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INNOVATIONS IN LIQUIDITY MANAGEMENT – THE POTENTIAL OF CORPORATE TREASURY*

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Abstract

The paper discusses the problem of the importance of corporate treasury function in liquidity management, with particular focus on cash management. The aim of the study is to support a thesis that corporate treasury has potential to enhance innovative actions due to the expert knowledge and the deep understanding of the functioning of a particular company. By providing an overview of corporate treasury development, objectives and functions, the paper indicates the prime importance of liquidity management function and in this context describes the specifics of cash management actions. Further, by addressing the contemporary challenges of corporate treasury, the paper addresses the prime innovations in cash management, including state-of-the-art settlement techniques, information channeling systems, new ways of investing cash surpluses and managing risk.

Keywords: *liquidity, cash management, corporate treasury, innovations.*
JEL Classification: *G32, G39.*

Introduction

Liquidity management is a crucial managerial area of corporate finance. There is a common knowledge that even the most profitable company may go bankrupt if it does not manage its liquidity in a proper way. The importance of liquidity maintenance arises in times of crisis characterized by the high volatility of financial markets and clear symptoms of economic downturn.

In this paper we focus on the problem of liquidity management by discussing the objectives and functions of corporate treasury. Corporate treasury is relatively new phenomenon, representing a profession dedicated for a defined, complex set of financial management-related tasks in a company. Corporate treasury function may be performed solely or by a dedicated department under the CFO supervision.

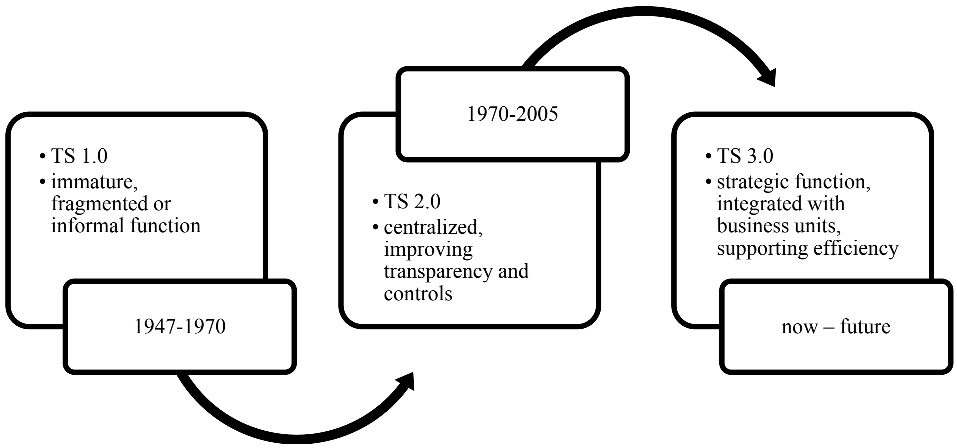
In particular, the purpose of this paper is to support a thesis that corporate treasury has potential to enhance innovative actions within liquidity management. This potential arises primarily from the holistic managerial approach of the corporate treasury, which is supported by the broad understanding of the entire company and the extensive knowledge of all financial management areas that influence liquidity (through cash inflows and outflows) accompanied by the deep knowledge of financial market and instruments.

This is a conceptual paper, based on the analysis of the current literature and practical documents. The paper is organized as follows. In the first Section we present the contemporary views on corporate treasury objectives and functions. The second Section discusses the understanding of liquidity management of a company, with cash management as the core issue regarding actions within, in the context of the core function of corporate treasury. In the third Section we address the potential areas of innovative actions of corporate treasury. The last Section concludes the paper.

1. The identity of corporate treasury objectives and functions

Corporate treasury management involves financial activities within maximizing company's liquidity and mitigating various types of financial risk. However, the understanding of tasks and functions of corporate treasury is not homogenous. Possibly, it is partially connected with the clearly visible several stages of the development of corporate treasury functions. The role of the corporate treasury evolved over time, as the financial market was developing and becoming more volatile, with the growing importance of large international corporations (Figure 1).

