BANK OF ENGLAND

Speech

Resilience and innovation in post-trade

Speech given by
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Introduction

I'd like to start by paying tribute to Simon Lewis and his nine years of tireless service as CEO of AFME, which he has announced will be ending this autumn. I'd like to wish him every success for the future.

I'm delighted to be here at today at the AFME post-trade conference. This is my first AFME European Post Trade conference, but I believe it's your 12th. There has been a lot of change in the European post-trade[1] space over those 12 years. Post-trade has traditionally been a little in the background – a part of the financial system we might refer to as plumbing – sometimes out of view, but absolutely critical for functioning. Today, various developments have brought post trade to the fore, and made it an increasingly exciting space to be involved in.

I'm going to focus on technological developments and also resilience, two themes which resonate with my responsibilities at the Bank and my priorities for 2019. The Bank's involvement here spans two levels – of soft and hard infrastructure. On soft infrastructure we can think of the Bank's regulatory approach, led by our policy committees – FPC and PRC, and the Financial Market Infrastructure Board, and the rules it makes and standards it sets. Much of the hard infrastructure falls to the area of the Bank I lead, and includes running some plumbing of our own. I'll discuss this more later but, briefly, along with our supervisory and regulatory activities, we also operate middle and back offices for our own operations, which include extensive liquidity operations, and we run the UK's high value payment system – CHAPS - and the Real Time Gross Settlement service – the infrastructure underpinning payments and settlements in the UK.

Innovation and change

Our current RTGS service was built in 1996. It's been a long 23 years in technology. 1996 was two years before Google was founded and eleven years before the first iPhone. In 1996 just over 1% of the world's population was an internet user, compared with ~48% now[2], and ~2.5 out of every 100 of the world's population had a mobile phone subscription; there are now more subscriptions than the over seven billion population of the planet[3]. Given the quantity of technological change that has happened, firms renewing systems now can also use the opportunity to make systems more safe, efficient, and innovative.

Finance has changed too. Looking to the future we can expect to continue to see evolution driven by our changing world. The global challenge of climate change; the shift in demographics as society ages; the growth of emerging market economies and opening up of their capital accounts - will all continue to drive

[1] Post-trade generally refers to the processes applied to a trade subsequent to its execution.
[2] See World Bank and International Telecommunication Union, Individuals using the internet (% of population), World Telecommunication/ICT Development Report and Database. Available at: https://data.worldbank.org/indicator/IT.NET.USER.ZS
[3] See World Bank and International Telecommunication Union, Mobile cellular subscriptions (per 100 people_, World Telecommunication/ICT Development Report and Database. Available at: https://data.worldbank.org/indicator/IT.CEL.SETS.P2

changes in the global financial system. Large, interconnected and complex markets adapting to these changes require robust infrastructure underpinning them.

So, finance is changing, and technology is both driving and enabling that change. The rise of fintech is one obvious manifestation, with the transformational role it is beginning to play in finance. The Bank recognises this, having a strategic goal of embracing fintech. The Governor spoke at last week's Innovate Finance conference[4], previewing the approach the Bank is taking to its work on the future of the UK financial system[5] in response to key economic trends, and how we can provide a platform for a more resilient, effective and efficient financial system. I spoke too, highlighting the role of our Fintech Hub[6] in delivering our goal.

The pressure of technological change is pertinent to the post-trade system where, industry-wide our capabilities are likely lagging our potential. The post-trade system is a collection of systems, infrastructures, and workflows that differ across firms, with low levels of interoperability. Many firms operate on legacy post-trade systems and technologies that require a lot of maintenance and upkeep, but are critical for the firm in its daily operations. The current system contains inefficiencies and complexities, with many firms running on systems which were developed in-house by firms during the 80s and the 90s. Many firms have run on the same systems over this time, patching and upgrading, whilst the environment we are operating in has developed, becoming bigger and more complex. There are obvious cost benefits in simplifying. But if you look at the kinds of innovation the sector has seen since it built the systems on which it runs, it is clear that there are also opportunities to take advantage of the benefits of new technologies and functions.

