FNALITY GLOBAL PAYMENTS

NOVEL SOLUTION, NOVEL BENEFITS: FNALITY GLOBAL PAYMENTS & WHOLESALE CBDC

THE FNALITY TEAM

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SECTION 1: INTRODUCTION

For some time now, wholesale central bank digital currencies (CBDCs) have been proposed as a panacea for long-standing issues in wholesale financial markets. Several central bank initiatives have sought to establish their capability to make payments and securities settlements faster, cheaper, and safer. But despite demonstrating several potential benefits to those ends at a conceptual level, none have yet succeeded in transcending the research phase and producing a viable solution.

Fnality International, a consortium of global financial institutions, is developing a new, unique payment infrastructure design for wholesale transactions - Fnality Global Payments (FnGP) - that will offer novel solutions to the same problems that wholesale CBDC arrangements seek to solve, and in the process realise novel benefits.

This paper will explore how, beginning by examining the proliferation and development of CBDC projects, and noting that – despite considerable interest – no wholesale CBDC endeavour has yet progressed past the prototype stage. It will then discuss the pressing issues in wholesale financial markets that have prompted such innovation, before considering how, in the current absence of viable wholesale CBDC or DLT-based RTGS renewal programmes, Fnality Global Payments can offer novel solutions to the problems these arrangements seek to solve.

