WORLD ECONOMIC FORUM

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Industry Agenda

The Role of Financial Services in Society

Understanding the impact of technology-enabled innovation on financial stability

Prepared in collaboration with Oliver Wyman

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Contents

Preface

Regaining system stability and public trust has been a core challenge of the financial sector since the financial crisis. This task has been further complicated by the rapid deployment of financial and technological innovation, which have fundamentally changed how a financial services company and the value it delivers are defined. As legacy business models and long-held value propositions in financial services are reshaped by these new ideas, key actors in the system must work to ensure economic growth does not come at the expense of systemic stability.

The Role of Financial Services in Society initiative was launched in 2012, with support from Oliver Wyman, to bring together a range of senior financial stakeholders, including leaders of financial institutions, financial policy-makers, leading economists and academics, executives of commercial firms that rely on financial services and representatives of civil society including consumer advocates and unions. Together, we are seeking a common vision for the industry's role in society and, through that shared vision, a strengthened bond between the financial services industry and society at large.

Executive Summary

The Role of Financial Services in Society initiative aims to consider the impact of accelerated growth in technology-enabled innovation on the risk profile of the financial system.

As part of this work, **the Forum has completed a series of interviews with industry executives and experts** to better understand the technological transformation taking place in financial services.

This document provides a summary of findings and recommendations identified during the interviews, including:

- **Why** this wave of new innovation, enabled by technology, is unique
- **How** technology-enabled innovation creates opportunities for enhancing system stability
- **Where** the use of technology has fundamentally changed the risk profile of the financial system
- **What** recommendations can be made to the private sector and financial supervisors to maximize benefits and mitigate risks associated with technology-enabled innovation

We refer to **financial services companies and providers** throughout this document. Given the velocity of transformation within the financial sector, **it is important to note that this reference is inclusive of all actors within the system from incumbent financial institutions to nontraditional financial services providers ("nonbanks") and new entrants (e.g. fintechs and telecommunications companies).**

Ultimately, recommendations detailed in this document aim to foster competition between traditional financial players and new entrants while also preserving system stability in light of technological advancement.

Figure 1: Recommendations for the private sector and financial supervisors

1 **Debate on ethical use of data**
Government, in collaboration with financial supervisors, should facilitate a public debate involving consumers and practitioners to clarify the boundaries for which financial services companies can use personal data for business purposes

2 **Public-private dialogue on transformation**
A global forum should be established for public-private sector dialogue aimed at discussing technology-enabled transformation in financial services, particularly to identify areas where supervisor support is needed to develop technology for enhancing stability

3 **Approach standards for monitoring and understanding technology-enabled innovation**
The international supervisory community should define a set of standards on internal capabilities required to ensure that national supervisors are well equipped to monitor and mitigate against risks arising from technology-enabled innovation

4 **Proactive standard setting**
The private sector should create industry standard-setting bodies that redefine and enforce standards of good conduct in light of new technology-enabled innovations

A New Kind of Innovation

The financial services industry exists to fulfil a number of core societal needs, from enabling payments to promoting financial and economic resilience[1]. The financial sector has begun to more strategically harness the benefits of technology and capitalize on the opportunities it provides. This has helped spur a wave of rapid innovation that is transforming the financial sector like never before.

The financial sector is at an inflection point. The past several decades have seen tremendous business consolidation and creation of the systemically important financial institutions that we know today. However, technology, regulatory uncertainty and the current macroeconomic environment have served as catalysts in enabling new entrants and have started a trend towards incumbent disintermediation. Traditional financial institutions no longer control the entire value chain, a trend which has effectively created a battleground for ownership of the end consumer.

Use of technology in finance is not new, nor are many of the products and services that are offered by new entrants to the sector. Rather, it is the novel application of technology and its speed of evolution that make the current wave of innovation unlike any we have seen before in financial services.

