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Deriving A Holistic Performance Measurement System For The European Clearing Industry

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European clearing houses are facing competition on their home markets for the first time. In order to meet this new challenge, the management of a clearing house needs to identify its stakeholders and their interests and must define a strategy including financial and non-financial aims, which have to be clearly communicated internally. We introduce the Balanced Scorecard as a funded and holistic approach for the management of a clearing house. To meet the specifics of the clearing industry, we present an adjustment and extension of Kaplan and Norton's original concept. Particularly risk management requires detailed consideration. We therefore add risk management as a separate perspective and integrate competition and IT into the modified Balanced Scorecard.

Field of Research: International Financial Markets, Corporate Governance

1. Introduction

Clearing houses for equities in Europe are facing enormous challenges nowadays with the Markets in Financial Instruments Directive (MiFID) and the European Code of Conduct for Clearing and Settlement gone live and with new forms of competition arising. Clearing houses in Europe used to operate their business facing almost no competition. Today, they are facing new market participants, such as the European Multilateral Clearing Facility, which provides clearing services for Chi-X. Furthermore, the Code of Conduct for Clearing and Settlement has led to a number of requests for access and interoperability between providers of trading, clearing, and settlement and in consequence to a competitive European clearing environment. The need therefore arises for the established clearing houses to adapt to the new market situation. In order to meet the new challenges, the management of a clearing house needs to identify its stakeholders and their interests and must define a strategy that includes financial and non-financial aims.

The aim of this paper is to show that the Balanced Scorecard (BSC) is a well-established tool that can help the management of a clearing house to implement a strategy and communicate this strategy within the organisation.

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The BSC represents a holistic instrument as it integrates a variety of perspectives into the process of corporate management. As the theoretical and conceptual valuation of the BSC is thus far only treated rudimentarily in academic literature (Körnert and Wolf, 2006), we base the BSC on the shareholder and the stakeholder value theories and adapt the original BSC to fit the requirements of a clearing house. The paper is organised as follows. Section 2 illustrates performance measurement with the BSC and describes how the shareholder and the stakeholder value theories correspond with the concept of the BSC. It is followed by section 3 which identifies the relevant stakeholders of a clearing house and derives a BSC which considers the industry's specifics. Finally, section 4 concludes.

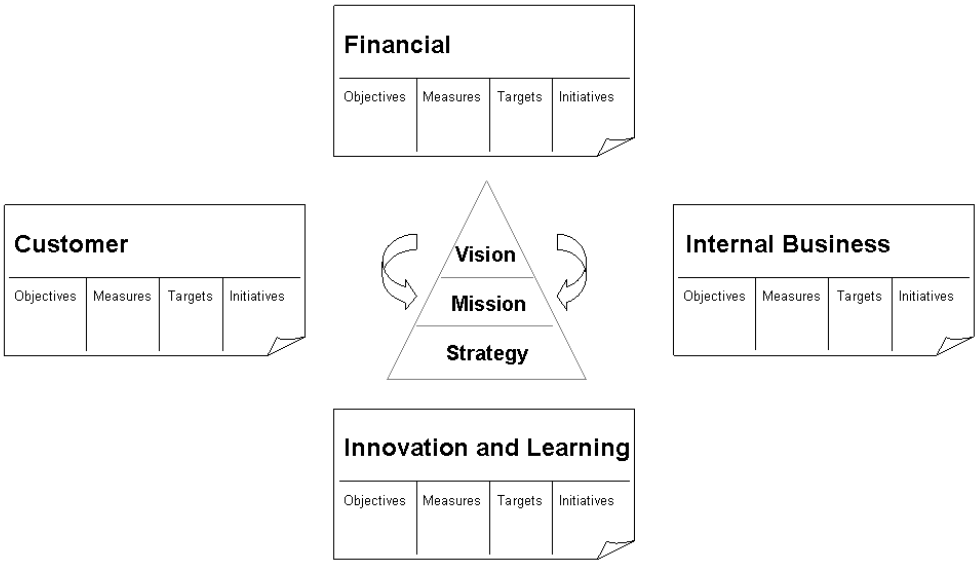
2. Theoretical Foundations of Performance Measurement

Performance measurement is a way to track performance over time to assess whether goals are being met. The management of an organisation thus involves two key areas: planning and control. Every organisation requires plans and a mechanism by which execution against the plan can be controlled (Hahn, 1996; Nørreklit, 2000). The ability of an institution to mobilise and exploit its intangible or invisible assets has become more decisive than investing and managing tangible assets (Kaplan and Norton, 1996).

