Will FinTech create shared values?

Speech by Nobuchika Mori,
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Thank you, David (Mr. Weinstein), for the kind introduction. Good afternoon, everyone. It is my great pleasure to deliver my remarks at the Center on Japanese Economy and Business's Annual Tokyo Conference.

Introduction

Six questions today:

1. Nature of ongoing changes?
2. Shared value created with FinTech?
3. Key players?
4. Future shape of financial network?
5. Future of financial regulations?
6. What should regulators aim for?

I would like to discuss six issues concerning FinTech today. First, what is the nature of the ongoing changes? Are they truly tectonic or less fundamental? Second, what business models can FinTech unleash? Will FinTech create new values shared by intermediaries and customers? Third, who will be the key player to lead the changes? Will it be financial institutions, FinTech firms, or another entity with customer access and information? Fourth, what will be the structure of networks to be created among customers and financial institutions? Fifth, how should financial regulations change? And sixth, what principles should future regulatory policies be based on?

All of these questions are about the future, and it is not easy to provide firm answers. I suppose many people focus on FinTech not mainly because of the already

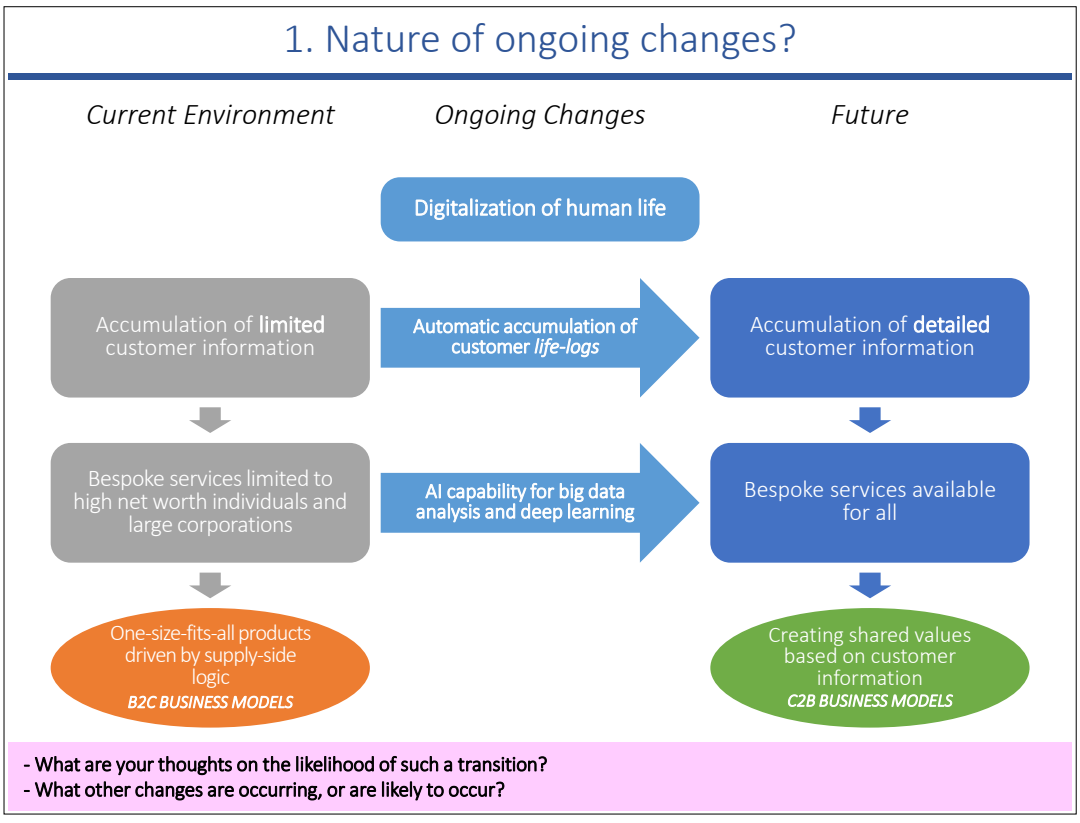
well-foreseen part of the changes. We look at FinTech mainly due to the anticipation that non-linear, disruptive innovation could occur to create new business and service models which had never been imagined before, and to become a game changer in the whole industry worldwide. At the moment, it is not easy to assess the likelihood of such developments. "Something new under the sun?" asked Chairman Mark Carney of the Financial Stability Board in his recent speech.[1]

But we should not forget the lessons from our experience with the digitalization revolution created by the combination of the internet and mobile technologies, from which Japan seems to have failed to reap the fullest benefit. I believe we at the Financial Services Agency of Japan, JFSA, should plan how we can secure a regulatory environment that is conducive to sustainable economic growth and financial stability with the possibility of a major FinTech revolution in mind.

