Measuring funding flows for digital financial inclusion

Methodology and early insights

September 2019

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Introduction

Digital technologies are changing the face of financial services, especially in developing countries**.** Global surveys such as Global Findex have documented the contribution of digital financial services (DFS) to financial inclusion efforts. For example, in developing economies 44 percent of adults used digital payments in 2017, an increase of 12 percentage points since 2014.

The potential for technology and digitization to expand the availability and convenience of financial services for the poor has been recognized by the development sector. Initiatives likes the UN Secretary General's Digital Financing Task Force and the Alliance for Financial Inclusion's (AFI) Digital Financial Services Working Group emphasize the role of digital financial services as a driver of financial inclusion and sustainable development.

Little is known about the nature of funding for digital financial services

While much is written about the role of DFS in contributing to financial inclusion, there is limited data on how private and public sector funding contributes to the development, improvement, and expansion of digital financial services. The CGAP Funder Survey, the global reference point for funding for financial inclusion, provides high-level numbers on these funding flows, including the number of projects to touch on DFS, but the categorization of these projects is limited and only provides limited additional information on the characteristics of DFS funding flows. IATI (International Aid Transparency Initiative) and OECD's Development Assistance Committee (DAC) provide standards for reporting funding data, but do not provide the tools that would allow for arranging and analyzing data specific to digital financial inclusion.

Better data on DFS funding can help drive more effective investment

Data allows funders to (i) understand the current landscape of funding for DFS, including relative concentrations and gaps in funding, (ii) assess opportunities for investment and for collaboration with others in the space, and (iii) assess the funding required to support further development of DFS. This allows funders to optimize portfolio allocations by identifying gaps and opportunities and to build strategic partnerships that maximize scale and impact.

Greater transparency on the funding flows to the DFS ecosystem can help answer questions such as:

- What is the volume of funding going to DFS?
- Which segments of the DFS ecosystem is this funding supporting?
- Which types of funding instruments are funders using for DFS?
- Where is funding for DFS geographically concentrated?

Who can benefit from this analysis?

Information on funding flows for DFS will help fill a number of gaps in the current system. It can enable development finance institutions (DFIs), bilaterals, multilaterals, and foundations to track the high-level trends and trajectory of the DFS sector; identify over- and under-concentration of funding at certain levels of the market; understand what investment size would be required for a particular purpose; and seek opportunities to coordinate and partner with other institutions to increase their potential impact.

For example, a public funder seeking to address the interoperability of payment systems in a given market can use the data to see who is already funding similar projects in that geographical area, what type of instruments are being used, and how similar challenges are being addressed in other markets.

Other institutions that provide private funding for DFS, including impact investors, venture capitalists and other financial institutions, who are beyond the scope of this methodology, can also use the data to support their own investment strategies.

Additionally, the recipients of DFS funding, such as financial service providers, national governments, non-governmental organizations (NGOs) and industry consultants can use this data to scope funding opportunities and strategies. Researchers, in academia or think tanks, can use these data to understand and map trends in the industry.

Improving our understanding of DFS funding flows

To begin to answer the above questions, MIX is undertaking a two-year project to develop, test and validate a methodology to i) identify; ii) classify; and iii) measure DFS funding flows. The methodology focuses on cross-border, public funding and private foundation funding sources, and builds on the work that CGAP has carried out in its Funder Survey over the past decade.

This paper presents what MIX has learned from developing and testing this methodology on a sample of DFS funding flows. The first half of this paper presents the methodology itself, the tools that have been developed to identify, classify and measure DFS funding flows, as well as some of the challenges involved in those processes. The second half presents an initial analysis of DFS funding flows data from testing the methodology on a sample of projects from a selection of funders.

The progress made so far in the project includes:

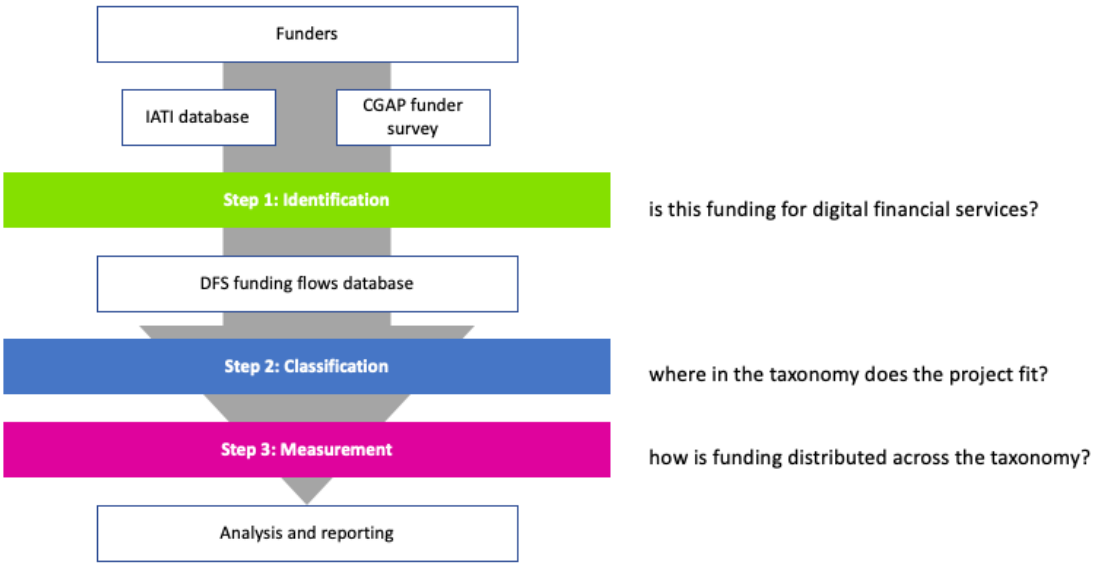
1. **Analysis of an initial sample** of 200 historical projects from a selection of funders
2. **Development and validation of a taxonomy** for classifying DFS funding flows
3. **Interviews** with a range of funders to **test hypotheses** around a proposed methodology
4. **Development of a methodology** for identifying, classifying and measuring funding flows.
5. **Testing this methodology** on a sample of 49 additional projects from four different funders.
6. Development of **pilot analytics** based on data gathered so far.