Figure 1. Evolution of the corporate treasury functions



Source: Based on Polak, Robertson, Lind (2011, p. 50).

The evolution of the treasury role can be divided into three phases. During Phase I (**Immature Treasury**, TS 1.0) before the 1970s, treasury functions were decentralized and informal, characterized by manual processes, concerned with operational activities. Phase II (**Mature Treasury**, TS 2.0) started with the introduction of floating currencies systems and the end of gold standard for US dollar. This led to the increased volatility in financial markets and greater importance of treasury that become focused on financial risk management, using more and more sophisticated tools and instruments. Changing role of the treasury in Phase III (**Strategic Treasury**, TS 3.0) is a result of globalization process and increased complexity of financial system. Corporate treasury has to coordinate its activity with business partners and support business units in their strategies in order to create value (Polak, Robertson, Lind, 2011, p. 50). It is said that treasury involvement should be increased in all areas that require cash management, asset and liabilities management and financial risk management. It also involves enhanced reporting and communication with internal and external stakeholders as a response to their demand for better information. The strategic role of treasury in Phase III is to deliver value and efficiency for the company and act as a strategic unit to achieve the company's goals. It is stressed that the efficient treasury management is determined by four important factors: (1) centralization, (2) standardization, (3) simplification and (4) automation (Ala, 2011).

An important driver of the changes in the role of the corporate treasurer was the financial crisis in 2007-2009. The crisis replaced priorities – the focus on earnings was replaced by the focus on cash and liquidity, together with financial risk management. It ended the easy availability of cash for most companies as financial markets were no longer able to meet the demand for corporate financing and the credit expansion in the banking system was limited. These disruptions in the financial markets led to the inability to hedge risk, manage liquidity or measure financial risk. As a result, new strategies for cash and liquidity management emerged.

The corporate treasury is no longer performing a function for cash management, funding and hedging. Treasury's role has increased due to the increase of uncertainties in the financial markets. Nowadays, corporate treasury is perceived a strategic function, placed in the center of the company, aiming at securing liquidity and understanding the integrated risk profile of the company (Polak, Robertson, Lind, 2011, pp. 48-49; van Nevel, 2008, pp. 312-316). These developments of corporate treasury functions are clearly reflected in the three approaches to the treasury objectives, as provided by (Cooper 2004, pp. 352-353).

Figure 2. Primary objectives of corporate treasury

narrow approach	typical approach	broad approach
• hedging risk • cost centre approach	• adding value • proactive service approach	• generating profit • profit centre approach

Source: Based on Cooper (2004, pp. 352-353).

As it can be seen in Figure 2, in **narrow approach** the primary objective of the corporate treasury is to minimize the financial consequences of an adverse movement in financial exposure of the company. Financial risks (mostly interest rate and foreign exchange risk) are measured and hedged as soon as they are identified. According to this approach, the corporate treasury is regarded solely as the cost centre, based on the assumption that effects of adverse movements in the market parameters (interest rates, foreign exchange rates) are always worse than the benefits of their favorable movements. However, according to the **typical approach**, the corporate treasury should not only hedge the risk, but also add value through its activities, supporting other operating units, providing proactive services for the entire company. These services are based on the corporate treasury deep knowledge of financial markets. Thus, according to the typical approach, the main objective of corporate treasury is to seek out and implement service and value-added opportunities (e.g. finding ways to reduce the banking costs for subsidiary; identifying tax efficient financing structures for the tax department, developing credit facility for customers in order to increase sales).