2.1. The Balanced Scorecard

The BSC translates the vision of an organisation into a comprehensive set of measures and provides the framework for strategic measurement and management. The measures represent a balance between external measures for shareholders and customers, and internal measures of critical business processes, innovation, and learning. These measures are balanced between the outcome measures and the measures that drive future performance. The scorecard is balanced between objectives, outcomes, measures, and subjective performance drivers (Kaplan and Norton, 1996). It has emerged as a popular framework for combining financial and non-financial performance measures. By providing explicit links between strategy, goals, performance measures, and outcomes, the BSC helps to achieve high-level performance. The BSC is a powerful tool for communication strategy intent and motivating performance towards strategic goals (see Fig. 1 and Langfield-Smith, 2005).

Fig. 1: Four perspectives of the Balanced Scorecard (Kaplan and Norton, 1996)



The success of the implementation of a strategy is assessed by four perspectives (Kaplan and Norton, 1992):

Financial Perspective:
The importance of financial considerations is paramount in most situations and in most organisations. Therefore, for any strategic choice the timely and accurately presented funding data is critical and the sources of funding and budgeting must be done. Another key consideration is the prospects of sustainability of funding for the initiative required to implement the strategy. This component of the BSC hence looks at the projects from a financial perspective and discusses financial considerations.

Customer Perspective:
This area focuses on what has to be done and what is most important, from the customer's perspective, to achieve the mission. The importance of the customer focus and customer satisfaction has gained considerable weight in recent management philosophy. The increased competition in the markets means that it is easier than ever for the dissatisfied customers to change suppliers. The objectives, measures, targets and, eventually activities are therefore planned to implement strategy regarding the customer satisfaction.

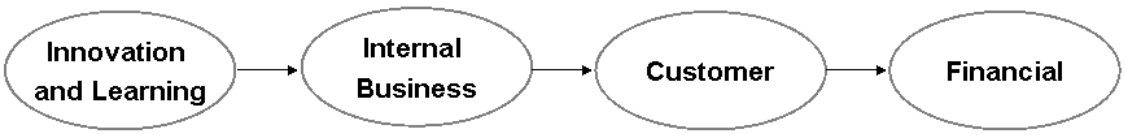
Internal Business Perspective:
This component focuses on what an organisation has to do well to meet the customer needs defined in the customer perspective. It also lets managers know how well their business is running and how well the internal processes are designed to meet the objectives. These may be divided into mission-oriented processes and support processes.

Innovation and Learning Perspective:
This perspective – frequently also named **Staff Perspective** – focuses on how an organisation is improving its ability to innovate, improve, and learn in order to support success with the critical operations and processes defined in the internal process perspective. This may include employee training and corporate culture attitudes. In the modern management philosophy, it is increasingly becoming important for the organisations to develop a culture of learning where the employees constantly learn and share the knowledge to facilitate growth. On-the-job training and mentoring is also an essential component of the perspective.

Each of these four perspectives has a set of objectives, measures, targets, and initiatives to achieve the defined strategic goals (Kaplan and Norton, 1996). Within each perspective, *objectives* identify what needs to be done in order to achieve the overall mission. The *measures* provide a way to determine how an organisation is doing in achieving the objectives within the perspectives and in turn the overall mission. They are the most actionable component in the scorecard. The *targets* are set for each measure to monitor and evaluate the progress towards the objective. The *initiatives* are the set of activities that are planned within each perspective in order to achieve the targets set for each measure.

Cause-and-effect relationships are an essential part of the BSC, because they differentiate performance measurement systems like the BSC from simple key performance indicator lists (Kaplan and Norton, 1996). Key performance indicator lists present an ad-hoc collection of measures to managers but do not allow for a comprehensive view on corporate performance. Instead, performance measurement systems like the BSC try to model the relations of the underlying value chain in cause-and-effect relationships to allow prediction of value chain performance measures, communication and realisation of the corporate strategy, and incentive controlled actions (Blumenberg and Hinz, 2006). Fig. 2 visualises the relationship of the perspectives from Kaplan and Norton.

