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Financial market infrastructures: Walking the line between stability and innovation

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Thomas J. Jordan

Chairman of the Governing Board, Swiss National Bank*
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Introduction

I am delighted to open Sibos 2016 and welcome you all warmly to Geneva. Sibos is *the* annual gathering for financial market service providers. This sector, which is responsible for nothing less than the backbone of the financial system, is currently experiencing a surge of innovation. It is therefore a great honour for Switzerland to be hosting this important conference at this time of transformational change.

Around the world, Switzerland is often seen as a haven of stability and continuity. The highly international Swiss financial sector benefits from the exceptional stability of our country's political and legal structures. At the same time, Switzerland manages to be innovative; it is regularly among the top performers in global innovation rankings.[1] The Swiss financial industry plays an important role here. You will not find the 'Crypto Valley' on any map, but a financial technology (fintech) cluster going by this name has sprung up in the Canton of Zug. The city of Zug has recently even launched a pilot project allowing certain public services to be paid for using a crypto-currency. But even those of us who prefer more traditional payment methods can benefit from many innovations in Switzerland. For instance, cash can now be withdrawn from ATMs without a bank card – simply by using a smartphone.

Like Switzerland, central banks are associated with stability and continuity. And yet, since the financial crisis, they too have had to adopt ever more inventive policies to shield their respective economies from serious harm. The Swiss National Bank has likewise had to mobilise its innovative resources. We have developed and deployed new monetary policy instruments, which have enabled us to carry out our mandate as fully as possible.

When it comes to implementing monetary policy, financial market infrastructures are vital. In Switzerland, these infrastructures are run by SIX Group and the SNB is actively involved in shaping the strategic direction of certain functions. Without safe and efficient infrastructures we would be unable to fulfil our mandate. This fact alone explains our keen interest in ensuring their smooth operation. But our interest goes beyond monetary policy implementation. The infrastructures also play a major role in enabling the SNB to perform other statutory duties, such as facilitating and securing the operation of cashless payment systems and contributing to the stability of the financial system.

As mentioned, the financial sector is experiencing a surge of innovation. The financial market infrastructures, and hence the central banks, stand to be affected by these changes. As this process unfolds, the SNB's task is to strike the right balance between maintaining stable conditions and promoting useful innovation. In this speech I will outline why we are most likely to achieve safe and efficient outcomes if we can balance the interests of market participants, regulators and central banks.

[1] Switzerland has topped the Global Innovation Index (www.wipo.int) for the last six years.

Financial industry – same core functions, evolving technology

The theme for this year's Sibos conference is 'Transforming the landscape'. New technologies are paving the way for new financial services. While there are certainly some interesting innovations in the offing, it is important to recognise that many of the financial industry's core functions will remain largely unchanged. The role of financial intermediaries is, first, to help their clients fund new investments and, second, to offer them investment opportunities and asset protection strategies. Their third role is to facilitate securities safekeeping, and their fourth is to execute payments on behalf of their clients. Customers have long required these basic services, and they will continue to need them in the future. In short, the economic function of the financial industry has not changed.

However, the technologies and channels by which financial services are requested and delivered *are* changing. The digitalisation of payment transactions, for instance, has helped to make cashless payments cheaper and simpler for customers – even if efficiency could still be further improved, especially where cross-border payments are concerned. The advent of dematerialised securities years ago is another example of innovation within the financial industry; this change greatly increased the efficiency of securities settlement and safekeeping. The digital transformation has also added value in another way: it has enabled bank customers to execute transactions with greater temporal flexibility and geographical independence. These days, traditional bank counters have morphed into apps that live on our smartphones. Such useful innovations have the potential to improve aggregate economic welfare.

The challenge for regulators and central banks is to make sure they fully understand the effects – and side-effects – of these new mechanisms at an early stage. The same goes for innovations affecting financial market infrastructures – especially those that are systemically important. Such assessments of new technologies are based on a set of internationally accepted guidelines called 'Principles for financial market infrastructures'.[2] These principles define the criteria that infrastructures must meet, thereby setting standards for innovation in this field.