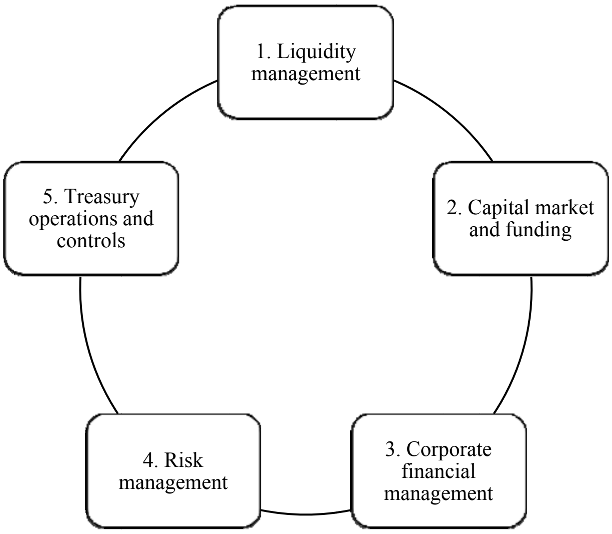
In the **broad approach**, the corporate treasury is regarded as a profit centre, as the knowledge of financial markets may be used in order to generate profit on the financial transactions for the company. Thus, financial assets (mostly derivatives) are used not only in their hedging function, but also for the speculative purposes. This approach, however, it is not so popular, as most non-financial companies focus on the operating activity as the main source of profit, not on the financial speculations in this context.

The contemporary views and the broad understanding of corporate treasury are clearly described by documents prepared for practitioners e.g. by the Association of Corporate Treasurers (the ACT)[*] – see Figure 3. Similar approaches to the corporate

[*] The Association of Corporate Treasures (ACT) is the professional body for international treasury providing the widest scope of benchmark qualifications, defining standards, promoting best practice and supporting professional development. It was established in UK in 1979. It is

treasury tasks are presented in (Bragg, 2010, pp. 7-8; Helliar, Dunne, 2004, pp. 34-43; Kreczmańska-Gigol, ed., 2010, p. 45; Ross, 1996, pp. 28; 63). The ACT and other authors present all corporate treasury functions with the same level of importance. However, it should be noticed that from the corporate finance perspective, the liquidity function in the activity of corporate treasury is the most important, and in fact it links all other functions. In other words, other areas of corporate treasury functions should be primarily concerned on maintaining corporate liquidity.

Figure 3. Core functions of corporate treasury



Source: Based on ACT (2014b).

Liquidity Management Function, as it was mentioned, is the most fundamental element of treasury management. It is principally about ensuring that the cash needs of the company are met in the most cost-effective manner. The main objective of this function is to avoid large pools of cash that are not effectively deployed or incur unnecessary costs of unforeseen short term borrowing. Liquidity management involves cash management, together with working capital man-

a member of the International Group of Treasury Associations (IGTA) and the European Associations of Corporate Treasurers (EACT). Its membership comprises over 4300 individuals and over 2100 students in 70 countries. IGTA includes 29 members from 27 countries worldwide while the EACT includes 21 members from 20 European countries. Activity of these organizations indicates the increasing significance of corporate treasury in financial management. See more at: ACT, 2014b; IGTA, 2914; EACT, 2014).

agement and organizing and managing borrowing facilities. The second function – **Capital Market and Funding Function**, covers the analysis of available funding options, the selection of sources of funds and the acquisition and management of these sources of funds. It is a broad area of activities that often require building external relationships and the negotiations with capital providers of either equity or debt. The application of more sophisticated financing instruments, such as structured instruments or hybrids, may also be considered. The next function – **Corporate Financial Management Function**, includes ensuring that the corporate and financial strategies are appropriately aligned. It involves capital structure and investment decisions, together with the legal and tax issues considerations. The **Risk Management Function** focuses on the understanding and quantifying the business and financial risks that a company is taking. It ensures that the returns are adequate and that the appropriate risk management techniques are deployed. This may involve analyzing movements of interest rates and exchange rates and applying the appropriate hedging tools. It is about quantifying the risk appetite of a company and ensuring that managers are fully aware of their risk exposure, which involves internal and external risk reporting. The **Treasury Operations & Controls Function** focuses on the preceding four functions into practice in a coherent and appropriately managed way. It involves managing a corporate treasury team (department) and its various functions in a fluctuating business environment. It requires effective communication and for executive management to be confident that the corporate treasury is aligned with its aims and objectives.

All functions and activities of corporate treasury have the consequences for the company's cash flows (receipts and payments). Therefore, the treasury functions concentrate on the problem of company's liquidity which is fundamental for a company's survival in times of crisis and for its development in the time of favorable market conditions.

