risk profile and capital requirements, debt is too scarce and costly for most high-growth entrepreneurs and dynamic middle-size enterprises. In LICs where non-bank capital providers are few, this has led to a "missing middle" of financing for firms that are both too big for microfinance and too small for international investors and the few local commercial banks (CFF, 2020). Most high-growth, innovative startups around the world rely on venture capitalists (VC) as a source of high-risk, high-reward investment. Similarly, more established firms can rely on private equity (PE) investors to grow. The private sector arms of all leading development finance institutions (such as BII or IFC) also directly (or indirectly, through international or local fund managers) provide capital to firms in LICs via equity and mixed debt-equity contracts (e.g., mezzanine, revenue-based model, ...). The empirical evidence in advanced economies shows for the most part positive impacts of VC and PE capital on firm productivity and innovation, because of a combination of the capital, knowledge, and networks they bring. However, many context-specific factors mean that LICs will likely present many issues that this evidence cannot speak to. For example, entrepreneurs and family firms might not want to give up equity, local courts might be less familiar with non-debt contracts, and external investors might not trust firms' financial accounts. Given the recent, rapid rise of VC and PE capital flows to Africa, South Asia, and most LICs, we see this as an exciting and important area for future research. Limited sample sizes and potentially higher costs are an obvious challenge to research in this area, but light-tough experimental methods (e.g., see Colonnelli et al 2022 for experimental surveys of VCs in China) and new empirical approaches can be fruitful.

Finally, more research is needed on "macro" aspects of finance and entrepreneurship in LICs, with a strongest need in Africa where empirical evidence remains the weakest. First, estimating the spillovers and general equilibrium effects of entrepreneurship programmes and shocks to access to finance seems first

order for both policy and theory. Examples include Rotemberg (2019), Breza and Kinnan (2021), Higgins (2022), and Cai and Szeidl (2022). Second, we need a much deeper understanding of the functioning of financial markets and intermediaries, what determines or prevents the mobilisation of (local) capital, and more broadly how to promote financial development. We have ample anecdotal evidence that in many LICs the banking sector is inefficient (Rajan 2020; Limodio 2022), that stock markets have low liquidity (Bernstein et al 2021), that bankruptcy procedures are slow and lead to low recovery rates for creditors (Alencar and Ponticelli 2016; Rao 2022), and that public-private partnerships are pervasive. However, our knowledge is limited, especially outside of a few of the largest LICs. Third, an obstacle to macro research on finance and entrepreneurship in LICs is the lack of representative cross-country data (see also Kaboski 2021 for a review of potential avenues for future research in macro-development). We see data creation approaches like that of Donovan et al (2023), for example, to be particularly promising.

## Development finance and the private sector: British International Investment (BII)

[BII](#), the UK's development finance institution, and the Foreign, Commonwealth and Development Office (FCDO) are sponsoring this new research initiative aimed at understanding the impact of development finance on private sector development. Issues of interest include the effect of investment on private sector growth; the characteristics of high-growth firms and how they impact on their sectors and localities; supporting quality jobs, gender and climate finance; and production and distribution of broader inclusive products and services.

BII invests through funds and directly in firms using a variety of financial instruments. The list of investees can be found [here](#). It aims to make investments that are productive, sustainable and inclusive and through this programme we aim to support research that shows either the impact of specific BII investments or shows how the impact of its investment can be made more impactful. We highlight here several areas of particular interest. These topics are representative of issues of interest but are not a comprehensive list of topics. Many of the topics overlap with the other core themes of the broader PEDL agenda.

*Female leadership and employment.* BII is a founding member and leader of the [2XCollaborative](#), which aims to support women as entrepreneurs, leaders, employees, and consumers. We are interested in research showing:

- How do hiring and HR policies affect the share of female employment in companies?
- What training and retention programmes are effective in increasing the share of female managers in companies?
- How do transportation, childcare and other amenities affect the hiring, retention and promotion of female employees?

*Climate adaptation, resilience and mitigation.* BII has a growing climate finance portfolio, guided by its [climate strategy](#). The ability of firms and households to adapt to climate change increases with access to resources. This is largely a function of income, but resilience and adaptation can also be increased by wider availability of financial services and technical assistance. We are interested in research that improves our understanding of:

- Credit and insurance products that allow firms and households to increase resilience.
- Constraints to adoption of new technologies that both increase productivity and reduce emissions of particulates and GHG.
- The role of concessional finance in promoting sustainable investments.
- The development of reliable and robust electricity grids that are consistent with the Paris-aligned pathway to net zero.

*Digital transformation.* Investing in digital technology is a key component of BII's current five-year strategy. BII has invested in major platforms increasing connectivity in Ethiopia and the DRC. We are interested in research that examines the importance of digital technology, particularly in understanding how to improve the reach of digital technology to the lowest income households, many of whom are located in rural areas.

*Building the private sector in fragile states.* BII is a founding member of the [Africa Resilience Investment Accelerator](#). We are interested in research that increases our understanding of challenges specific to investing in fragile states.

*Mobilisation of capital.* Stimulating sustainable growth and just energy transitions will require flows of capital far larger than development finance institutions can supply on their own. Mobilisation of private investors will be key. We are interested in understanding how BII and other DFIs mobilise capital from other investors.

