Supervisory Implications of FinTech in SEACEN Jurisdictions

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Over the past two years, financial technology (FinTech) companies have increasing offered financial services through the creative use of technology, which offers lower cost and greater customer convenience, in direct competition with banks and other traditional financial services providers. Some FinTech firms have adopted a different approach, partnering with traditional providers of financial services to harness technology to offer greater speed, convenience and innovation in the delivery of financial services. The banking public has responded favorably to these developments.

Regulators of financial services are confronted with the challenge of allowing sound innovation through FinTech solutions, while making sure that consumer protection and financial stability risks are adequately controlled. They need to decide where the "regulatory perimeter" should be drawn, and the intensity of FinTech supervision. Striking a balance in related policy decisions requires consideration of various trade-offs. Some national authorities have allowed time-limited, controlled experiments in banks' efforts to develop innovative FinTech products, referred to as the "sandbox" approach, that attempts to understand the risks and implications of new products, without stifling innovation that can benefit consumers of banking services.

Compared with advanced economies, Asia-Pacific has a tremendous untapped potential in finance. There is a very significant underserved market for financial services in Asia-Pacific, in Southeast Asia, in China and India. There is also a new generation of tech-savvy individuals in Asia.[1]

Central banks acknowledge that FinTech offers vast opportunities for those who have not had ready access to traditional finance, such as small and medium-sized enterprises, and those without convenient access to basic banking services who are the target group of financial inclusion, as well as those consumers who feel that traditional banking does not offer the most efficient services in payments or wealth management.

This article will look at the economic functions of the various FinTech products. Following the allocation of functions, existing supervisory authorities should take the new FinTech products on board according to the providers of these products and their responsibilities. There might even be multiple supervisors responsible for certain products which would call for a national coordination among them.[2] Cross references will be made to shadow banking and financial inclusion.

Finally, the various approaches among supervisory authorities towards innovation will be covered. They range from laissez faire until risks emerge to a proactive risk management approach. Various central banking laws will be scrutinized regarding their

adequacies to meet challenges from FinTech. The conclusion will suggest what can and should be done to ensure an orderly development of FinTech competing with established players on a fair basis.

1. Economic functions of FinTech products

FinTech may be defined as technology-based businesses that compete against, enable and/or collaborate with financial institutions. The more than 12,000 estimated start-ups in the FinTech space are utilising tech tools and innovative financial services for the banked and unbanked population.[3]

FinTech products mark a shift away from centralised trading and they reduce the need for liquidity by increasing net settlement.[4] How this holds up during market turbulence remains to be seen. Central banks might be called in for support during stress periods, which will affect regulation and supervision in part 3 below.

The main areas where FinTech has made rapid advances are digital currencies, payments (including automation of receivables), crowd sourcing, lending in the form of peer-to-peer (P2P), wealth management and credit insurance.[5] The usual risks of financial products apply, plus importantly, cybersecurity.

Taking the Financial Stability Board's methodology to classify shadow banking activities according to their economic functions,[6] the same approach will be used here to classify FinTech products.

Economic Function	Fintech Term	Definition	Entity
E1	Digital currency	Money for internet use	Digital operators
E2	Payments	Retail payment system	Payment Providers
E3	Crowd Sourcing	Collective investment vehicles	Various types of funds
E4	Lending P2P	Extension of credit	Finance companies
E5	Wealth Management	Investment activities	Broker-dealers
E6	Insurance	Credit facilitation	Credit insurance companies

While it is difficult to precisely measure the economic importance of each FinTech product,[7] the ranking reflects their potential relative importance.

Taking the products one by one according to the "definition" in the preceding table, the following characteristics are noteworthy.

DIGITAL CURRENCIES

E-money in the form of electronic purses and internet banking has been used for a while but it posed no problem as it was tied into commercial bank money. E money created on the internet, such as bitcoin, provides a new challenge to central banks as it is independent of the current money supply. It is argued that it is neither an asset nor the liability of anybody as it is only a protocol. Such a protocol is a set of rules users follow to send and receive information over the internet. The purpose of the protocol is very specific: to disseminate authenticated transactions. Being the object of such transactions is what makes bitcoins money-like.[8] Thanks to the protocol, no single entity can impact the supply of units.

