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## Pioneering firms in fragile and conflict-affected states

Why and how development financial  
institutions should support them

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## **Pioneering firms in fragile and conflict-affected states: why and how development financial institutions should support them**

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**Abstract.** The role of ‘first movers’ in fragile states is critical: they grow and diversify markets in ways that no other firms do, generating disproportionate impact in terms of development and stability. But pioneer firms are rare in fragile states. This study documents their profile, their challenges, and the barriers which prevent them from realizing their potential. This study also explores the rationale and potential for development finance institutions (DFIs) to support them. We propose new ways to offset costs, risks, and the ‘unknown unknowns’ that generate radical uncertainty. Through a process of social learning, and resetting negative self-fulfilling investor narratives, DFIs can help pioneering firms shift the growth trajectory of fragile and conflict-affected states.

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**Keywords:** Pioneering firms, fragile states, uncertainty, development finance institutions.

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## **1. Introduction: Fragility and its implications for development finance**

Fragile states face multiple problems that reinforce each other, trapping them in a recurring cycle of poverty and hopelessness. Typically, society is fractured into opposing groups, with little or no shared identity that might set differences in a context of cooperation. The state lacks legitimacy with a substantial number of its own citizens, and importantly for the business environment, it lacks the capacity to perform basic functions such as taxation, and providing security, the rule of law, and economic infrastructure. Firms and households face existential uncertainties that discourage irreversible decisions and shorten horizons. There are few formal private enterprises and so the workforce cannot reap economies of scale and specialization, leaving the population unproductive and impoverished. The society is too poor to go through the demographic transition, so there are many youths facing few opportunities. Finally, the polity and the economy are frequently hit by shocks against which they have little resilience.

These problems reinforce each other. Because the society is fractured into opposing groups, the state is typically regarded by parts of society as having been captured by one identity group, which undermines its legitimacy. Because it lacks legitimacy with many of its citizens, the state cannot rely on citizens' compliance, and it struggles to motivate its own workforce, which means that basic functions of the state cannot be properly performed. This, in turn, further undermines the state's legitimacy. The risks posed by lack of legitimacy, and the inadequacy of basic state functions, combine to discourage formal enterprises. The narrowness of the economy, the surfeit of young people, their lack economic opportunities, juxtaposed with the lack of state legitimacy, expose society to shocks, which the state struggles to cushion due to its limited capacity. In turn, the frequency and severity of adverse shocks keeps derailing attempts to escape from fragility.

This cycle entraps the society in poverty and a sense of hopelessness, and is why fragility is highly persistent. As more successful emerging market countries continue to converge on the income levels of OECD societies, the gap between them and the poorest countries is widening. The concept of the 'Bottom Billion'<sup>4</sup> identified 60 countries that, as of the Millennium, were mired in persistent poverty. The subsequent 2002–17 supercycle was a big opportunity for these countries, but even during this period of economic growth, fragile countries continued to rapidly diverge from emerging market countries (at 2.2 percent per year, per capita, population-weighted).

A few of the bottom billion, such as Rwanda and Ethiopia, transformed; but many others such as the Central African Republic (CAR) and Yemen have not only diverged, but they have gone into absolute decline. While the rest of the world has made rapid progress in eradicating extreme poverty, fragile states are increasingly the locus of the remaining extremely poor. For the world to achieve the Sustainable Development Goal (SDG) of eradicating extreme poverty by 2030, most of the improvements will need to come in fragile states.<sup>5</sup> Although rapid private enterprise growth has been central to reducing poverty elsewhere, we cannot expect to reduce poverty in fragile states without a better understanding of the constraints facing private enterprises, and the toolkit needed to address these.

In an interconnected world, such persistent divergence of countries in the bottom billion is unsustainable. This concentrated human tragedy will increasingly focus international public policy on how to address the problems of fragile states. Concerns about poverty will be compounded by fear of the regional and global spill-overs when fragile states implode, as with the flight from mass violence in

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<sup>4</sup> Collier, 2007.

<sup>5</sup> World Bank Group, 2018a.

Syria and South Sudan, and the risk of contagion from the Ebola epidemic in Sierra Leone, Liberia, and Guinea. Governments will continue to look to development finance institutions (DFIs) to create investment and growth in these societies.

However, DFIs' track record in fragile states suggests that they have not been very effective in stimulating private investment. Development finance cannot itself transform fragile states: unless political leaders want transformation, it is not feasible. Where leaders block change, the predominant role for international support lies with humanitarian aid. But precisely because fragile states are shock-prone, periodically, political opportunities do open as a result of crises or leadership change, and development agencies need to become better at building on these potentially pivotal moments.

Once a political opportunity opens, there are two priorities. One is to generate jobs; the other is to strengthen the basic sinews of the state. In fragile states, with a gulf between young workers and new work, jobs are iconic. Jobs create a new and credible national narrative about the prospects for job growth that will stabilize society. But the generation of jobs is overwhelmingly a private sector activity, and whether jobs will be productive depends upon harnessing economies of scale and specialization. Only formal firms know how to organize a workforce to reap these gains, but all fragile states are chronically short of such firms. Once a fragile state faces an opportunity for transformation, the critical role of development agencies is to expand the formal private sector as rapidly as possible. Hence, the key public policy actors should shift from the humanitarian agencies to the development finance institutions (DFIs).

If DFIs are to rise to this responsibility, they will need to overcome a fundamental problem—there are not enough large, formal firms operating in fragile states for them to invest in. Therefore, we need a better understanding of why there are so few formal firms—what are the obstacles to entry by firms, and what can be done to support their entry, survival, and growth.

This paper focuses on these pioneer investors in fragile states—i.e. those firms that push the boundaries of markets in fragile states. The role of these 'first movers' is critical: they can grow and diversify the market in ways that no other firms do. But, much like everything else in fragile situations, pioneer firms in these situations are different from pioneers in other markets. They typically have additional experience, innovate at smaller sizes, and rely less on fixed assets, and on international standards, worker training, or corporate partnerships. The level of development and diversification in the markets suggests an intuitive explanation: the scope for innovation is much broader. Yet pioneers in fragile and conflict-affected states (FCS) are unable to capitalize on their potential through formal banking. Contrary to other developing countries, pioneers in fragile states finance a higher share of investment through internal funds as they have less access to credit, and face a higher cost for capital. This suggests a clear role for DFIs in supporting their growth by financing them directly, and by supporting their access to finance from local financial markets.

The challenge of supporting pioneering firms in fragile states cannot be seen in isolation—it is part of a wider coordination problem, whereby it is difficult for any one firm to prosper in a context where other firms are absent. Pioneer firms will only succeed in an economic environment where multiple firms are succeeding, so creating value chains and markets is essential for their growth. But individual firms in fragile contexts face great risk and uncertainty in knowing what other firms will do. This suggests that an additional role for DFIs is addressing the lack of coordination, and the underlying risk and uncertainty that it creates.

The rest of the paper is structured as follows: section 2 describes pioneer firms and the ways they benefit fragile states. Section 3 looks more closely into the barriers and costs pioneer firms face in fragile situations. Section 4 proposes what DFIs could do to help pioneer firms overcome the barriers they face and grow. Section 5 discusses how DFIs can achieve more through greater collaboration. Section 6 provides concluding remarks.

## **2. Pioneering Firms: Who are they and why do they matter?**

The most useful firms for a fragile state are those that pioneer an activity that is new to the economy: this is what is meant by *creating new markets*. The herd is large—‘pioneers’, ‘first movers’ and ‘first entrants’ refer to the first firms to produce a new product, introduce a new process, or enter a new market.<sup>6</sup> They can be in any sector of economic activity, and of any size, age, or origin; yet often they tend to be large and active in multiple markets. Multinational firms, by definition, push the boundaries of markets through exports or foreign direct investment.<sup>7</sup>

In fact, the positive externalities of first entrants are often highlighted through the disadvantages they face: (1) free-riding; (2) market uncertainty; (3) shifts in demand, supply, and regulatory needs; and (4) incumbent inertia.<sup>8</sup> The free-rider effect and the resolution of uncertainty have the biggest impact: by competing solely on prices followers can free-ride through imitation and respond to signals of market potential. Thus, the typical late market entrant makes a strategic choice to hold back and allow the market pioneers to investigate consumers’ response to an innovation before they unleash the full force of their technological and marketing capabilities through replicating and elaborating on the market-tested features of a new product.<sup>9</sup> Here lies the macroeconomic benefit of pioneering—by adding a new activity, a pioneer firm helps to broaden the economy, and open possibilities for other firms.

### ***Pioneers make a difference through clusters and webs of interdependence***

Firms benefit from the presence of other firms: cluster scale economies imply that firms benefit from others who are doing the same thing.<sup>10</sup> If cluster economies matter, even if firms entered the cluster in a known sequence and at known times, it will be foolish to be first. If five firms are needed before any can break even, the fifth entrant will not be burdened with the accumulated losses of the first, and so will outcompete it.

Production is commonly organized into a web of specialist firms that are interdependent. Where interdependence matters, the first firm in a web of interconnectivity will not be viable until the last piece of the web is complete, and so again, being first imposes avoidable costs.

Each of these is likely to be a killer: such new markets will not be created purely by conventional market forces. If being first simply imposes costs for a known period until other firms enter, this would be a known cost of business. But usually a pioneer firm does not know when other firms will enter the

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<sup>6</sup> Some distinguish between inventor, product pioneer, and market pioneer. An inventor “develops patents or important technologies in a new product category”. A product pioneer is “the first firm to develop a working model or sample in a new product category” while a market pioneer is “the first firm to sell in a new product category” (Golder and Tellis, 1993). Studies on market entry usually focus on a market pioneer and define it as the first firm to enter a new market (Kabuth, 2003).

<sup>7</sup> Nakata and Sivakumar, 1997; Zashv and Ehrstedt, 2010.

<sup>8</sup> Lieberman and Montgomery, 1988.

<sup>9</sup> Mathews, 2002.

<sup>10</sup> Clustering is the phenomenon whereby firms from the same industry gather together in close proximity. Economists explain clustering as a means for small companies to enjoy some of the economies of scale usually reserved for large ones. For more detail, see <https://www.economist.com/news/2009/08/24/clustering>

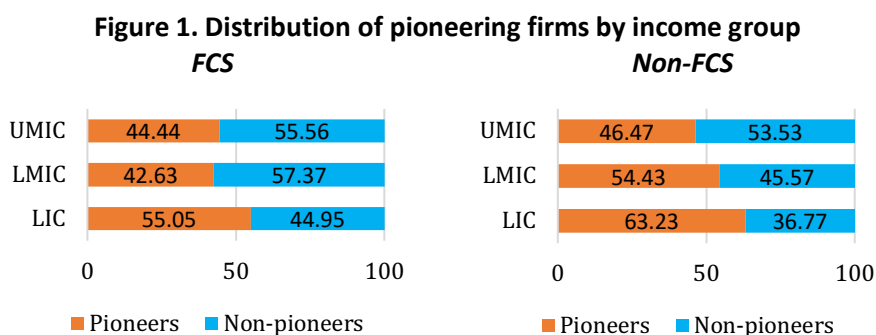
market. However, if a firm did have an approximate idea of when other firms will join the market then, with an appropriate adjustment for risk aversion, the firm would be compensated. But of course, there is no way of forming such an expectation: a firm simply does not know when, or even if, other firms will enter, as they themselves do not know, and so the only coherent assessment is ‘I don’t know’. This is termed *radical uncertainty*: the sophisticated decision-making procedures of a formal firm to filter out such problems from serious consideration, a phenomenon known as ‘ambiguity aversion’. Formal firms do not even *decide* not to invest in fragile states: they know not to pose the question.

