



Contents lists available at ScienceDirect

Technological Forecasting & Social Change



Capital markets integration: A sociotechnical study of the development of a cross-border securities settlement system

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ARTICLE INFO

Article history:

Received 1 February 2014

Received in revised form 11 February 2015

Accepted 20 February 2015

Available online xxxx

Keywords:

Securities
Markets
Marketplace
Technology
Integration
Globalisation
Settlement
CSDs

ABSTRACT

Digital information and communications technologies (ICTs) are transforming capital markets. The integration of capital markets is seen as one such area of transformation. The research presented in this article studies one integration initiative that took shape around the proposed combination of a number of key European securities marketplaces through the development of a cross-border settlement system. Taking a sociotechnical approach, the research presents the positions of the key actants identified in relation to key controversies regarding the development of the settlement system and shows how the relations between the controversies and the positions of the actants involved in them evolve. By examining the role of ICTs in the evolution of these relations, the study seeks to illuminate the complex causalities between the social and technical aspects of cross-border capital market integration. The article argues that in addition to enabling the interconnecting of an expanded set of transacting parties, ICTs bring important cognitive dimensions that enable the inspiration, planning, and foresight necessary for both developers and market participants to formulate their plans, strategies, and positions vis-à-vis the expanded and transformed marketplace arrangements.

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1. Introduction

Since the early 1970s, securities markets have been transformed through the adoption of digital information and communication technologies (ICTs) both for the conclusion and post-trade processing of transactions (Donald, 2013; Lees, 2011; Norman, 2007; Valentine, 1988; Wells, 2000). The adoption of such technologies has fostered huge increases in the volume and speed of trading, the introduction of novel and innovative products, processes, and organisational forms, and intensified competition amongst market participants trading on particular venues as well as amongst trading venues themselves (Lees, 2011; Schmiedel and Schönenberger, 2005). ICTs have also been seen as making possible the integration of still separate national securities markets, an issue that is particularly relevant in the EU where there is a drive to develop

an integrated capital market for Europe (Giovannini Group, 2001, 2003).

Such moves to integrate securities markets provide opportunities to better understand the complex causalities driving the establishment of trans-national capital marketplaces and the broader globalisation of finance which underpin much financial innovation (Norman, 2007; Schmiedel and Schönenberger, 2005; Skinner, 2007). This is because instances of market integration provide an occasion to study a financial market ‘in the making’ (Mackenzie, 2005, 2009) when it is possible to gain a better understanding of the way a marketplace is put together and how the reciprocal shaping of the social groups and technical entities involved in the process takes place by making visible the interactions between technological development, trading venues, market participants, and national and international regulatory bodies and policy-makers (Cerny, 1994; Knorr-Cetina, 2005). Furthermore, studying market integration can provide insights into how liquidity is not only fragmented but also constituted in the

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techno-social transformations of these markets put in motion by the introduction of digital ICTs.

To this end, the article presents a study of one such market integration initiative that took shape around the proposed integration of a number of key European securities settlement systems, which are the systems in which, following a trade, the securities traded and their ownership are transferred in exchange for a payment. The initiative studied brought together international central securities depository (ICSD) Euroclear and the central securities depositories (CSDs) of the UK and Ireland, France, Belgium, and Holland. It is important because it was the first attempt to establish a truly cross-border marketplace for securities in which the whole set of property rights pertaining to the securities covered would be maintained across the national jurisdictions integrated. So, for example, after integration the owner of French securities in the UK would have exactly the same property rights as one in France and would be able to trade those UK securities through the same account and in the same way as the French ones. The study follows the development of a single ICT-based system that would make possible the settlement across borders of securities transactions between these national marketplaces.