## Cross-cutting themes

The cross-cutting themes are also evolving to better address the policy relevance angle that is the focus of PEDL. Compared to the previous phase, we therefore retain **Gender** and **Fragile and Conflict-Affected States** as cross-cutting themes, and add a theme on the challenges of **Scaling up Research into Policy**. Applicants will be particularly encouraged to consider these three issues in their projects, and proposals addressing these themes have an increased chance of receiving funding.

### *Gender*

In Africa and south Asia, women are more likely to own businesses than to be wage workers, while the opposite is true for men (see Figure 1 in Hallward-Driemeier, 2011). At a global level, gender employment and wage gaps have closed somewhat over the past several decades. But reviewing evidence from Sub-Saharan Africa, Hallward-Driemeier (2011) notes that female entrepreneurs are “disproportionately found in smaller firms, in the informal sector, and in lower-value-added industries (page 67)”. The explanations for this are both numerous and varied. Differences in human capital, disproportionate shares of household responsibilities, access to capital, land rights, and access to formal institutions such as courts all play a role in some settings, but some part of the gap appears to come from differences in policies related to access to formal institutions.

While gender differences are sometimes the outcome of interest, they are almost always relevant even when they are not. Making gender a cross-cutting theme recognises this fact. We seek to encourage researchers to take gender into account in every project.

### *Fragile and conflict-affected states*

An increasing share of the world’s poor are found in fragile or conflict-affected states. Many of the largest low-income but stable countries have experienced rapid growth in the past two decades, lifting them to lower-middle income status. But private sector development is particularly challenging where the state is fragile or conflict is common. Trust between potential trading partners is particularly difficult to maintain, as formal enforcement of agreements is undermined by the weak state, and the ability to honour agreements is compromised by unpredictable outbreaks of violence. Existing literature suggests that there is a complex relationship between growth and conflict in fragile states (see, for example, Dube and Vargas (2010), which shows that increases in coffee (oil) prices led to decreases (increases) in the intensity of civil conflicts in Colombia). Given the increasing relevance of conflict-affected areas as home to the world’s poorest, we seek to encourage work in fragile states.

### *Scaling up Research into Policy*

We encourage projects to consider how the results of the research affect policy discussions. This starts with designs that incorporate the views of relevant public- or private-sector policymakers and continues to the design of how information is gathered and presented. Scaling up also implies careful consideration of how local context affects the interpretation of the results. Adjusting results for context, for example through careful integration of theory and empirics, will allow those results to translate across countries.

## Maximising policy impact

The value of the research generated by PEDL must be measured foremost through the influence the research has on policies in the target countries. There is a wide range of relevant policymakers, and the most important policymakers will be different for different projects. Researchers will be encouraged to think in terms of policy leverage: who are the relevant policymakers and what are the most effective levers for inserting research into the policy discussion? For example, on topics of social compliance, foreign buyers, consumer groups in importing countries, and aid agencies (both bilateral and multilateral) are likely to be more important policymakers than are local actors. Leverage in the target countries is likely to flow from consumer groups through buyers to local producers. But for research related to competition policy, government agencies in the target countries are likely to be the most important decision makers.

The “policies” goal of the research programme is to influence policy outcomes as they relate to the private sector in LICs. Regardless of which policymakers are most relevant for a given project, policy impact requires dialogue between researchers and policymakers during all phases of the project, beginning with initial design.

While not all PEDL research will be explicitly demand driven, it must be policy relevant. Applicants will be required to identify the set of policymakers relevant to their project and to demonstrate how they will interact with those policymakers before, during and after the research. The interaction may be through individual meetings, conferences and workshops, or through written documents. But communication must start at the beginning of the research project and continue until the final results of the research are available. PEDL and CEPR will play a role in supporting the researchers through the production and dissemination of research notes, the organisation of conferences and workshops spanning multiple projects, and VoxDev. We will look for both a direct impact, on policy in the country where the research takes place, and an indirect impact, on policy in the broader set of LICs.

Researchers will be responsible for communicating their impact strategy through a Policy Impact Plan (PIP). This must be included as part of the research proposal, and the quality and feasibility of the PIP will be one of the evaluation criteria. The PIP will define a plan for outreach to the members of the policy community and private sector most directly interested in the research (which will depend on the country and the thematic focus). Involvement of locally-based researchers - who are highly likely to have established relationships with key members of the policy community and the private sector in the LIC - is one way of increasing the likelihood of policy impact, and we will encourage proposals which integrate researchers based in LICs. While the PI will take lead responsibility for policy outreach within the country where the research takes place, CEPR will advise and assist in the process where and as needed.

Funded researchers will be expected to have regular briefings with local stakeholders, which will be scheduled to take advantage of visits by the research team to the country. We are happy to note that the experience from the previous phases of PEDL indicates that engagement between researchers and policymakers was both widespread and frequent. According to grantee surveys conducted in October 2022, 200 of the PEDL-funded research teams reported regular interactions with policymakers, ranging from informal discussions to formally-organised roundtables and presentations to discuss research processes and findings. In total, there were 304 reported events with policymakers, including at least 125 in LICs. Thanks to these repeated interactions with policymakers, PEDL projects are having a visible impact on their target research and policy environments. While it is not always easy to trace back the source of a policy, we find at least 38 policies, programmes and practices have been strongly affected by PEDL research.