This uncertainty also affects the investors that a firm needs to attract. In the absence of an established industry, it is difficult for investors to evaluate the risk profile of an investment. Investors like to model risk based on data. But at the point at which pioneering firms need to invest, there are little or no data to guide their investment decisions. Again, the activities of the pioneering firms that do go ahead benefit the firms entering later because the risk premium of investors can be better calibrated by looking at the experiences of the pioneer firms.

### **Who pioneers in fragile states?**

The World Bank Enterprise Surveys (WBES) is a unique source of economic data to address this question. The WBES uses a pool of 131,000 firms from 139 developing countries, including many that are listed as fragile and conflict-affected. The data have been collected since 2006 using a harmonized methodology to ensure cross-country comparability.<sup>11</sup> Pioneering firms in the survey are identified as those that have innovated by introducing either new products or services over the last three years. These include new products or services for an establishment’s main market, or a new or significantly improved process during the last three years. The new firms among the pioneers, which are of particular interest because of their financial needs, can be identified as firms that are less than five years old.

Since pioneer firms play such an important role in economic development, it is unsurprising that there is a clear relationship between the proportion of firms that are pioneering, and the income level that the country has reached. In states that are not fragile, this pattern emerges strongly: the proportion of firms that are pioneers is highest in low-income countries, where the opportunities for harnessing scale and specialization in production abound. Conversely, pioneers decline as income rises, and countries become lower-middle income countries and upper-middle income countries (see Figure 1).



Source: Calculations based on the World Bank Enterprise Surveys (2018)

Note: LIC = Low Income; LMIC = Lower-Middle Income; UMIC = Upper-Middle Income

<sup>11</sup> The surveys only represent a country’s non-agricultural economy. Manufacturing and services are the primary sectors of focus, with services including construction, retail, wholesale, hotels, restaurants, transport, storage, and telecommunications. Mining and financial services, which attract significant investment in fragile states, are excluded. This also excludes firms that employ fewer than five workers, as well as wholly state-owned enterprises.

But fragility systematically undermines the process through which opportunities are discovered. At each income level, fragile states have a substantially smaller proportion of pioneer firms. However, while fragility systematically discourages pioneering, it does not kill it off. Despite the disadvantages, the evidence suggests that almost half of firms innovate in one way or another (see Figure 1, left panel). This is important because it implies that the impediments are not so overwhelming that feasible public policy interventions would be doomed to ineffectiveness. If pioneering is already common in fragile states, it could be increased to the level appropriate for the state's level of income.

Pioneers overall tend to be larger, more experienced, domestic rather than foreign-owned, male-owned and run, and a result of a partnership rather than a sole proprietorship. They also tend to be more productive, rely more on training and international certification, and are more frequently encountered in manufacturing. Simple averages across groups of all firms and pioneers in fragile and non-fragile developing countries highlight these differences, which are largely consistent between fragile and non-fragile countries (see Appendix Tables A2 and A3).<sup>12</sup>

**Table 1. How different are pioneers in FCS? Controlled averages across firms**

Firm Characteristics	Pioneers in non-FCS vs. Others	Pioneers in FCS vs. Pioneers in Non-FCS	Pioneers in FCS vs. Others	Constant	Observations	R-squared
	( $\beta$ )	( $\gamma$ )	( $\beta + \gamma$ )			
Age	2.128***	-3.354***	-1.226	19.49***	67,763	0.031
Size (number of workers)	38.61***	-49.71***	-11.1	85.05***	68,181	0.032
Manufacturing (=1)	0.126***	-0.270***	-0.144	0.513***	69,313	0.025
Purchase of fixed assets (% of firms)	22.79***	-2.158***	20.632	27.36***	68,389	0.058
Internationally-recognized quality certification (%)	13.76***	-13.48***	0.28	25.20***	67,131	0.062
Skilled workers (in percent of all production workers)	-4.421***	0.860	-3.561	74.53***	34,803	0.005
Firms with formal training to employees (%)	0.244***	-0.179***	0.065	0.259***	68,631	0.063
Firms with a female top manager (%)	-0.0105***	-0.0516***	-0.0621	0.137***	69,038	0.014
Foreign ownership (%)	2.414***	5.464***	7.878	5.220***	68,478	0.008
Public ownership (%)	-0.121**	-0.0668	-0.1878	0.705***	68,512	0.000
Sole proprietorship (%)	-0.0332***	0.134***	0.1008	0.376***	69,075	0.007

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Source: Calculations based on World Bank Enterprise Surveys (2018).

Note: The regression equation is specified as follows:  $x_i = \alpha + p_i\beta + FCS \times p_i\gamma + \delta_s + \varepsilon$  where  $x_i$  indicates the characteristics of firms  $i$ ;  $p_i$  is a binary indicator for pioneering; FCS is a binary indicator for operating in a fragile state, and  $\delta_s$  are sector fixed effects. Since the specification includes an interaction term with two binary indicators, coefficient  $\beta$  captures the average difference between pioneers and others in non-FCS (Column 1 from left to right) controlling for the sector of economic activity. Coefficient  $\gamma$  (Column 2) captures what is distinctive about pioneers in FCS, relative to pioneers in non-FCS i.e. the effect of fragility on pioneering. The sum of the coefficients  $\beta + \gamma$ , whose statistical significance is not directly estimated, summarizes the differences between pioneers in FCS and others (Column 3).

Firms' particularities, however, might have little to do with pioneering, and more to do with the sector characteristics where they are active, i.e., the structure of production in fragile markets. For example, there may be a lot of domestic pioneers because foreign ownership is not prevalent in sectors and markets where they are active in. Controlled averages in a simple linear framework allow to net out such influences by looking at deviations from sector averages across countries. What such a calculation highlights is how pioneers deviate from their peers across different contexts, which provides some inkling about how fragility interacts with who the pioneers are, and how they innovate.

<sup>12</sup> With the exception of 'public ownership' and 'skill intensity', all the mean differences between pioneers in FCS and non-FCS are statistically significant at the 10 percent level.

What is noteworthy in that respect is that pioneers in fragile states have additional experience, but also the fact that they can innovate at smaller sizes, rely less on fixed assets, international certification, and worker training (see Table 1). The level of development and diversification of these markets suggests an intuitive explanation: the scope for innovation is much broader. More opportunities for simpler innovation can be found in fragile states, even for firms that are sole proprietorships. We encounter many more pioneers active in services, but this is largely due to the complete absence of manufacturing activities. And while foreign firms are a minority, they are significantly more likely to pioneer relative to domestic firms, independently of the state’s level of fragility.

But do pioneers innovate differently in fragile states rather than elsewhere? Many tend to innovate simultaneously: those that introduce a new product in the market tend to also introduce a new process and enter new markets. But, importantly, in fragile states the share of pioneers that introduce new activities, products, and services is greater than in other markets, which highlights the scope for market diversification and the potential for positive impact (see Table 2).

**Table 2. Type of innovation by pioneers**

<i>Innovation</i>	Pioneering firms in FCS countries	Pioneering firms in non-FCS countries
New products or services introduced during the last 3 years (%)	75.21	73.02
Improved process introduced during the last 3 years (%)	75.56	80.78
New products or services also new for the firm's main market (%)	69.30	67.02

Source: Calculations based on World Bank Enterprise Surveys (2018).

### 3. Why is it hard to be a first-mover in fragile states?

#### ***Market conditions in fragile states pose additional barriers, relative to other countries***

Firms require five things to enable them to operate at scale and grow. First, they need access to markets and the technology to produce for those markets. Second, they need a supportive investment climate, encompassing policy and regulation (including the quality of implementation), and the provision of public services and infrastructure. Third, to finance their growth, firms need access to finance—both working capital (including trade finance) and long-term capital. Fourth, they need appropriately skilled workers that are available in sufficient numbers for the scale of production required. And lastly, firms require the management skill to combine capital, labour, finance, and technology to produce for the market. However, all of these elements are disrupted by the forces of fragility.<sup>13</sup>

First, fragility disrupts market access. Internally, conflict and intra-group mistrust reduces internal trade, shrinking the size of domestic markets. Since most fragile states are low income and many have low populations, the size of the internal market is an important constraint to private enterprise.

Externally, fragility inhibits the creation of international trade networks—counterparties are reluctant to trade and enter into financial relationships with counterparties in fragile states. International efforts to combat the financing of terrorism and prevent money laundering have increased the financial and reputational risks that international banks face in dealing with fragile states. Many opt to reduce their

<sup>13</sup> International Finance Corporation, forthcoming.



risk exposure by avoiding financial relationships with these states.<sup>14</sup> This also deters foreign direct investment (FDI) and other close commercial relationships, which are critical to the transfer of technology. Levels of FDI to fragile states are lower than to other states, and even more so when the FDI in extractive industries is excluded.<sup>15</sup>

Second, fragile states typically have weak governments, with limited capacity to raise taxes and hire competent staff, both of which are needed for the provision of public services and infrastructure. Fragile states are clustered near the bottom of the *Doing Business* rankings on regulatory quality and efficiency. Poor infrastructure can potentially be addressed, but much of it, such as electricity generation and distribution is intrinsically political, and the business market for its services is small. Credible firms may balk at irreversible investments and so the key actors may be aid agencies rather than the DFIs.

They also lag in the provision of power, roads, ports, and other essential infrastructure. Lack of transport infrastructure compounds the difficulties in accessing markets. More than half of new pioneering firms in FCS countries identified electricity as a major constraint to their operations.

As a result of such problems, a higher share of firms, and by extension pioneers in fragile and conflict-affected countries, operate in services, where infrastructure requirements are less burdensome. For instance, 42 percent of pioneering firms in FCS operate in the services sector, compared to only 25 percent in non-FCS. Conversely, only 37 percent of pioneering firms in FCS are in manufacturing, which contrasts with 64 percent elsewhere.

Third, banking systems struggle to develop in fragile states. Fiscally strained governments often crowd out credit to the private sector, and banks lack the capital to expand lending. Reflecting this, only 27 percent of pioneering firms in FCS have a line of credit or a loan when compared with 41 percent of pioneering firms in countries which are not FCS. Consequently, a higher proportion of firms in FCS rely on internal funds to finance their investments and working capital. Unsurprisingly, a much higher proportion of pioneering firms in FCS identify access to finance as a 'major constraint' when compared with firms elsewhere (36 percent, as compared to 21 percent).