Over the coming months, MIX will run this methodology on the DFS funding flows committed in 2018, expand the scope of the analysis and update the analytics to provide a fuller picture of trends in DFS funding.

The Methodology

The methodology is designed to capture data from funders of digital financial inclusion projects and feed this data through a three stage process of identification, classification and measurement to provide analysis and reports on the industry.

Figure 1. Summary of methodology



Step 1: Identification

What are DFS funding flows?

For the purposes of this methodology, DFS funding flows are considered to be those that come from public money or private philanthropic funds that flow across borders to support the growth of digital financial inclusion. The database captures funding commitments, not disbursements.

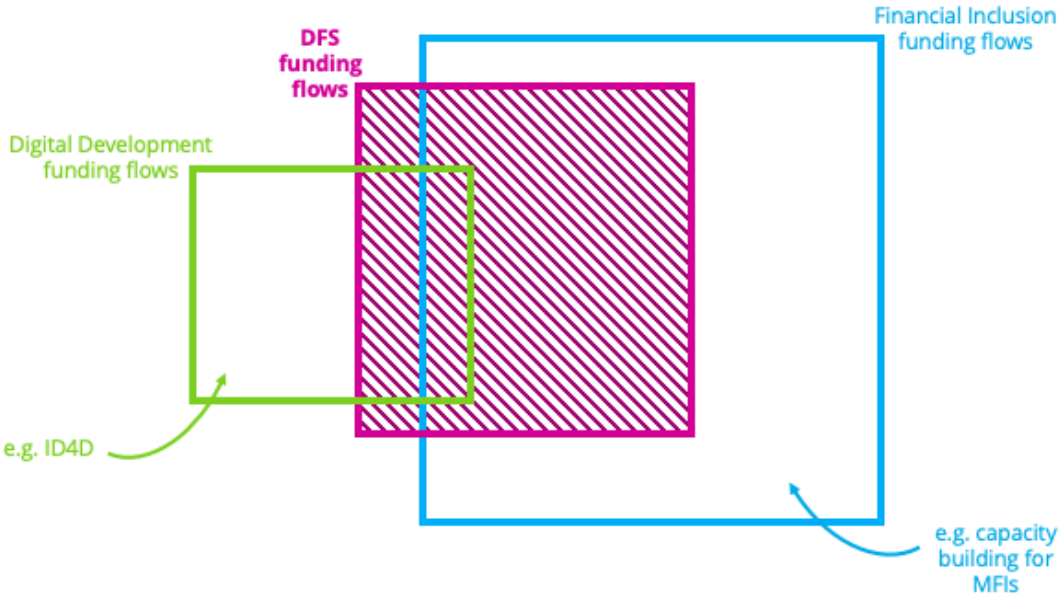
Digital financial inclusion (as defined by the G20 Global Partnership for Financial Inclusion (GPFI)) refers to *the use of digital financial services to advance financial inclusion. It involves the deployment of digital means to reach financially excluded and under-served populations with a range of formal financial services suited to their needs, delivered responsibly at a cost affordable to customers and sustainable for providers.* This defines the landscape of projects that are included in the analysis.

Funding flows in support of DFS refers to money spent by development institutions – bilateral and multilateral donors, development finance institutions (DFI) and philanthropic foundations – with the objective of growing some aspect of the DFS ecosystem. Funding may be in the form of grant, loan, equity or guarantee. Funding must flow across borders,

meaning that spending by a government in its own country and financed by its own budgetary resources is not included.

While some funding flows go to projects that are purely about digital financial inclusion, others can be parts of larger projects. Funding flows for DFS can be a subset of funding flows for broader financial inclusion goals (of which digital is one part), or they can be a subset of broader digital development goals (of which financial inclusion is one use case). DFS funding flows could also be a part of a broader development program that includes some DFS component – for example an agricultural development program that has a component on digitizing payments to farmers in the value chain.

Figure 2. Defining DFS funding flows



How do we identify DFS funding flows?

Some funders have an explicit focus on digital financial inclusion that is made clear in their funding strategies. In these cases, any funding for financial inclusion is therefore automatically considered a DFS funding flow.