Interestingly, the importance of liquidity management function in corporate treasury actions was also stressed in the surveys based on the opinion of professionals. According to the survey carried out by Association of Corporate Treasurers (ACT, 2014a), 59% of respondents said that cash management is extremely important for the management board and 34% stated that it is quite important. As to the question about highest priority in 2014, the largest group of respondents pointed out the improvement of cash forecasting (30%) and implementation of improvement of cash pooling (18%). Liquidity management was chosen as the biggest treasury challenge in 2014 by 33% of respondents, giving the second result, while the impact of regulation was chosen on the first place (37%). Similarly, the survey conducted in 2008 by the Association of Corporate Treasurers in Germany (Verband Deutscher Treasurer e.v.) indicated that cash management and liquidity planning are considered as the core functions of corporate treasury (Degenhart, 2008). Comparable results are presented in the survey conducted in Poland in 2010 by the Association of Polish Corporate Treasurers (SPSK). The main functions of corporate treasurers were defined as: cash management (83% of respondents), funding (75% of respondents) and liquidity management (58% of respondents) (Grzelak and Kreczmańska-Gigol, 2012, p. 46).

2. Identification of core activities of corporate treasury within liquidity management

As mentioned in the first section of the paper, the Association of Corporate Treasurers indicated liquidity management as a fundamental function of corporate treasury, addressing the context of trade-off between liquidity and profitability (this problem is addressed among others in: Eljelly, 2004, pp. 48-61; García-Teruel, Martínez-Solano, 2007, pp. 164-177; Jose, Lancaster & Stevens, 1996, pp. 33-46).

There are a few approaches to define liquidity from corporate finance perspective. The leading definitions highlight that financial liquidity is the ability of a company to cover the required payments timely (both the payments arising from regular activity, as well as the payments due to extraordinary events – positive (occasions) and negative ones). Financial liquidity is also interpreted as the ability to convert assets into cash with regard to transaction costs. In market dimension, financial liquidity is associated with the ability to conduct transactions (buying and selling), which is connected with liquidity “space” in financial system. All the above mentioned interpretations of financial liquidity are strictly connected from a company’s point of view: the space for transactions allows to liquidate assets, which is a core condition of the ability of a company to make the required payments timely (Michalski 2010, p. 39). Various factors determining the level of financial liquidity are analyzed in theoretical and empirical studies (among others in: Chang-Soo, Mauer & Sherman, 1998; Lins, Servaes and Tufano, 2010).

In practice, a company is liquid if it is able to cover all current liabilities with current (liquid) assets (Chorafas 2002, pp. 120, 131-133). From the accounting perspective, it is reflected in the construction of the current ratio (CR) which is perceived as the core measure of liquidity in a static approach. In a more restrictive version, relevant from liquidity monitoring, the ratio should be adjusted. Liquid assets should be represented here by cash and cash equivalents, while current liabilities should be represented by the most current payments of a company.

This is embodied in the construction of cash liquidity ratio (CLR). The assumption that lies beneath the cash ratio is common with the dynamic approach to the liquidity analysis and monitoring based on the cash flow statement that reports cash inflows and outflows over a period of time.

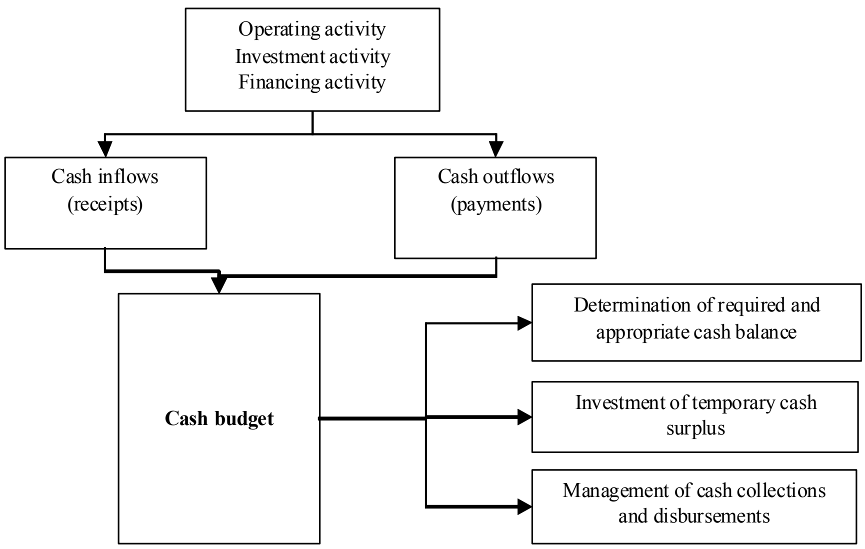
In a company, the successful liquidity management is dependent upon the successful cash management. In other words, in a narrow meaning, cash management represents the core of liquidity management. All other actions of a company which are commonly associated with liquidity management, namely the working capital management, with receivables, inventories and borrowing facilities management, are interconnected with cash management (Institute of Chartered Accountants in Australia, 2012, p. 14).