The Committee on Payments and Market Infrastructures (CPMI) argues that bitcoins are assets which have some monetary characteristics, such as being used for transactions. They are not typically issued in, or connected to, a sovereign currency, are not a liability of any entity and are not backed by any authority. Furthermore they have zero intrinsic value and, as a result they derive value only from the belief that they might be exchanged for other goods or services, or a certain amount of sovereign currency, at a later point in time.[9]

Having some monetary characteristics or money-like functions puts digital currencies firmly in the court of central banks who are responsible for the ultimate means of payment, sovereign currencies.

PAYMENTS

Retail payment systems in advanced economies are still relying on traditional instruments, such as credit transfers or direct debits, cheques, various payment cards, such as EC card, and credit and debit cards.[10] Companies which have offered payment solutions to replace physical wallets and credit cards include Apple, Google, Paypal, Amazon and Alibaba. The meteoric rise of internet payments in China is part of a dramatic increase in total payments (47% in 2014) due to the popularity of smart mobile handsets, provision of internet services, expansion of e-commerce and associated online payments. By 2014 more than 400 million Chinese clients used Alibaba,[11] a Chinese payment provider for online payments. It is estimated that 80% of retail payments are made online. At present banks are still involved as customers have to deposit sovereign currency with the payments provider. It is feasible, though, that the payments provider can create its own currency for settlements in the form of a digital currency.[12]

A centralised clearing is not required as all participants have decentralised distributed ledgers, which allow participants direct settlement. It also enables participants to monitor the counterparts' liquidity and solvency and do their own netting. As a result, the liquidity requirements for the whole system have been radically

reduced. However, credit risk and other risks have not been eliminated from the system, which could still lead to a gridlock in extreme situations.

A related internet solution for small businesses is to help them to automate receivables. One of the biggest problems for small businesses is that they do not receive their payments on time, often due to clerical errors and logistical issues. This software helps small businesses to create invoices and track them, by automating payment reminders.[13]

CROWDSOURCING

This product is like a collective investment vehicle, functioning like a mutual fund, with the risk spread over many retail investors. The design will most likely be that of an open ended mutual fund, with new contributors coming in and the equity shareholding of each one declining. It can be assumed that control of the fund is not of primary importance to retail investors compared with returns. The resulting opacity of such funds can increase the incentives to runs.

However, investment choices cannot be delegated to the platform operators and possibly asset management companies (AMCs) only. Some form of control has to be installed, otherwise this could open the floodgates for fraud. Control would either be through real time monitoring by investors or strengthening the supervision of the platform; otherwise, mismanagement such as in the case of Ezubao can happen again (see below).

LENDING P2P

Through this product ordinary customers cut out banks and lend directly to each other via online platforms. Companies such as Zopa, Lending Club and Funding Circle offer peer-to-peer lending solutions that match lenders and borrowers on their online platforms. Web-based micro-credits through P2P platforms became a convenient channel for retail investors in China with almost 3,500 platforms operating by the end of 2015, 46% of which were assessed as "problematic."[14] According to the design, money raised from the general public is supposed to be on-lent to small and medium businesses, thus sharing the risk among many small investors.

However, this online finance became risky in China as platforms did not invest as intended in small and medium-sized enterprises, but joined the surge on the Chinese stock market in 2015, only to be driven into bankruptcy once the market collapsed in mid-2015. These circumstances ultimately led to the Ezubao scandal, which erupted in February 2016, in which almost 1 million investors lost USD 7.6 billion through a P2P lender's Ponzi scheme.[15] Lack of regulation of the platform operators remains the

main problem and lending guidelines need to be established, made transparent and enforced with adequate monitoring tools.

Internet-based lending has a strong competitive position compared with bank lending, as it is not subject to banking regulation, such as capital requirements, and monetary policy regulation, such as compulsory reserve requirement. At the same time there are weak transparency requirements, which have led to the misuse of funds for speculative purposes.

WEALTH MANAGEMENT

Wealth management has been plagued by excessive fees and delegation disincentives. Internet wealth management offers the chance to alleviate these deficiencies by providing advisory and investment services at low fees and allow real time monitoring of the investment portfolio.