For other projects, the objective can be relatively simple to discern from keywords included in project names and descriptions – DFS projects typically contain some combination of terms like "digital finance", "mobile money", "electronic payments" or similar terminology. If it is unclear (for example the project is clearly a financial inclusion project, but it is unclear whether it is a *digital* financial inclusion project) it is sometimes necessary to dig deeper into project documents and funder strategies.

As much as possible the judgment is based on project *intent:* are there stated objectives or monitoring and evaluation (M&E) indicators linked to this project that relate to DFS-specific outcomes, such as number of users of mobile money or number of digital loans? Where no clear intent to improve some aspect of the DFS ecosystem is identifiable in the publicly available project documents, the funding flow is excluded from the database.

This approach inevitably excludes some equivocal cases that may be considered by some to be part of the enablers of DFS. For example, digital identification projects are a growing area of development spending and digital finance is regularly stated as a use case for these investments. Some may consider these investments to be critical enablers of DFS, as the infrastructure they create can play such a crucial role in DFS ecosystems. However, including all of these flows in the DFS analysis risks biasing the analysis towards funds that have objectives far beyond the DFS ecosystem. Emphasizing the intent and stated objectives of the funder allows for funding flows that are explicit about the DFS use case to be included, while excluding those that are more vaguely about the digital or financial services ecosystem. This approach will be further tested in the next phase.

Step 2: Classification

Once projects have been identified as DFS funding flows, MIX has developed a taxonomy for classifying DFS funding flows to help understand where in the DFS ecosystem funding is being distributed. This taxonomy is based on the market systems framework, reflecting a general consensus within the financial sector development community that the intersection of financial service providers and customers in the core market occurs within an ecosystem formed by an array of support functions and guided by policies and regulations. This approach to classification aligns approximately, but not exactly, with the taxonomy used in the CGAP Funder Survey – variations reflect the differences in project types and funding priorities that are specific to *digital* financial inclusion.

The taxonomy first establishes whether a DFS project that is receiving funds is working at (i) the core market; (ii) support functions; or (iii) the policy and regulatory environment (or some combination of these). The market is then broken out at levels two and three to provide a more granular framework for understanding the different types of work supported by DFS funding flows.[1]

[1] From the analysis so far, 79.5 percent of projects that were identified as potentially containing DFS components were able to be classified down to level three of the taxonomy

Figure 3. DFS funding flows project taxonomy

Level one	Level two	Level three
Core market	Customers	Financial capability and DFS literacy
	Financial service providers	Core business model/product development
		Financing for growing loan portfolio
		Financing for expanding network
Support functions	Financial infrastructure	Payment infrastructure, e-money, switches, clearing, settlement systems
		Interoperability arrangements
		Shared agent networks
	Research	Core funding for research institutions and think tanks
		DFS studies and research projects
	Information infrastructure	Digital identification relating to DFS
		Data sharing, analytics and reporting platforms
	Networks and coordination	International DFS/fintech networks and associations
		Local DFS/fintech networks, accelerators and incubators
	Capacity building institutions	Training and capacity building institutions for DFS
	Wholesale funding	Funds investing in DFS/fintech
	Market development programs	DFS components of financial sector deepening programs + similar
Policies and regulations	Government and policies	Government DFS policies and strategies
		Digitization of government payments (G2P and P2G)
	Regulation and supervision	DFS rules and regulations (including e-money regulations)
		Cybersecurity and digital financial consumer protection
		Regulatory sandboxes
	Capacity building projects	Capacity building projects for policymakers, regulators and supervisory bodies

Projects are first classified by looking at the primary recipient of the funding. For example, if the primary recipient is a financial service provider then the funding goes into the core market.

The next step for classification is to carry out keyword analysis on the project description to classify by levels one and two of the taxonomy. Certain terms are likely to be indicative of whether a project is at the support functions or the policy and regulations tier, and where the project fits within that tier. For example, terms like "incubation", "acceleration", "labs" and "synergies" can be good indicators of projects that would fall under *networks and coordination*. Similarly, keywords like "rules", "guidance" and "regulatory" are good indicators for *regulation and supervision* projects.

Based on this analysis of keywords, most projects can be placed at level one and two of the taxonomy with a reasonable degree of comfort. Of the 249 projects analyzed so far, 212 were identified as DFS projects and of these 210 were found to be classifiable to level 2 of the taxonomy (see Figure 4). Projects that were identified as DFS funding flows but not

further classified into the taxonomy are included in the aggregate analysis but not in any sub-analyses.

The fact that DFS is increasingly seen as a cross-cutting component of financial inclusion programming, rather than a vertical component in its own right, can make DFS components difficult to isolate. Because of this, the taxonomy allows space for *DFS components of financial sector deepening programs* which may themselves be working at various levels of the market system but for which it is not possible to disaggregate projects any further. As the coverage of the analysis is expanded, it may be possible to further break down these funding flows into the taxonomy.