Central banks and regulators have a duty to pass legislation guaranteeing the safety of financial market infrastructures – by protecting their stability, resilience and availability, irrespective of technological change; but they must also take on board the efficiency goals of infrastructure providers and their participants. Regulatory adjustments may be needed to catalyse the positive effects of certain innovations.[3]

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[2] Cf. Committee on Payment and Settlement Systems (now Committee on Payments and Market Infrastructures, CPMI) and Technical Committee of the International Organization of Securities Commissions (IOSCO), 'Principles for financial market infrastructures', April 2012.

[3] The Federal Intermediated Securities Act (FISA) introduced in Switzerland in 2008 is a good example of a regulatory change – in this case designed to manage the transition to dematerialised securities at central depositories. Dematerialisation and the associated regulatory changes also significantly improved the efficiency and safety of repo settlement and hence of monetary policy implementation.

From centralisation to decentralisation – how far should it go?

Until very recently, safety and efficiency were considered to be functions of centralisation. This trend is reflected in the evolution of central securities depositories[4] and in the emergence of cashless payment transactions. In Switzerland, centralised clearing houses in the 1940s and centralised data processing in the 1970s were waypoints on a journey of convergence. This development culminated in the creation of the centralised 'Swiss Interbank Clearing' (SIC) payment system in 1987.[5] Another – more recent – example is the settlement of OTC derivatives via central counterparties.[6] This centralisation process and related economies of scale both reduced costs and improved safety.

However, with the arrival of the latest technologies, these third-party clearing and settlement services are increasingly seen as superfluous cost factors; the keywords here are 'distributed ledger' and 'blockchain'.[7] The underlying technology promises first and foremost to reduce costs. For instance, such systems would render the reconciliation of transaction and balance data between banks and a third-party system obsolete. The paradigm seems to have been turned on its head: decentralisation – not centralisation – now appears to promise the greatest efficiency gains.

I do not, however, believe that decentralisation will become the 'new normal' in all financial market functions and infrastructures. Many existing financial market infrastructures are already highly competitive, and barriers to entry for new technology are correspondingly high. The conventional, centralised model they are built on is already low-cost and meets high safety standards. And improvements are being made all the time. Distributed ledger technology, meanwhile, has yet to prove it can outperform the existing set-up with respect to safety and efficiency.

Having said this, there may be some scope for deploying distributed ledgers in certain complex financial market functions or infrastructures. The settlement and safekeeping of securities is one example. In the end, we may well see conventional and new technologies co-existing or blending. Staying with the securities example: it is conceivable that we will see a hybrid scenario. This could entail security-specific information being settled via a distributed ledger, while the payment leg could continue to be effected via a traditional, centralised payment system.

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[4] Cf. Diana Chan, Florence Fontan, Simonetta Rosati and Daniela Russo, 'The Securities Custody Industry', European Central Bank, Occasional Paper Series, No. 68, August 2007.

[5] In 1949, the banks started bundling interbank transactions in various clearing houses categorised according to bank type. Thirty years later, in 1979, the data processing systems of these clearing houses were also centralised. This laid the groundwork for the current SIC system, launched in 1987, which has led to the centralisation and standardisation of all Swiss interbank payment transactions via SNB sight deposit accounts. Cf. Fritz Klein and Guido Palazzo, 'Kulturgeschichte des Geldflusses. Die Entwicklung des Zahlungsverkehrs mit Fokus Schweiz', 2003, Verlag SKV.

[6] The G20 countries committed to the principle of settling OTC derivatives via central counterparties at the Toronto Summit in 2010 before passing national legislation on the matter (art. 97 of the Financial Market Infrastructure Act [FMIA] in Switzerland, the European Market Infrastructure Regulation [EMIR] in the European Union, and the Dodd-Frank Act in the US).

[7] The terms 'distributed ledger' and 'blockchain' describe a concept that enables the operation of a distributed, synchronised database. Such a database allows participants to exchange digital assets without involving a centralised third party.