From virtual currencies to marketplace lending and big data solutions, **new technologies come with great promise for a more efficient and accessible financial system**. At the same time, by creating new markets and blurring the boundaries between financial services and adjacent industries, **technology-enabled innovations bring a new set of risks to the financial system**, both conduct and prudential, and has implications for human capital (e.g. increased automation leading to fewer employees).

Managing risks and maximizing opportunities is essential to maintaining society's trust in the financial system and for realizing the full potential of technology-enabled innovations as they gain scale over the long term.

[1] In 2012, the Role of Financial Services in Society initiative released A Multistakeholder Compact, a shared and publicly articulated view of the societal needs that the financial system should meet; this document is available on http://www.weforum.org/reports/role-financial-services-society-multistakeholder-compact

Opportunities to Enhance System Stability

The increased use of technology-enabled innovation has had a number of positive impacts on the stability of the financial sector, as well as broader society. Our interviews have helped us to identify some of the key stability-related opportunities created by technology-enabled innovation. However, practitioners and policy-makers alike have indicated that exploitation of these benefits are still in their early stages.

As such, **there is an urgent need both for the private sector and financial supervisors to collaborate** and identify actions that can be taken to understand how best to maximize societal utility from these opportunities.

Increased access to the financial system: Technology is being used to support new delivery mechanisms (e.g. mobile devices) and the creation of novel financial products which are better suited for members of the un/under-banked community

Lower costs: Nimble electronic platforms allow businesses to streamline processes, offer lower prices compared with traditional delivery channels and help support data-processing capabilities that provide new mechanisms for understanding and tailoring products to the end consumer

Improved risk management: Better capture and use of financial and consumer data allow the private sector and financial supervisors to identify risk concentrations (e.g. stress-testing and enhanced KYC / AML compliance) and to develop early-warning infrastructure (e.g. use of Legal Entity Identifiers to increase counterparty and transaction transparency)

Increased competition: Technology has changed the competitive landscape in terms of the number of players, as well as the prevalence of alternative products and business models; this creates more choice for the end consumer and enhances liquidity within the overall system

Diversification of risk: Technology-enabled innovation helps to better spread risk across a range of actors in the financial system, which may reduce the propagation of financial contagion

Increased collaboration: Technology helps to ensure greater transparency and to promote information sharing, which creates opportunities for members of the public and private sectors to work together in the best interests of the end customer and the broader system

Risks to System Stability and Business Conduct

Today, the market size for many new clusters of technology-enabled innovation is small in comparison with activity in the traditional financial services sector. However, unprecedented rates of adoption demonstrate the potential for growth and increased risk. During our industry and expert interviews, we identified six key sources of technology-driven risk.

1

Alternative sources of finance

Substitutes to capital available from traditional financial institutions, such as marketplace loans, have obvious financial inclusion benefits and can serve as an alternative asset type for investors. These do, however, manifest many of the same financial risks associated with traditional credit products (e.g. default and liquidity risks).

Even if alternative sources of credit are monitored appropriately, many actually shift risk to the end consumer – which has the potential for sizeable losses to be directly incurred by average investors who may not understand the product or its associated risks.

2

Market electronification

This is an evolving area of technological innovation that has been monitored by the industry for some time. High-frequency trading, dark pools and the use of alternative trading platforms have garnered much media attention recently, prompting public debate around the appropriate use of trading algorithms and the actual vs perceived level of liquidity in global capital markets.

Despite regulatory action taken to ensure that capital markets incorporate factors of safety and testing, this remains an area of intense scrutiny.

3

Security of data

Data security, particularly cyber risk, has become a top priority for a number of industries, including financial services. As businesses increase their reliance on technology and continue to amass larger stores of data, it becomes increasingly important (and difficult) to ensure resilient systems are in place to safeguard information.

Risk associated with data-sharing is also becoming a more frequent concern for the public and private sectors. Sharing of data helps to improve understanding of risk, as well as design and delivery of financial products, but should be supported with robust systems reinforced by many safety factors.