Step 3: Measurement

Once projects have been classified into the taxonomy, the final stage of the methodology is to quantify the amounts of funding flowing to each level. The data for estimating these quantities comes from three primary sources:

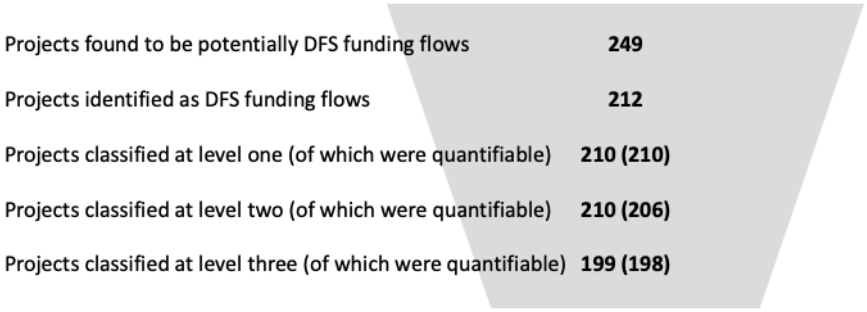
i. CGAP Funder Survey – data is sourced from project documents for those projects flagged as DFS in the CGAP Funder Survey
ii. International Aid Transparency Initiative (IATI) database – this standardized framework for collecting and categorizing development funding flows provides high level funding amounts per project, as well as links, where available, to project documentation.
iii. Funder websites – where further detail is required, for high level funding amounts or a breakdown by project component, project documents that are generally published on the funder's own web portal are used to provide the information on the amounts.

Data quality and completeness present a challenge for the quantification of funding flows. In most cases, it is possible from analyzing project reporting and documentation, and by comparing to similar projects, to make a good estimate as to how to divide the funding into the taxonomy. This can be more difficult if a project works at multiple parts of the market system (for example providing so funding to core market and also working on regulations for DFS).

In general, funding flows fall into one of three groups. For projects with good data, the funding can be simply filtered through the methodology. If there is some data but insufficient to apply the methodology with certainty then estimation techniques are used based on projects that are comparable in terms of funder type, project type and project size. However in some cases it proves impossible to identify, classify or measure funding flows using data available in the public domain. These are not included in the analysis until sufficient data can be obtained.

The following diagram shows how the initial number of projects is funneled down into the final analysis.

Figure 4. Summary of classification and quantification of projects



There is a trade-off between the level of detail of the analysis and the feasibility of data collection. During this process a handful of very large financial sector development programs were found that ran into the hundreds of millions of U.S. dollars. In some cases these alluded to a digital finance component (for example by including terms like "payments infrastructure") but neither the project budget nor supporting documents contains any precise breakdown of the commitment. Estimating based on similar projects was not possible due to a lack of comparable funding flows. One approach in this case is to contact the funder directly and delve into the specific project to establish at least an estimate of the DFS component. However this can be a time-consuming process and the effort has to be measured against the need for analytical depth. This balance is something that will continue to be calibrated as more projects are analyzed through the methodology. For now, these projects are not included in the analysis.

This methodology allows for some classification and quantification at a regional and country level, but challenges exist for geographical tagging. Some DFS projects, such as regional payment system infrastructure projects, often work in multiple countries (for example across the five member states of the East African Community), but country-by-country funding commitment breakdowns are not available. From the current sample of funding flows, 72 percent of projects were able to be categorized at a regional level, and just 57 percent were categorized at a country level. While there is evidently demand within the sector, from funders and from national governments, for more specific country-level data on DFS funding flows, it may be difficult to achieve this with a significant degree of confidence.

The DFS funding flows quantified to date therefore represent a conservative estimate of the total DFS funding flows – for example there are projects that are yet to be identified as DFS and other large financial inclusion programs with DFS components that are yet to be quantified. Currently only 12 percent of identified funding flows are DFS components of larger financial inclusion programs, and based on the experience with the CGAP Funder Survey, there are some large programs, particularly from multilateral funders, with DFS components that have not yet been identified by the methodology.

What have we learned so far about DFS funding flows?

How much funding is going to support DFS, and where is it going?

The information to date (from an initial selection of 249 projects, of which 212 were identified as DFS funding flows) represents a total of USD 860 million of funding flows for DFS. This does not account for the full universe of DFS funding flows, only what has been established from a sample of projects from 18 different funders. It does however provide a useful starting point from which to develop an initial understanding of how funding flows for DFS are distributed.

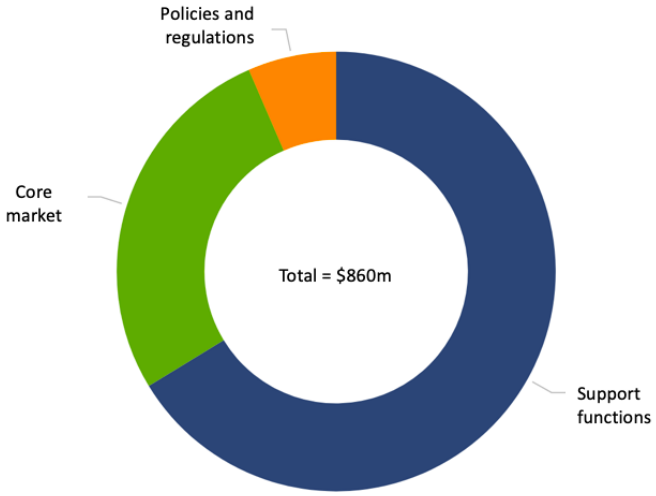
A note on the data

This data sample is not intended to be a statistically accurate representation of all cross-border public funding flows. It is a sample that allows for testing the methodology whilst also drawing out some initial insights. It is limited by the nature of the sample projects and the availability of sufficiently detailed information in the underlying data sources.