Such new technology is highly relevant for central banks, especially in the context of the ongoing debate about central bank money potentially being issued via a distributed ledger. This idea raises a host of central bank-specific questions that will need to be examined in more detail. The SNB is following and analysing developments in this arena closely and is actively involved in discussions with market participants, regulators and other central banks.

Recent developments in the SIC system

Amid all these longer-term visions, we should be careful not to overlook changes that are just around the corner – or indeed, have already been introduced. So let me return to the present and talk about developments in cashless payment transactions that are already having a tangible effect on central banks around the world. For obvious reasons, my remarks will be based on the situation in Switzerland.

As I have already mentioned, one of the SNB's statutory mandates is to facilitate and secure the operation of cashless payment systems. One of the key ways in which we perform this duty is through our strategic guidance of the SIC payment system. This includes approving technical changes to the system and the rules of conduct for system participants, fixing operating hours and rates, and deciding who is granted access to the SIC system.

At the same time, the SIC system is operated not by us, but by SIX Interbank Clearing; system participants are involved in the decision-making process and therefore play a direct part. This configuration makes SIC a market solution. Another feature is that the SIC system is used to settle not only interbank payments, but also a large proportion of retail payments.[8] By virtue of its role in SIC, the SNB has a substantial influence on retail payments in Swiss francs and is, in turn, also impacted by dynamic forces at work in this area.

The SIC system takes account of such forces and sets the stage for cashless payment innovations, which ultimately benefit customers. This is reflected in the launch of the fourth generation of the SIC system in April this year. SIC now supports ISO 20022, the emerging standard in payment messaging.[9] Thanks to the IT architecture of the new SIC system, innovative services can now be maintained and developed more flexibly and cost-effectively than in the past. Furthermore, SIC's operating hours are due to be changed next year; this will extend the window in which customers can submit payments with same-day value date.[10]

The possibility of adjusting the regulatory framework that I touched on earlier is also very topical in Switzerland at the moment. Specifically, this concerns the issue of lowering barriers to market entry for fintech companies. FINMA, the Swiss Financial Market Supervisory

[8] In terms of numbers of transactions, SIC is practically a retail payment system, since around 95% of transactions are conducted for this purpose.

[9] The ISO 20022 standard for electronic data interchange aims to harmonise the exchange of data between participants in differing areas of finance, including payment transactions. Essentially, the processes behind this data exchange and the messages' data formats will be unified, leading to improved settlement of transactions.

[10] As of 15 May 2017, the end of the SIC system's clearing day will be extended from 4.15 pm to 6.15 pm.

Authority, supports the introduction of a new licensing category for fintech companies.[11] New FINMA-regulated participants establishing themselves in retail payments could also seek access to the SIC system in the future.

As these examples show, the SIC system is moving with the times. SIC is systemically important and critical to the fulfilment of our mandate; we therefore support innovations which will improve its efficiency without compromising its safety.

Conclusion

Ladies and gentlemen, financial technology is evolving rapidly and calling many existing structures into question. Despite this, it is important to bear in mind that the fundamental needs of companies and households that are met by financial services remain largely unchanged. The usefulness and success of new technologies will hinge on whether they can meet these basic needs more cheaply, more securely and in a more customer-friendly manner than existing solutions.

The SNB is neutral vis-à-vis the technologies underpinning financial market infrastructures. It assesses innovations in terms of their implications for the fulfilment of its statutory mandate. Our focus is on safety and efficiency, and we analyse the effects – and side-effects – of innovations closely through this lens.

For this analysis, dialogue between market participants, regulators and central banks is essential. This is especially true in view of current technological changes, which make walking the line between stability and innovation particularly challenging. This exchange of views with practitioners helps us to correctly assess the uses and risks of new technologies. Such discussions are critical if we are to exploit the technologies of the future at the right time and under the right conditions.

I would therefore like to extend my sincere thanks to the organisers of the Sibos event for this excellent opportunity to share ideas. As home to many international organisations, Geneva is an ideal location for this dialogue. We are certain to find fertile ground here. I wish you all a successful conference with many enlightening discussions.

[11] Cf. FINMA press release ‘FINMA reduces obstacles to FinTech’, 17 March 2016.