KPMG

Treasury 4.0

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Position Paper on Treasury Organisation 4.0

Preliminary remarks

Everyone is talking about 'Industry 4.0': the 'computerisation of manufacturing technology' with the objective of creating a smart factory that is characterised by adaptability, efficient use of resources, an ergonomic design and integration of clients and business partners into the value chain.

The benchmarks currently used in Germany for assessing the adequacy and compliance of financial risk management and risk control at industrial and commercial enterprises are publications of the German Association of Corporate Treasurers [Verband Deutscher Treasurer e.V.] ('Governance in der Unternehmens-Treasury' {Governance in Corporate Treasury}) and the 'Finanzierungsrechnung' working group of the Schmalenbach Society for Business Management [Schmalenbach-Gesellschaft für Betriebswirtschaft e.V.] ('Risikomanagement und Risikocontrolling in Industrie- und Handelsunternehmen' {Risk Management and Risk Control at Industrial and Commercial Enterprises}). In the absence of binding legal requirements for industrial and commercial enterprises, the Minimum Requirements for Risk Management for German banks, issued by the German Federal Financial Supervisory Authority [BaFin], or predecessor provisions thereto, are applied mutatis mutandis, not only by auditors to assess internal control systems, but also for internal audit purposes. In this context, one should also not forget the basic benchmark for assessing good market practice.

The publication of the Schmalenbach Society for Business Management dates from the year 2000, and that of the German Association of Corporate Treasurers from 2008. When looking at global macroeconomic changes and their impact on financial risks as well as technological developments in the area of treasury software, one inevitably comes to the conclusion that standards which are seven or 15 years old can no longer be appropriate.

There are comparable publications by national treasury associations in many other countries.

But what is an appropriate standard for today and what consequences arise from it?

This position paper sets out four hypotheses, which address the consequences of economic change and technological development for Treasury, raising them for discussion.

If IT becomes a determining factor in many corporate divisions (and it already is in some cases), then the 'Industry 4.0' concept must also directly affect Treasury. This is already evident from three developments: firstly, from the possibility to execute complex controls by means of high-end treasury systems[1] and the associated concept of management by exception, which represents the greatest degree of automation in Treasury. Secondly, from the – in some cases – extremely cost-efficient implementation of core treasury functions using SaaS solutions and, thirdly, by creating heterogeneous best-of-breed system platforms[2] by connecting individual third-party applications to optimise system support.

What does this mean specifically for Treasury, regardless of size and complexity?

It means that IT becomes a decisive, if not the decisive factor for good market practice. This refers to the IT standard, i.e. applications, which are currently available and already used at companies, and thus have proven functionality.

Currently available systems and related configurable system landscapes provide for a very high degree of automation of treasury processes ('real straight-through processing'). This results in a major reduction of manual activities and thus significant gains in efficiency. Processing and control activities throughout the cash and risk management process, in particular, can be largely covered and automated in the system. The example of cash management illustrates the potential for intelligent networking between treasury management systems (TMS) and various sources of cash-relevant information. Cash positioning is then no longer a manual coordination process performed by the cash manager, but a system-based activity that functions almost completely without manual intervention based on TMS rules – from automated processing of account statements and access to real-time cash and payment data through to the initiation of cash transfers. Similarly, opening and maintaining bank accounts, which is still largely done manually today, can be performed through automated bank account management, so that also in this area tasks are limited to system administration, exercising defined controls and error correction.

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1 High-end treasury systems are integrated system solutions from individual vendors; these contain all core treasury functions and also provide considerable scope for individual configuration.

2 Best-of-breed system platforms consist of solutions from various vendors for the integrated coverage of core treasury functions.

At the same time, the focus of treasury activities is shifting (further) due to changing business models, risk structures and new regulatory and modified accounting requirements, from handling activities to the analytical responsibilities of a centre of knowledge and excellence (CoKE).