The analysis should only be read as representative of the types of funding seen and relative proportions based on the identification of these 212 DFS funding flows from 18 funders.

Applying the market systems based taxonomy to the initial sample of data from recent DFS projects shows that approximately two thirds of funding for digital financial inclusion appears to be relating to support functions. This reflects a broader trend seen in financial inclusion programming, as funders move away from directly funding financial service providers and towards funding the enabling infrastructure for the private sector to innovate.

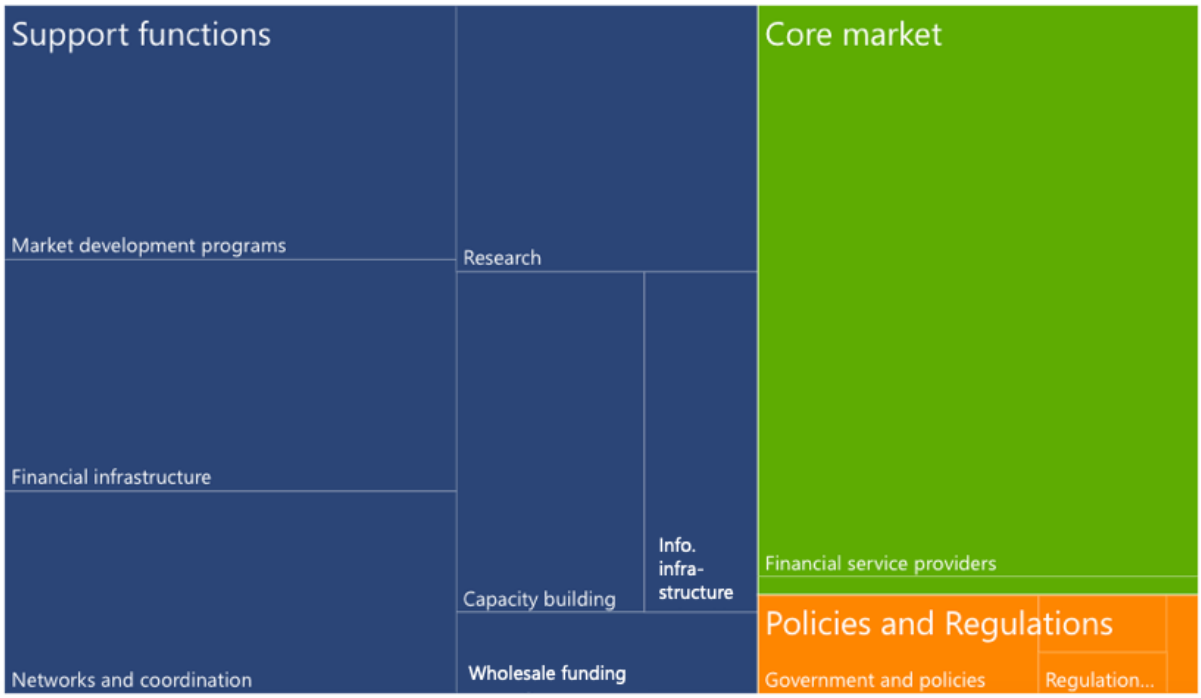
Figure 5. DFS funding flows by taxonomy level one, by value



Breaking out the taxonomy into level two provides more granularity as to the type of projects currently being funded in the DFS ecosystem. From the current data set it appears

that, while support functions make up the bulk of overall funding, the single largest category of project at level two (30 percent of total DFS funding) is funding to financial services providers, the majority of which is supporting core business model and product development. This reflects both an increasing amount of funding for digitization for existing providers as well as funding for new offerings and models developed for the digital age, particularly by fintech startups, such as those recognized in the Inclusive Fintech 50 for their contributions to financial inclusion.

Figure 6. DFS funding flows by taxonomy level two, by value



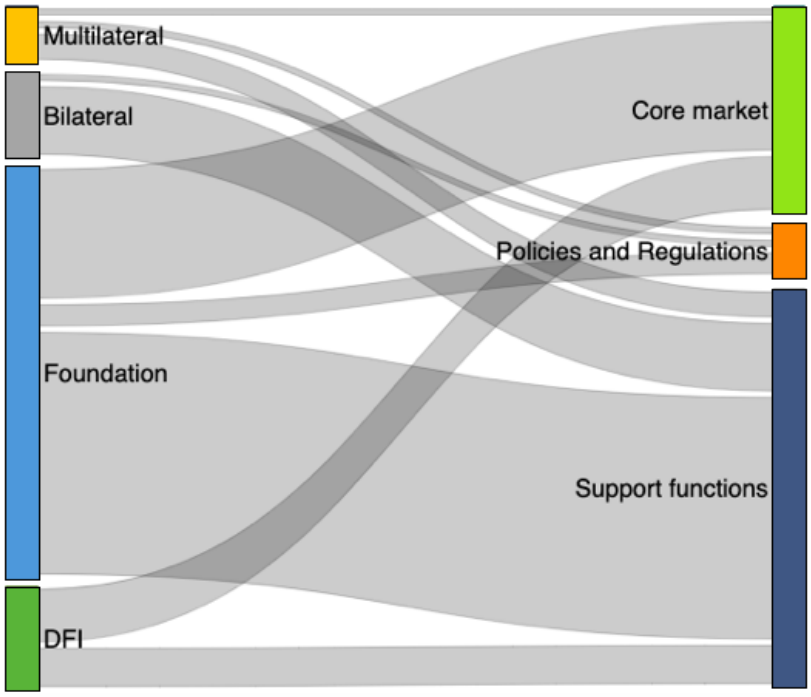
Given funder interest in the support functions that enable DFS growth, it is valuable to quantify how much funding is going into the various areas of the supporting ecosystem. For example, investments in financial infrastructure projects as well as DFS components of financial sector market development programs (such as DFID's FSD network) account for the largest share of DFS funding flows. Together, these two categories account for almost 27 percent of the identified DFS funding.