Fourth, weak education systems and a large population of children lead to low educational outcomes, which limits the availability of an adequate labour pool.<sup>16</sup> That constraint affects pioneers significantly more than any other constraints, since firms cannot rely on education systems for functional skills, which by the definition of innovation do not exist in the market. This is a problem for pioneers regardless of fragility. Hence, in both fragile and non-fragile contexts they try to economize on the need for skill, and employ a significantly lower proportion of skilled workers. However, due to the nature of pioneering, they are unable to find many of the skills they need, and so must invest significantly more in training programs than is the case with other firms. Training is a form of investment that must somehow be financed, and the distinct lack of access to finance in fragile states presumably curtails the ability to provide the training programs that all pioneers need. This is consistent with our finding that although pioneers everywhere invest more in training, those in fragile states provide significantly less training.

But perhaps most crucial, is the lack of entrepreneurial capacity to pioneer new enterprises and expand existing ones. Why is this missing? Enterprise sponsors face higher costs and difficulties when operating in fragile states, so they usually go in one of three directions. They may move their assets and business

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<sup>14</sup> World Bank Group, 2017.

<sup>15</sup> World Bank Group, 2018b.

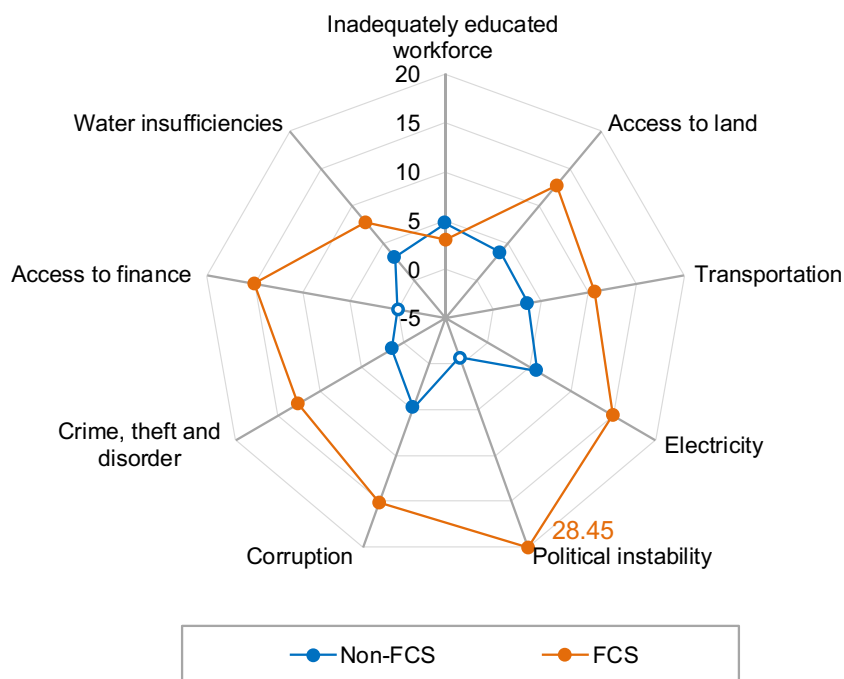
<sup>16</sup> World Bank Group, 2016.

out of the country, joining the diaspora. They may limit the size of their activities to small, informal businesses that can 'fly below the radar' and do not need a lot of government engagement or support. Or they may engage in rent-seeking opportunities to take advantage of the many economic distortions in fragile states. The last response is particularly problematic for DFIs supporting enterprise growth as once sponsors become associated with illegal behaviour, most DFIs will not be willing to work with them.

In Figure 2 we report the responses of firms that become pioneers, comparing those that pioneer in fragile states with those that pioneer in more standard conditions. Necessarily, in sectors where any of the above constraints is so important as to kill pioneering, we will not find any pioneering firms. Those firms we observe will therefore be limited to activities in which the constraints can to some extent be overcome. Subject to this qualification, netting out sectoral characteristics allows us not only to assess more precisely the 'constraint premium', but also to assess the relative severity of the constraints facing pioneers in FCS, as opposed to pioneers in other developing countries. In fragile states, the top-ranked constraint facing pioneers is political instability. In addition, this is highly distinctive to fragile states; in other states, such a concern is negligible and insignificant. Will governments over-regulate or under-regulate? Will they attempt to extract rents through high taxation? Will they be pressured to make corrupt payments? Moving down from political instability, several constraints are ranked as approximately equally important. These are access to power, land, and finance; and the problems posed by corruption and disorder.

Again, there is a large difference from pioneers in other markets: the proportion of those in fragile states reporting the matter as a 'major constraint' is two or three times as high. Strikingly, however, one potential constraint which donors have strongly emphasized—education—appears not to be important for those firms that decide to pioneer, both in fragile and non-fragile environments. This may be because in some activities the lack of education is such a severe constraint that there are virtually no pioneers to be observed, or because, for the sectors that are pertinent in emerging markets, an educated labour force is less important than donors have assumed. But given that in fragile states those firms that do pioneer are even less concerned about a shortage of educated labour than in more standard environments, the results suggests that the greater donor emphasis put on schooling, in comparison with that put on enterprise development, may need to be reassessed.

**Figure 2. Pioneers face more severe constraints than other firms in fragile situations**



Source: Calculations based on the 2018 World Bank Enterprise Surveys.

Note: The chart reports coefficients on the linear probability that a pioneer identifies the category as a major constraint, conditional on sector fixed effects. Empty field markers indicate coefficients that are not significant at the 1 percent level.

***The black box of missed opportunity***

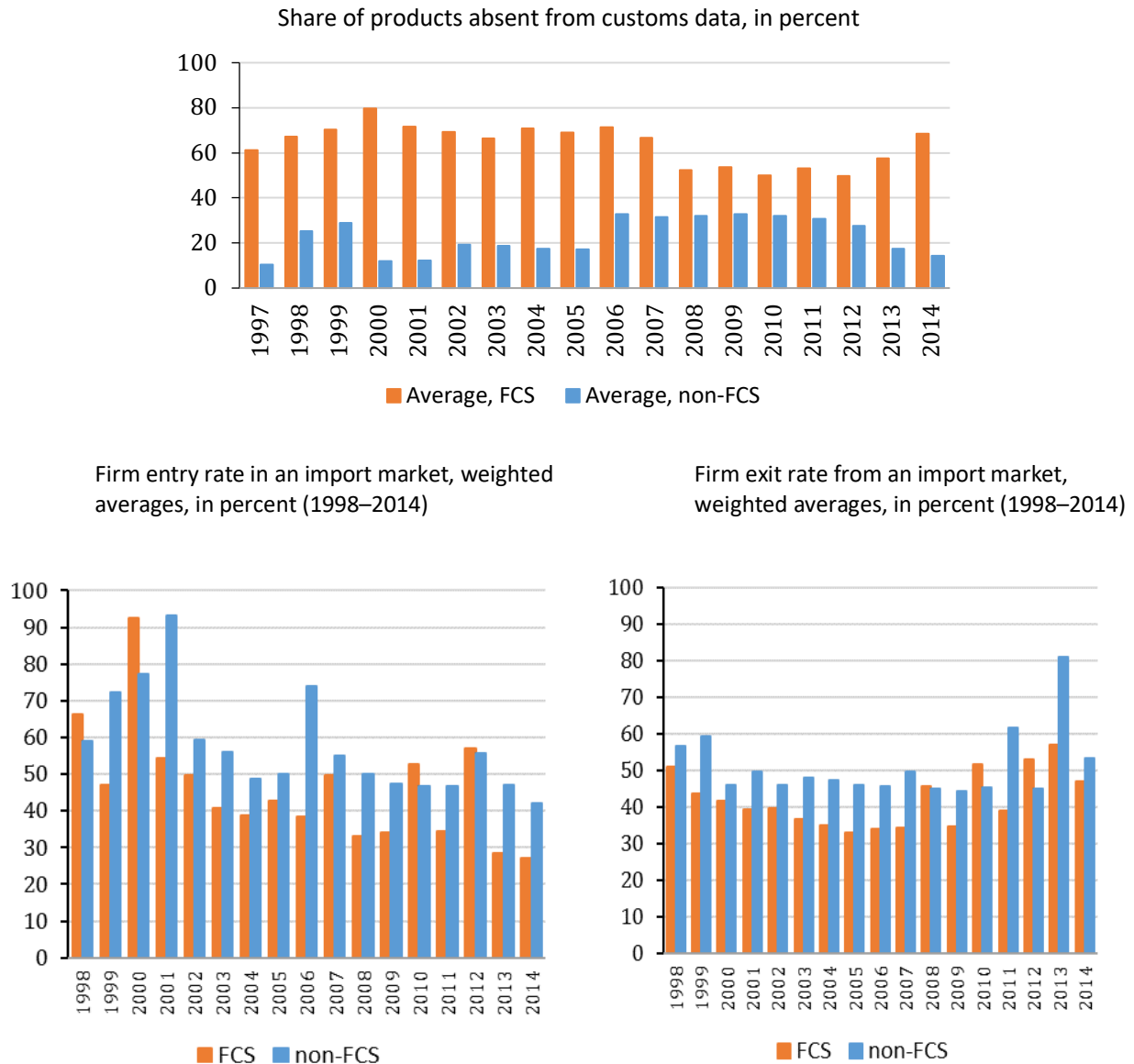
Ultimately the fact that there are not enough large, formal firms in fragile states, with good access to markets, technology, and financing, as well as with strong management, is reflected in the constraints that pioneers face, and in a missed opportunity in fragile markets.

Customs data allow assessment of the degree of unfulfilled potential in fragile states or, in other words, the scope for market creation. These data enable identification of the sectors in which no cross-border transactions—whether imports or exports—are recorded for years. The World Bank *Exporter Dynamics Database* is a unique source of information to assess that gap.<sup>17</sup> Drawing on datasets covering the universe of cross-border transactions that are obtained directly from customs agencies in 70 countries, allows assessment of the extent to which products are missing from fragile states.

The differences therein are striking: an average of 50–70 percent of product lines are missing from custom transactions in fragile states, as opposed to only 20–30 percent in the rest of the world. The gaps are persistent over time, and illustrate the absence of large-scale domestic production, as well as a missing market for foreign suppliers. In less distorted markets, such gaps reveal investment opportunities that result in high entry.

<sup>17</sup> Fernandes, Freund, and Pierola, 2016.

**Figure 3. The scope for market creation is large in fragile states**



Source: The data employed in this paper are transaction-level customs data for the period 1997–2014. The data were collected by the Trade and Integration Unit of the World Bank Research Department as part of their efforts to build the Exporter Dynamics Database (EDD) described in Fernandes, Freund, and Pierola (2016). The sources for the data for each country are detailed at <http://econ.worldbank.org/exporter-dynamics-database>.