This cannot remain without consequences for internal organisation in our estimation: the organisational structure established in many industrial and commercial enterprises – i.e. separation into front office, middle office and back office as described in the two standards mentioned above – is no longer efficient given the rigorous use of technological possibilities and best practice strategies in risk and cash management in light of the use of resources, process interfaces and specialisation of employees. Even from the viewpoint of compliance only the separation of trading and back office functions is required.

Nevertheless, Treasury remains a neuralgic issue, among other things, in concluding derivative financial instruments and payments as well as cash management: its mismanagement can disrupt the entire company, so that the effectiveness of the internal control system has to remain a fundamental issue.

We therefore postulate four hypotheses, which redefine the cornerstones of appropriate treasury organisation:

1. The use of professional treasury IT becomes mandatory.
2. There is no alternative to centralised treasury organisation in core areas.
3. The traditional trader must be relegated to the past due to technical developments.
4. The back office is no longer an independent organisational entity.

Hypothesis 1: The use of professional treasury IT becomes mandatory.

The use of MS Excel or similar tools for the portfolio management of financial instruments or implementation of cash and liquidity management as well as the use of largely manual processes in Treasury must be relegated to the past.

Why? Professional Treasury IT is necessary not only due to significantly tightened compliance requirements for the use of financial instruments. It also arises in particular from the fact that in a treasury department integrated into the corporate value chain and seeing itself as a business partner for a variety of functional areas within the entity, it must be possible to provide and analyse group-wide information on liquidity and risk exposures within a reasonably short period of time. In periods of rapidly changing business models and thus also risk profiles, alternative procedures and methods must also be rapidly available. This can only be accomplished with standardised and professional treasury IT.

Moreover, the use of end-user developed applications (UDA), i.e. individualised MS Excel-based tools for example, is associated with significant risk. In addition to susceptibility to error and manipulation, it is particularly worth mentioning the lack of consideration of user rights profiles (including dual control) and an audit trail in this context. Data protection and data security requirements can usually only be fulfilled indirectly by means of inefficient procedural measures. The argument of high investment cost in treasury IT used in favour of UDA is also no longer convincing with the advent of SaaS Treasury IT solutions. These days the use of such system solutions is already more economical than manual solutions in several core areas, not to mention possible cost risks due to non-compliance.

Conclusion: Treasury bears major responsibility for the efficient and compliant design of the financial supply chain. In global corporate organisational networks, this includes the integration of financial data of local subsidiaries through connection to the central treasury department's system. This requires the implementation of complex financial risk functions in databases, which can only be implemented by means of appropriate IT.

Hypothesis 2: There is no alternative to centralised treasury organisation in core areas.

There is no alternative to centralised treasury organisation, from the viewpoint of efficiency and compliance as well as performance. While that already applied in the past, certain technical requirements were not fulfilled, thus preventing centralisation to the greatest extent possible. This is no longer the case. The last remaining functional area that can be centralised with appropriate systems is payments. 'Centralised' means centralised guideline issuance, central financing, centralised execution of financial transactions, provision of a central platform for payments. Departure from the centralised approach occurs only in instances where complete centralisation is prohibited by law. Regional treasury centres are then part of a centralised approach if there is a requirement to be closer to regional or local particularities; for instance where there is an aim to implement a 'follow-the-sun' principle for centralised financial risk management and to use the local capital market (among other things to mitigate currency risk). A centralised system platform offers the technical basis for a centralised database and management of financial risks.

Why? First: Efficiency. In complex corporate organisations, in which financing needs or surpluses need to be budgeted, implemented and managed for practically each legal entity, the intragroup exchange of liquidity as the guiding principle is the only expedient and efficient form of capital allocation and application. Implementation frequently follows the establishment of a centralised settlement platform. This nevertheless depends, to the greatest extent possible, on a centralised and standardised design for managing core areas of Treasury, as only this renders coordinated and aligned action practical.