These services range from data analytics through Wealth Front to actual investment. High net worth individuals make deposits in online platforms to be invested in various funds. In China, wealth management products outside the banking system have taken on great importance because bank deposit rates are still controlled. Some of the online funds offered rates of return well above the market rate. This was because these fund sponsors were not only providing a fund sales platform, but also boosting their funds' apparent rates of return by paying bonus interest funded from sources other than their funds' investment returns and without adequate risk disclosure.[16]

Similar to the previous products, lack of regulation and supervision of such platforms can lead to spectacular failures and even systemic risk if the platform affected is significant enough. This can only be alleviated by imposing investment guidelines, making them transparent, and enforcing them with adequate monitoring tools.

INSURANCE

Providing credit insurance facilitates the extension of online lending but just shifts the risk from the credit provider to the agent providing insurance. Rather than reducing credit risk it adds another layer of credit risk, the insurer.

This problem can only be alleviated by adopting clear insurance guidelines, making them transparent and enforcing them. In particular, it needs to be clear under what conditions the insurer has to step in. Learning from the lessons of insuring CDOs before the global financial crisis of 2007-08, insurers need to be aware of the credit risk they are taking on in extreme market conditions. It has so far not been tested whether online insurers have the capacity to absorb losses.

2. Supervisory responsibilities for various FinTech products

Central banks believe that the challenge posed by FinTech will be in ongoing one. Ravi Menon, Managing Director of the Monetary Authority of Singapore (MAS), gives a number of reasons for this, including mobility of technology, mobility of ideas, mobility of payments and new trends in technology affecting finance. These are mobile and digital payments, authentication and biometrics, block chains and distributed ledgers, cloud computing, big data and thinking computers or learning machines.[17]

FinTech products offer opportunities for the 40% of the adult population (ages 15-64) world-wide, about 2 billion people, who still do not have a bank account to initiate and receive payments. As most of these people have access to mobile phones, FinTech offers a real chance to provide basic financial services, payments needs, safely store some value and as gateway to other financial services.[18] This poses the need for a legal and regulatory framework which underpins financial inclusion by effectively addressing all relevant risks and protecting consumers, while at the same time fostering innovation and competition.

China is a large economy with a developing financial sector with broad internet access. The People's Bank of China, which faces these very challenges in the domestic financial system, has gone a long way in assigning the supervisory responsibilities for various products to particular supervisory agencies. Their classification will mostly be followed here.

Various FinTech products are provided by different entities (see table column 4) which might eventually need to be subjected to regulation and supervision. Existing entities, such as banks, payment providers, various funds, insurances and broker-dealers are less of a problem as they are already regulated and supervised to a great extent.

The challenge, however are entities which only exist in the virtual world, without links to 'brick and mortar' institutions. The experience of e-money in the 1990s shows that these were short-lived and did not pose a real challenge to established institutions. This time, however, might be different, as Managing Director Menon from MAS suggested. Therefore they need to be taken seriously for regulation and supervision.

DIGITAL CURRENCIES

Regulatory issues for digital currencies based on distributed ledgers cover three main fields: consumer protection, prudential and organisational rules for different stakeholders, and specific operating rules as payment mechanisms.[19] As they are presently not widely used, their impact on the mainstream financial system is negligible. The IMF sums up similarly: some are asking whether bitcoin or other block chain applications could eventually undermine monetary policy and financial stability – but the consensus is that there is no immediate risk.[20]

However, central banks have set up dedicated units to monitor developments as it is they who are responsible for monetary and financial stability. All central bank laws assign the power to issue sovereign currency to the central bank. Trust in digital currencies rests ultimately in sovereign currencies. It is unlikely that digital currencies would be accepted if they cannot be freely exchanged into any sovereign currency. Confidence in a decentralised system can side-line cash and the sovereign currency for the time being, but never displace it. Central banks have to be alert for changes in trust in digital currencies, even before a possible collapse. However, recent episodes of breach of cybersecurity (latest one in August 2016) in digital currencies have led to significant losses, but not resulted in panics that required central bank intervention.

As a result, central banks through their dedicated FinTech units monitoring developments, would be well advised to prepare a contingency plan for dealing with holdings of digital currencies by citizens in case confidence evaporates and a flight into sovereign currencies occurs.