Fig. 2: Cause-and-effect relationships of the BSC (Kaplan and Norton, 1992; Weber and Wallenburg, 2006)



The theoretical and conceptual assessment of the BSC has thus far only been treated rudimentarily in academic literature. We therefore intend to position the BSC within the concept of academic theories on corporate governance. Depending on the value system prevailing in the context of different cultures and legal families, corporate governance is seen either as a system aimed at only serving the *shareholders* by protecting their rights, or as a system dealing with the protection of the rights of all, or at least a part of, the *stakeholders*

(Wentges, 2002). Based on the purpose of the corporation, the current perspectives on corporate governance are categorised into two contrasting paradigms, namely a shareholder perspective and a stakeholder perspective. In the following, we illustrate how the shareholder and the stakeholder value theories correspond with the concept of the BSC (Körnert and Wolf, 2006).

2.2. Shareholder Value Theory

The concept of shareholder value maximisation is a value-based management principle stating that a company's management should foremost consider the interests of shareholders in its business decisions. Thereby, the returns to shareholders should outperform certain benchmarks such as the cost of capital (Rappaport, 1986). In essence, the idea is that shareholders' money should be used to earn a higher return then they could earn themselves by investing in other assets having the same amount of risk.

Performance figures in value-based management according to Janssen and Scheren (1999) ideally meet the following criteria:

- Suitability for defining and measuring business success;
- Incorporation of future cash-flows and their timing;
- Consideration of capital employed, cost of capital, and risk associated;
- Suitability for internal and external usage;
- Transparency and comprehensibility.

Examples of such performance figures can be found within the concepts of Rappaport (1986), the Cash-flow Return on Investment (CFROI) (Lewis, 1995), or Stewart's (1991) Economic Value Added (EVA). The basic principle of the BSC by Kaplan and Norton is the fact that while all perspectives should be balanced, they need not necessarily all be of equal importance. As the financial perspective covers the long-run targets, it should according to Kaplan and Norton (1996) outrank the others. Encompassing the value-based objectives, figures and measures that contribute to answer the question how to act vis-à-vis the stakeholders, the financial perspective of the BSC is undoubtedly closely connected with the shareholder value theory.

2.3. Stakeholder Value Theory

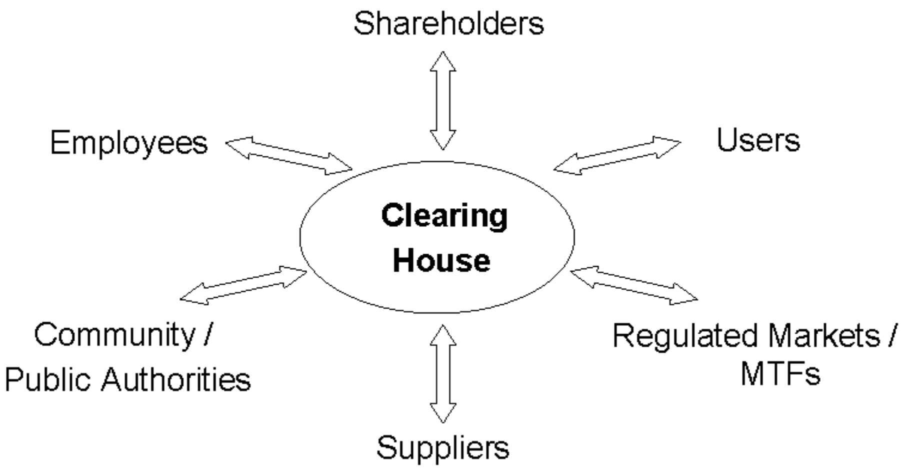
While the shareholder perspective regards disciplining managers in order to maximise shareholder value as the fundamental goal of the corporation (Copeland, Koller, and Murrin, 1994), the stakeholder perspective extends the purpose of the firm to include the stakeholders' welfare, such as employee, consumer, supplier, and the local community welfare rather than concentrating on the shareholder welfare alone (Prabhaker, 1998). The stakeholder perspective is actually an extension of the shareholder perspective. It further extends the purpose of the corporation from maximising shareholders' wealth to serving wider interests of stakeholders fairly, emphasising corporate efficiency in a social context. A stakeholder is any group or individual who can affect or is affected by the achievement of the organisation's objectives. To affect the firm means to have the power to influence the company. To be affected by the firm results in the fact that these groups or individuals have an interest in or claim on the company, because they are involved in the operation of the firm. Thus, two attributes can be defined to identify stakeholders: power to influence the firm and the legitimate claim or interest in the firm (Freeman, 1984). Dominant stakeholders are both powerful and have a legitimate claim or interest in the firm. These stakeholders are the key stakeholders that actually draw the attention of the management. They are important for managers, because their claims or interest in the firm are justified by the legitimacy of their relationship with the firm. In addition, they have the capacity to force the firm to take account of their claims (Mitchell, Agle, and Wood, 1997). Prominent stakeholders are shareholders (having voting power), customers, suppliers, employees, creditors (having economic power), and the community and governance (having political power) (Freeman and Reed, 1983). Considering the usefulness of a sound stakeholder analysis for successful corporate governance (Göbel, 1995), it is advisable and valuable to design the perspectives of a BSC in consideration of the relevant stakeholders. However, the lack of cause-and-effect relationships among the various groups of stakeholders as well as their limited – if not inexistent – effect and foundation on the corporate strategy do not allow for a purely stakeholder-oriented scorecard (Körnert and Wolf, 2006).