Second: Compliance. Treasury is at an extremely sensitive interface between the company and the outside world. It presides over the flow of liquidity into and out of the company. It is the part of the company where transactions in financial instruments are undertaken, the market value of which can vary considerably; incorrect handling here cannot only lead to balance sheet risks but also liquidity risks. It is also the part of the company to which external regulation of financial markets applies; it thus has to ensure compliance with the relevant laws and other requirements. Improper functioning in Treasury due to error or manipulation can result in material financial consequences. Appropriate control of the relevant procedures and method for securing compliance, in the context of a group standard strategy, can only occur as part of a centralised approach.

Third: Performance. The management of financial risks can only be meaningfully performed if all risks exist in a transparent form and are centralised. If this is not the case, financial risk management is actually ruled out: in the best case it would be inefficient, in the worst case counterproductive. Performance also necessitates corresponding employee experience, which can only be established if tasks with a high degree of complexity recur.

Conclusion: Achieving the requirements demanded of Treasury in respect of efficiency, compliance and performance, and thus a Treasury contribution to value creation, can only be ensured through a centralised treasury organisation. In this respect, all relevant objectives, organisational conditions and corresponding process and treasury IT landscapes are aligned to a central strategy. Departure from this principle appears only to be expedient in justified exceptional cases.

Hypothesis 3: The traditional trader must be relegated to the past due to technical developments.

Factor 1: The core requirement on the traditional trader is no longer that of tactical trading based on the observation of markets and prices for different instruments and/or financial risks. And also not that of the frequently associated 'identification' of the right timing to undertake an individual transaction or negotiation of conditions with internal and external counterparties. This results from the lack of predictability in respect of economic developments in general and exchange rates in particular. Opinions on exchange rate developments can be thoroughly sound, nevertheless they still remain an opinion or the result of a theory which can be both right or wrong due to (subjective) parametrisation of an unknown probability.[3]

Why? The technical development of recent years now allows for the implementation of dynamic hedging strategies which are derived from the risk tolerance of the company and obtain their management parameters from the relevant key risk indicators (for instance CfaR for FX management). Dynamic hedging strategies can extend continuously to future and existing exposure or they can be defined as specific determined strategies for balance sheet exposure based on risk tolerance. The scope for the trader to 'optimise' is either extremely limited or no longer exists due to the rigorous elimination of individual expected values.

The current exposure position can only be prepared automatically via relevant system solutions owing to the complexity and requirements for accuracy. To what extent the system also automatically proposes the transaction required to implement the hedging strategy and independently executes this via an integrated or attached trading platform or the trader continues to have to carry out this transaction is left to the company-specific cost-benefit function. Use of an electronic trading platform is deemed standard for internal as well as external execution of hedging transactions as it has the required market coverage (in terms of the number of counterparties and instruments[4]) and process support and also increasingly serves regional (regulated) markets.

In addition, by using trading platforms substantial optimisation of the targeted hedging rate is already achieved which, as a consequence, renders redundant additional market-timingrelated ‘manual’ optimisation by the trader.

The sole exception to this is the management of complex individual transactions or specific markets (certain exotic currencies, many commodities) for which proven trading expertise can be meaningfully put to use.

Factor 2: The aforementioned automation of exposure identification and trading shifts the focus of the traditional trader along the financial supply chain towards risk identification and analysis ('Analytics'). This includes, among other things, supporting business entities (for instance, implementation of risk avoidance strategies, negotiations with suppliers and clients), i.e. areas in which financial risks materialise. Knowledge of this is indispensable for the parametrisation of control models as well as the analysis of their results. Accordingly, added value is no longer derived from trading activity, instead it comes from the strategic-conceptual focus.

