The Economics of Large-Value Payments and Settlement: Theory and Policy Issues for Central Banks

Mark Manning, Erlend Nier & Jochen Schanz, eds.
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Recently, *The Economist* claimed[1] that "[t]he West's financial crisis has shaken public confidence in its leading central banks, and yet has also led to an expansion of their duties and powers." This has happened against the background in which central banking "is becoming a more complicated game." On one hand, "[the] old monetary policy tasks are not getting any easier to perform." On the other hand, in "taking on more responsibility for the supervision of banks and the stability of the financial system" central banks are taking more risks: "Financial stability is politically a more treacherous mission than price stability." It requires new "macroprudential" policies and a new set of skills. Particularly, it may be more difficult if not impossible to insulate the attainment of financial stability from political considerations as well as interference by politicians.

In the process of transformation, from a "mere" guardian of price stability and a lender of last resort, the central bank evolved to become a guardian of financial stability and a "dealer of last resort"[2] ensuring the liquidity of securities markets. From trading in securities with commercial banks with the view of controlling short-term interest rates it started to trade securities with other economic players to bring Quantitative Easing ("QE"). More recently, it became expected from a central bank to become active in supporting share prices.[3]

Against this background, the reviewed book (hereafter: *LVP Economics)* is timely. It focuses on the payment and settlement system for large-value payments as the engine of the financial infrastructure of a country. In that system, finality for payments made in the economy is achieved. Finality on that system is either for the payments themselves or for those resulting from their clearings. With particular

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1 "A more complicated game," *The Economist* (February 19th–25th 2011) at 77.

2 See *e.g.*, P. Mehrling, *The New Lombard Street: How the Fed Became a Dealer of Last Resort* (Princeton: Princeton University Press, 2010).

3 "Central banks have been supporting share prices," *The Economist* (February 19th–25th 2011) at 83.

emphasis on payment processed and settled on such a system, the volume describes the economics of payments as "a multidisciplinary field"[4] and purports to clarify policies and address risks in payment systems focussing on the role of the central bank in a rapidly changing landscape.

LVP Economics is the collective work of eleven contributing authors, including the three editors, all of whom are affiliated with the Bank of England. However, the preliminary pages stress that the volume "reflects the views of the authors and should not be taken as representative of the views or policy agenda of the Bank of England."[5] The work is edited as a cohesive monograph that does not identify any individual as the author or editor of any of its parts.

The Foreword, written by Sir John Gieve, Deputy Governor Financial Stability, Bank of England, identifies "monetary and financial stability" as "[t]he modern objectives of central banks" that "developed from their early roles in the field of payment systems." It further observes that at present "central banks . . . continue to provide the ultimate settlement asset" and "exert influence through ownership, operation, and oversight of key components of the financial infrastructure." However, the Foreword concedes, "their position at the heart of the monetary economy is subject to the same forces for change that are transforming the rest of the economy." Thus, "[w]hile the payment infrastructure has stood so far, the deepening crisis in financial markets . . . is also to bring new changes and requirements." In this context, the Foreword goes on to identify the introduction of same day finality in payment and securities settlement systems as "[t]he most fundamental change in recent times" against which policymakers "have to ensure that settlement risk remains contained."

The book consists of four parts. Part I covers money, banking and payment. It discusses their historical evolution and the role of the central bank. Part II deals with sources of systemic risk in payment and settlement systems. Focussing on the large value payment system it sets out system design, highlights credit and liquidity risks, and further discusses operational and business risks. Part III deals with public-policy intervention in payment and settlement systems. Highlighting market failures in payment and settlement systems, it covers ownership, governance, regulation and oversight. Against the background of an evolving infrastructure landscape, Part IV analyzes future policy challenges for central banks.

Chapter 2, dealing with how payments stand in relation to monetary and financial stability is the cornerstone of Part I. The chapter further discusses the value of payment systems to the real economy and the implications of the broadening and deepening of financial market infrastructure for central banks' stability objectives. It describes the large-value payment system ("LVPS") as not only settling "obligations arising in wholesale interbank markets, but also" as settling "net obligations arising" elsewhere.[6] As such the LVPS is the focal point for the clearing and settlement of retail and financial systems. Retail systems are cheques, direct debits and

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4 *LVP Economics* at 2.

