

Chapter 1

Financial Market Infrastructures: The Backbone of Financial Systems

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ABSTRACT

Like a human being's backbone, well-functioning financial market infrastructures contribute to the stability of the financial system. They enable fast and smooth movements, channel relevant information, protect the channels for transmission and reduce risk. Problems in financial market infrastructures may lead to dysfunctions of financial markets, a lack of options for transaction and, therefore, to limited movability, misleading information or disturbed information channels and in the worst case to systemic risk. The chapter explains the role of financial market infrastructure within the wider definition of a financial system. Based on the historical emergence of payment systems, central clearing and central securities depositories, the special advantage of financial market infrastructures for the productivity of intermediaries, for the efficiency of financial markets and for the welfare of an economy is explained. The chapter shows the economic and analytical importance and specificity of financial market infrastructures.

WHAT IS THE BACKBONE?¹

This book deals with financial market infrastructures, referring to payment systems, central counterparties, central securities depositories, securities settlement systems, and trade repositories, as well as to TARGET2-Securities, which is not an infrastructure in the pure sense, but rather a platform. According to the CPSS-IOSCO Principles for Financial Market Infrastructures, a “financial market infrastructure is defined as a multilateral system among participating institutions, including the operator of the system, used for the purposes of clearing, settling, or recording payments, securities, derivatives, or other financial transactions.” (CPSS, 2012b, p. 7). Although the existing financial market infrastructures reveal a striking plurality of details (CPSS, 2011 and 2012a; Manning et alii, 2009), their basic functions for the economy are rather similar in nature, since they deal with standardized forms of transactions (Berndsen, 2010).

Financial market infrastructures could be considered the backbone of financial systems in a modern society with reference to metaphorical similarities to the backbone's features such as its stabilizing effect,

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being the central axis for all parts of the body, facilitating movability, cushioning against vibrations, and channeling and protecting the nerve cords. Like a human being's backbone, well-functioning financial market infrastructures contribute to the stability and growth of the financial system (CPSS, 2012b, p. 18; Martinez-Jaramillo et al. 2014). Financial market infrastructures are linked to all relevant parts of the financial system and are in network topology central to the financial system regardless of the centrality measure applied. This unmatched centrality results from three types of links they provide (Berndsen, 2011 and 2012). First, the institution-based links of a financial market infrastructure to its members (e.g. banks). Second, the systemic links between different types of financial market infrastructures which are necessary to channel liquidity, securities and information. And third, the common links of financial market infrastructures to external service providers. Financial market infrastructures at the same time enable fast and smooth movements, i.e. re-allocation of funds and liquidity across regions, durations, risk levels and currencies. They channel relevant information about payment streams, investment trends, risk perceptions, liquidity status and systemic risk. This makes them a prime subject of interest for all overseers and analysts. In addition, modern research has shown that the analysis of pure payment streams can yield significant insights for other seemingly unrelated research topics, e.g. business cycle forecasting (SWIFT, 2012). They protect the channels for transmission and reduce operational risk. Just as a backbone is robustly designed to prevent any harm to the sensible nerve cords the financial market infrastructures are – as required by overseers and for the purpose of convincing participants – specially designed to withstand operative problems and to resume operations quickly without loss of data after operational failures.

In addition, in recent years publicly operated financial market infrastructures in particular have contributed significantly to the understanding of flows and operations therein by increasingly allowing research and publication of aggregated results of this research. Therefore, providing information has become a new function for financial market infrastructures. Without breaking any confidentiality rule they can by publishing aggregated and anonymized research results, contribute to a better understanding of clearing and settlement by market participants. Moreover, and surely not the last parallel, problems in financial market infrastructures could be critical for the financial system just as injuries to a backbone are to a human being. Operational problems in financial market infrastructures may lead to dysfunctions of financial markets, a lack of options for transaction and, therefore, to limited movability, misleading information or disturbed information channels and, in the worst case, to systemic risk. The analogies to the devastating impact of backbone problems for the life of vertebrates are obvious.

Using the metaphor of the backbone merely serves an illustrative and explanatory purpose. The analogies are striking, but are by no means perfect. The analogy also has its shortcomings, especially when we consider the development perspective. Unlike invertebrates, which of course have no backbone, a financial system is well capable of establishing new and other financial market infrastructures. Indeed, although some financial market infrastructures like payment systems have a history spanning centuries, most financial market infrastructures have in recent years undergone a significant amount of change in functions, scope, and scale.

FUNCTIONS IN FINANCE

To understand the importance of financial infrastructure for the financial system a brief look at the functions of a financial system and its development process is useful. The financial system provides important

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