The philosopher Ludwig Wittgenstein once wrote that one must remain silent on what one cannot speak of. To talk about unpredictable non-linear disruptive innovation is like talking about what one cannot speak of. Perhaps I may end up asking more questions to you today than answering them. However, I will try my best to present at least my own hypothesis for each of the six issues, with the hope that this could offer a starting point for deeper dialogue on the future of financial business.

1. Nature of ongoing changes?

The first question is about the nature of the ongoing changes. Are they truly tectonic or less so?



[1] Mark Carney, "The Promise of FinTech – Something New Under the Sun?" January 25, 2017

The digitalization revolution caused by the combination of the internet and mobile technologies resulted in increased customer initiatives and turned past recipients into providers of information. FinTech may also result in a financial system dominated by P2P or C2C business models in the end. But, before depicting a landscape with no bank in sight, let us first turn our eyes to the potential changes in the relationship between financial institutions and their customers.

My hypothesis in this regard is that the ongoing change will prepare an environment which will facilitate the shift from the B2C type business models, which provide one-size-fits-all standardized products to mass customers driven by supply-side logic, to a C2B style business model, which creates shared values based on the accumulation and analysis of customer information. Here I refer to C2B not meaning that a customer sells services to the business; rather, that each customer possesses the initiative that drives the business.

At present, financial institutions have accumulated barely the minimum level of customer information captured through very limited routes such as occasional meetings held at branch offices, visits to customers, documents customers submitted and transfer of funds seen in customer accounts. They would have to incur significant cost if they wish to acquire additional information or process the information to offer bespoke services.

Private banks provide customized advice on a wide range of matters using detailed information on the customers and their families, but such services are offered only to high net worth individuals. Similarly, investment banks offer products and services expressly designed for specific customers, but this is available mainly for large corporations.

Limitations in both information accumulation and processing confined financial business mainly to B2C models.

However, the following three ongoing changes may remove such limitations: First, digitalization of human life; second, automatic accumulation of customer life-logs; and third, the emergence of artificial intelligence, AI, capable of processing big data and deep learning. Let me expand on these changes.

First, the digitalization of human life. Activities in both personal and business life are increasingly being digitalized.

For example, a study shows that more than one-third of marriages in the US between 2005 and 2012 began on-line.[2] The study even finds that marriages that began on-line were slightly less likely to result in separation or divorce compared with those that

[2] Cachioppo, Gonzaga, Ogburn, and VanderWeele, "Marital satisfaction and break-ups differ across on-line and off-line meeting venues," *Proceedings of the National Academy of Sciences,* Vol.110, no.25, June 18, 2013

began through traditional off-line venues and were associated with slightly higher marital satisfaction. Some pedestrians set their eyes on the virtual reality of *Pokemon Go* rather than the real landscape. And people seem to realize the value of eating and traveling only when they post their activities on social media.

In addition, in terms of industrial activities, the key element in the added value of products is derived from design and software, with the share of the value of physical material declining. Industry 4.0 is expected to further promote digitalization of production processes.

Second, the progress in automated accumulation of customer life-logs.

Renowned American engineer Gordon Bell has been keeping his life-log, an attempt to digitally record everything about his life, since 1998. It involves scanning and saving all paper-based media including books and magazine articles he reads, hand-written memos, invoices and receipts. He also wears a camera that takes photographs automatically several times per minute to record the scenes he sees.

In today's society, however, life-logs are accumulated without as much effort as made by Gordon Bell, and in some cases even without the individuals knowing. Books and statements are prepared and delivered in electronic forms, and a wide range of equipment produces digital information, from smartphones and PCs, payment cards, IoT electric appliances to surveillance cameras in town.

Corporations execute and record contracts, orders and payments electronically. IoT turns logistics, production processes and inventory management all into digital information.