There is also evidence here that funders are focusing investments on overcoming information asymmetries in digital financial inclusion – research projects and information infrastructure (including data sharing, analytics and reporting platforms) between them account for almost 15 percent of funding flows.

Who funds what?

The DFS-focused investments by foundations are spread between core market, support functions and policies and regulations. The data suggest that foundations have recognized the need for investments throughout the ecosystem in order for the outreach of DFS providers to grow. For an investor looking to fund new programming in a specific part of the market system, this suggests foundations are likely to a potential partner for most investment types.

Figure 7. Distribution of funding by funder type and taxonomy level one, by value



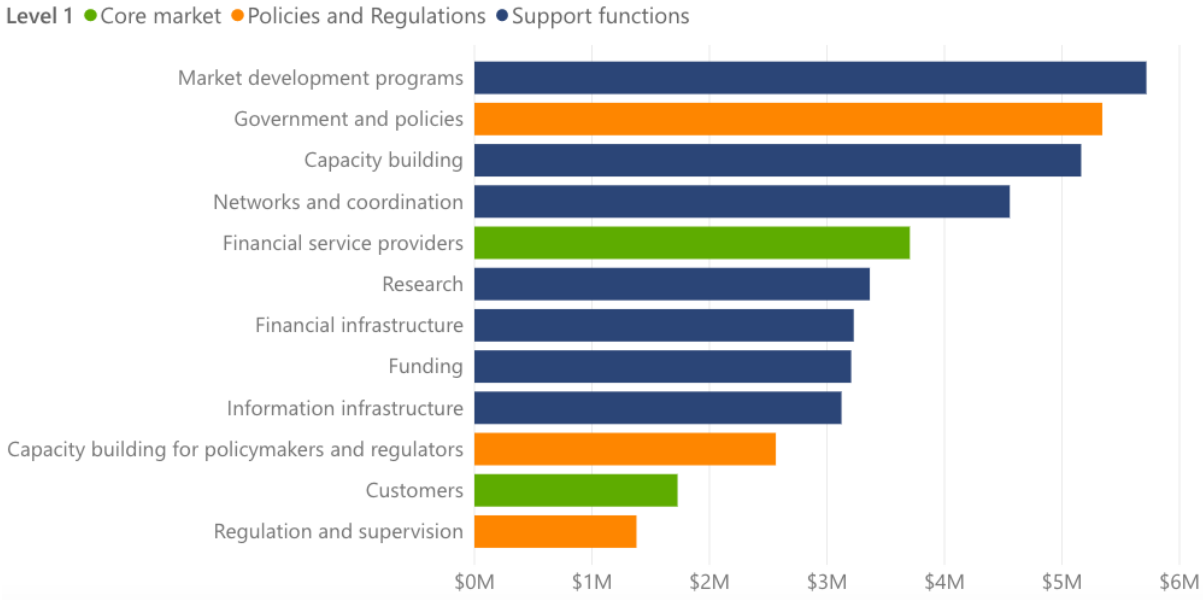
This data indicates that efforts around policies and regulations remain largely the preserve of multilateral organizations and some foundations. Bilaterals appear to concentrate their programming on support functions, and DFIs are splitting investments between support functions (42 percent) and the core market (58 percent).

For funders – both public funders as well as private sector investors such as venture capital funds or impact investors – this funding analysis identifies potential gaps and opportunities in the funding landscape, linking project type to other existing funders and providing visibility on potential synergies and partnership opportunities. For example, for a funder looking to make new investments in a fintech to support development of its business model, this breakdown helps to identify others working in a similar space to identify potential co-investments and avoid overlaps.

What does a typical project look like?

As funders look to expand their portfolios into new areas of the DFS ecosystem, it is useful to understand what typical projects look like at different levels of the market. Understanding typical project sizes for a given area of investment in DFS can help funders assess their project budgets for similar projects they are developing. The sample data supports the notion that projects focusing on regulations and supervision, and on capacity building for policymakers and regulators, tend to be among the smallest in value. Within the core market, investments in financial service providers are on average more than twice the size of projects focusing on customers. The largest projects on average are DFS components of market development programs (average project size: USD 5.7 million), which themselves may operate at various levels of the market system.

Figure 8. Average project size, by taxonomy level two



In the future, linking this information to output or impact data could also help to assess relative effectiveness of DFS funding flows. The inclusion of data from monitoring and evaluation systems for different project types into an expanded database would allow for the outputs of projects to be compared directly with the input funding flows. This would allow funders to better understand how effectively their investments are contributing to developing outcomes.