The importance of cash management comes from the advantages provided by cash. Cash reserves are regarded as a buffer against operating volatility and unexpected operating cash payments. By maintaining cash at the appropriate level, the company can lower the probability of financial distress and ensure self-sufficiency, enhancing financial strength. Cash also provides the ability to invest in growth and to cover uninsurable shortfalls (Pettit, 2007, p. 106).The objective of cash management is connected with motives of holding cash in a company. These three core motives of holding cash in a company are based on Keynes approach and observations and include: (1) **transaction motive** – cash hold to serve current operations, (2) **precautionary motive** – cash hold in a form of financial reserves to cover unexpected expenditures, (3) **speculative motive** – cash hold to benefit from unexpected occasions and investment opportunities (Bibow, 1998, p. 240; Opler, Pinkowitz, Stulz, Williamson, 1999, pp. 3-46). From the liquidity point of view (while liquidity is understood as the ability to pay for short-term liabilities), the precautionary motive is of particular importance (Śpiewak, 2008, p. 43). Facing difficulties in synchronizing cash inflows and cash outflows, and problems in assessing the time and height of cash inflows and outflows, company increases the need of additional funding. If a company does not have enough cash reserves, then there is a risk of bankruptcy.

A proper cash management allows to maintain liquidity and from liquidity point of view it is recommended to hold high cash reserves. However, from profitability point of view it is not effective, as cash which is not involved/invested in operating activity does not generate profits. In cash management it is often highlighted that opportunity costs are to be managed while establishing the needed cash reserves. The opportunity costs (alternative costs) are associated with the return the company could earn from investing the cash. Another important source of costs in cash management are costs of running out of cash. These costs involve cost on intervention in acquiring additional cash, e.g. the costs of liquidating assets, including financial assets (transactions costs) or searching for additional short-term sources of funds at higher interest rate (representing higher cost of capital). Therefore, the biggest challenge of cash management is to optimize the level of cash reserve in the company in order to balance the opportunity cost of cash (holding costs) and the costs of running out of cash (transactions costs). The problem of determining the appropriate level of cash is addressed by theoretical models e.g. the Baumol Model and the Miller–Orr Model (Baumol, 1952, pp. 545-556; Miller, Orr 1966, pp. 413-435).

From an applicative point of view, tasks and decisions in cash management involve: (1) **determining the appropriate level of cash balance** – it requires monitoring and analyzing the need for cash and the costs related to cash management, (2) **investing temporary cash surplus** – it requires developing appropriate investment strategies based on careful selection of short-term instruments with regard to marketability, default risk, maturity and taxation, (3) **managing cash collections and cash disbursements** – it involves application of techniques and tools which may accelerate cash receipts and slow down cash payments (meaning a delay of payments which is connected neither with destroying credit standing of a company nor with incurring additional costs). All the above areas of cash management find a practical dimension in a form of cash budget (see Figure 4).