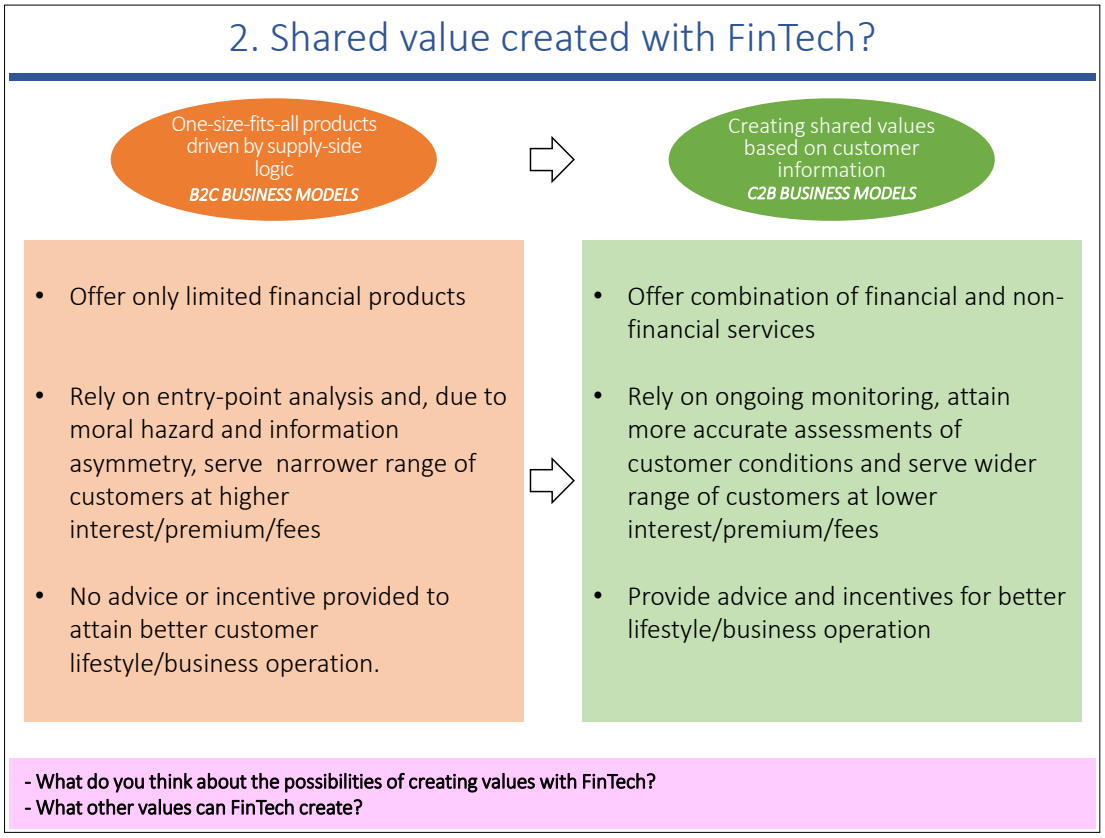
Third, the emergence of AI capable of processing big data and deep learning. Big data would not create value in themselves; technology is required to convert the data into a basis for bespoke services. AI is now being used for deep learning of data cleansing methods. Even petabytes of data can now be served by a relational database management system.

These three changes will enable the provision of bespoke products to mass customers. The constraints which led financial services to focus mainly on the B2C business model which provides mass-produced standard products driven by supply-side logic will be removed and the door will be opened for a C2B business model which creates shared values founded on customer information.

What are your thoughts on the likelihood of such developments? What other changes are occurring, or are likely to occur? This is the first point that I would like to seek your views on.

2. Shared value created with FinTech?

I talked about a C2B business model which creates shared values founded on customer information. More specifically, what would it look like? How can it create new values? This is the second issue I would like to discuss.



Michael Porter and Mark Kramer argued in their 2011 paper titled "Creating Shared Value"[3] that companies can find new markets and establish competitive advantages by creating shared value with their customers, community and society, instead of pursuing business performance and social responsibility separately. By providing better products and services corresponding to the needs of their customers, companies can contribute to their customers' growth, which in turn supports stable business for the company and leads to enhancing their corporate value. I believe that this applies to financial business as well.

Will FinTech create shared values?

Today, consumer finance companies offer loans to a narrower range of customers based on limited information such as their job, income and credit history, usually with higher interest rates. However, by using customers' accumulated life-log information

[3] Michael Porter and Mark Kramer, "Creating Shared Value," *Harvard Business Review*, January-February 2011.

and providing them with the analysis of their income and expenditures and advice on household budget management, they may be able to offer loans to a wider range of customers with lower interest rates.

Similarly, many banks provide loans to small- and medium-sized enterprises based on credit analysis focusing on the movement of funds in their accounts, financial statements, collaterals and guarantees. Credit is granted to a limited scope of customers and at higher interest rates. If a bank gains access to the digitalized data on contracts, logistics, production and inventories, it may be able to prepare accurate and reliable financial statements and provide auditing services and management consulting. It may help SMEs improve their business operations and lend to a wider range of customers at lower interest rates.