3. Deriving a Balanced Scorecard for a Clearing House

3.1. Stakeholders of a Clearing House

A comprehensive understanding of a clearing house and its stakeholders is needed to develop a BSC for a clearing house. The main stakeholders of a clearing house are visualised in figure 3 and described in detail in the following.

Fig. 3: The different stakeholders of a clearing house



Shareholders have the power to influence the clearing house as they provide the company with capital and have a legitimate interest in the clearing house based on their ownership. As owner of the clearing house, they expect the maximisation of their return on investment.

Suppliers provide the clearing house with necessary infrastructure and services and earn revenues from the clearing house.

Users can be further classified into direct and indirect users. Direct users contribute to the risk capital of the clearing house and pay fees for the services. Thus, they have economic influence over the clearing house and a legitimate claim on the clearing house to apply sound risk management and provide them with secure and efficient clearing services at a low price.

Employees provide the clearing house with human resources and expect to receive adequate compensation and desirable working conditions.

Community / public authorities provide the regulatory and supervisory framework in which a clearing house conducts its business. In return, they have an interest in the risk management, free and fair competition, and cost-efficiency of the clearing house. Examples for such institutions are the national banks or the European Central Bank, public authorities at national level, public authorities at EU level (EU-Commission, CESR, etc), and other institutions (e.g. the Bank for International Settlement).

Regulated Markets and Multilateral Trading Facilities (MTFs) have the capacity to designate a clearing house within the same group or appoint a clearing house to offer clearing services for the securities traded on their platform by signing a clearing service contract with the clearing house. Hence, regulated markets and MTFs have a legitimate interest in the fees[i] and the services of the clearing house[ii] and may want to establish a long-term relationship. Moreover, when a clearing house serves several competitive markets, the regulated markets have a strong interest in the neutrality of the clearing house.

3.2. Company Visions of Clearing Houses

The BSC is an appropriate steering tool, allowing the management to set up objectives and to communicate these objectives and the performance of these objectives to the staff. The scorecard translates an organisation's vision into a comprehensive set of measures and provides the framework for strategic measurement and management (Kaplan and Norton, 1992). A corporate vision is a short, concise, and inspiring statement from top management of what the organisation intends to become and to achieve, often stated in competitive terms (Hahn, 1996). We studied a number of corporate visions from selected European clearing houses. The following table details the visions of two industry representatives[iii]:

Table 1: Corporate visions of selected European clearing houses

EMCF	In an increasingly complex, yet ever **more convergent world, innovation, speed and agility** will be as crucial as scale, track record and reach. We will stand out as a professional international financial services brand, recognised for our ability to deliver superior and sustainable **stakeholder value** by constantly anticipating and surpassing the needs of **customers, investors, employees, partners and communities** wherever we do business.
KELER	KELER shall be an acknowledged clearing house and depository with a **leading position** in the Central Eastern Europe region that **operates in an innovative way**, in the form of a specialised credit institution. It shall be a dominant, active participant of the clearing house systems infrastructure of the region. KELER shall be successful, because its **customers are satisfied** with its services, shall manage to increase its **shareholder's value**, and appreciate and retain its ambitious team of **employees**.