As you would imagine, the Bank is not immune from the needs of change and development, and we have been investing in our own plumbing. As a central bank, our portfolio varies in profile: from more the things you probably won't see or hear about – such as a multi-year investment to simplify a complex web of six middle office valuation and operational control systems and over 60 interlinking system exports by introducing a single data management system, affectionately known as MOSR; to the things you definitely will have heard about (not least because I have already mentioned it today) – such as our ambitious and innovative renewal of the infrastructure at the heart of UK payments – RTGS[7].

Change of course comes with risks and costs, and those need to be managed carefully. But it also offers potential in the long run to reduce costs, increase efficiency, and improve resilience. A more efficient post trade system could reduce settlement times and operational risks. In a world where, internationally, economies are growing and opening – resilient post-trade markets will need to service an ever growing sector of users.

[4] Carney, M. (2019). A Platform for Innovation. Available at: https://www.bankofengland.co.uk/speech/2019/mark-carney-speech-at-innovate-finance-global-summit-2019
[5] Carney, M. (2018). New Economy, New Finance, New Bank. Available at: https://www.bankofengland.co.uk/speech/2018/mark-carney-speech-at-the-lord-mayors-bankers-and-merchants-dinner-mansion-house
[6] Ramsden, D. (2019). Embracing Fintech. Available at: https://www.bankofengland.co.uk/speech/2019/dave-ramsden-speech-at-innovate-finance-global-summit-2019
[7] RTGS Renewal Programme: A blueprint for a new RTGS service for the United Kingdom. Available at: https://www.bankofengland.co.uk/paper/2017/a-blueprint-for-a-new-rtgs-service-for-the-uk

Resilience

Resilience in its many forms is vital to meeting the Mission of the Bank of England – to promote the good of the people of the United Kingdom by maintaining monetary and financial stability. Resilience permeates the work of the Bank's policy committees and how they go about meeting the remits they have been given.

It's the resilience of the financial system, and major banks and insurers who operate in the UK, where post-trade is most relevant. Most recently, a major focus of the Bank's Financial Policy Committee has been resilience to the risks associated with a disorderly no deal Brexit[8]. This has also been a consistent focus of the recent work of AFME under Simon's leadership.

We have a responsibility to ensure the consistent supply of the vital services that the real economy demands from the financial system – things like paying for goods, services and assets; intermediating between savers and borrowers, and channelling savings into investment; and insuring against and dispersing risk. We have evaluated what effect of a worst case disorderly scenario would be on the core of the banking system, and concluded that it would be resilient to such an event[9]. Just as importantly, we have published our assessment of the most significant technical risks to financial stability from disruption to cross-border services in a disorderly scenario – things like ensuring clearings services can continue between the EU and UK, or that UK and EU insurance contracts will continue to be able to be serviced. And we have worked with other authorities in the UK and EU to mitigate those risks as best we can.

This work has been largely successful: in our view most risks to financial stability that could arise have been mitigated – although, particularly in the absence of further actions by EU authorities, some potential risks to financial stability, primarily to EU households and businesses, remain. And it's important to note that financial stability is not the same as market stability; a disruptive Brexit could still be expected to bring significant market volatility.

Of course, shocks can also be operational, with operational disruptions having the potential to cause harm to consumers and market participants, and cause instability in the financial system. The Bank and Financial Conduct Authority (FCA) have been focussing on this recently, with a programme of work to build the financial sector's operational resilience[10]. We ask firms to plan on the basis that operational disruption will occur, and so the focus of our work has been on the ability of firms, FMIs , including CHAPS - run by the Bank, and the sector as a whole not only to prevent, but to ensure that they can respond to, recover and learn from operational disruptions.