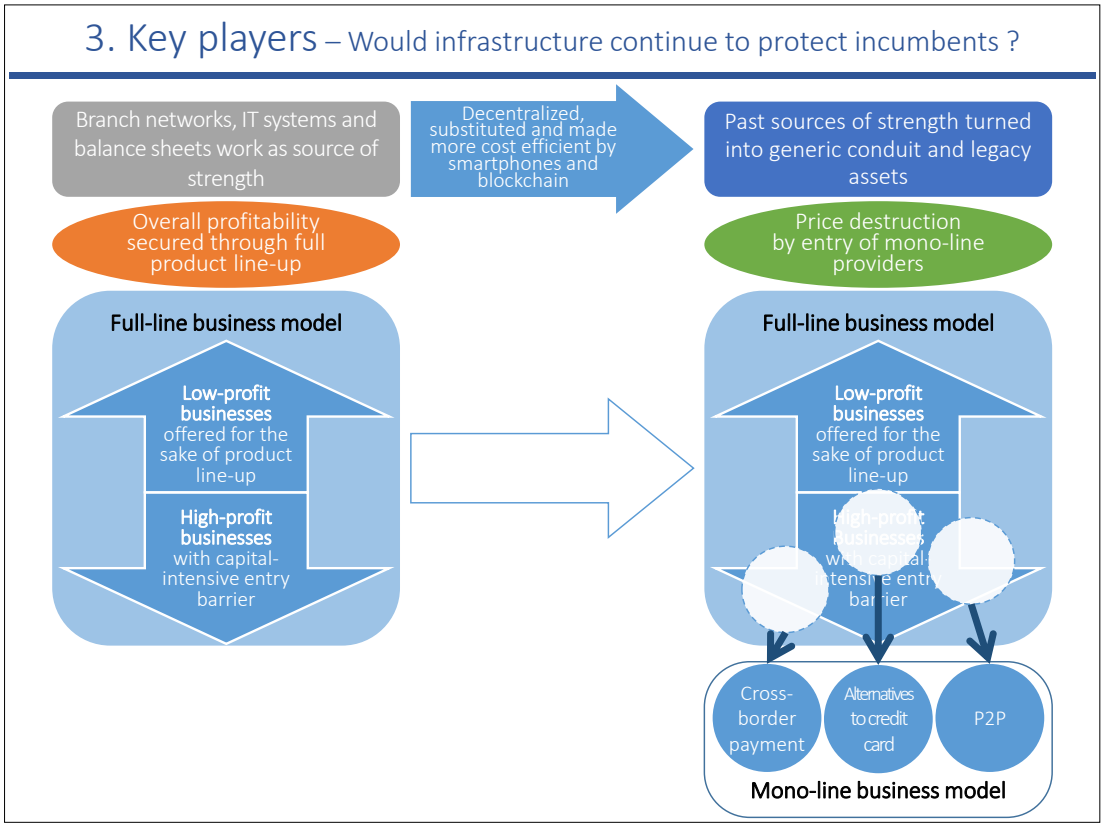
My hypothesis is that, by re-bundling financial services such as deposit taking and loan provision with non-financial services such as preparation of household account books, and corporate financial statements, audit and advice, the accuracy of customer monitoring could be improved and thus data asymmetry and moral hazard issues can be resolved. Business focused on analysis at the entry-point can be converted to that which relies more on on-going monitoring, enabling the provision of services to a wider range of customers. Financial services can even provide incentives, in the form of credit availability or lower interest rates, for lifestyle and business operation improvement, creating additional values both for the customers and the financial institutions. The same could apply to insurance and asset management businesses.

What would you say about the possibilities of such value creation? What other values can new forms of financial business create? This is the second point that I would like to seek your views on.

3. Key players?

Who will lead the business that unbundles and rebundles existing financial services and non-financial services using the accumulated customer information, and create shared values with customers? Will it be financial institutions, FinTech firms, or other entities with customer access and information? What will be the key success factor, and who will command it? This is the third question.

Let us first consider whether the source of power held by existing financial institutions will guarantee their continued success in the future.



Presently, financial institutions derive their competitive strength from networks of branches in prime locations, expensive IT systems which process transactions, large balance sheets, and supporting capital. These factors help them impose supply-side logic and one-size-fits-all type products on customers and protect the B2C business model. Also, incumbents often operate full lines of business and spread the load of fixed expenses arising from their extensive infrastructure among business lines that can produce excess profits through capital-intensive entry barriers and business lines with lower profits being offered for the sake of a full product line-up.

However, the ongoing changes may erode the basis for such strategies. With the penetration of smartphones and the advance of distributed ledger technologies, functions that so far have been performed only by the headquarters and branch offices of financial institutions can be distributed to other participants, substituted by other channels, and offered at lower costs. Entry by monoline providers of services into business lines may become possible, forcing the unbundling of services and slashing prices and profits.