Figure 4. Core actions in cash management



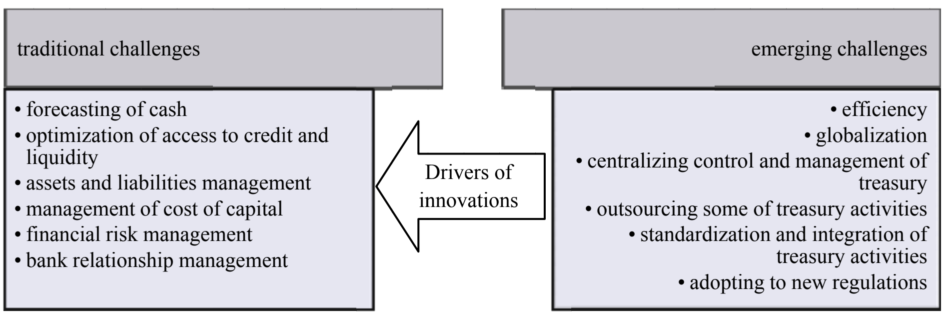
The **cash budget** should be perceived as a key tool of cash management in a company. It allows to forecast cash inflows and outflows, with the intention to establish the net cash balance in a particular period of time. The net cash balance is then compared to the target cash balance and allows to identify periodic cash surpluses and shortfalls. Then, a company should modify the planed actions within cash management in the nearest future, in order to maintain liquidity and boost the efficiency of cash management. From practical point of view, cash budged is recommended to include monthly intervals for the coming year, which then are being split to weekly intervals for a coming month (see more about cash budget in: Chorafas, 2002, pp. 167-172).

It seems that the cash budged should be considered as the prime tool of corporate treasury actions in liquidity management. Corporate treasury has the potential to use cash budget as an effective managerial tool both in current and in strategic dimension. Cash budget for weekly intervals gives opportunity to identify and quantify the operational liquidity risk arising from the short-term needs from day-to-day operations. Annual cash budget, based on long-term cash flow forecasts, focuses on the strategic liquidity risk which is crucial for the survival of a company and its development strategy.

3. Innovative activity of corporate treasury

In a day-to-day activities, corporate treasury faces numerous challenges in broadly understood liquidity management (see Figure 5). Part of these challenges is denoted as traditional ones as they represent typical actions of corporate treasury within cash budgeting and supportive tasks. However, we may identify also the emerging challenges which are arising from the processes observed globally. In particular, the emerging challenges are key drivers of innovations within traditional challenges, enhancing corporate treasury to search new tools, methods and techniques improving the effectiveness of liquidity management.

Figure 5. Challenges of corporate treasury



Source: Based on Polak, Robertson, Lind (2011, pp. 51-52; Polak (2011, pp. 242-250).

Corporate treasury fulfilling its liquidity and cash management function may better understand the context of this process, as it usually has a broader perspective of the financial situation of the entire company (including its branches and subsidies) and cash flows (receipts and payments) connected with its operating, investment and financing activity. Efficient cash management based on integrated approach represented by the corporate treasury provides the opportunity to achieve the predefined goals: (1) minimizing the time involved in converting receipts into usable funds, (2) concentrating obtained receipts into a central account and managing them effectively, (3) controlling and minimizing the costs of payments (transaction costs) and (4) reducing or eliminating short-term borrowings. Corporate treasury in large international corporations face another challenge arising from the requirement to manage cash balances in multiple currencies. The problem of treasury management in multinational corporations is addressed e.g. in: (Warsop, 2009, pp. 318-323; Hämäläinen, 2008, pp. 339-344).

Most of the corporate treasury actions, including cash management, are based on effective bank relationship. Many innovative arrangements related to liquidity and cash management are offered by banks in a form of packaged account that includes: excess cash automatic investment vehicles (based on various groups of marketable securities with different risk-return profile), credit lines and credit cards (giving access to short-term borrowings) and electronic payment instruments together with lockbox systems (speeding up the clearing process). This centralized bank account enable the corporate treasury to reduce the provisions and fees paid to financial intermediaries (reduce transaction costs) and to save time required to search for appropriate services. Cash management may be improved also by using online payment solutions (EIPP – electronic invoice presentment and payment and EBPP – electronic bill presentment and payment) and credit cards both for B2B (business-to-business) and B2C (business-to-customers) relations. Receiving payments through the Internet or credit cards, improves the receivables management and increases liquidity.