4

Industry conduct

Misconduct is likely the largest single source of technology-driven risk. While technology-enabled innovation has the potential to support oversight functions in monitoring employee activities, it may simultaneously act as an amplifier of illicit actions that have evaded detection (e.g. predatory algorithmic trading activity). Moreover, heightened shareholder expectations and intense competition may incent the mainstreaming of new technology-enabled innovations before the requisite control environment for risk and compliance is in place.

Uncertainty also exists around ownership of customer data and what is considered appropriate use of this information. For example, the line between enhanced risk analysis and use of data to deny service to a particular customer must be defined.

5

Payments effectiveness

The payments space is another more mature cluster of technology-enabled innovation which presents risk to the system.

Across the globe, countries are working to improve resiliency of their payment rails, and have also begun to develop new systems (e.g. EMV-enabled payment cards, use of distributed ledger technology) and stores of value which may actually impact effectiveness of monetary policy and transmission mechanisms.

6

Regulatory arbitrage

From both a public and private sector standpoint, challenges posed by the existing regulatory framework are the most tangible source of technology-driven risk.

In many instances, the pathway to compliance when deploying a new type of innovation is unclear. Furthermore, the regulatory remit is often not consistently defined across countries and is based on a company's legal entity designation vs the financial activities that it engages in. This rigid definition of the regulatory remit allows for some businesses to fall through the supervisory cracks, reduces portability of business models and stifles innovation.

Recommendations for the Private Sector and Supervisory Authorities

Economic growth is driven by innovation and is a key source of business model transformation. Not unlike other industries, innovation that has a positive economic impact should be encouraged to thrive, while less viable businesses should be allowed to fail.

Long-run viability of traditional players and new entrants that leverage technology-enabled innovation is predicated on maintaining public trust and mitigating emerging risks. This requires public-private coordination between all actors in the system.

Based on our interview findings, **we have proposed several recommendations for the private sector and financial supervisors** aimed at safeguarding financial stability and fostering technology-enabled innovation.

Recommendations

1. Debate on ethical use of data
2. Public-private dialogue on transformation
3. Approach standards for monitoring and understanding technology-enabled innovation
4. Proactive standard setting

Recommendation 1: Debate on ethical use of data

Government, in collaboration with financial supervisors, should facilitate a public debate involving customers and practitioners to clarify the boundaries for which actors in the financial system can use customer data for business purposes.

The need for a public debate to clearly define boundaries for data use and ownership is a logical step in rebuilding trust with the end consumer. Customers want more personalized products and services, and should have peace of mind knowing that their chosen financial service provider adheres to standards that are current and clearly defined.

Most existing data-related standards and fair information practices did not anticipate the level of advanced capture and analytics that technology affords today. Furthermore, there has been limited consideration for how data used to drive business decisions has fundamentally evolved in light of technological transformation and its continued suitability in the current digital context.

This debate should aim to:

A. Establish acceptable uses for personal data, including distinction between appropriate uses for individual vs aggregate information

B. Define clear criteria for data ownership and transfer between private sector participants, as well as financial supervisors

C. Engage an international group of policy-makers and financial supervisors to identify leading practices and encourage adoption of consistent standards across multiple geographies

D. Leverage stakeholder input from the private sector, academia and others as appropriate to ensure that all perspectives are appropriately represented

Recommendation 2: Public-private dialogue on transformation

A global forum should be established for public-private sector dialogue aimed at discussing technology-enabled transformation in financial services, particularly to identify areas where supervisor support is needed to develop technology for enhancing stability.

At present, a formalized platform for the public and private sectors to gather and have targeted conversations on technological transformation does not exist. There are certain global committees (e.g. BIS Committee on Payments and Market Infrastructure) which address certain aspects of the system. However, these tend to be restricted in scope and membership.

A newly created forum that reflects the current and anticipated future state of the financial sector will serve as a valuable learning platform and means of identifying innovation clusters for priority review. This forum would aim not only to identify and mitigate against risks but also to further capitalize on opportunities stemming from use of technology-enabled innovation.