5 Note however that the Bank of England is nevertheless identified in the book both on the title page (under the editors' names) and as the copyright holder.

6 *LVP Economics* at 44.

credit and ATM networks.[7] Financial systems[8] are for securities, foreign exchange, and central counterparties (for derivatives).

Part II explores sources of systemic risk in the payment and settlement system. It defines systemic risk as the risk that the failure of one participant to meet its obligations will cause other participants to follow suit. It opens with an outline of the four broad underlying components of settlement risk, being credit risk, liquidity risk, operational risk, and business risk. This overlaps only in part with the five risks listed in the report on core principles for systematically important payment systems. There, the Committee on Payment and Settlement Systems (CPSS) of the Bank for International Settlement (BIS) enumerated credit, liquidity, legal, operational and systemic risks as risks that can arise in payment systems and disrupt their operation.[9] Most notably for our purpose, *LVPS Economics* demotes the legal risk as a type of an operational risk. No explanation is provided to the departure from the CPSS' list.[10] Part II focuses on credit and liquidity risks and highlights how system design impacts them. Thus, credit risk manifests itself in a deferred net settlement system (DNS) while the liquidity risk is paramount in a real-time gross settlement system (RTGS). The advantages of a hybrid payment system design is thus highlighted. Risk in the clearance and settlement of foreign exchange, securities and derivative transactions is discussed in a separate single chapter.

Part III opens with a review of market failures in payment and settlement systems. These failures in the provision of infrastructures express themselves also in inefficiencies in pricing and quality of service. They are attributed to systemic risk externalities arising from interactions between participants within a system, between systems, and between a system and the rest of the economy. Alternative forms of public intervention are considered. They are public ownership with subsidization of payment systems, oversight (targeted intervention), and mutual ownership with a high degree of self-regulation as well as integration of external stakeholders.

Part III concludes with a discussion on central bank oversight arrangements. It observes that the scope of the oversight is set to achieve the monetary and financial stability objectives so as to depend on the systemic importance of the system. Part III thus identifies the LVPS as the payment and settlement system on which the central bank has the highest influence. Its least influence is on retail payment systems. Second to its influence on the LVPS is central bank's influence on securities

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7 I suppose that ATM networks include all card networks, including those of POS. Both wholesale and retail payments are "clean in the sense that they are unconditional — and are thus distinguishable from those made in financial systems." *LVP Economics* at 49.

8 Identified in *LVP Economics* (at 45) as "clearing and settlement".

9 Committee on Payment and Settlement Systems (CPSS), *Core Principles for Systemically Important Payment Systems* (Basel: Bank for International Settlements, January 2001) at 5.

10 Cf. Committee on Payment and Settlement Systems, *Principles for Financial Market Infrastructures — Consultative Report* (Basel: Bank for International Settlements, March 2011) at 16, where specific key risks faced by fmanica1 market infrastructures (FMIs) are stated to "include legal, credit, liquidity, general business, custody and investment, and operational risks."

settlement systems. Third, but still ahead of retail payment systems, come central counterparties: "[w]hile final settlement of margin typically passes through central bank accounts, the payment arrangements embedded in a CCP are only one (small) component of CCP's overall activities."[11]

Regarding both in securities settlement systems and central counterparties the bulk of risk management activities typically falls on the securities regulator. This is acknowledged in the book;[12] and yet regrettably, no discussion emerges on the desired division of powers and mechanism for co-operation between the securities regulator and the central bank.

In discussing future policy challenges for central banks, Part IV acknowledges both "the financial market stress of 2007 and 2008" and that at present "the wholesale infrastructure is undergoing significant change driven by the combined forces of technological progress, technical innovation, globalization, and regulatory change."[13] It describes the changing landscape as being formed by sets of conflicting forces such as concentration and competition, fragmentation and globalization and foresees "an ever greater role for banking firms in the provision of infrastructure."[14] To that end, *LVP Economics* sets out tiering arrangements based on correspondent relationship between a large settlement bank and small banks, which thereby become indirect participants in a payment and settlement system. Part IV analyzes the benefits and risks presented by such arrangements and goes on to describe the role of custodians and central clearing members in providing payment and settlement infrastructure.