[8] Financial Policy Summary and Record (March 2019). Available at: https://www.bankofengland.co.uk/financial-policy-summary-and-record/2019/march-2019
[9] Key elements of the 2019 stress test (March 2019). Available at: https://www.bankofengland.co.uk/news/2019/march/key-elements-of-the-2019-stress-test
[10] Building the UK financial sector's operational resilience. Available at: https://www.bankofengland.co.uk/prudential-regulation/publication/2018/building-the-uk-financial-sectors-operational-resilience-discussion-paper

Innovation and resilience of the Bank's own operations

The Bank, and other authorities, can provide a platform for innovation through the hard and soft infrastructure it provides.

The Bank's biggest piece of hard infrastructure is RTGS; settling around £600bn every day, RTGS is at the backbone of UK payments, and a piece of critical national infrastructure. RTGS eliminates settlement risks; claims between banks and other participants are able to be settled in central bank money – the ultimate liquid asset. And RTGS plays an important role in the post-trade system. CREST[11] and CLS[12] both settle through RTGS, enabling us to deliver safe settlement in central bank money to post-trade infrastructure.

The Bank's operation of CHAPS and RTGS contributes to meeting its financial stability remit, and our renewal of the RTGS service is another of the Bank's strategic goals[13]. We have now finished our 'Plan Analyse Design' phase of the programme, meaning we have defined its scope, with input from the payments industry. We're on track with the next phase of the Programme, where we are running a competitive procurement process under the Official Journal of the European Union to appoint a Technology Deliver Partner to work with the Bank on the design and build of the settlement engine, the foundational part of this core financial infrastructure.

Increased operational resilience is at the heart of the renewed RTGS service – which aims to offer best in class resilience. We are building on today's functionality with increased resilience and strengthened end to end risk management, to enhance our ability to identify, mitigate, and respond to the most significant risks, including cyber risk. In this context, I'd like to highlight that CHAPS members have recently commended GFMA's work[14] on developing a 'Cybersecurity Profile' to us, in our role as systemic risk manager for CHAPS. Additionally we are recognising the changing environment in which RTGS operates – the demand for faster, simpler, cheaper and more flexible ways to pay. And we are ensuring the new system will be a flexible, innovative sterling settlement system fit for the future, contributing to a more diverse and resilient payment landscape. I'm going to highlight some of the ways we are delivering this.

We are exploring whether the new service could facilitate synchronised settlement. Synchronisation, or atomic settlement, is the idea that two or more payments or movements of assets are linked in such a way as to ensure that one asset moves if and only they all do. We have been investigating the demand for synchronisation and how we would make it work, undertaking a call for interest exercise[15] recently to explore

[11] Crest is the central securities depositary of the UK.
[12] CLS provides FX settlement services.
[13] More detail in Annual Report and Accounts. Available at: https://www.bankofengland.co.uk/-/media/boe/files/annual-report/2018/boe-2018.pdf?la=en&hash=37A60AD4BB7912B2A7D065A828C8B0E30B59C1B6
[14] See http://www.gfma.org/news/press-releases/2018/industry-unveils-cybersecurity-profile-to-help-financial-institutions-develop-and-maintain-cyber-risk-management-programs/
[15] Call for interest: synchronised settlement in central bank money. Available at: http://www.gfma.org/news/press-releases/2018/industry-unveils-cybersecurity-profile-to-help-financial-institutions-develop-and-maintain-cyber-risk-management-programs/

this further. In that exercise we engaged with a number of post-trade technology service providers, who highlighted the various costs associated with the established settlement processes which could be reduced through synchronised settlement. If properly harnessed, synchronised settlement could deliver efficiencies – such as by operational costs or bringing liquidity efficiencies - in areas such as FX, repo, securities lending, and cross border payments.