As an example, payments resulting from customers' daily activities may all be settled by smartphone-based applications and the extensive payment system run by banks may become a simple conduit settling only the residual balances, with little room to add value to the customers.

If this scenario materializes, the massive infrastructure that formed the current source of banks' power may become a generic conduit and a legacy asset. A business model founded on the access to such a conduit will no longer be viable.

I recently learned from advisers to our agency that, in the telecommunications revolution in the 1990s, promising business lines with high added value such as communications devices and applications were spun off from the communications carriers, leaving them with network infrastructure and conduit functions only. The FinTech revolution could induce a similar phenomenon.

3. Key players – Who will command the new success factors?

Potential new success factors		Prospective key players and their roles?
Capital	Branches, IT systems and balance sheets	Incumbents' current source of strength but may turn into generic conduit and legacy assets.
Knowledge	Customer information	Distributers accumulate information on detailed life activities. Banks know only about total monthly payment amounts.
	Technology	Incumbents are experimenting with in-house development, acquisition of ventures and alliance with tech companies
Customer convenience	Access with customers	Banks have more customer access points than FinTech ventures, but less than distributors.
	Product range	No single group currently covers all of the financial and non-financial services needed to realize the full potential of FinTech
Trust	Customer confidence in service providers	Be it a financial institution or other entity, the one with a customer-oriented business model, strong relationship with customers and strong professional competence will gain customer confidence

- What will be the key factor for becoming the leader in new forms of financial services?
- Which entities will play the central roles?
- Will the financial institutions merely provide infrastructure, or become the core of value creation by collaborating with other entities?

If the current sources of competitive advantage for banks are to become legacy assets, banks would no longer be able to stay viable without creating different added value. In that case, what will be the key success factors needed to be the leaders in such new businesses? Who will possess them?

We often hear that our economy has been dominated by capital-intensive industries but will be led by knowledge-intensive ones. How does this apply to financial services? The key knowledge for the new forms of financial services will be customer information and information technology.

In terms of the accumulation of customer information, Amazon's mainframe has access to the exact lines I highlighted on the e-book I read on Kindle last night, while Rakuten has broad knowledge on my shopping tendencies. In contrast, banks only know the total amount debited for my monthly credit card payment. Existing financial institutions seem to be significantly disadvantaged in this regard compared to distributors.

On the technological front, incumbents are embarking on in-house development, venture acquisition of venture firms, and cooperation with those who own technology. It is difficult to predict the outcome of such efforts at this point.

Knowledge may not be the only success factor. Such factors related to customer convenience as access points with customers and product range may also matter. Banks have more customer access points than FinTech ventures, but less than distributors. Current product line-ups differ from player to player, but none at the moment has a combination of a wide range of financial and non-financial services that can meet the customers' needs, be it a financial institution or otherwise.

The other day, I had an opportunity to talk with a Nobel laureate economist. He cited an example in the medical field and maintained that cutting-edge technology is becoming too complex for the patients to understand so they choose their treatment based on trust in doctors. In his view, the same could happen in financial industries. It seemed to me that his remarks would imply that, as financial services become more sophisticated along with the advance of FinTech, the customers will not be able to assess the technologies behind the services they enjoy, and rather, they are likely to select services based on their trust in companies and their employees who provide the services.

In the past few years I have repeatedly emphasized to financial institutions the importance of their fiduciary duty and putting customers' interest first. After all, regardless of whether it is a financial institution or other entity, the one that successfully develops a customer-oriented business model, builds trusting human relationships with their customers, and demonstrates strong professional competence will perhaps be selected by the customers.

We had better not make presumptions about who will play the leading role in transforming the industry. Nevertheless, I still have several hypotheses on the characteristics of the future key players.

First, given that technology is moving rapidly and new business models could be born one after another, it may become increasingly important for financial institutions to promote open innovation with outside parties, avoiding being fixated on in-house developments. In Japan, the Banking Law amendment which is being deliberated at the current Diet session aims to facilitate open innovation using application program interface (API).