A detailed analysis shows that both clearing houses apparently apply the stakeholder value theory. Elements of the stakeholder theory such as shareholders, customers, and employees are incorporated in both corporate visions emphasising their importance for the top management. Moreover, further strategic perspectives from Kaplan and Norton's BSC are reflected:

- **"needs of investors" / "increase its shareholder's value"** → represents the financial perspective;
- **"needs of customers" / "customers are satisfied"** → represents the customer perspective;
- **"needs of employees" / "retain its ambitious team of employees"** → represents the innovation and learning perspective;
- **"innovation, speed and agility" / "operates in an innovative way"** → partially represents the internal business and the innovation and learning perspectives.

However, certain aspects of the corporate visions cannot be mapped to the stakeholder value theory or the traditional perspectives of the BSC:

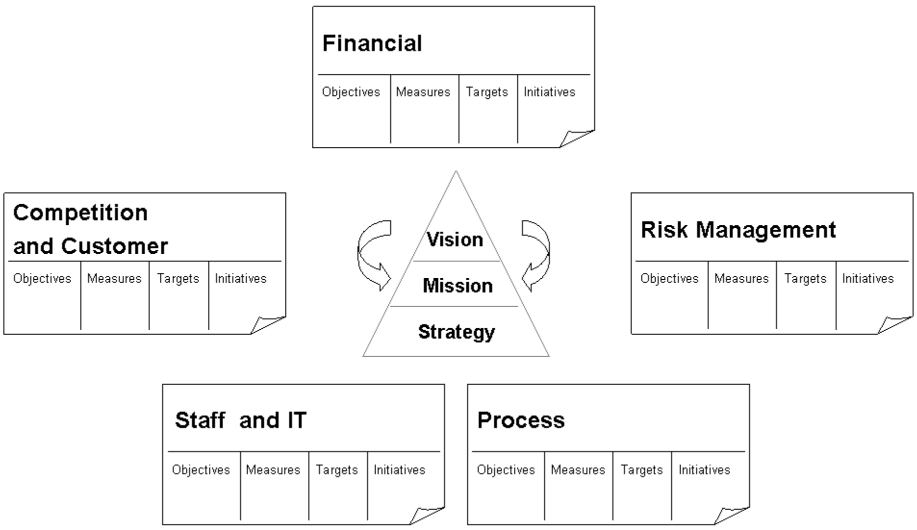
- **"more convergent world" / "leading position in the Central Eastern Europe region"** → We interpret this as an indicator for the company's reaction towards the changing competitive European environment.
- **"innovation, speed and agility" / "operates in an innovative way"** → We interpret this as extension of the internal business and the innovation and learning perspectives by the aspect of IT.

In effect, these extending elements of the corporate visions require a modification of the original BSC.

3.3. The modified Balanced Scorecard for a Clearing House in a changing Environment

As shown, a clearing house is facing different stakeholders and is confronted with a changing environment. To fit the needs of a clearing house, we adapt the traditional perspectives introduced in chapter 2 to the specifics of this industry. For the identification of the appropriate perspectives we first did an extensive review of BSC standard literature. We further analysed the corporate websites, annual reports, and organisational charts of clearing houses. Using these insights, we interviewed industry experts. As a result, we extend the “Customer” perspective to “Competition and Customer” as Tate (2000) argues that competitors should be included. Additionally, we introduce a new “Risk Management” perspective following Ahn (2005) who demands that each fundamental goal should be represented by a perspective. Fig. 4 shows the perspectives of the modified BSC for a clearing house in a competitive environment.

Fig. 4: Five perspectives of the modified BSC for a clearing house



Financial Perspective:
The financial perspective does not differ from the BSC from Kaplan and Norton. This component of the BSC therefore looks at the projects from a financial perspective and discusses financial considerations. We propose to align the financial objectives to the shareholder value theory by introducing value-based measures such as EVA. In case the clearing house operates on a not-for-profit basis, we recommend aligning to the stakeholder value theory.

Competition and Customers Perspective:
As stated by Kaplan and Norton, customer focus and customer satisfaction are of paramount importance to the success of a company. Due to the newly arising competition, we propose to extend the “Customer” perspective to “Competition and Customer” in order to integrate strategic actions triggered by the

competitive dynamics into the company's BSC. These may include strategies of expansion into new markets or the defence of the established markets.