*Note:* Destination countries in the EDD raw dataset follow the United Nations’ guidelines which recommend that countries of origin record their destinations as defined by the destination countries themselves. Therefore, as of end-2011, each country has a potential set of 247 destinations (see Fernandes, Freund and Pierola, 2016). The group of FCS includes 36 countries. Fragile and conflict-affected states are defined as those that were FCS in 2014, which was the last year of the EDD. The firm entry rate equals the number of entrants (firms that did not import in year  $t-1$  but did import in  $t$ ) as a share of the number of importers. The firm exit rate is calculated as the number of exiters (firms that import in year  $t-1$  but do not import in  $t$ ), divided by the number of importers. The average rates are weighted using import values.

That is not the case with fragile states. The level of their failures and risks in fragile situations is prohibitive for most foreign suppliers, as illustrated by lower import entry rates, relative to other markets. As fragility imposes fierce selection at the borders, only the exceptional few make it in which, in turn, translates into greater resilience post-entry for those that are able to overcome the sizeable entry barriers (see Figure 3).

What these dynamics suggest is also a significant ‘survivor bias’ in what we know about pioneers in fragile situations. The information we have comes from the few that succeed and survive, and who capitalize on capabilities that deviate substantially from entrepreneurs in the rest of the world. The characteristics of those who did not survive are unobserved, and, importantly, so are the characteristics of those that could potentially create markets with the support of financial institutions.

***First-mover advantages are not sufficient to secure credit***

As corroborated by an array of studies, in most conditions there are benefits to being a first entrant in a market. In high-income markets, pioneers enjoy, on average, as much 16 market-share points over late entrants, and 10 market share points over early entrants.<sup>18</sup> Yet there is counter-evidence: a growing body of empirical studies lends support to the claim that following is better than pioneering due to the costs outweighing the benefits.<sup>19</sup> The conditions in fragile states are, however, distinctive and this changes both the advantages and the costs of being a pioneer.

As to the benefits, under-served markets can be particularly attractive. Pioneer firms can tap into unexploited natural resources, use low-cost labour, and provide missing basic services. Many markets may be open for entry with little existing competition. Initially markets in fragile countries are small and grow slowly, but during periods of conflict reduction and stabilization, when foreign aid pours in, fragile states often experience spurts in government spending, which can support enterprise growth if the pioneering firms come in to take advantage of it.<sup>20</sup> If not, most of the spending leaks out into imports or inflation. Under pressure from their shareholders, DFIs are eager to finance pioneer firms, so that once these firms get established, they have good prospects of obtaining growth capital. Thus, it is important for DFIs to understand the obstacles that pioneer firms face when initially entering FCS, and to devise strategies to address these obstacles.

As to the costs, the fixed costs of creating a new market, or restoring one disrupted by conflict, are significantly higher. Pioneer firms thus face a time inconsistency problem: the firm that bears the fixed costs by entering first will become the least competitive once the market is established. That is because such firms will be carrying the legacy of their market creation or restoration costs. This explains why, in fragile states, we mostly see pioneering firms enter in sectors where competition is limited, such as extractive industries and mobile telephony, where government controls market access through concessions and licensing. If a pioneering firm is able to get a concession or a license for a particular resource (mineral deposit, bandwidth, and so on), then the firm may be willing to bear the market creation costs, as it can recoup these costs later from the rents it will earn on the resource. It is much harder to attract pioneer firms to sectors where rents are liable to be competed away by later entrants. Yet it is this process of subsequent entry, the shrinking of rents, and the expansion of the sector that is the key public benefit from pioneering, which means that guaranteeing that a pioneer will be able to preserve a monopoly is not a solution.

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<sup>18</sup> Tellis and Golder, 2001.

<sup>19</sup> Golder and Tellis, 1993; Schnaars, 1994; Shankar, Carpenter, and Krishnamurthi, 1998; Boulding and Christen, 2003; Hauser, Tellis, and Griffin, 2006.

<sup>20</sup> International Finance Corporation, forthcoming.

What do these fixed costs comprise? They are partly research costs—about the market, the regulatory framework, the quality and cost of labour, the quality of infrastructure, and so on which are unobservable costs until the first firm attempts production. Then other firms can free-ride on the market information revealed by the entry of the first firm.

Fixed costs are also partly relationship-building costs. The first firm to enter bears the costs of helping regulators, customs agents, banks, trading partners, and others to climb the ‘learning curve’. Governments frequently do not know how to tax or regulate a sector until the first business starts up. Or even if they have taxes and regulations on paper, there are start-up costs as they learn to implement. The weak market connections and financial market connections make these start-up costs much higher in fragile states.

And they frequently include labour training costs – in the absence of other firms in the market, the specific skills required are unlikely to be available. But firms cannot prevent trained labour from being poached by later entrants, so they are left with a cost of training labour that is of benefit to all firms in the market.

Access to finance can mitigate some of pioneers’ start-up costs if there is enough information and predictability for pioneers to capitalize on their potential. First-mover benefits in fragile states should be reflected in higher access to capital at lower cost. And this is the case for most developing countries, yet in fragile states the reality is much bleaker.

**Table 3. Access to finance by young pioneers (aged 5-years or less):  
Controlled averages across firms**

	Firms with a bank loan/line of credit (%)	Proportion of investments financed by internal funds (%)	Proportion of investments financed by banks (%)	Proportion of working capital financed by internal funds (%)	Proportion of working capital financed by banks (%)	Cost of capital per unit of value added
Pioneers	8.917*** (1.078)	-8.600*** (1.564)	5.388*** (1.202)	-9.257*** (0.807)	6.934*** (0.580)	-0.556** (0.267)
Pioneers in FCS	-13.72*** (1.691)	13.37*** (2.244)	-11.33*** (1.724)	13.46*** (1.267)	-9.894*** (0.910)	0.657 (0.484)
Constant	26.12*** (0.911)	74.54*** (1.380)	12.77*** (1.060)	76.11*** (0.687)	11.76*** (0.493)	1.786*** (0.179)
Observations	7,508	2,757	2,757	7,499	7,499	1,390
R-squared	0.023	0.021	0.021	0.038	0.045	0.004
Sector fixed effects	Yes	Yes	Yes	Yes	Yes	Yes

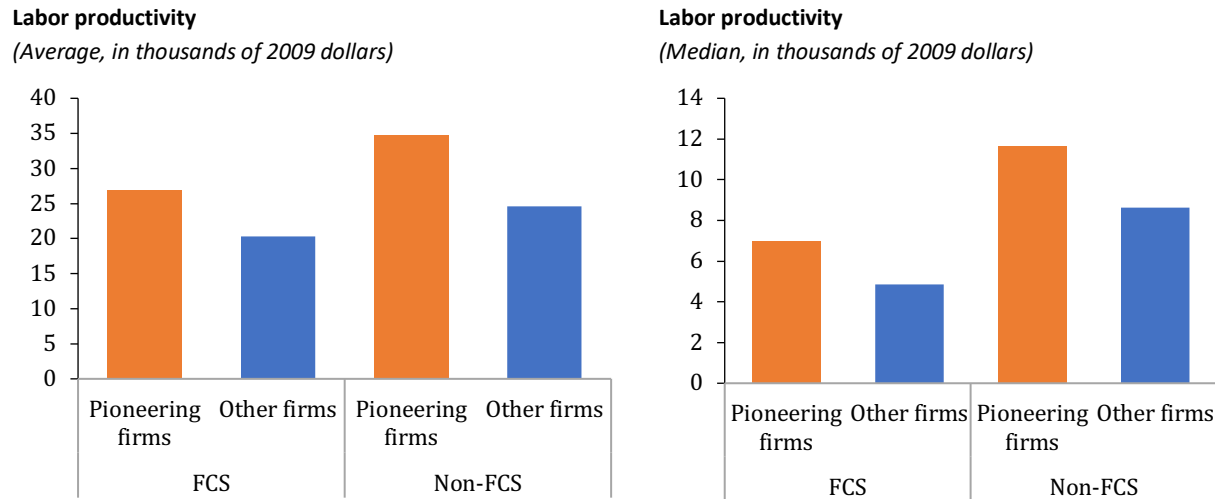
Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Source: Calculations on World Bank Enterprise Surveys (2018).

The higher probability of young pioneers getting a bank loan or credit is reversed in fragile states where young pioneers are *less* likely, by half as much, to have access to credit (see Table 3). The shares of their investments and working capital financed by banks are disproportionately lower too, which forces them to rely on internal funds, and thus start up with a much higher probability of default. While pioneers in other countries are able to capitalize on their potential in terms of lower cost of capital per unit of value-added, pioneers in FCS face the same credit terms as everyone else. In both cases, first-mover costs are significantly higher. Nor is this surprising: banks avoid exposing themselves to radical uncertainty. Although all firms operating in fragile states face distinctively higher uncertainty due to political instability, pioneers face an additional layer of ‘unknown unknowns’.

**Figure 4. Labor productivity – pioneering versus non-pioneering firms**



Source: Calculations using World Bank Enterprise Survey data.  
 Note: Labor productivity is the ratio of value added by the number of workers.

These conditions are reflected in lower productivity premia for pioneers in FCS: higher returns are offset by important costs and uncertainty. Estimates from the World Bank Enterprise Survey suggest that the productivity of pioneering firms in FCS is lower than that of their peers in non-FCS. As illustrated in Figure 4, the median value added per worker in pioneering firms in FCS (\$6,986) is lower than that of pioneering firms in non-FCS (\$11,651).

#### 4. Expanding the DFI toolkit to support pioneering firms in fragile states

The fragile state needs to overcome these impediments to building clusters and production webs. While this is not the *only* role of DFIs in fragile states, it is the fundamental one, and it is difficult. From the above characterization of the problem, we can split it into three components. One is the need to offset the known costs of being a pioneer, rather than entering once the cluster or web has reached commercial viability. The second is offsetting the known risks that can be expressed in some insurable form of probability. The third is offsetting the ‘unknown unknowns’ that generate radical uncertainty.

The analysis above suggests three key roles for DFIs to support greater entry of pioneer firms. The first is to develop subsidy mechanisms that defray some of the initial entry costs, thus correcting for the externality problem described above. The second is to provide technical assistance and capacity building for market creation activities which range from labour skills development to support for government regulators and banks so that they better serve the market. The third is to be willing to confront the radical uncertainty of pioneering investments in these markets, and to invest in pioneer firms despite the absence of information concerning the risk profile of the activity.

DFIs are currently organized around doing deals with firms that come with proposals: the core activities are *selection, structuring, and risk assessment*. This is a useful skill set for working in fragile states, but not by any means the most needed skill set: it misses the fundamental need to create markets and support the entry of pioneering firms, so that deals can be generated. Notably, all of these activities require DFIs to move beyond their traditional range of activities—into the blending of concessional and commercial financing, capacity building, greater coordination across investments, and investing in the face of unquantifiable risk and uncertainty.