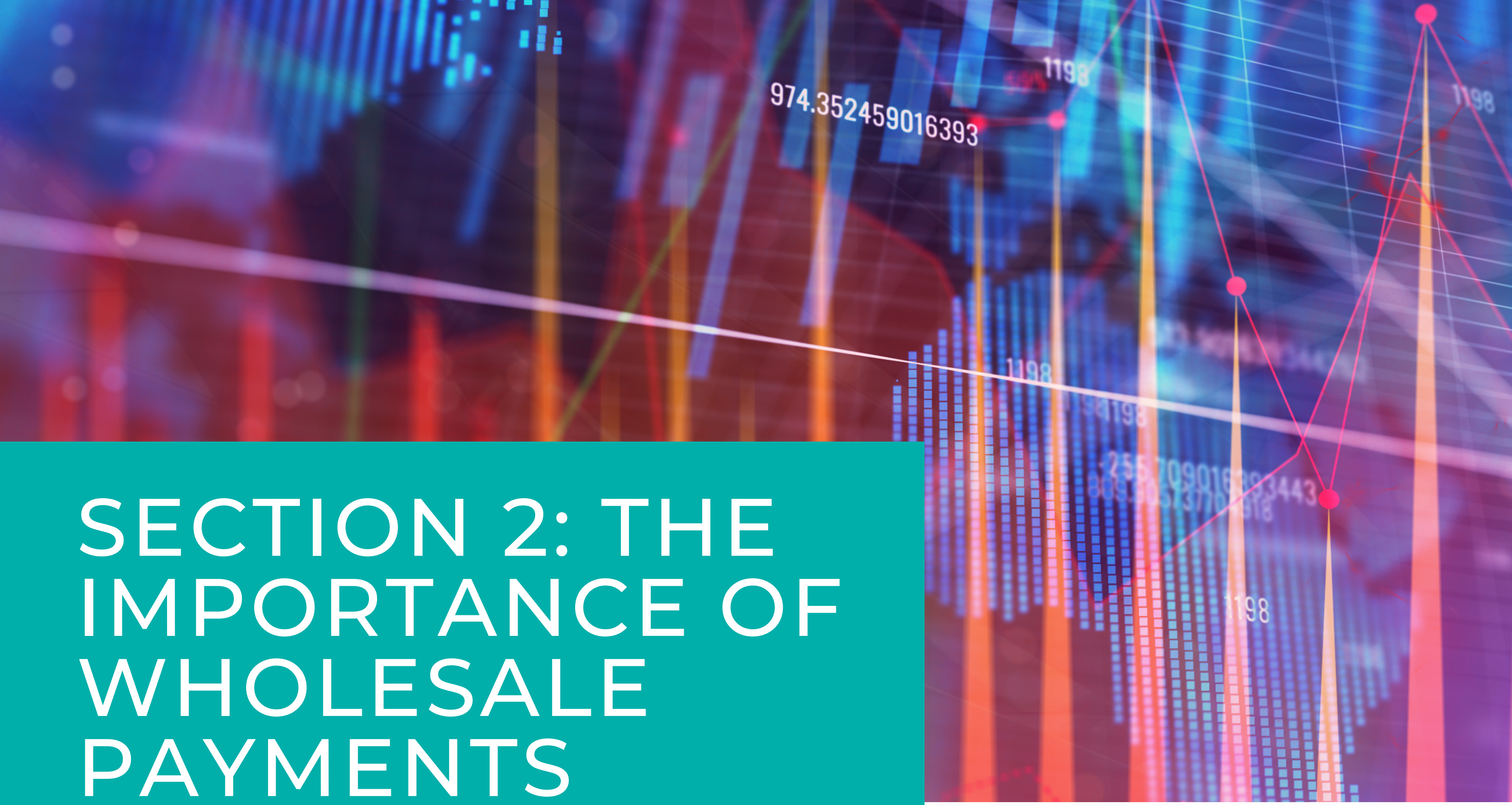
SECTION 1: CBDCs

Central Bank Digital Currencies have emerged from the realm of speculation, now sitting firmly in the realm of possibility. Over 80% of central banks surveyed by the BIS are now exploring CBDC initiatives.[1] However, CBDCs come in different forms, with very different aims. The discussion around CBDCs is primarily split between 'retail' and 'wholesale' solutions; the former – issued for use by the general public – has the primary goals of promoting financial inclusion, mitigating tax avoidance, reducing printing and handling costs, and facilitating the move to a cashless society, whereas the latter – restricted to use by wholesale businesses and potentially further refined by a central bank to, for example, financial institutions only – seeks to reduce risk and settlement times to make wholesale financial markets faster, cheaper, and safer.

Retail CBDCs in particular have experienced a dramatic ascendancy to the top tier of the central banking agenda. In addition to the aforementioned explosion in pilots, studies and working groups at a majority of central banks, a significant minority – representing one-fifth of the world's population – now consider themselves likely to issue a general purpose CBDC in the next three years.[2]

This may be attributed to the unveiling of private sector initiatives like the Libra project, whose proposed business model was perceived by authorities to be a significant potential threat to the monetary sovereignty of central banks. This, alongside the proliferation of other private sector stablecoin arrangements and cryptocurrencies have been cited by the BIS as having 'propelled payment issues to the top of the policy agenda'.[3] More recently, the COVID pandemic has increased the speed at which societies are becoming 'cashless', and therefore it is vital that central banks keep up with this trend towards 'digital'.

Unlike general purpose or retail CBDCs, the BIS also found that far fewer central banks have plans to issue wholesale CBDCs; digital representations of fiat currency specifically for payments and settlements in the wholesale sector.[4] Over the past few years, several high-profile projects – including Projects Ubin[5], Jasper[6], and Stella[7] – have explored the use of CBDC for the clearing and settlement of wholesale payments and securities. Despite these efforts, no wholesale CBDC project has yet progressed past the prototype stage. To understand why this is the case, it is necessary to explore in greater detail the current and pressing issues in the wholesale payments sector that they seek to solve.



SECTION 2: THE IMPORTANCE OF WHOLESALE PAYMENTS

Wholesale payments matter. They are a systemically important component of global finance, representing 20% of cross-border transaction volumes, but 80% of overall values.[8] It comes as little surprise, then, that central banks and regulators have developed extensive and globally-recognised regulatory frameworks to manage risk in the financial market infrastructures designed to facilitate them, most notably the CPMI-IOSCO Principles for Financial Market Infrastructures.[9] At a macro level, any solution to strengthen wholesale payments is primarily about financial stability; enhanced capital and liquidity requirements have been imposed on banks since Basel III[10], but a significant part of the risks to financial stability stem not only from the type of assets that financial institutions hold, but from the ways in which they move them around and transact in them.

Correspondent Banking is one of the main methods for executing money transfers on a cross-border, wholesale basis. Central banks refer to this as tiering - the idea that most banks do not transact with each other directly, but through correspondent banks acting as intermediaries. This is effectively a highly complex and interdependent network of banks that comes with associated risks, such as increased credit and counterparty risk (CCR), FX risk, a reduction in the availability of liquidity (and the opportunity cost of unoptimised intraday liquidity), and a lack of real time visibility of the settlement status of transactions. In addition to all of this, the availability of correspondent banking services is decreasing, increasing market reliance on fewer intermediary banks; the main reason for this is the cost associated with increasingly burdensome regulation. The FSB report that almost half of all banks rely on no more than 2 correspondents for the majority of their cross-border traffic.[11]

With all of this in mind, the need for innovation by which wholesale financial market participants might be empowered to transact in a quicker, safer, and more transparent manner is clear. Depending on who is permitted to hold such an asset, a digital representation of central bank money in wide cross-border use, exchangeable peer-to-peer on a same day basis without settlement or credit risk, could dramatically reduce – if not eliminate – reliance on traditional, self-evidently riskier methods of cross-border payments such as correspondent banking. This in turn could result in a wide range of benefits:

- Faster settlement, reducing credit/counterparty risk - naturally, the quicker the settlement, the less opportunity there is for any counterparty to default;

- Cheaper settlement - naturally again, the removal of intermediaries will result in cost reductions;

- Direct linkage of securities/FX platforms to cash platform, eliminating settlement risk in these markets;

- Increased efficiency of liquidity through real time monitoring capability and reduction in intermediaries/counterparties, resulting in cash being fragmented across fewer ‘pots of liquidity’;

- Addition of ‘smart’ features such as earmarking of funds, conditional interest rates etc., and;

- Increased system resilience as compared to centralised systems.

Wholesale CBDC arrangements have sought to be the innovation to provide these benefits, but as discussed, central banks appear as yet unconvinced by their suitability to do so. In 2018, the CPMI provided some insight into why this may be the case in a far-reaching analysis of CBDC projects and their implications:

> *"Wholesale CBDCs, combined with the use of distributed ledger technology, may enhance settlement efficiency for transactions involving securities and derivatives. Currently proposed implementations for wholesale payments – designed to comply with existing central bank system requirements relating to capacity, efficiency and robustness –* ***look broadly similar to, and not clearly superior to, existing infrastructures****. While future proofs of concept may rely on different system designs, more experimentation and experience would be required before central banks can usefully and safely implement new technologies supporting a wholesale CBDC variant."* [12]

It is clear then that the key question central banks are asking as regards wholesale CBDC is; "What are the core benefits of wholesale CBDC arrangements versus current state RTGS systems?". In the absence of sufficiently compelling answers to that question, the attention of central banks appears to have shifted somewhat to the incorporation of features of the underlying technology – distributed ledger technology – into pending RTGS renewal programmes, with the Bank of England being the most high-profile investigator of this approach. Following a proof of concept, however, the Bank concluded that DLT itself was 'not yet sufficiently mature to provide the core for the next generation of RTGS'. It did though place 'a high priority on ensuring that the new service is capable of interfacing with DLT as and when it is developed'. [13]

If we accept that a central bank has the capability to pursue either of these solutions, the question that remains is clear; why have they not yet done so? The absence of any wholesale CBDC solution yet live indicates that public sector institutions may instead wish to avail themselves of certain features of private sector innovations that such solutions would not possess if based on traditional design choices.

SECTION 3: FNALITY GLOBAL PAYMENTS

While central banks continue their pressing work on retail CBDCs, private sector actors – including Fnality International – have been developing their own solutions to make wholesale financial markets safer and more efficient.

Many of the purported benefits of wholesale CBDC arrangements will also be delivered by Fnality Global Payments: increased efficiency, real time settlement with finality, enhanced support for PvP with reduced settlement risk, and – following successful demonstration of these capabilities – support for existing and emerging DvP use cases. Likewise, there is alignment with the core goals of central banks' RTGS renewal programmes, such as increased resilience, enhanced user functionality, and stronger risk management.

Accordingly, Fnality Global Payments is well placed to complement or even facilitate the efforts of central banks, regulators, and financial market participants in this space.

In addition to the above, there are also several existing problems with wholesale CBDC arrangements to which Fnality Global Payments offers novel solutions:

- Wholesale CBDCs that are designed and issued independently by individual central banks might find difficulty in leveraging cross-border use case, including multi-currency Payment v Payment solutions. Different jurisdictions operate under different legal regimes; agreeing on a coordinated system of oversight would certainly not be simple. Fnality has studied and understood these jurisdictional specificities and has architected its series of local Fnality Payment Systems to achieve both local oversight and international harmonisation in approach.

- Even in the domestic context (as well as cross-border), interoperability with other settlement systems for Delivery v Payment use cases will face similar challenges. In particular, emerging tokenised markets are experiencing rapid growth, driven by private sector innovation. Public institutions such as central banks may find the rapid development and iteration required to meet the needs of such markets stretching beyond their traditional areas of expertise. Following several years of research, Fnality has developed broad capabilities in the innovative legal, technological, and business and economic models that underpin such developments. Each FnPS will be capable of inter-operating across multiple business platforms, whether to support PvP or DvP settlement of financial transactions.