The concluding chapter of Part IV (and hence of the book) deals with the response of the trading infrastructure to the upheaval of 2007-2008. It moves on to consider implications for monetary and financial stability and make suggestions for a research agenda in the economics of payment and settlement systems. Particularly, it identifies four areas: the link between central bank provision of liquidity and the performance of payment and settlement systems; interactions between systems and markets; the underlying determinants of the evolution; and the impact of the increased role for settlement in commercial bank money on the role of the central bank in ensuring monetary and financial stability.

Unfortunately, while *LVP Economics* highlights the emerging role of the central bank as the guardian of "financial stability", it lacks an in-depth analysis pertaining to the meaning of the term. Indeed, *LVP Economics* acknowledges that "in their financial stability role, central banks take an interest in the smooth functioning of the financial infrastructure as a whole;"[15] presumably then, it is that smooth functioning of the financial system which defines "financial stability." However, no clear distinction is made between the responsibility for the smooth functioning of the financial system (assigned to the central bank) and the responsibility for the functioning of each individual financial institution which is to be retained by "tradi-

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11 *LVP Economics*, at 159.

12 *Ibid.*

13 *Ibid.*, at 167.

14 *Ibid.*, at 168.

15 *Ibid.*, at 41.

tional" regulators.[16] Moreover, the objective of "smooth functioning of the financial system" seems to be vague and not well defined as it lacks an adequate objective standard. Finally, then and there, *LVP Economics* acknowledges that "given its central importance, central banks typically take a particularly strong interest in the identification and mitigation of risks that might disrupt settlement in the LVPS, in which ultimate settlement occurs across the central bank's books".[17] *LVP Economics* focuses on that role of the central bank but it is not all that clear if this either provides the core or defines the limits of its role as a guardian of financial stability.

This however ought not to affect the treatment of *LVP Economics* as breaking new grounds in academic literature dealing with the role of the central bank in the payment and settlement system. Possibly, the publication of a collection of essays in the 1990s[18] heralded the treatment of payment and settlement system as an interdisciplinary area in its own right. Certainly, since then, the landscape has changed; research, well documented in the bibliography of *LVP Economics*, expanded.[19] *LVP Economics* is thus a pioneering text in aggregating, synthesizing and moving forward the study of the area. It is well researched and clearly written.

In the Introduction, hope is expressed that "this book will appeal to a wide audience, including fellow policymakers, practitioners — either users or providers of infrastructural services — and non-specialist academic economists and students." It is also hoped that the book will not only "offer a good reference text, but also that it will stimulate active debate and encourage new research in this important field."[20]

While law is addressed, *LVP Economics* did not benefit from legal expertise and scholarship. Furthermore, lawyers are not identified specifically as included in the target audience for the book. Both omissions are regrettable. Indeed, law may not shape policies; at the same time the implantation of policies is to be carried out according to law. Hence it is imperative to get lawyers actively involved in the multidisciplinary enterprise designed to map an orderly way to meet future demands and benefit from them.

In short, legal implications of the evolution that precipitated *LVP Economics* ought to be pursued and are to be informed by as well as to complement *LVP Economics*. In short, law must meet the challenge of implementing new policies designed to meet new needs and objectives. It is precisely to that end that academic lawyers, law students, and law reformers will find the book to be instructive and

16 Even when and where the traditional regulator of banks has been the central bank this function has been regarded as an extension of its oversight over banks and not as a derivative of any separate responsibility for financial stability.

17 *LVP Economics* at 41-42.

18 See *e.g.*, D.B. Humphrey, ed., *The US Payment System: Efficiency, Risk and the Role of the Federal Reserve* (Boston: Kluwer Academic Publishers, 1990), and B.J. Summers, ed., *The Payment System — Design, Management and Supervision* (Washington: International Monetary Fund, 1994).

19 A collection of essays of a later vintage preceding *LVP Economics* is A.G. Haldane, S. Millard & V. Saporta, *The Future of Payment Systems* (London and New York: Routledge, 2008).

20 *LVP Economics*, at 2.

extremely helpful.