### ***Addressing the sequential costs in new clusters and webs***

To offset the problem of known sequential excess costs of pioneers, the first requirement is to improve the knowledge base for DFI decisions. DFIs need sector diagnostics. By this we mean an estimate for each activity that is potentially a candidate for an early cluster, or an early production web, in the country. A useful guide in determining the possible candidates for becoming early clusters and webs is to find a few countries that one or two decades ago had economies somewhat similar to that of the fragile economy now, but which have been through a significant transformation. The sequence that they followed, with its successes and setbacks, can serve as a candidate list to be evaluated. This approach has two advantages over more complex techniques. One is realism: the nature of the problem is one of radical uncertainty— each national transition is unique, and all attempts to reduce it to probabilities are illusory. The other is that such a concrete comparison can more readily serve as the basis for a narrative that investors can readily assess for credibility. This is better than a technique too complex and proprietary for them to trust. We take this up further below.

### ***Assessing the public benefit from new clusters and webs***

The same sector diagnostic that estimates the costs of establishing a new cluster or web can be used to assess its public benefit. The key non-commercial benefits in a fragile state are jobs and tax revenues. The former stabilizes the society; the latter strengthens the sinews of the state. Whereas the costs will need to be estimated for each firm in the sequence (since each firm will need to be compensated), for the benefits, what are likely to be the most pertinent of those generated once the sector reaches viability? This is an important point: the procedure for estimating the public benefit generated by each individual pioneer grossly understates the true benefit because the sector will not scale up until it has reached the point of commercial viability. The first entrant to the Bangladeshi garment industry employed, at most, a few hundred workers. This was not the public benefit: the public benefit was that the first entrant triggered what became a vast sector. In the end, what matters is a comparison of the pump-priming public costs of getting the cluster or web established relative to the public benefits in terms of jobs and tax revenues.

In assessing the benefit from jobs, some valuation has to be placed on them. Again, comparison with some country that has already gone through transformation can be helpful. What matters is not the initial wage, but the likely trajectory of wages in a transforming economy, in comparison with the likely earnings trajectory of near-stagnation if fragility persists. As indicated in the preceding figure (see Figure 4), in countries that have stabilized, labour productivity is markedly higher. This puts a lower bound to the estimate of the public benefit, but an additional element should be added —something for the contribution of employment growth to reducing the existential dangers of fragility. In effect, this comes from a socio-political assessment by appropriate country and conflict specialists. Any quantification will be notional, but this is better than assuming that the benefit is zero. Sometimes, a useful exercise will be to ask how big would the contribution need to be to justify public money being used to establish the sector. But although, in principle, the nature of the decision seems difficult, in practice it will usually be straightforward: at any one time, only a few sectors will be candidates, and DFI capacity in the country will limit what can be attempted. The diagnostic is not a once-and-for-all guide: it launches a process of learning by doing, and so will need to be revised periodically.

Suppose that a proposed project meets the requirements that once a cluster or web has reached scale it will be commercially viable, and that the public benefit of establishing it exceeds the costs of covering first-mover disadvantage. Evidently what is then needed is a *public subsidy of pioneer firms* to cover these costs.



### ***Supporting Pioneers with Subsidy Mechanisms***

We can characterize the situation as pioneering firms face heightened private costs which generate social benefits beyond the firm – their activities and the information on risk that they generate by initial entry benefits the entire market. The discovery process they undertake generates information on risk and reduces uncertainty, benefitting all firms and investors. This provides a rationale for subsidizing initial entry costs to correct for this externality. Such subsidies could in theory come from governments in these states, but they rarely have the fiscal or administrative capacity to do so in a transparent way. Since the government of fragile states lack the finance to provide the necessary subsidy, the only way they can provide compensation for initial losses is to grant tax waivers. Such tax waivers only help the firm if it becomes profitable, and even if everything were known, this would take time. So, the tax waivers must extend for a long period. But in the context of a fragile state, distant future commitments are heavily discounted. The only recourse of the government is to offer larger and yet more distant, tax concessions. Further, such concessions are very easily gamed by firms: when a firm reaches the time that tax becomes due, it could close and set up a new firm that is eligible for a concession. In the process, the ‘solution’ to this problem undermines the other overriding priority of escaping from fragility and strengthening the key sinews of the state. There is, therefore, a role for DFIs, which are often the main source of capital for pioneering firms. That role is providing subsidies as part of DFIs’ financing role.

Blended finance mechanisms, through which DFIs combine commercial-term financing with subsidies linked to specific costs, benefits, or risks, is a suitable mechanism for providing this subsidy. The DFIs have advanced rapidly in developing and deploying blended finance tools over the past few years, and have developed common guidelines on how to do it in a disciplined way.<sup>21</sup> The rationales that we have discussed here for subsidizing pioneering firms in fragile states fit well into the objectives of the significant donor funding pools for blending. Most notably, the last International Development Association (IDA) replenishment allocated \$2 billion to IFC and \$0.5 billion to the Multilateral Investment Guarantee Agency (MIGA) to cover the concessional component of various blended structures. IDA donors have put a strong priority on using these funds in fragile low-income states.

One approach would be to actively seek out firms willing to be pioneers with subsidy support from DFIs. This requires an active phase of search, most likely through a combination of an open call for proposals and pro-active invitations to those firms likely to be suitable. This is well within the skill set of someone with an MBA, but it implies a switch in DFI activity from passive evaluation to pro-active opportunity generation. However, the switch could create further delays in a process that is already too long relative to the political time horizons of client governments. Once an activity has been selected and agreed with the government, to impose greater discipline on each stage, the entire process from calls for proposals and search for investors to a ‘gathered field’ and the first signed deal, should be time-bound.

### ***Subsidy mechanism design***

It is important to design the subsidy allocation mechanism to support market creation, and not undermine it. Current DFI processes for allocating a subsidy can be criticized as opaque and idiosyncratic.<sup>22</sup> This only adds to the uncertainty facing pioneer firms. Subsidy should also avoid creating an advantage for the recipient that goes beyond the ‘first mover’ costs that it bears. Over the past two years, DFIs have converged on a set of common guidelines for the use of blended finance, which aims to bring proportionality, minimum subsidy, and transparency to the process.<sup>23</sup> However, there is need for

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<sup>21</sup> DFI Working Group on Blended Concessional Finance for Private Sector Projects, 2017.

<sup>22</sup> Kenny, 2018.

<sup>23</sup> DFI Working Group on Blended Concessional Finance for Private Sector Projects, 2017.

further innovation in the design of blending structures to ensure that subsidies are well targeted to the upfront costs faced by pioneering firms.

Subsidy should be frontloaded to reflect upfront costs, and taper off so that they do not give ongoing competitive advantage to these firms after their initial costs have been met. Options include: (a) a capital cost subsidy—as capital investment is frontloaded, this clearly meets the design criterion; (b) lower interest rates on debt—if borrowing tapers off due to amortization, this meets the design criterion, and is the most commonly used structure by DFIs; and (c) patient capital—equity with low expectations of return in the initial years. Compared to debt, the implicit subsidy in patient equity is less transparent. On the other hand, equity infusions improve the capital structure of the firm, and give it the opportunity to leverage DFI financing with additional debt on commercial terms.

Whichever structure is used, the question arises of how to select pioneer firms to benefit from the subsidy. Where there is a defined market/business opportunity (such as for supplying power to government utility) the government can run an auction, based on bids for the amount of capital subsidy or tariff enhancement (for example, the World Bank Group's Scaling Solar program in Africa<sup>24</sup>). More active search processes, as described above, can bring greater transparency to firm selection. Where there is no defined market/opportunity, DFIs need to screen possible pioneer firms for their potential to contribute to market creation and provide tailored support that will promote market development, rather than entrench favored firms.

#### ***Technical assistance and capacity building***

DFIs can also provide support to firms through subsidizing advisory services that support job training, technology transfer, market assessment, and other costly activities which pioneering firms need to undertake. They can also provide technical assistance and capacity building to governments to help create a more certain market for pioneering firms. This can include the establishment of necessary market regulations, tax regimes, administrative processes, and so on. This all serves to reduce the cost and uncertainty that pioneer firms face in entering a new market or providing a new good or service.

#### ***Addressing the problem of risk and uncertainty***

Addressing the high risks inherent in individual investments in fragile states is the challenge most familiar to DFIs. The conventional DFI modalities for covering risks are risk-sharing through equity investment, insurance instruments such as first-loss provisions, various types of risk insurance and hedging mechanisms, and loan rates set below risk-corrected market rates. To the extent that these are not financially sustainable for DFIs, they depend on the provision of grant funding or risk-bearing capacity from beyond their balance sheets. For example, the IDA FCS facility bears the risk of forex and government performance guarantees, and enables MIGA to insure otherwise uninsurable political risks. Currently, the money provided from the IDA Private Sector Window to IFC is designed to be used purely for risk-reduction, in the form of guarantees, hedging, and risk insurance. However, risk is only one of the impediments: first-mover disadvantage and radical uncertainty each need to be offset. DFIs need more than this one tool of risk-reduction to achieve the objective of creating markets in fragile states.

One of the major risks for private investors is government behaviour. Although ostensibly MIGA is an insurance agency, since it recovers from governments most of the money it pays out in claims to investors, MIGA insurance is primarily a mechanism by which governments are able to reduce investor

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<sup>24</sup> For more information, see Scaling Solar website at <https://www.scalingsolar.org/>.

risk by making credible commitments to provide compensation for breaches of contract without recourse to the courts.

### ***Addressing radical uncertainty***

Radical uncertainty abounds, and not only in fragile states. A key implication of uncertainty for DFIs is that too little is known to be confident that any particular intervention will work: a new industrial zone can appear to be promising, be well-equipped, and yet firms do not come to it. This poses a simple problem for potential investors who can simply opt not to invest, but a complex problem for DFIs that are mandated to find investment opportunities in this context.

First, consider the simple problem faced by potential investors. As discussed above, they typically resolve radical uncertainty by avoiding a decision. Yet in many contexts of radical uncertainty, decisions still get taken. Faced with an uncertain situation, people are eager to understand it: they pose the question ‘what is going on here?’.<sup>25</sup> This appetite for explanation is met by narratives that seem to provide a coherent and credible account of the recent past. The narrative explanation circulates within a network, and as people start to believe it, this collective understanding gives reassurance. Even highly-sophisticated financial markets function like this, but in fragile states the process is of the essence. Not only do fragile states abound in uncertainty; but the small size of their economies does not justify substantial expenditures to forge an independent, evidence-based, understanding. These are the archetypal environments in which firms rely upon narratives as the basis for their decisions. So, instead of avoiding a decision altogether, potential investors often base a decision on some simplifying narrative that appears to account for ‘what is going on?’.