Process Perspective:
We propose to rename the "Internal Business" perspective as introduced by Kaplan and Norton as "Process" perspective. As the original "Internal Business" perspective includes support processes, we suggest focusing on the mission-oriented core processes. Those supporting processes that are essential for a clearing house (such as Risk Management and IT) are addressed in individual perspectives. The focus of this perspective emphasises what the clearing house has to do well to meet the customer needs.

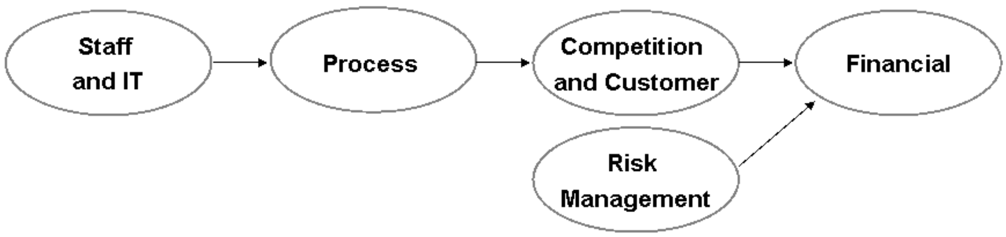
Risk Management Perspective:
Due to the of risk management function of a clearing house this function needs to be considered properly. As the clearing house absorbs the counterparty risk and guarantees clearing and settlement of a trade (Wendt, 2006), the management of the counterparty risks is essential for the clearing house. Through the integration of a risk management perspective the awareness for risk is increased and the process of risk management is likely to be improved. As measures for this perspective we propose, for instance, the time between margin cycles, the accuracy of margining, the financial rating, and the number of incidents of default funds usage.

Staff and IT Perspective:
As stated by Kaplan and Norton, "Innovation and Learning" are essential in order to support the critical operations of a clearing house. While the original perspective focuses on staff mainly, we recommend extending this perspective by IT and renaming it as "Staff and IT". The most prominent driver of technological efficiency was the almost complete automation of the post-trade processes by the implementation of innovative IT systems. Continental European markets adopted paperless processes earlier than other markets and are currently marking significant IT investments (Deutsche Börse, 2005). As measures for this perspective we propose for instance system availability and straight-through-processing rates.

The basic cause-and-effect relationships of the perspectives from Kaplan and Norton remain constant. Adding the risk management perspective requires an adaptation of these relationships (see

Fig. 5).

Fig. 5: Cause-and-effect relationships of the BSC for a clearing house



4. Conclusion

Clearing houses are facing enormous challenges with the MiFID and the Code of Conduct gone live and with new forms of competition arising. Some of the clearing houses are facing competition on their home markets for the first time. In order to meet these new challenges, the management of a clearing house needs to identify its stakeholders and their interests and must define a strategy including financial and non-financial aims, which have to be clearly communicated internally. The BSC is a well-established steering and controlling tool, allowing the management to set up objectives and to communicate these objectives and their performance towards the employees. We introduce the BSC as a funded approach for the management of a clearing house and illustrate how the shareholder and the stakeholder value theories correspond with the concept of the BSC.

To meet the specifics of the clearing industry, we present an adjustment and extension of the original BSC by Kaplan and Norton. Particularly risk management, as one of the core functions of a clearing house, requires detailed consideration. We therefore add risk management as a separate perspective. Moreover, we integrate competition and IT into the modified BSC. As theoretical and conceptual assessment of the BSC has thus far only been treated rudimentarily in academic literature, we identify potential for further research. By means of an empirical case study we intend to:

- Evaluate the acceptance and the level of utilisation of the BSC in European clearing houses;
- Validate the suitability of the perspectives of both scorecards (original and modified BSC);
- Compare both scorecards regarding their adequacy for performance measurement and management of a clearing house;
- Validate interdependencies between the perspectives of both Balanced Scorecards;
- Show that the modified BSC is better suited.

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End-Notes

[i] Lower clearing fees contribute to the attractiveness of the trading platform because of lower total transaction costs.

[ii] For instance, netting services and risk management which are of great significance to the safety and efficiency of the regulated market or MTF.

[iii] EMCF: European Multilateral Clearing Facility, clearing house for Chi-X; KELER, clearing house and depository of Hungary. Visions were found on the institutions' corporate websites; emphasis added.