Based on this study, the article seeks to develop a broader theorisation of a securities market as market 'place' (Hetherington, 1997) and how 'place' can be reconfigured and transformed through ICTs. By focusing on the dynamics of the relations between the emergent ICT system and key market participant groups (system operators and developers, market participants, regulators, EU and national authorities), the study seeks to describe how digital ICTs relate to the reconfiguring of 'place', and more generally, to phenomena of financial markets globalisation (Knorr-Cetina, 2005; Sassen, 2005). This, in turn, enables a better understanding of how technological change relates to social change in the form of changes to commercial and geo-political competition, new product and services development, regulation, and policy-making within the emerging landscape of digital global finance.

The structure of the article is as follows: In the next section, the research is positioned in the broader context of studies of financial markets as sociotechnical innovations and a case is made for the focusing on post-trade arrangements. After presenting the main research question motivated by these studies, the article goes on to outline the research approach taken for the collection and analysis of the empirical material used and the research setting studied. It then presents the empirical case studied and the analysis of this empirical material collected. Following this analysis, a discussion is developed to addresses the main research question posed and the literature and theory that motivated the study. The paper concludes with a summary of the implications of the research in terms of theory and practise, its limitations, and the future research directions it opens up.

2. Research context

In order to understand better how the complex socio-technical linkages that constitute markets and marketplaces are established in practise and how they make possible the market integration that is so important to the globalisation of finance and to financial innovation (Diaz-Rainey and Ibikunle, 2012; Lees, 2011; Schmiedel and Schönenberger, 2005), it is

important to study what Thrift calls, the "basic sendings and receivings of sociotechnical life—and the modest but constant hum of connection and interconnection that they make possible" which have been neglected or relegated to obscure infrastructures (Thrift, 2004, p.175).

Securities settlement systems have been amongst such obscure capital markets infrastructures, despite being core components of financial marketplaces. Fig. 1 illustrates how the settlement system relates to the other stages of a typical securities transaction.

As can be seen, settlement is of core importance because no securities transaction entered into on an exchange is complete without the mutual obligations entered into by the transacting parties being discharged through the reciprocal movement of the stocks and money being exchanged, from one transacting party to the other (Callon and Muniesa, 2005; Millo et al., 2005). Settlement systems are crucial to this because they 'script' these interactions in a way that reconciles the need for the legal determinacy that must underpin the ownership and transfer of titles to securities and other financial instruments with the need for the operational flexibility that makes possible the most efficient deployment of the scarce collateral (cash and securities) of market participants (Sommer, 2001). The intermeshing of time and space this involves acts as "a kind of socio-spatial glue" that contributes to the broader defining as a 'place' of particular markets (Thrift and Leyshon, 1994, p.322). The establishment of new 'place' resulting from the integration of existing financial marketplaces will, therefor depend on developing appropriate settlement arrangements so that claims and obligations are managed in an orderly, acceptable, predictable, and incontestable way in such an expanded marketplace (Millo et al., 2005).

Growing interest in financial globalisation, systemic risk, and the efficiency and resilience of market infrastructures are lifting the clearing and settlement arrangements of financial marketplaces out of their obscurity and highlighting their importance to the functioning of these markets (Devriese and Mitchell, 2006; Schmiedel et al., 2006; Van Cayseele and Wuyts, 2007).

From humble 'plumbing' (Norman, 2007), these arrangements have now become key strategic locations in terms of defining the boundaries of a particular financial marketplace or trading venue and formatting the complex relationships that link together participants into a defined market community. The boundaries that defined particular financial marketplaces and trading venues have started getting renegotiated and the systemic implications of the inter-linkages that compose them are of more concern (Lees, 2011; Norman, 2007). The strategic position of the settlement systems at the confluence of the institutional and technological arrangements of financial marketplaces makes them an ideal vantage point from which to study the interaction and mutual shaping between the human and technological involved in the development of cross-border financial marketplaces, especially with regards to the role of ICTs in these processes.

Within this context, the clearing and settlement activities of financial markets have started to be seen as an integral part of the broader sociotechnical processes that structure and organise economic exchanges in these markets, contributing to their calculative functions and giving them their particular characteristics (Millo et al., 2005; Callon and Muniesa, 2005).

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