The recent history of investor sentiment in developing countries abounds in such narratives: investor-oriented phrases such as ‘Asian Tigers’, ‘BRICS’, ‘Emerging Markets’, ‘Frontier Markets’, ‘the Hopeless Continent’, and ‘Africa Rising’, were simplified explanations of the recent past that became widely accepted in investor circles, and for a while were presumed to have predictive power. Most such narrative explanations are merely approximations that eventually so mis-predict events that they are abandoned. The ‘Dot Com’ bubble, and ‘the Great Moderation’ are recent examples of narratives that took hold in highly sophisticated markets and yet rapidly proved embarrassingly flawed. *But narratives about future spatial decisions have the unusual feature of potentially being self-fulfilling.* This is because the location of future agglomerations is highly indeterminate: there are thousands of ‘rational choice equilibria’, any one of which will happen if people believe that it will. Further, since firms can readily understand that this is the case, what they need to know is not whether the narrative is correct in some objective, technical sense, but rather whether it is the narrative that other firms believe. *If others believe it, then it is rational to accept it.*

When firms look at a fragile state, there is already a dominant narrative that provides a reasonably good explanation of the recent past: the country is a ‘basket case’. This means that there is some enduring characteristic of the country, which is not further specified other than in vague terms such as ‘corruption’ or ‘violence’, that causes repeated failure. This explanation is repeatedly reinforced by the extensive marketing of images of catastrophe on which the business models of the development NGOs are dependent. The ‘basket case’ narrative is the polar opposite to that of ‘Asian tigers’, and each is self-fulfilling. In Asia, investor confidence resulted in high growth rates, which confirmed the confidence. In fragile states, a lack of investor confidence results in stagnation which confirms the lack of confidence.

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<sup>25</sup> Kay and King, forthcoming.

Now we turn to the complex problem faced by DFIs. In order to find firms to invest in, DFIs need entrepreneurs and investors for whom the simple narrative of ‘basket case’ is false, but they need to do this in the context of themselves not knowing what they need to do in order to be sure of overcoming first-movers disadvantage. The solutions to these intertwined problems are to embark upon a phase of discovery as to what instruments work best in which context, while adopting a range of measures to reset investor narratives.

### ***Launching a phase of discovery***

Faced with the mandate to generate job growth in fragile states, a task for which the knowledge base is currently inadequate, the responsible action is evidently to ignite a process of rapid social learning. Governments usually resist admitting that they do not know what to do, and are scared of learning through experimentation because it inevitably brings some failures and exposes them to criticisms from civil society. It is essential that the leaders of DFIs educate their stakeholders about the true nature of the task, and explain that the only way that governments can protect themselves is to grant DFIs sufficient operational independence that they can take risks and make mistakes. An important role of a DFI with independence to deliver a mandate is that of taking responsibility for this process of social learning. Absorbing pertinent knowledge can help, but DFIs learn primarily from their own experience in experimenting with different approaches.

Academic knowledge is of some use: the four pertinent fields are the political economy of fragility; the economics of spatial agglomeration; the industrial economics of low-income countries, and the macroeconomic analysis of radical uncertainty. In all four there have been useful recent advances. *Escaping the Fragility Trap*,<sup>26</sup> emphasizes the importance of ‘scaffolding’: supporting measures that can work in the context of getting started, even though they are not found in contexts where many firms are already thriving. Venables<sup>27</sup> shows why market forces tend to perpetuate spatial failure: low wages are usually not enough to compensate for the lack of a cluster of firms, and the location fills up with low productivity activities. Starting from the recognition that in low-income countries a salaried wage job lifts people from poverty to the middle class, Woodruff summarizes the evidence on the impediments to private-sector job-creation.<sup>28</sup> Kay and King provide an outstanding analysis of radical uncertainty.<sup>29</sup>

The collective experience of other DFIs is potentially of considerable use. Indeed, in business, learning from peers is the primary dynamic of technical progress. With over 40 DFIs, several with distinctive specializations, there is a substantial pool of variation. As discussed below, social learning among DFIs should be an entirely cooperative process, and go faster than among commercial firms, but it requires stronger mechanisms that provide effective opportunities for learning. But inevitably, learning will occur primarily through each DFI taking the risk of trying new approaches in new places. Since some of these will fail, the essential steps for DFI owners to take are those of: authorizing this risk-taking, encouraging it by rewarding innovative failure as well as success, and building a systematic process in which staff who manage innovations share what they have learned.

### ***Resetting investor narratives***

The task facing DFIs is how to reset negative and self-fulfilling investor narratives such as the ‘basket case’ narrative. Three practical responses by DFIs can complement each other. One is to make a

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<sup>26</sup> LSE-Oxford Commission on State Fragility, Growth, and Development, 2018.

<sup>27</sup> Venables, 2018.

<sup>28</sup> Woodruff, 2018.

<sup>29</sup> Kay and King, forthcoming.

commitment. A second is to disrupt damaging narratives with evidence that is incompatible with them. A third is to replace a damaging narrative with a better one. We consider them in turn.

#### *Commitments that reset beliefs*

A powerful demonstration of the potency of a commitment was that of President Draghi of the European Central Bank (the ECB) during the euro currency crisis. He publicly announced that the Bank would do 'Whatever it takes,' to secure the future of the euro. By making it a public statement, Draghi left himself no personal room for failure: the statement was simple and completely unambiguous. Hence, it was at once apparent that if the euro fell apart, having made this commitment, he himself would have to resign. This, in turn, reassured asset holders that he would use his considerable power to intervene in markets. As a consequence, these three words rapidly transformed the trajectory of the euro even before the intervention: it worked by resetting expectations. Further, the phrase acknowledged ignorance: the unambiguous implication was that the ECB would experiment with innovations until it found something that was sufficiently effective to accomplish the goal. The ECB duly innovated with 'Outright Monetary Transactions'. An analogous announcement was Deng Xiaoping's 1978 narrative that 'it doesn't matter whether a cat is black or white as long as it catches mice'. In the context, this was readily understandable as an acknowledgement that the government was determined that China would catch up, but was not committed to any particular means of doing so. The Chinese Government ignited a process of regional experimentation that has generated rapid social learning.

What might be an equivalent commitment by DFIs toward fragile states? It has to be simple and unhedged: for example, had Draghi said 'We will do whatever *we can*', instead of 'Whatever *it takes*', it would have had little or no effect. The former phrase, though apparently a commitment, would clearly have left the president free, in the event of a failure of the euro, to exonerate himself by saying 'We did all we could'. So, the equivalent DFI commitment has to leave the DFI with an unqualified exposure to achieving the commitment. This tells us that the commitment must be within the power of the DFI. The temptation is for the DFI to respond to this by committing to actions rather than outcomes, but this is likely to be ineffective since it leaves firms facing uncertainty as to whether the actions will succeed. Hence, the commitment must be to some outcome that matters for the firm, *but is believed by the firm* to be within the power of the DFI.

The italicized qualification is important: Draghi's phrase worked so well partly because asset holders, although unsure of his exact powers, recognized that whatever his powers were, he now had a personal interest in pushing them to the limit (as indeed proved to be the case). Firms will similarly be unsure of a DFI's powers: most obviously, how much money will a DFI be willing to spend in trying to make a commitment work? Suppose, for example, that the DFI's public commitment is 'We will do whatever it takes to get this industrial zone up to 10 operating firms by 2023'. Precisely because this puts the DFI so firmly on the hook, it may well be sufficient to anchor expectations: a firm investing in 2020 can be highly confident that it will only have three years to wait before the cluster is at a viable scale. In turn, this puts bounds on the compensation required for first mover disadvantage. To make the commitment viable, the DFI may need to get commitments from the government that it will implement supporting actions, and more importantly, refrain from actions that might cause damage.

As discussed above, for commitments by DFIs to work, they need to be credible and so plausibly within their powers. This, in turn, confines DFI commitments to specific, time-bound goals such as the minimum size of a cluster. An overarching goal, such as escape from the fragility trap, cannot become either a DFI or even a donor commitment, since it depends upon events beyond their powers.

### *Falsifying a damaging narrative*

The 'basket case' narrative is very far from being a profound analysis of fragility. The notion that there is some unchangeable characteristic that dooms the society has repeatedly been falsified by evidence that provided a more credible narrative.

In the 1950s, the country that was most commonly the recipient of the 'basket case' explanation was China.<sup>30</sup> The rise of a few East Asian countries during the 1970s decisively falsified the 'basket case' narrative for the entire region. This helps to explain why, in the past decade, Asian investment in fragile states has increased far more rapidly than European investment. The 'This country is a basket case' narrative is much less credible to Asian firms, partly because within living memory it was also applied to their own countries, and partly because they are relatively new arrivals in the current fragile states. Having been falsified at home, they are somewhat immunized against the 'basket case' account of events. In its place, they are more inclined to adopt an equally simple narrative explanation of 'what is going on here?' Their default option narrative is 'this country is like us 40 years ago, so we know how things will evolve'. In contrast, European firms, with long exposure to persistent fragility, are more likely to adopt the stance 'I've seen all this before, and listened to all the false hopes.' The rapid economic turnaround in Myanmar has evidently been helped by the obvious narrative that it is 'the latest East Asian transformation'.

Hence, the most effective way of falsifying the 'basket case' narrative for Africa, is a 'big push' to generate some star performers. One approach for DFIs is to concentrate resources on a few countries in the region that are at a pivotal political moment that makes rapid change feasible. An analogous approach for a single country is to focus on one city or zone. In each case, once some momentum is achieved, it needs to be sustained and reinforced until it becomes seen by investors as irreversible. This strategy of creating 'stars' has the added advantage of generating social learning among the peer group of countries.

### *Launching a new narrative*

DFIs communicate with investors both by what they do and what they say. Narratives are the most effective mode of speech because they are memorable. Well-chosen costly actions can reinforce narratives: costly actions generate credibility (as explained by the Spence Theory of Signalling<sup>31</sup>). Combined effectively, narratives convey precision of meaning, while actions convey credibility. Evidently, a communication strategy to reset investor expectations is best agreed with the government, with a common narrative message matched by supporting actions both by DFIs and government.

## **5. Competing and cooperating for a common objective**

Competition between DFIs is healthy. It is an important stimulus for energy and discipline, and drives the innovation which is vital for social learning. But not all forms of competition are healthy. The public purposes of DFIs are not identical, but they have a considerable overlap. This makes some forms of competition wasteful, and provides scope for cooperation. If a firm is willing to do a deal with one DFI, no public purpose is served if another DFI undercuts it: indeed, the additional public resources used in a more generous deal are entirely wasted.

As discussed above, social learning is a natural public good for the DFI community. Each DFI that operates in a country will need a diagnostic about the opportunities for clusters and production webs,

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<sup>30</sup> See Collier (2017) for a survey of cultural explanations for national failure.