Second, suppose that the significance of existing sources of power such as branch networks and the size of balance sheets is to decrease, and that the importance of new factors such as the accumulation of customer information, information technology, customer access, product line-up and trust earned from customers is to increase. Then companies that have the management and governance capabilities to make timely

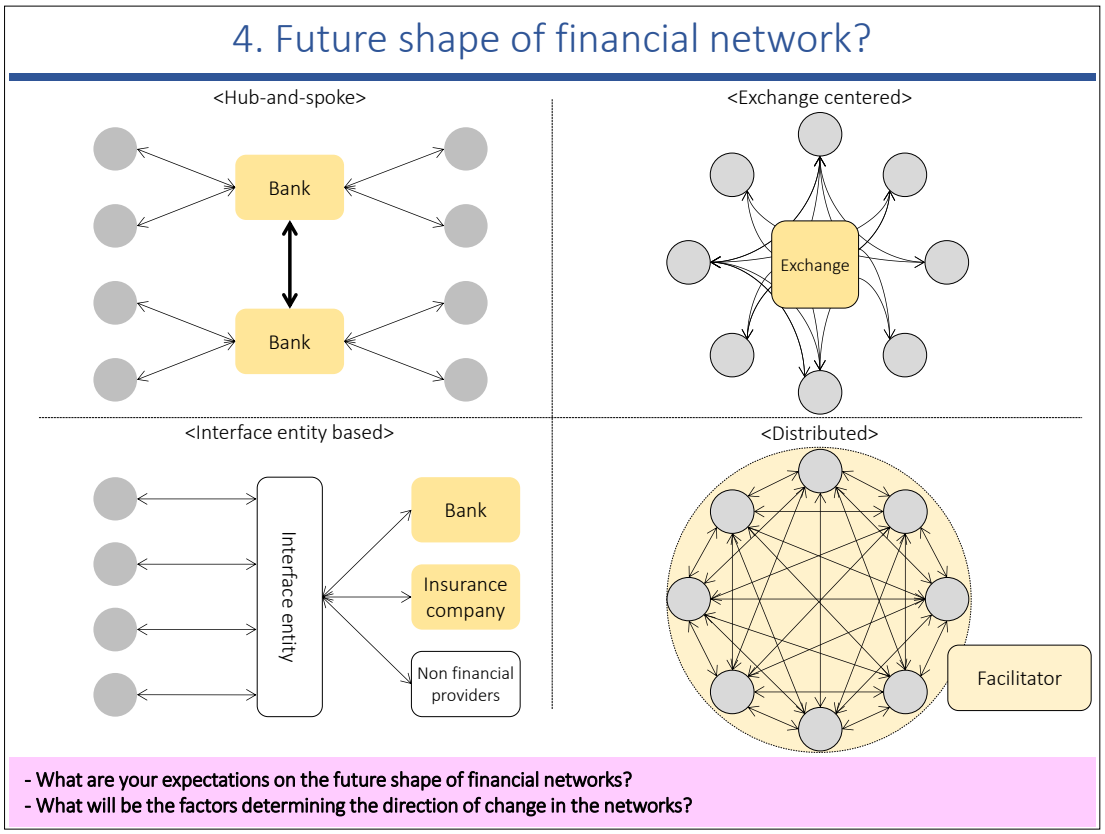
decisions on necessary disposals and acquisitions of production factors are likely to play leading roles in creating new businesses.

Third, even with the advance in technologies, the roles of providing financing and advice to companies based on an in-depth grasp of their future business prospects are likely to remain with financial institutions. Application of AI may expand, but at least for the time being, human judgement will still be required in assessing whether a new business has the potential to grow and what is needed to achieve such growth. Whether a bank can honor the trust customers conferred to it by providing such services may continue to be a key success factor.

What will be the key factor for becoming the leader in providing new forms of financial services? Which entity will become the central player? Will the financial institutions merely provide a generic conduit function, or become the core of value creation by collaborating with other entities? And what should financial institutions focus on to provide financial services with added value and to enhance competitiveness? I would appreciate your insights on these points.

4. Future shape of financial network?

The fourth theme is the structure of networks to be formed by the customers and financial institutions, a topic regulators are particularly interested in.



In the current financial market, banks and insurance companies play the role of hubs that perform intermediary functions for a large number of customers using their own balance sheet, as shown in the figure on the upper left. In the capital market, while brokers do not use their balance sheet, they still act as the hub of brokerage and customers do not engage in direct transactions among themselves or become a member of the stock exchange.

In the new business models discussed above, customers will be provided with a combination of financial and non-financial services. An interface entity-based network, as shown in the bottom left, may become dominant, since it is difficult for a single corporate group to provide the best quality services in all areas, and thus a company providing customer interface and procures and provides various services that serve each customer's best interest may have a competitive advantage over financial institutions which try to provide everything in-house. If this scenario materializes, most of the new added values may accrue to the interface entity, and financial institutions may become generic suppliers. Of course it would also be possible for a financial institution to play the role of interface entity, and collaborate with other financial institutions and non-financial services providers.

Decentralized processing through blockchain technology may enable customers to participate directly in exchanges as shown in the top right; or to transact multilaterally and directly with each other with the help of a facilitator who sets the rules of the game, as shown in the bottom right.