THE PAYMENT SYSTEM

Central banks usually have an explicit mandate to promote a safe and efficient payments system. Acting as a lender of last resort is the core of a financial system linking monetary policy with financial stability. How far a central bank is responsible for a smooth running of the payment system, if it is largely run by internet companies with distributed ledgers, is uncharted territory. Banks are already deprived of big data on clients as online payments operators cut lenders' access to crucial transaction details.[21]

Total reliance on smooth internet functioning can lead to a false security that payment risks have been eliminated. Central banks remain responsible for flagging, monitoring and managing risks in the payment system, such as counterparty risk, liquidity risk, legal and operational risk. For internet payment systems, providing cybersecurity is of paramount importance. The role of a central bank in case of hacking into such a payment system occurs has not yet been defined. It has been argued that in times when commercial banks find the payment function costly and risky, the internet payment system is not yet ready to replace it.

CROWD SOURCING

As a collective investment vehicle is part of the asset management industry, as such it belongs in the domain of the securities supervisor. Most funds have a whole set of regulations to comply with, including their funding, their investment strategy and their transparency requirements. While in the regulated and supervised world open-ended funds make up the majority of funds for retail investors,[22] internet platforms acting as such funds have so far been unregulated.

On-line platforms have a clear competitive advantage as their fees are much lower than established funds, and they allow online monitoring of their investment strategies. It is questionable if retail investors are able to exercise this function.

LENDING AS P2P

This is clearly a credit provision activity and falls within the authority of the banking regulator. As such the funding, liquidity and risk management needs to be reported regularly. Whether online P2P lending can be excluded from banking regulation and monetary policy regulation is an ongoing discussion.

Allowing P2P lending to be excluded from banking regulation is rightly seen by traditional banks as unfair competition which feeds the disruption of traditional banks which still support the main part of the economy, not only in Japan, China and India, but also in financial centres such as Hong Kong and Singapore. Excluding P2P lending from monetary regulation would seriously undermine the effectiveness of monetary policy and the transmission mechanism.

WEALTH MANAGEMENT

The responsibility of dedicated supervisory authorities for the safety of investments by high net worth individuals has been tested in the past. While hedge funds and private equity funds act largely free of regulation and supervision and losses have been accepted by accredited investors, limits have been imposed where regulated and supervised investment funds have been involved.

It has yet to be decided whether internet wealth management belongs to the first category of lightly or non-supervised entities, or the broker dealers are subject to tighter regulation and supervision. The national securities commissions and the International Organisation for Securities Commissions (IOSCO) as the international body are working on recommendations for FinTech securities regulation.[23]

INSURANCE

Insuring the risks of financial products has provided rich experience, ranging from rather successful derivatives markets to specific products, such as insuring CDOs, which has been more problematic. While derivative markets, both market risk as well as credit risk derivatives, have survived the GFC rather unscathed, individual players such as AIG had to be bailed-out because of systemic concerns.[24]

If the risks of providing credit can be insured and sold in the derivatives market, the players are well-known and well-regulated and supervised. However, even established players, such as AIG got themselves into trouble with new products, such

as CDOs. Moreover, if new insurance players emerge on the internet, their ability to assess risks and manage these might not be up to the task.

At present protecting the insurance customers has priority over financial stability concerns relevant for real world insurance business. This should also be a prime concern of national insurance supervisors, as well the International Association of Insurance Supervisors (IAIS) as they develop recommendations regarding online insurance.

3. Supervisory way forward for FinTech

While the discussion about FinTech in advanced countries is led with the prominent participation of the major financial players, emerging markets realise the importance of services provided by non-bank lenders and non-regulated internet entities. From the supervisory point of view, it is probably beneficial to involve the major players in banking, fund management, insurance, etc., as they are well-supervised. However, as FinTech is a grassroots movement which might challenge or disrupt the established financial IT players must be given a fair chance to develop, implement and operate their new solutions.[25]

At present there are two extremes of approaches to FinTech regulation and supervision. The "laissez faire" approach, which allows innovation up to the point when risks emerge. At the other extreme are the regulators who want to channel innovation into desirable products by designing regulation to limit the extremes of financial innovation. This school has taken on board the lessons of the GFC when financial engineering was in the lead, designing products based on assumptions which failed the reality check and contributed to the GFC.