<sup>31</sup> Spence, 1973.

and there is much to be gained through this being a public good. Indeed, only if DFIs have a shared analysis of the opportunities in a country can they work together to get to the clusters and webs to grow to the necessary minimum scale: each DFI has a distinctive network of firms potentially willing to invest. By their nature, these relationships cannot be shared, and so the initial diagnosis is the appropriate common resource. IFC has recently pioneered a process for such private sector diagnostics, conducted in collaboration with the World Bank. It would be useful for the DFI community to determine whether this is suitable to function as a common methodology, with each DFI having the opportunity to undertake a country or sector diagnostic on behalf of the community. This would provide a common format for the diagnostic that all pertinent countries could perform much more rapidly than IFC could on its own.

One of the markets that DFIs are collectively trying to create is one for the asset class of illiquid projects in low-income countries. Through such an asset class, illiquid investments become liquid and so much more attractive. But for the projects generated by different DFIs to gel into a common asset class, they need to conform to some standard features such as the instruments used to reduce risk. Currently, there are a plethora of small schemes that greatly increase the information costs to potential purchasers, and the idiosyncratic features are not amenable to price discovery. To address this, multilateral development banks are currently exploring ways to standardize appraisal standards, documentation, and so on. This builds on past efforts to standardize environmental, social, and governance standards based on IFC's Performance Standards, which are now the market standard for project finance (the Equator Principles).

## **6. Concluding remarks**

International attention on fragile states tends to focus on the difficult challenge of building stable states. But without a growing economy which generates jobs and tax revenue, this is likely to continue to be a futile effort. Large, formal firms are critical to the stabilization and growth of fragile states, but are lacking in most places. Substantial costs, risks, and uncertainties confront pioneering firms, preventing them from filling this gap. It is therefore important that DFIs collaborate to bring sufficient resources to bear to overcome these costs, risks, and uncertainties. It is not enough to support individual firms, or individual reforms, or individual pieces of infrastructure; DFI interventions need to be sufficiently deep and wide to foster the creation of new markets, with their clusters of firms and supporting infrastructure, value chains, and trading networks. To do so, DFIs must help dispel the radical uncertainty concerning whether markets can develop, and states can escape the fragility trap.

In short, DFIs need to play a big enough role to change the narrative about the opportunities for private investors in these states. DFIs have done it before—IFC rebranded low- and middle-income economies from 'Third World' to 'Emerging Economies' in the 1980s, triggering a wave of private capital inflows. DFIs can have the same transformative effect on perceptions of fragile states today. To do so, they need to scale up the use of blended finance to support pioneering firms, build a common understanding based on country and market diagnostics, and undertake complementary investments, technical assistance, and risk mitigation to enable the creation of industrial clusters and production webs. Initial steps to coordinate and harmonize approaches need to go farther, faster. Stakeholders must recognize that this is a risky endeavour, and provide the political backing and space for experimentation and error. Also, the risk-taking appetite of DFI boards and shareholders must match the risk involved in changing the narrative and trajectory of fragile states. Only this will reduce the risk that fragile states remain an obstacle to achieving sustained global prosperity.

## Appendix: Results from the World Bank Enterprise Surveys, 2010–2017

**Table A1. Pioneer firms by country**

Country	Code	Region	Income group	Observations	Year of survey	FCS (Yes/No)	Number of pioneers firms	Percentage of pioneer firms	Number of pioneers aged 5 or less	Percentage of pioneers aged 5 or less
Afghanistan	AFG	SAR	LIC	410	2014	Yes	271	66.58	61	15.25
Albania	ALB	ECA	UMIC	360	2013	No	42	11.67	7	1.98
Antigua and Barbuda	ATG	LAC	HIC	151	2010	No	11	32.35	0	0.00
Argentina	ARG	LAC	HIC	991	2017	No	565	57.42	24	2.45
Armenia	ARM	ECA	UMIC	360	2013	No	71	19.72	6	1.69
Azerbaijan	AZE	ECA	UMIC	390	2013	No	45	11.54	5	1.29
Bahamas	BHS	LAC	HIC	150	2010	No	27	65.85	4	9.76
Bangladesh	BGD	SAR	LMIC	1442	2013	No	911	63.18	52	3.64
Barbados	BRB	LAC	HIC	150	2010	No	45	64.29	3	4.48
Belarus	BLR	ECA	UMIC	360	2013	No	167	46.52	28	7.87
Belize	BLZ	LAC	UMIC	150	2010	No	24	33.33	1	1.39
Benin	BEN	SSA	LIC	150	2016	No	46	30.87	1	0.68
Bhutan	BTN	SAR	LMIC	253	2015	No	165	65.22	25	9.96
Bolivia	BOL	LAC	LMIC	364	2017	No	267	73.35	39	10.80
Bosnia and Herzegovina	BIH	ECA	UMIC	360	2013	Yes	160	44.44	6	1.68
Bulgaria	BGR	ECA	UMIC	293	2013	No	95	32.42	0	0.00
Burundi	BDI	SSA	LIC	157	2014	Yes	115	73.25	22	14.01
Cambodia	KHM	EAP	LMIC	373	2016	No	149	41.27	13	3.63
Cameroon	CMR	SSA	LMIC	361	2016	No	158	43.89	10	2.93
Central African Republic	CAF	SSA	LIC	150	2011	Yes	110	73.33	29	19.33
Chile	CHL	LAC	HIC	1033	2010	No	537	69.29	6	0.78
China	CHN	EAP	UMIC	2700	2012	No	1658	61.48	93	3.60
Colombia	COL	LAC	UMIC	942	2010	No	543	77.02	24	3.40
Costa Rica	CRI	LAC	UMIC	538	2010	No	237	72.92	16	4.97
Croatia	HRV	ECA	HIC	360	2013	No	169	46.94	16	4.48
Czech Republic	CZE	ECA	HIC	254	2013	No	141	55.51	3	1.22
Côte d'Ivoire	CIV	SSA	LMIC	361	2016	Yes	151	41.94	9	2.56
DRC	COD	SSA	LIC	529	2013	Yes	279	52.94	87	17.09
Djibouti	DJI	MENA	LMIC	266	2013	Yes	135	51.92	27	10.59
Dominica	DMA	LAC	UMIC	150	2010	No	4	14.29	0	0.00
Dominican Republic	DOM	LAC	UMIC	359	2016	No	166	46.37	8	2.26
Ecuador	ECU	LAC	UMIC	361	2017	No	315	87.50	33	9.17
Egypt	EGY	MENA	LMIC	1814	2016	No	218	12.02	6	0.34
El Salvador	SLV	LAC	LMIC	719	2016	No	303	42.14	6	0.84
Estonia	EST	ECA	HIC	273	2013	No	99	36.40	5	1.92
Ethiopia	ETH	SSA	LIC	848	2015	No	425	50.12	59	6.96
FYR Macedonia	MKD	ECA	UMIC	360	2013	No	136	37.78	10	2.80
Georgia	GEO	ECA	LMIC	360	2013	Yes	50	13.89	14	3.92
Ghana	GHA	SSA	LMIC	720	2013	No	516	71.77	79	11.17
Grenada	GRD	LAC	UMIC	153	2010	No	18	75.00	1	4.55
Guatemala	GTM	LAC	UMIC	590	2010	No	244	68.73	7	1.98
Guinea	GIN	SSA	LIC	150	2016	Yes	50	33.33	10	6.85
Guyana	GUY	LAC	UMIC	165	2010	No	44	61.11	3	4.17
Honduras	HND	LAC	LMIC	332	2016	No	183	55.12	6	1.85
Hungary	HUN	ECA	HIC	310	2013	No	84	27.18	8	2.64
India	IND	SAR	LMIC	9281	2014	No	6334	68.31	569	6.18
Indonesia	IDN	EAP	LMIC	1320	2015	No	274	20.79	5	0.39
Israel	ISR	MENA	HIC	483	2013	No	146	30.23	3	0.63
Jamaica	JAM	LAC	UMIC	376	2010	No	59	48.76	2	1.71
Jordan	JOR	MENA	UMIC	573	2013	No	190	33.57	24	4.31
Kazakhstan	KAZ	ECA	UMIC	600	2013	No	160	26.67	24	4.04
Kenya	KEN	SSA	LMIC	781	2013	No	655	84.19	61	8.10
Kosovo	XKX	ECA	LMIC	202	2013	Yes	125	61.88	21	10.40
Kyrgyz Republic	KGZ	ECA	LMIC	270	2013	No	132	49.07	17	6.32
Lao PDR	LAO	EAP	LMIC	368	2016	No	95	25.82	3	0.84
Latvia	LVA	ECA	HIC	336	2013	No	89	26.81	11	3.37
Lebanon	LBN	MENA	UMIC	561	2013	No	326	58.11	35	6.25
Lesotho	LSO	SSA	LMIC	150	2016	No	13	8.67	0	0.00
Liberia	LBR	SSA	LIC	151	2017	Yes	71	47.02	7	4.76