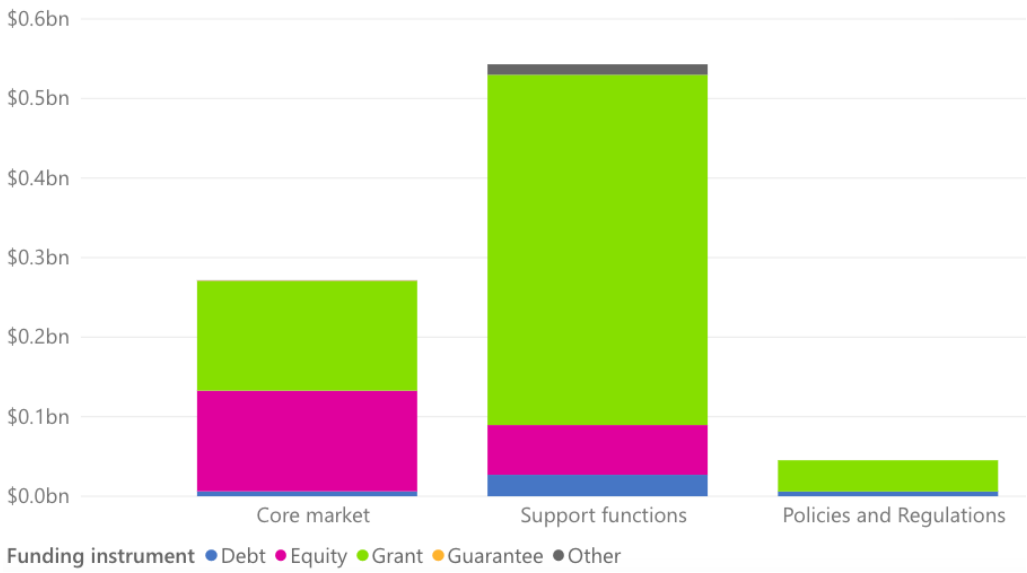
What kind of funding instruments are being used?

From the research sample, grant funding represents the dominant instrument used by funders for supporting digital financial inclusion; 70 percent of funds committed for DFS are grants, and a further 20 percent are equity investments.

Figure 9. Value of funding flows by instrument type

The data show that the core market is receiving most of the equity funding into the sector, while grants are largely going to to support functions. The fact that only a small portion of investments in the support functions are made using equity implies that most of these enabling investments are made without seeking financial return. Projects to support the policy and regulatory environment for DFS are almost entirely grant-funded, reflecting the public good nature of these investments.

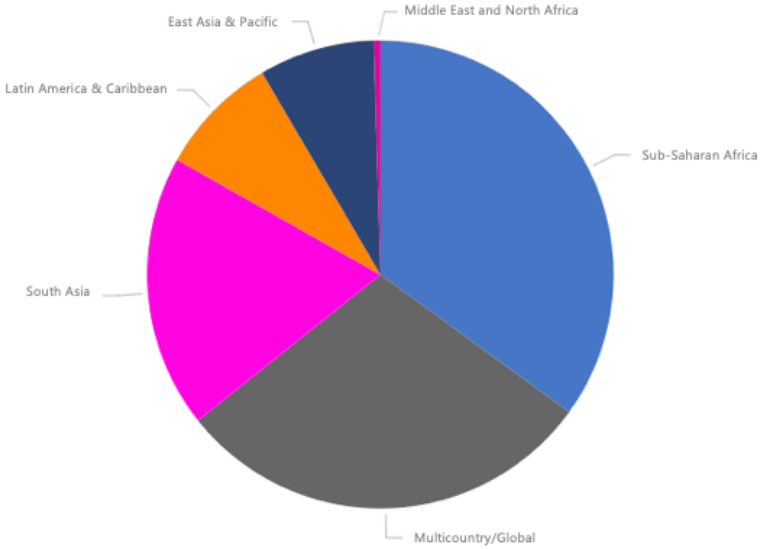
Figure 10. Breakdown of funding flows at taxonomy level one by instrument, by value



This provides visibility on where investors are making their bets for the growth of DFS. If equity investors (mostly DFIs and some foundations) are seeking return on their investments, they expect these returns to come not just from funding for the core market but also from some support functions like financial and information infrastructure.

How are DFS funding flows distributed geographically?