My current hypothesis is that the financial system will develop into a system where various shapes of networks, including one in which financial institutions play the role of hub, will coexist and each performs functions fitted to it. Then the system will be less dominated by the features typically exhibited by the existing banking system and characterized more by features currently seen in the capital markets.

What do you think will be the future shape of financial networks? What will be the factors determining the direction of change in the networks? This is the fourth point I would like to seek your views on.

5. Future of financial regulations?

Advance in new technologies, unbundling and rebundling of services, the emergence of new business models and new entries into the financial sectors will have the potential to enhance competition, facilitate innovation and create value shared with customers. How should financial regulations respond to realize such potential? This is my fifth question.

5. Future of financial regulations?

To facilitate unbundling and rebundling of functions

-> From entity-based to function-based regulations?

- What to protect? Deposits, payment and settlement, or credit creation?
- Level playing field among different entities with similar functions?
- Managing conflicts of interest within a group with diverse functions?
- Shielding protected functions from unregulated functions?
- How best to protect customer information?

To respond to changes in the shape of the financial network

-> From banking style regulations to capital market style regulations?

To achieve both innovation and customer protection

-> Regulatory sandbox and informed consent?

- What are your thoughts on the future of financial regulations?
- Are there other issues to be considered?

My first hypothesis on this point is that if the financial business is to proceed with the unbundling and rebundling of functions further, there may be increased need for regulations to shift from entity-based to function-based. Entity-based regulations require functions which deserve regulatory protection to be performed only by regulated entities and impose heavier requirements on them. Function-based regulations, on the other hand, would aim to allow a wider scope of entities to perform a wider scope of functions and aim to impose the right degree of requirements on functions which deserve regulatory protection.

What should regulators do to shift the regulatory framework from the former to the latter?

First, regulators need to articulate reasons why we regulate an entity. For example, why do we regulate a bank? Is it to provide reliable means to store value, to secure payment and settlement, to make credit creation possible or to avoid deposit runs and stabilize the financial system? Regulators need to find answers to these questions.

Second, regulators would need to find ways to level the playing field among various players. For example, what should be the regulatory treatments for a group of entities, like Alibaba, whose individual legal entities perform only limited elements of the banking business but the group as a whole provides the full range of banking? How can conflicts of interest within a group be avoided? How can functions that need protection be shielded from risks arising from unregulated parts of activities? What

measures should be taken with regard to the huge volume of customer information produced and obtained? Deeper discussions are required on these points.

My second hypothesis on the future of regulations is that as the financial services network shifts from a hub-based one to a decentralized one, the whole regulatory framework will start to look less like the current banking regulation, and will increasingly look like the current capital market regulation. The emphasis will be on disclosure, prevention of unfair transactions and product suitability to customers. Such regulations should be designed to be proportionate to the nature of activities.

Regulators will also need to not only create an environment conducive to innovation but also provide the necessary protection to customers at the same time. If regulators start to design regulations before the users feel the benefits of the new services and aim to address all possible risks, the resultant excessive regulations would stifle innovation.

To address this issue, regulators in the UK, Singapore and several other countries have implemented the regulatory sandbox approach, where companies are allowed to experiment with new services within a defined scope before the regulatory treatment of such services is fully determined. Customer protection must be secured by offering the products only to those who have given prior consent and by other means, and regulatory treatments will be determined based on the result of such experiments.

Allowing experimentation for new services would be a useful tool in promoting innovation, but users should also be protected. An approach based on informed consent may be the key to solving this dilemma. For this approach to be effective, due process should be followed to ensure that the consent given by the customers who participate in the experiments is based on adequate explanation of the contents and risks associated with the new service. Whether in financial services, medical services, use of IoT and other areas, the aim is common: We want to facilitate innovation through experiments and to use the outcome to enhance the productivity and the quality of the service, while offering protection to the users. A good solution to attain this aim could become a driving factor in improving society. Solutions should be sought to realize society-wide potential.