**Table A1. Pioneer firms by country (Continued)**

Lithuania	LTU	ECA	HIC	270	2013	No	85	32.08	8	3.07
Malawi	MWI	SSA	LIC	523	2014	Yes	378	72.97	28	5.51
Malaysia	MYS	EAP	UMIC	1000	2015	No	492	49.55	5	0.52
Mali	MLI	SSA	LIC	185	2016	Yes	88	47.83	5	2.78
Mauritania	MRT	SSA	LMIC	150	2014	No	113	75.33	19	12.84
Mexico	MEX	LAC	UMIC	1480	2010	No	675	58.64	58	5.07
Moldova	MDA	ECA	LMIC	360	2013	No	129	35.83	4	1.13
Mongolia	MNG	EAP	LMIC	360	2013	No	165	45.83	24	6.76
Montenegro	MNE	ECA	UMIC	150	2013	No	26	17.33	1	0.71
Morocco	MAR	MENA	LMIC	407	2013	No	200	49.63	14	3.60
Myanmar	MMR	EAP	LMIC	607	2016	Yes	155	25.54	32	5.33
Namibia	NAM	SSA	UMIC	580	2014	No	464	80.70	135	24.19
Nepal	NPL	SAR	LIC	482	2013	Yes	366	75.93	25	5.20
Nicaragua	NIC	LAC	LMIC	333	2016	No	234	70.27	5	1.51
Niger	NER	SSA	LIC	151	2017	No	57	38.00	10	6.90
Nigeria	NGA	SSA	LMIC	2676	2014	No	1756	66.84	153	6.39
Pakistan	PAK	SAR	LMIC	1247	2013	No	524	42.16	12	1.08
Panama	PAN	LAC	HIC	365	2010	No	15	13.04	1	0.92
Papua New Guinea	PNG	EAP	LMIC	65	2015	No	56	86.15	1	1.56
Paraguay	PRY	LAC	UMIC	364	2017	No	246	67.58	10	2.75
Peru	PER	LAC	UMIC	1003	2017	No	761	75.87	11	1.11
Philippines	PHL	EAP	LMIC	1335	2015	No	704	53.29	39	3.01
Poland	POL	ECA	HIC	542	2013	No	213	39.30	1	0.19
Romania	ROU	ECA	UMIC	540	2013	No	319	59.07	10	1.88
Russia	RUS	ECA	UMIC	4220	2012	No	1414	33.56	270	6.52
Rwanda	RWA	SSA	LIC	241	2011	No	211	87.55	74	31.22
Senegal	SEN	SSA	LIC	601	2014	No	392	65.44	29	5.15
Serbia	SRB	ECA	UMIC	360	2013	No	150	41.67	15	4.18
Sierra Leone	SLE	SSA	LIC	152	2017	Yes	53	34.87	14	9.21
Slovak Republic	SVK	ECA	HIC	268	2013	No	76	28.46	0	0.00
Slovenia	SVN	ECA	HIC	270	2013	No	103	38.15	4	1.51
Solomon Islands	SLB	EAP	LMIC	151	2015	Yes	110	73.33	30	20.41
South Sudan	SSD	SSA	LIC	738	2014	Yes	483	65.54	333	45.80
Sri Lanka	LKA	SAR	LMIC	610	2011	No	319	52.30	26	4.40
St Kitts and Nevis	KNA	LAC	HIC	150	2010	No	14	48.28	1	3.45
St Lucia	LCA	LAC	UMIC	150	2010	No	10	15.87	1	1.59
St Vincent and Grenadines	VCT	LAC	UMIC	154	2010	No	27	56.25	2	4.35
Sudan	SDN	SSA	LMIC	662	2014	Yes	399	60.27	39	6.17
Suriname	SUR	LAC	UMIC	152	2010	No	52	69.33	1	1.33
Swaziland	SWZ	SSA	LMIC	150	2016	No	43	28.86	3	2.05
Sweden	SWE	ECA	HIC	600	2014	No	538	89.67	39	6.67
Tajikistan	TJK	ECA	LIC	359	2013	Yes	96	26.74	17	4.76
Tanzania	TZA	SSA	LIC	813	2013	No	539	66.54	57	7.54
Thailand	THA	EAP	UMIC	1000	2016	No	190	20.21	7	0.77
Timor Leste	TLS	EAP	LMIC	126	2015	Yes	83	65.87	2	1.64
Togo	TGO	SSA	LIC	150	2016	Yes	59	39.33	6	4.03
Trinidad and Tobago	TTO	LAC	HIC	370	2010	No	60	48.00	4	3.20
Tunisia	TUN	MENA	LMIC	592	2013	No	267	45.10	23	3.91
Turkey	TUR	ECA	UMIC	1344	2013	No	270	20.35	38	2.93
Uganda	UGA	SSA	LIC	762	2013	No	579	76.18	95	13.46
Ukraine	UKR	ECA	LMIC	1002	2013	No	303	30.27	17	1.77
Uruguay	URY	LAC	HIC	347	2017	No	293	84.44	21	6.07
Uzbekistan	UZB	ECA	LMIC	390	2013	No	24	6.15	3	0.77
Venezuela	VEN	LAC	UMIC	320	2010	No	50	58.82	3	3.66
Vietnam	VNM	EAP	LMIC	996	2015	No	498	50.20	73	7.43
West Bank And Gaza	PSE	MENA	LMIC	434	2013	Yes	139	32.10	20	4.66
Yemen	YEM	MENA	LIC	353	2013	Yes	184	52.12	6	1.73
Zambia	ZMB	SSA	LMIC	720	2013	No	529	73.88	78	11.11
Zimbabwe	ZWE	SSA	LIC	600	2016	Yes	192	32.00	24	4.11

Note: The percentages of pioneer firms presented in this table are calculated using the total number of firms that reported if they have innovated or not by introducing either new products or services; new products or services for the establishment's main market; or new and new products or services for the establishment's main market; or new and significantly improved process during the last three years. Firms with missing values in the three variables used to define pioneer firms are not considered. The note considers a country as in a FCS if it was a FCS during (i) the year when the WBES was carried out or (ii) the three years prior to the survey. This is an important aspect aimed at capturing the potentially long-lasting impact of conflicts.

**Table A2. Characteristics of pioneering versus non-pioneering firms in countries which are FCS and non-FCS**

	Fragile and conflict affected states		Other countries	
	Pioneering firms	Non-pioneering firms	Pioneering firms	Non-pioneering firms
<b>Workforce</b>				
Number of workers (average)	40.09	29.19	104.65	63.36
Permanent workers (percent of total workers) (%)	94.05	94.59	94.59	96.31
Skilled workers (out of all production workers) (%)	71.00	69.81	70.00	74.96
Firms with formal training to employees in last fiscal year (%)	33.42	16.64	50.97	28.12
Firms identifying inadequately education as biggest obstacle (%)	2.83	3.12	7.14	6.09
<b>Innovation</b>				
Internationally-recognized quality certification (%)	16.42	9.44	33.86	19.47
Firms spend on R&D during the last fiscal year (%)	26.64	4.25	35.63	5.20
New products or services introduced during the last 3 years (%)	75.21	0.00	73.02	0.00
Improved process introduced during the last 3 years (%)	75.56	0.00	80.78	0.00
New products or services also new for the firm's main market (%)	69.30	-	67.02	-
<b>Finance</b>				
Firms with line of credit or loan (%)	26.58	16.66	41.32	28.18
Firms identifying access to finance as a major constraint (%)	35.75	33.51	20.71	18.91
Investments financed by internal funds (%)	75.73	79.55	66.24	71.46
Investments financed by banks (%)	10.51	8.07	19.44	15.77
Working capital financed by internal funds (%)	77.73	81.16	67.17	76.24
Working capital financed by banks (%)	9.00	6.34	17.22	11.31
Firms identifying access to finance as biggest obstacle (%)	13.66	17.61	14.54	14.18
<b>Firm performance</b>				
Value added per worker, USD 2009 (average)	26,824.72	20,347.84	34,681.62	24,558.92
Cost of labor per unit of sales (average)	0.21	0.27	0.35	0.33
Real annual sales growth (%)	0.03	0.82	0.88	-0.04
Annual labor productivity growth (%)	-4.82	-2.74	-2.91	-2.62
Annual employment growth (%)	5.42	4.68	4.53	3.21
Pushase of fixed assets in last fiscal year (%)	47.58	32.23	49.99	26.20
<b>Infrastructure</b>				
Number of water insufficiencies in a typical month (average)	1.84	1.10	0.99	1.18
Percent of firms experiencing water insufficiencies (%)	19.65	12.29	11.74	8.34
Number of electrical outages in a typical month (average)	7.99	7.44	11.60	8.06
Duration of a typical electrical outages (hours) (average)	2.81	2.83	2.48	1.44
Firms experiencing electrical outages during the previous fiscal year (%)	72.38	69.23	62.41	42.43
Delay in obtaining a mainline telephone connection (days) (average)	7.63	18.50	13.59	12.15
Firms identifying electricity as biggest obstacle (%)	14.21	11.36	12.56	10.17
Firms identifying transport as biggest obstacle (%)	2.59	3.34	3.30	4.20
Firms identifying access to land as biggest obstacle (%)	4.02	4.39	3.45	2.93

**Table A2. Characteristics of pioneering versus non-pioneering firms in countries which are FCS and non-FCS (Continued)**

	Fragile and conflict affected states		Other countries	
	Pioneering firms	Non-pioneering firms	Pioneering firms	Non-pioneering firms
<b>Other constraints</b>				
Firms identifying political instability as a major constraints (%)	55.08	48.66	26.22	23.88
Firms identifying political instability as biggest obstacle (%)	21.02	19.43	7.87	10.03
Firms identifying corruption as biggest obstacle (%)	9.47	6.68	9.21	8.04
<b>Other firm characteristics</b>				
Age (average)	15.53	14.88	20.05	17.74
Firms of small size (<20) (%)	55.97	67.68	37.20	51.74
Firms of medium size (20-99) (%)	31.96	25.03	37.15	33.10
Firms of large size (100 and over) (%)	12.06	7.29	25.65	15.16
Firms with a female top manager (%)	10.91	14.45	14.54	16.70
Firms with female participation in ownership (%)	24.05	23.58	35.47	31.70
Firms with majority female ownership (%)	8.34	12.01	10.35	11.52
Firms formally registered at the start of operations (%)	87.96	88.00	88.45	89.56
Number of years firms operated without formal registration (average)	0.66	0.74	0.72	0.66
<b>Ownership status</b>				
Proportion of private domestic ownership in a firm (%)	77.94	84.24	89.65	93.09
Proportion of private foreign ownership in a firm (%)	12.75	8.73	7.43	4.37
Proportion of government/state ownership in a firm (%)	0.53	0.34	0.59	0.77
Proportion of other ownership in a firm (%)	8.78	6.69	2.33	1.77
<b>Legal and export status</b>				
Sole proprietorship (%)	47.32	53.24	34.03	35.05
Shareholding company with trade shares (%)	6.22	5.15	4.30	3.40
Shareholding company with non-trade shares (%)	24.02	25.99	34.28	42.55
Partnership (%)	13.45	10.81	10.33	8.99
Limited partnership (%)	8.28	4.56	15.03	8.07
Other status (%)	0.70	0.26	2.00	1.94
Exporter (%)	11.09	7.36	18.76	11.30
Proportion of total sales that are exported directly (%)	5.16	4.13	9.31	6.01
<b>Sectors</b>				
Manufacturing (%)	36.91	33.55	63.91	53.94
Retail (%)	21.48	26.54	11.51	15.91
Other services (%)	41.61	39.91	24.58	30.15
Observations	4,302	4,295	31,486	29,230
Countries		25		93

Source: Calculations based on World Bank Enterprise Survey.

Note: Some variables exhibit missing values.

**Table A3. t-tests on mean differences between pioneering versus non-pioneering firms in countries which are FCS and non-FCS**

Variable	Pioneers non-FCS (Mean)	Pioneers non-FCS (SD)	Pioneer FCS (Mean)	Pioneers FCS (SD)	Mean Difference	p-value
Firm age	20.051	15.989	15.533	13.931	4.519	0.000
Size (number of workers)	104.646	244.903	40.098	72.106	64.548	0.000
Manufacturing (=1)	0.639	0.480	0.369	0.483	0.270	0.000
Purchase of fixed assets (% of firms)	49.992	50.001	47.582	49.947	2.410	0.003
Internationally-recognized quality certification (%)	33.864	47.326	16.417	37.048	17.447	0.000
Skilled workers (in percent of all production workers)	70.110	29.545	71.003	29.305	-0.893	0.291
Firms with formal training to employees (%)	0.510	0.500	0.334	0.472	0.176	0.000
Firms with a female top manager (%)	0.145	0.352	0.109	0.312	0.036	0.000
Foreign ownership (%)	7.439	24.089	12.744	30.313	-5.306	0.000
Public ownership (%)	0.592	5.514	0.530	5.153	0.062	0.491
Sole proprietorship (%)	0.340	0.474	0.473	0.499	-0.133	0.000

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