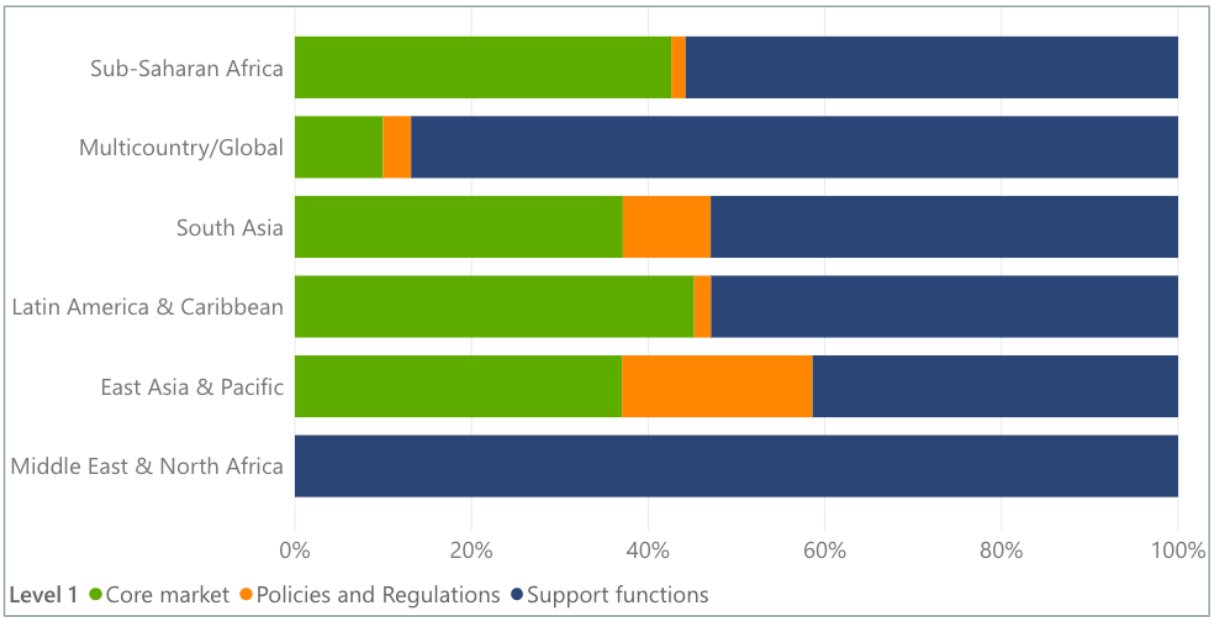
Figure 11. Distribution of DFS funding flows by geographic region, by value



From this sample of data, the region receiving the largest inflows of funding for digital financial inclusion is Sub-Saharan Africa, with relatively little being invested in Latin America & the Caribbean and East Asia & Pacific. There is a clear trend that DFS funding flows are going to the regions with the highest levels of digital financial exclusion – in 2017, 34 percent of adults in Sub-Saharan Africa and 28 percent of adults in South Asia made or received a digital payment. The corresponding figures for Latin America & Caribbean and East Asia & Pacific (excluding high income) are 46 percent and 58 percent respectively, indicating why they may be less of a focus for public funders.

Breaking down the different variables on funding flows by region can tell a story about how funders are approaching DFS growth in different parts of the world. For example, Figure 12 below shows how a large share of funding for Sub-Saharan Africa, South Asia and Latin America & Caribbean is directed to the core market, whereas elsewhere and for global projects, funding is primarily going to support functions (mainly to market development programs, research and international capacity building initiatives). The gap in funding for policies and regulations appears to be particularly pronounced in Sub-Saharan Africa. This may be due to gaps in the data, or because DFS-friendly policies may be already in place, or because these areas are covered by national government spending. However it could also point to areas where funders may want to direct future funds.

Figure 12. Breakdown of funding by taxonomy level one by region, by value



In terms of the types of projects being funded, there are some interesting regional variations. For example, the sample shows that in Sub-Saharan Africa, most funding is coming from foundations and that this funding is split between core market and support functions. In Latin America & Caribbean, DFIs are the largest funders of digital financial inclusion and their funding is also relatively evenly split between the core market and support functions. In these two regions however, the data suggest very little funding committed to the policy and regulatory system.

In South Asia and East Asia & Pacific, bilateral institutions and multilaterals play a larger role (particularly in the latter region). For funders working in these regions or looking to expand their portfolios into new regions, this provides important context for how an approach can be tailored for the region.

What's next?

We remain only part-way through this process that will improve our understanding of how funding flows for digital financial inclusion are distributed. There is a wealth of data available in the public domain on DFS funding flows that can be used to identify, classify and measure DFS funding flows. As the pilot analytics in this paper have demonstrated, the synthesis and analysis of these data can provide valuable insights for a range of stakeholders.

This project is not without its challenges and limitations. The contours of the DFS ecosystem are hard to define and the notion of what constitutes digital financial inclusion varies between different stakeholders. It is hard to be sure that the net is cast wide enough to capture that range of projects that might contain a DFS component. Even if there is good evidence that a project contains some DFS element, detail on how much and where that money is spent may not exist in the public domain. The sector is changing quickly and the taxonomy and the methodology will need to adapt to changing priorities of funders.

Despite these challenges, collecting and analysing time series data on DFS funding flows data will create a map of dynamic trends in the sector, as the CGAP Funder Survey currently provides for financial inclusion funding. This will deepen our understanding of key questions such as; how are funders adapting their funding instruments as the DFS ecosystem develops? How are the priorities of different funders changing over time? Are there gaps in the ecosystem that continue to receive relatively little attention? And what are the changes that funders can make in their reporting to improve the funding flows analysis?

MIX will update data in this pilot set and expand the set of public funders and foundations covered in the coming year. Based on this, the approach and methodology will be refined with a goal of building a methodology that produces repeatable results, that manages the identified challenges in data quality and completeness, and that can be adapted to the rapidly evolving sector. The updated analysis produced next year will also allow for improved estimates to draw insights on the changes in the funding landscape for digital financial funding flows. Based on this experience and the success of the methodology, MIX will consider options for scalability of this effort including exploring synergies with the CGAP Funder Survey for future growth of this work.