Why? Business models and thus risk profiles are no longer static. They change with an ever increasing dynamic. This is associated with intensified investment by companies in future technologies as well as M&A activities (sale of business units, integration of acquisitions, conduct of due

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[3] Detailed comments on the circumstances of predictions and forecasts can be found in Nassim Nicholas Taleb's book 'The Black Swan: The Impact of the Highly Improbable'

[4] This is associated with restricting positive lists to plain vanilla instruments. Exotic instruments are only undertaken by industrial and commercial enterprises in exceptional cases following detailed analysis and approval by senior management (similar to interest rate hedging instruments).

diligence investigations) which require expertise in the areas of risk management, cash flow management and financing. At the same time, these changes occur on both the client and supplier side with a corresponding effect on contractual arrangements and, accordingly, changing risk profiles (FX, commodity, credit, cash). In this regard, Treasury can and must actively advise M&A as well as purchasing and sales departments in order for it to be able to subsequently successfully manage financial risks. Treasury's daily operations cannot and must not have time limitations attached to these new responsibilities.

Conclusion: Expertise in chart analyses, price forecasting and the pricing of (exotic) instruments delivers little to no value added for companies. Corresponding basic expertise is a core requisite but is not decisive for Treasury's contribution to corporate success. The core focus of activities shifts to the full and correct identification of risks, in-house advice for business units (including purchasing and sales, locally and centrally), the improvement of exposure planning as well as the creation of transparency for balance sheet and income statement effects.[5] Actual trading, together with preceding and subsequent activities, to the greatest possible extent, occurs automatically via system platforms and is focused in this regard on intervention in the event of exceptions and errors (exception management). As a consequence, this leads to a marked reduction in the resources necessary to perform front office activities.

Hypothesis 4: The back office is no longer an independent organisational entity.

Factor 1: Traditional back office functions are automated. The predominant number of financial instruments and transactions are settled using straight-through processing (a rigorous implementation of end-to-end) – without any necessity to intervene manually (maximising the no-touch rate). Compliance with the rules and requirements of internal control systems is automatically reviewed and subsequently made transparent as part of compliance reporting. Thus there is a shift from manual control to analytical activities, for instance for compliance with new regulatory requirements, as well as pure exception management.

Why? According to the relevant literature[6], traditional back office functions in terms of the control and settlement of financial transactions consist of the functions specified in the table below. The right column of the table shows that modern treasury IT solutions cover the requirements to a considerable extent and manual tasks and intervention, respectively, can be reduced to a minimum.

The era of 'adding a check mark' is thus over: the check mark is set by the system. From the viewpoint of user workload (work focus), monitoring of error lists and 'exception handling' remain, including clarification of differences, limit violations or similar and, where applicable,

Controlling and settlement-related responsibilities	Implementation in 'Treasury 4.0'
Execution of trade confirmations or settlements	Occurs in the system
Review of trade documentation for completeness	Covered by the system using 'mandatory fields'; the (daily) execution of trades is made via electronic trading platforms, contract data are transferred via the interface to the treasury system
Reconciliation of trade confirmations with dealing slip and counterparty-confirmation	Automatically conducted using confirmation-matching systems, dealing slips are redundant in the case of trade execution via electronic trading platforms.
Assurance that trades in the ordinary course of business were executed within defined limits	Limit monitoring occurs in the Treasury Management System – with automated reporting/escalation channels
Control for arm's length conditions	Verification using the system and presentation via corresponding report
Review of deviations from standards (in particular payment channels, etc.)	Occurs automatically through reconciliation with lodged Standard Settlement Instructions (SSI)
Processing/settlement of transactions, payment monitoring and initiation	Settlement of transactions based on the lodged SSI
Clarification of deviations and any escalation to management	Exception management becomes the main focus of activities!

[5] Basic knowledge of derivative financial instruments, including relevant regulatory and accounting requirements, naturally remains a basic prerequisite for all treasury employees.

