
Global Patterns of Fintech Activity and Enabling Factors (Fintech Activity Note) by Tatiana Didier, Erik Feyen, Ruth Llovet Montanes, and Oya Ardic

The objectives of this paper are to take stock of the available fintech-related data, to document patterns of fintech activity across the world, and to help identify enabling factors. Fintech has seen remarkable growth over the past few years and will likely continue to shape the financial sector in terms of products, business models, and industrial organization. Yet, measurement of fintech activity is challenging, complicated by both the lack of a widely accepted definition, as well as important data limitations.

This paper tackles this measurement challenge by leveraging a wide range of data sources and developing a novel, country-level index of fintech activity for 125 countries, covering the period 2014-2018. The index covers three dimensions of fintech activity: fintech firm creation and growth through the availability of early-stage equity financing; usage of fintech credit and digital payments—now the most commonly used digital financial services, especially in developing countries; and the usage of mobile distribution channels for financial services.⁵²

The fintech activity index is positively correlated with countries' overall level of economic development. For instance, high-income countries generally rank higher than middle- and low-income countries not only in terms of the aggregate fintech index, but also along its four constituent dimensions. However, significant variation across both regions and income groups persists, suggesting that other enabling factors matter.

This paper then uses the index to systematically analyze the association between fintech activity and a wide range of economic and technological factors in a multi-variate regression setting. Specifically, the paper explores the role of three broad set of enabling factors: basic foundations, including information and communications technology (ICT) and financial infrastructures; financial sector development, distinguishing between the development of the banking system and capital markets; and the enabling policy environment, capturing the legal and regulatory frameworks for digital financial services.

There are three key findings in this paper. First, the estimations show that fintech activity is positively associated with ICT and financial infrastructures, though the relevance of the latter varies across types of fintech services. Specifically, the evidence indicates that ICT payments infrastructure plays a more important role in the usage of digital payment services, whereas the development of credit information systems, a financial infrastructure, is more relevant for the usage of digital lending services.

Second, the analyses also show a robust negative association between fintech activity and bank development, consistent with the view that digital financial services may have more opportunities to develop in countries where the under- and un-served share of the market is relatively large. Countries with more stringent overall banking regulations exhibit subdued fintech activity, suggesting that this is linked to a less permissive environment for innovation and fintech entrants. At the same time, there is a higher prevalence of bank app downloads in countries with more stringent banking regulations, suggesting in these cases that the digital transformation is driven by incumbents. Importantly, the estimations also show that fintech activity is positively correlated with capital market development. These correlations stem from the development of digital financial services by institutions other than banks, such as fintech companies. The positive association with capital market development suggests that a supportive funding environment for fintech firms, especially start-up equity financing, can play an important role. For example, the mobile app data show that downloads of non-banking apps are significantly positively related to the development of capital markets but negatively associated with

52. Nascent, but rapidly evolving digital financial products and services such as central bank digital currencies, crypto-assets, stablecoins, and decentralized finance (DeFi) are beyond the scope of the current version of our index.

banking system development. The opposite patterns are observed for bank app downloads. The analysis thus supports the idea that the distinction between incumbent banks and fintech companies is particularly important when exploring the potential drivers of fintech activity.

Third, the empirical results are consistent with a high-quality policy environment as a necessary, but insufficient condition for fintech development. Other factors need to be in place as well for fintech activity to flourish. The degree of fintech activity is consistently on the low end of the distribution in countries scoring poorly on policy indices that capture the existence of legal and regulatory frameworks relevant for digital financial services. Whereas, it varies widely across countries scoring high on these indices. In fact, there are several countries that despite having a supportive enabling policy environment exhibit relatively low levels of fintech activity. Finally, regulation could have positive and stabilizing impact on fintech activity in the longer term. These benefits are not likely to be reflected in the analysis, given the relatively short time horizon.

Regarding the role of sector-specific legislation and regulations, our results show mixed patterns. While the existence of laws and regulations for e-money, digital IDs, and e-signatures—electronic know-your-customer (e-KYC) frameworks—tend to be positively associated with fintech activity, the coefficient on consumer protection tends to be negative. The results, however, are not as forceful as those related to the other set of enabling factors and may reflect the complexities of policy interactions, pre-conditions, and tradeoffs at different levels of fintech development as well as measurement challenges. Moreover, it is important to recognize that alternative policy combinations can promote innovation and foster fintech activity, with similar outcomes. Overall, the demands on the enabling environment will likely evolve as fintech activity develops. Finding the right balance between trade-offs at every stage of fintech development remains essential to promote activity and innovation while keeping excessive risks in check.

Finally, separate in-depth analyses documented in the appendices explore two additional topics: the impact of the pandemic on finance app downloads and the link between the digitization of remittances services and remittance costs. On the former, the paper's analysis of mobile app download trends indicates that the pandemic may have accelerated fintech adoption. Moreover, the evidence indicates that the strict social distancing practices, including government implemented containment measures such as lockdowns, quarantines, and travel restrictions required to mitigate the spread of the coronavirus, has amplified the use of digital financial services. On the latter, the results indicate that digital service providers may help lower the costs of cross-border remittances, a key financial service for households in many EMDEs. Specifically, the analysis shows that remittances costs are lower in corridors with a higher prevalence of digital service providers.