- If a wholesale CBDC or renewed RTGS system is to be DLT-based, maintaining and coordinating a community of nodes/participants and ensuring the integrity of the protocol is maintained will likely be more readily achievable by private sector actors with prior experience of doing so. Fnality is working jointly with best-in-class partners to deliver key components of its DLT solution in a dynamic and collaborative environment: blockchain protocols that will be open-sourced, software development and testing, and technical assurance.

- We believe that wider access to wholesale payments systems – including FnPSs – is desirable in order to truly lower systemic risk and improve market-wide efficiency. Widening access to central bank balance sheets and RTGS infrastructure is a topic that some central banks consider from time to time. In doing so, potential risks to financial stability is a key consideration. The settlement asset in FnPS is designed to mimic many of the characteristics of central bank money (e.g. zero credit risk) but is not a perfect substitute for it. Accordingly, permitting access to FnPS by a relatively wider range of wholesale market participants may not pose the same potential risks to financial stability as widening access to central bank money (whether in the form of a wholesale CBDC or a conventional central bank account deposit) for settlement purposes. Since each FnPS will be operated with appropriate oversight by the relevant local central bank, the FnPS's access criteria (including any gradual widening of it over time) will be a matter that the central bank will have control over, reflecting its risk appetite.

- Other programmes and initiatives targeted at improving the payments and settlements landscape do little to support market participants in increasing the efficiency of their liquidity management. FnGP offers participants the ability to control their liquidity much more directly, consolidate their liquidity holdings, and complete P, PvP and DvP transactions all from a 'single pool of liquidity', increasing overall efficiency and reducing both individual risk exposures and systemic risk.

At Fnality, we believe that if private sector solutions are to be supported in pursuing the aims of wholesale CBDC, we have all of the ingredients necessary for success. The goals of central banks as regards wholesale CBDC initiatives are in direct alignment with ours as regards our Fnality Payment Systems. We are working to ensure that the imminent establishment of our unique payment systems:

- meet the necessary operational and regulatory requirements of important financial market infrastructure;

- enable final settlement in an asset with many of the characteristics of central bank money;

- enable peer-to-peer settlement in the interbank and wholesale markets by facilitating PvP settlement of foreign currency transactions involving currencies for which there is a FnPS, and;

- enable wholesale market participants to have a single pool of liquidity that can be used by any business application.

In time, Fnality could even facilitate the issuance of wholesale CBDC by central banks directly on the technological and operational infrastructures that are being deployed for FnPSs. This would likewise enable central banks to take advantage of the plethora of features outlined above that a proprietary public system would not have if based on traditional design choices, such as smoother cross-border functionality, increased resilience through a distributed network, and interoperability with new asset classes and business use-cases. Being a payments system, the benefits that we can provide are naturally infrastructure points such as these. Even if central banks were to decide to offer wholesale CBDC arrangements, FnPSs can still happily co-exist, offering a wide range of competitive services to market participants in parallel. A current state analogy to this would be the way in which RTGS systems co-exist with alternative payment systems that offer different or specialist functionality e.g. CHIPS, EURO1, RT1, RTP, etc.

We have a 15-member shareholder group, consisting of key financial institutions and infrastructure, who are fully invested in the development and roll out of Fnality Global Payments and their subsequent use cases. They are eager to make good on their investment and demonstrate the benefits of Fnality Payment Systems in supporting liquidity, collateral and settlement activities. Many stated concerns around CBDC relate to the removal of or fundamental changes to the commercial bank model. We are seeking to remove chains of intermediaries, but commercial banks remain critical to our model and strategic direction, acting as shareholders, participants, validators, and more in each Fnality Payment System. We are on track to have our technology fully installed and tested with our shareholder organisations in the near future, having already completed and distributed multiple pre-production releases. This will serve as the foundation for a ramp-up of activity over the course of the next few years in the Payment vs Payment and Delivery vs Payment spaces, and we are in dialogue with multiple business partners to align interoperability strategies for new use cases from 2021 onwards.

SECTION 4: CONCLUSION

At Fnality, we are aligned with those pursuing wholesale CBDC arrangements in recognising the criticality of wholesale payments to the global economy, and have taken significant steps towards creating a live, global network of payment systems that both fulfils the aims that these arrangements seek to achieve and offers novel solutions to those that they do not. In the process of doing so, we will unlock novel benefits that would otherwise remain unrealised.

We are ready to prove these functions in the real world, and to work together with central banks, regulators, and market participants to make wholesale financial markets faster, cheaper, and safer.

WOULD YOU LIKE TO KNOW MORE?

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FOOTNOTES & FURTHER READING

1 - BIS, *Paper No 107: Impending arrival – a sequel to the survey on central bank digital currency*, January 2020

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