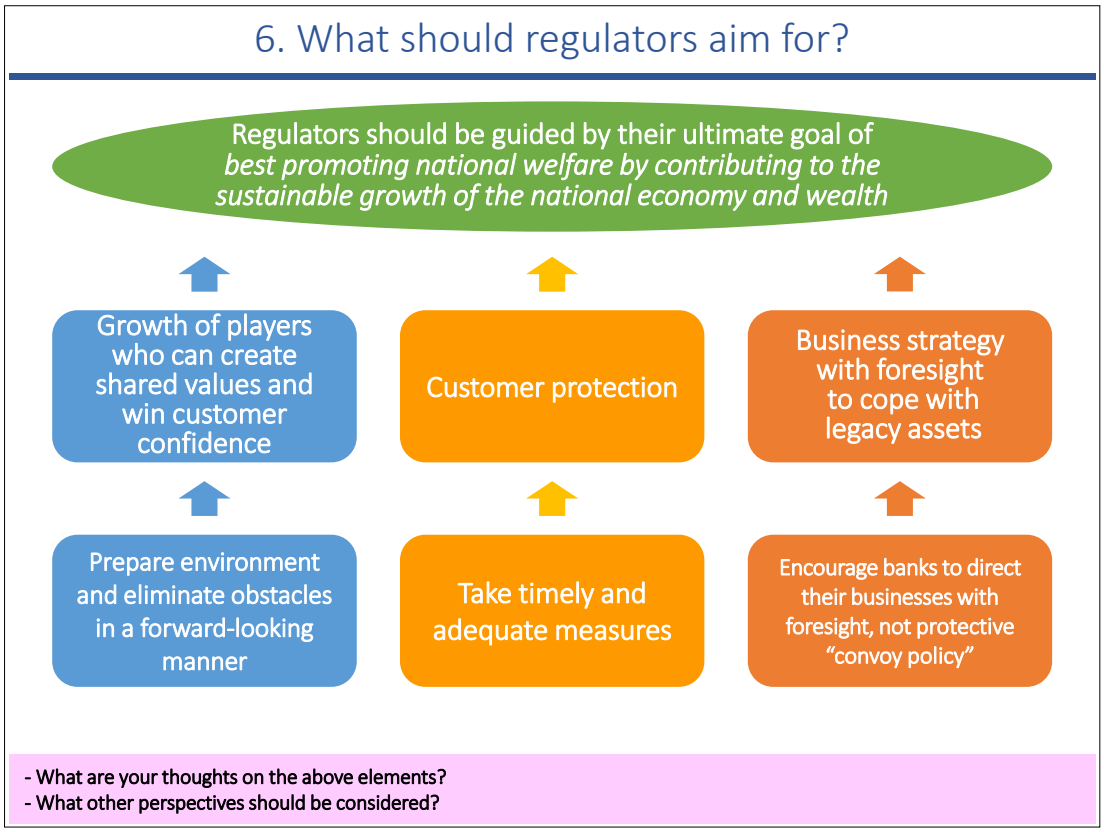
What are your thoughts on the future of financial regulations? Are there other issues to be considered? This is the fifth point I would appreciate your thoughts on.

6. What should regulators aim for?

The digitalization of human life and the advance of financial technology will interact with each other and continue to present new issues to regulators. Ad hoc responses to individual issues will make migration to a coherent regulatory framework difficult. Could there be principles which could guide regulators' policy choices to be made in

meeting a diverse range of challenges? This is the final question I would like to consider.

My tentative thoughts are as follows:



First, the most fundamental point would be that regulators should be guided by their ultimate goal of best promoting national welfare by contributing to the sustainable growth of the national economy and wealth. Regulators' choices should be consistent with this goal.

Second, regulators should improve the environment and eliminate obstacles in a forward-looking manner to facilitate the growth of players who create new values shared with customers and win customer confidence.

Third, when addressing new issues in user protection, regulators should not fall behind and let damages grow, but should also avoid premature and excessive intervention. The goal should be to take timely and appropriate measures.

Fourth, innovation may possibly turn branch networks and processing systems held by incumbents into legacy assets. Regulatory authorities should urge financial institutions to direct their businesses with foresight, but should not revert to the "convoy policy" of making sure the slowest ship stays in the convoy, which Japan employed in the last century.

What do you think of these tentative thoughts? There could be other perspectives: for example, how should industrial policy perspectives for promoting the international competitiveness of national players and the desire to lead *de facto* standard-setting be considered? How should regulators prepare themselves in terms of their organizational design and human resource policies to acquire the necessary capabilities? How can regulators form networks with leading private sector players so as to be current with the cutting edge developments? These are the final questions that I would like to seek your views on today.

Conclusion

I argued that the industry will increasingly rely on open innovation. Then we at the JFSA should also explore ways to realize open regulatory innovation. New approaches may be required to make exploratory dialogue with a new set of stakeholders happen. I have presented various hypotheses on issues about which the JFSA is still in an early exploratory stage. I thought that, in spite of Wittgenstein's dictum, one needs to start speaking on what one cannot speak of yet, as we live in the age of potential non-linear changes and we need to kick off conversations.

What I expect from the audience today, therefore, is not an approval or endorsement of my hypotheses, but comments, criticism and proposals on them. It would be my pleasure if today would mark the beginning of an on-going dialogue.

Thank you.