[6] See the publication of the 'Finanzierungsrechnung' working group of Schmalenbach Society for Business Management [Schmalenbach-Gesellschaft für Betriebswirtschaft e.V.] 'Risk Management and Risk Control at Industrial and Commercial Enterprises' of December 2000

escalation. Standard transactions with usual volumes within limits are thus settled by the system – thus real straight-through processing with maximisation of the 'no-touch rate'. Important: In the meantime, this is no longer implementable solely in high-end systems. Systems in the middle and lower price segment also offer this option – inclusive of standard interfaces to confirmation matching systems and trading platforms.

Factor 2: System support is increasingly also being used in the middle office, whereby the focus of activities between the departments, as they currently stand, is shifting and more effective risk control is becoming possible.

Why? The effectiveness of systems has significantly risen in this area, too. Accounting interfaces are standard (even if the options are frequently not fully utilised), risk monitoring (risk limits) and reporting are implemented by the system. This enables the focus to be placed on analysis activities and projects (for instance, new accounting standards). Detailed examination shows that the objects of middle office analysis are very close to reaching the back office range of responsibilities. It is necessary to create the basis for management by exception and, using suitable system-supported tools of analysis, to ensure appropriate management of financial risks as well as liquidity provision to companies (among other things, performance and error monitoring of processes).

Factor 3: Another mounting focus for the middle office is presented by analysis of the impact of market price changes on the company's balance sheet and income statement. This includes individual balance sheet ratios, as found, inter alia, in covenants. Deeper analysis, explanations as well as preparation of corresponding reports are a core requirement which has to be fulfilled by Treasury.[7]

Why? Volatility in markets is increasing (particularly exchange rates) and thus also the impact on balance sheet figures. Economic hedging effects are not reflected 100% in the balance sheet. Thus, for example, the effects of changes in foreign exchange rates on the annual financial statements (arising from underlying transactions as well as from derivatives) often remain without adequate explanation. The acceptance of this is continually declining as management is exposed to critical questioning by banks and analysts. Accordingly, effects – irrespective of their nature – can no longer be explained in general terms without putting the entire risk management activities into question.

Conclusion: Core tasks of back office responsibilities can be reduced to 'exception handling' and thus move closer to the middle office area of responsibility. At the same time, the requirements and correspondingly the responsibility area of the middle office are being extended. Organisational separation between traditional settlement and control units (back office) and risk control (middle office) is thus no longer meaningful from the perspective of efficiency and effectiveness for industrial and commercial enterprises – irrespective of their size and complexity – and no longer required for compliance reasons. The transfer of the main focus of activity from manual controls to analytical activity makes organisational separation redundant; what is more, it makes it inefficient. The integration of both areas leads to efficiency gains through fewer process breaks and interfaces; separate management layers become redundant. Personnel bottlenecks can be more easily bypassed and possible resources becoming available can be used for activities that add value.

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[7] In accordance with the requirements of an internal control system, there can be no single explanation by an employee who is authorised to trade; where applicable an independent control is to be conducted by an employee who is independent of trading.

Conclusion

In summary, our conclusions are as follows:

1. Updating of reference documents (Schmalenbach, VDT) is necessary. The documents are no longer adequate as a reference. Further development is required.

2. Continuous transformation of Treasury
   Owing to technical developments, Treasury needs to adjust itself to continuous transformation. To this end, the preconditions need to be created (technically with a view to a flexible and adjustable system landscape and in terms of personnel – see point below).

3. Job specifications, staff requirements and education
   The job specifications for Treasury employees are changing. Some companies will identify scope to reduce staffing; many others can increasingly reallocate staff to functions that add value. This may require further education and training. The prerequisite for this is also the consistent evolution of the IT solution deployed.

4. System use
   The use of a professional IT system is becoming a minimum requirement and process control in Treasury will be based on exceptions (exception management).

5. Model/ideal organisation
   Owing to the changing parameters of Treasury IT, volatility on financial markets and dynamic business model changes, a new, ideal treasury organisation is emerging. This must be defined in greater detail and documented in the corresponding reference works.

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