We're also using RTGS renewal to drive forward developments in data standards to increase harmonisation, resilience and innovation. Current messaging standards in payment systems limit the amount of information that can be provided, and a lack of both domestic and international harmonisation impedes interoperability. Moving to a co-ordinated single standard could bring a host of benefits in risk reduction, fraud and crime detection, supporting competition, and more. A number of other countries have committed to a new, global standard ISO20022; in the UK the Bank of England and Pay.UK have committed to introduce it for CHAPS and Pay.UK's retail payment systems, via the introduction of the Common Credit Message, helping to integrate a common language for global payments data in the UK's payment systems[16]. I'm sure many of you recognise the ISO20022 from the ECB's Target2-Securities and Target Instant Payment Settlement[17] .

In doing this the Bank has also committed to making Legal Entity Identifiers a mandatory component of its financial institution to financial institution CHAPS messages, and can see great value in also extending use of Legal Entity Identifiers (LEI) to a wider range of transactions in the longer term. I'm sure many of you are familiar with the LEI, as part of MiFID II transaction reporting. As well as being a valuable financial reporting tool, we believe the LEI could be a building block for further innovation, delivering wider economic benefits for end users of financial services – increased usage could raise efficiency, competition and productivity[18].

As well as the benefits that come with international harmonisation, greater flexibility, and richer payments data, there are gains to be had for system-wide resilience. Using the same messaging standard across many payment systems will help to facilitate the re-routing of payment messages, reducing the impact of system outages. This is going to be a transformational change for payments in the UK – the first stage of the cutover for CHAPS is planned to occur in 2022. So I encourage any of you engaged in systems or settlement to start considering now the impact on your own systems and operations – both so you can be ready for the change and take advantage of the benefits.

And at the softer end of our infrastructure agenda, we have the FCA, HMT and Bank's Fair and Effective Markets work[19], which aims to catalyse improvements to fairness and effectiveness in FICC markets. A focus of this work on the immediate horizon will be the use of technology in post-trade.

[16] A new messaging standard for UK payments: ISO 20022. Available at: https://www.bankofengland.co.uk/payment-and-settlement/rtgs-renewal-programme/consultation-on-a-new-messaging-standard-for-uk-payments-iso20022
[17] See https://www.ecb.europa.eu/paym/target/tips/html/index.en.html
[18] Ramsden, D. (2018). Setting Standards. Available at: https://www.bankofengland.co.uk/speech/2018/dave-ramsden-remarks-at-iso-20022-conference
[19] See https://www.bankofengland.co.uk/markets/fair-and-effective-markets

Given the challenges to the use of technology in post-trade that I mentioned earlier, the Bank and FCA will convene an industry-led "Technology Working Group" to bring together different financial market stakeholders to catalyse collective action and reform in the use of technology in the post-trade system. This may help in identifying a way forward on reducing the e cost and inefficiencies in the post-trade processing of financial market transactions, reducing complexity and increasing system-level resilience. The work will stocktake current and emerging post-trade technology solutions, identify key pinch points and barriers to adoption across markets and products, and look at the cost and benefits of different solutions to address these barriers.

Conclusion

The post-trade system is a key component of a bigger effective, efficient, and resilient financial system; one much reformed since the financial crisis of eleven years ago. A key feature of the financial system is it is one of multiple interdependencies, and it is this interdependent nature which is why I chose to focus on resilience and innovation today On the face of it, these two concepts are quite different – one referring to the ability to return to a previous state, the other referring to making change. But in practise they are irrevocably linked. An environment that prioritises resilience and innovation is one that ensures post-trade continues to thrive and adapt to technology, finance, and wider changes in the economy, whilst avoiding costly fragmentation. The Bank is playing its part here, with strategic goals on the one hand focussing on the need to innovate and drive change (Fintech; RTGS), but on the other on maintaining resilience (operational resilience; RTGS) – demonstrates that well. That's why we're focussing on providing a platform, via the right hard and soft infrastructure, for innovation to flourish. And why we will never slacken our focus on the criticality of resilience.