In some instances, it may be appropriate for the public sector to develop utilities or infrastructure that can be shared by all actors in the financial system. Members of this forum will be well positioned to help identify which functions may benefit from this level of public support. For example, it may be beneficial for the regulatory community to create a data repository that aggregates financial information collected from the private sector that can then be sanitized and shared for use in enhancing risk models.

Our interviews indicated that the creation of a structured framework to assess risk associated with a particular cluster of innovation should be a top priority for this public-private forum. Using this framework, the forum would be more easily able to prioritize innovations for review and identify opportunities for collaboration and further development.

This global forum should:

A. Consist of global leaders from the public and private sectors, including senior executives from the traditional financial sector, policy-makers, nontraditional financial services providers ("nonbanks"), leading economists and academics, executives of commercial firms that rely upon financial services, and civil society representatives

B. Convene regularly (e.g. quarterly) to ensure ongoing engagement of the multistakeholder group

C. Collaborate with other relevant global committees

D. Develop a framework for the assessment of innovation, which includes a detailed review of risks and benefits for the financial system

E. Identify key innovation clusters and conduct detailed reviews of these

F. Issue public guidance for policy-makers and practitioners, based on findings, that can be used to inform regulation, supervision and compliance

G. Discuss ways in which the represented authorities might catalyse the creation of new infrastructure to support technology-enabled innovation (e.g. data repositories or alternative payment rails)

Recommendation 3: Approach standards for monitoring and understanding technology-enabled innovation

The international supervisory community should define a set of standards for internal capabilities required to ensure that national supervisors are well-equipped to monitor and mitigate against risks arising from technology-enabled innovation.

Since the crisis, there has been an increased focus on regulation and design of prudential standards aimed at strengthening the financial system as a whole. As these standards are implemented and supervisory capacity becomes available in the near term, there will be opportunities for regulators to shift focus to better understanding transformation attributable to technology.

As a first step in prioritizing technology, regulators will need to ensure that the appropriate internal capabilities exist to address risk from technology-enabled innovation. Clear standards to assess preparedness will be an effective tool in identifying and addressing gaps in internal capabilities, as well as for ensuring programme consistency across supervisors.

Standards should include:

A. Establishing dedicated teams, with requisite specialization across different disciplines as well as knowledge of emerging technologies, to monitor innovation clusters and their impact on the distribution of risks within the financial system

B. Developing a risk identification framework that can be used for internal assessment of innovation clusters and creation of supervisory guidance

C. Regularly reviewing the regulatory perimeter to ensure suitability in light of technology-enabled innovation and to make recommendations for adjustment to policy-makers

D. Clear definition of the pathway to compliance for providers of financial products and services, based on institutional type and activity

E. Ensuring greater global coordination across supervisory bodies to avoid instances of regulatory arbitrage (e.g. through better definition of the regulatory remit)

Recommendation 4: Proactive standard setting

The private sector should create industry standard-setting bodies that redefine and enforce standards of good conduct in light of new technology-enabled innovations.

Historically, industry-led, standard-setting bodies (e.g. Hedge Fund Standards Board) have served as an effective tool in sharing risk-management practices and establishing principles to ensure consistent conduct across financial service providers. These organizations do not aim to constrain competition, but rather serve as a means of legitimizing new innovation clusters and bringing together key industry participants.

These standard-setting bodies can also be used as a way to proactively shape the regulatory agenda and as a mechanism for new entrants and non-banks to self-select into the financial system. Where appropriate, the standard-setting bodies can engage the supervisory community to test principles and support a dialogue to ensure future regulation will foster technological innovation and minimize its associated risks.

Requirements should include:

A. Encourage collaboration with other industry participants and allow for self-selection into the financial system for new entrants and non-banks

B. Create principles for conduct and operations, including disclosure requirements related to personal data use and key product risks

C. Aggregate, sanitize and make industry data publicly available for use by both the public and private sectors to help in risk management and strategic planning

D. Provide adequate assurance to financial supervisors around robustness of the risk management programme, including data security and outsourcing effectiveness

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