Central banking laws and banking laws in Asia on the whole are still evolving and developing their regulatory response to internet developments. There are two groups of countries: those where central bank laws focus on banks as financial intermediaries and those which cast a wider net to include various types of financial intermediation. Among the first group are countries such as Japan, Korea, Philippines, and Thailand. Among the second group are China, Singapore, Hong Kong and Malaysia.

Starting with the wide-casting of the financial sector regulatory net, central banks and establised supervisory authorities are better equipped to regulate FinTech for supervisory purposes.

MAS clearly states that regulation must not front-run innovation, as introducing regulation prematurely may stifle innovation and potentially derail the adoption of useful technology.[26] The statutes of MAS allow it to "conduct integrated supervision of the financial services sector and financial stability surveillance."[27] Thus, MAS has a wide legislative mandate to supervise FinTech.

The Hong Kong letter of Functions and Responsibilities in Monetary Affairs allows the HKMA to promote "appropriate market development initiatives that help to strengthen the international competitiveness of Hong Kong's financial services."[28]

The Central Bank Act of Malaysia 2013 stipulates, in section 31, that BNM may "specify measures...to limit the accumulation of any risk to financial stability, to a class, category or description of persons engaging in financial intermediation" and "issue an order....to take such measures as the Bank may consider or appropriate to avert or to reduce any risk to financial stability."[29]

The Law on the People's Bank of China (PBOC) is relatively recent (revision 2003) and includes a section on financial markets. Article 31 stipulates that the PBOC "shall...monitor the operation of the financial markets, conduct macroeconomic management over the markets and promote balanced development of financial markets."[30] It is part of fulfilling this latter function that the PBOC has issued its guidelines for FinTech supervision (see endnote 6).

Older central bank laws are focused on banks as key financial intermediaries. In all these laws the main criteria for being subject to supervision by the central bank is the acceptance of deposits, which features prominently in the central bank as well as banking laws.

Central banks usually have a mandate for monitoring and securing a safe payments system. Therefore internet payment operators and payment solutions fall within this mandate.

Laws of central banks might have to be revised in view of the dynamic FinTech development to cast the net wider and to capture any financial market activity which can affect financial stability. Over the recent years central banks have been pondering whether to explicitly include financial stability in their mandates and to revise their central bank laws accordingly. However, as FinTech has not raised any financial stability concerns, linking the two might be premature.

A more practical approach to avoid having to revise regulatory and supervisory mandates would be to capture entities which only exist on the internet. Platforms for internet payments, crowd sourcing, P2P lending, wealth management and financial insurance could by required to obtain a licence once their scope of operations reaches a specified level. From then onwards, they would be subject to reporting requirements and monitoring by the relevant supervisory authority.

The cross-border implications need addressing in due course as well. Major online entities such as Ant Finance of Alibaba are already serving overseas clients (see endnote 11). It will be up to the international standard-setting bodies, such as the Basel Committee on Banking Supervision, CPMI, IOSCO and IAIS to address the cross-border risks of FinTech.

CONCLUSION

As FinTech innovations continue to evolve, regulatory and supervisory authorities have to confront the policy dilemma of whether certain FinTech activities should be regulated and, if so, to what extent. Excessive regulation may inhibit sound innovation and disadvantage consumers or put banks at a competitive disadvantage. Financial services supervisors need to carefully assess risks and benefits and, to the maximum extent prudently possible, avoid choking-off sound innovation. This can pose some risks to regulators, but they can be satisfactorily controlled.

Some unregulated entities might enjoy some competitive advantages compared with traditional players. Clients should be made aware that they might be taking on additional risks, including cybersecurity risk, in return for their cost advantage. Remembering the development of e-money in the 1990s, the experience shows that only entities linked with well established players and solid internet entities have some staying power.

Finally, internet solutions might be called "fair weather" solutions which might not survive during periods of systemic stress. In such circumstances, central banks will likely be called upon to calm the situation and provide the well known and tried lender of last resort function. Central banks would be well advised to prepare contingency plans for dealing with problems that might arise.

Endnotes

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