Despite significant importance of the bank relationship, in order to increase the efficiency of cash management, corporate treasury should use and combine various groups of financial instruments offered by: (1) banking sector (such as: credit transfer and direct debit, bank current accounts and time deposits, escrow accounts, credit lines and revolving credits, cash pooling, leasing and factoring services), (2) insurance market (insurance policy, structured products based on insurance policy, insurance-linked securities) and (3) financial markets (interest rate and exchange rate derivatives and capital market instruments: shares, bonds and hybrids).

The efficiency of the cash management may be also increased by the application of automated solutions. These innovative technology solutions may be used to automate: (1) the settlement processes via treasury workstations or direct interfaces with bank, (2) provided timely cash position and liquidity forecasts by building appropriate interfaces in treasury workstations or ERP systems, (3) cash investments and short-term borrowings via the Internet portals, (4) the process of preparing periodic and ad-hoc reports about cash position and liquidity management in unified format of financial data, (5) internal and external communication process (Polak, Robertson, Lind, 2011, p. 53; Institute of Chartered Accountants in Australia, 2012, p. 26). Treasury activities should be recorded and managed with the centralized Treasury Management System (TMS), which facilitates the processing and management of information, provides segregation of duties and produces reports and accounts for all transactions. Well-designed TMS provides the opportunity to integrate corporate treasury functions in one module for the entire company and reduce time and costs spend on this actions. It also offers the possibility to select the corporate treasury activities that can be outsourced to financial intermediaries (see more in: Schwartz, 2008, pp. 148-151; Camerinelli, 2010, pp. 141-148).

Another important challenge for corporate treasury is connected with the standardization of its activities. There are initiatives undertaken with the aim to standardize the format of financial messaging between corporate treasury and financial institutions. One example of such initiative is ISO 20022 universal financial messaging standard based on XML (Extensible Markup Language), which becomes more and more popular due to the support of SWIFT, consolidating channels to over 8000 banks and 1000 companies worldwide. ISO 20022 standard provides solutions divided into five segments: payments (including account and cash management), securities, trade services, cards and foreign exchange products (see more in: ISO 20022). Standardization of international payments is another issue. As a result of the single euro payments area, SEPA Credit Transfer and SEPA Direct Debit become the most popular payment instruments applied nowadays across the EU countries (see more in: ECB, 2014).

All the described solutions – financial instruments and technological advances – may have positive impact on the timing and value of the company's cash flows and as a consequence, for its liquidity. Payment, financing, investment and risk managing instruments should increase or at least stabilize the positive cash flows generated from the company's operating, financing and investment activity. Technological innovations should be applied to improve the cost- and time-effective process of forecasting, conducting, monitoring and controlling cash flows. They can be also used to enhance the process of gathering and processing information, followed by the procedure of internal and external reporting with reduced transaction and administrative costs. These positive results can be achieved only if the cash management is integrated and organized within the corporate treasurer functions.

Conclusions

Corporate treasury is still a relative novelty. The objectives and functions of corporate treasury, however, convince that its role in contemporary corporate financial management is important. Corporate treasury actions are holistic, linking the expert knowledge within corporate finance and financial markets with the deep understanding of the functioning and situation of a particular company. As a result, there is a potential to manage liquidity more effectively.

In liquidity management, the core of corporate treasury activities are the broadly understood tasks within cash management. It covers actions directed to forecast and plan cash receipts and cash payments in a defined period of time. However, with the development of financial markets, globalization and technology, corporate treasury meets plenty of opportunities to improve cash management and thus liquidity management. From a cash budget perspective, the possible area of innovations address the use of state-of-the art bank products both in the settlement of payments and in the channeling information. Corporate treasury has also an opportunity to use innovative tools of investing cash surplus and to manage risk that may influence company's cash position (due to operating, financing and investment activity).

Finally, it should be noticed that the current promotion of corporate treasury functions in a company should enhance companies to appoint such specialists. Till now, the benefits of corporate treasury actions are clearly identifiable. It seems that an interesting area of future research in the applicative sense should primarily address the development of innovative mechanisms supporting cash and liquidity management.

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