Understanding centralized trading centers in the post-Covid environment

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1. Introduction

The Covid-19 pandemic has forced many global corporates to re-think their organizational structure to improve efficiency, reduce costs, mitigate supply chain risks and enhance flexibility when it comes to reacting quickly to external shocks. As part of treasury transformation efforts, centralization structures are something that many corporates are considering optimizing to help simplify both business and treasury functions and, thereby, maintain competitiveness in the current market environment.

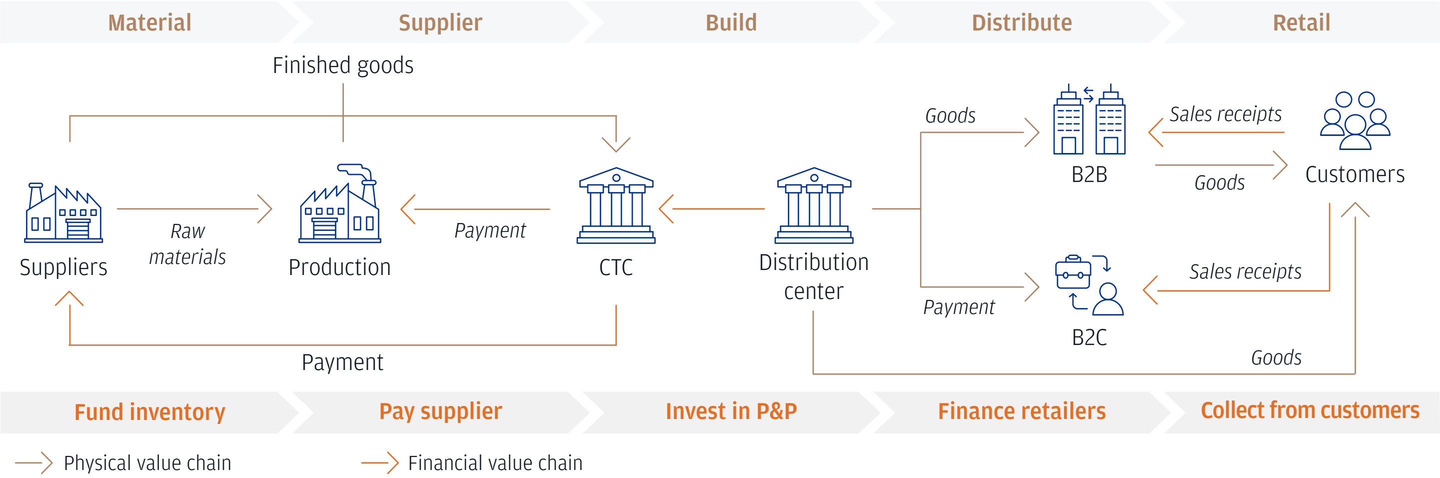
Centralized trading centers (CTC) are organizational structures that unite functional activities in one central hub location, streamlining business functions, leveraging larger economies of scale and allowing companies to scale without losing control.

Europe is home to many large multinational corporates and is one of the early adopters of innovative organizational structures. It has also been an attractive location to set up centralized trading centers due to its access to a large pool of talent, capital markets, stable economic infrastructure and regulatory environment.

This paper discusses the challenges and benefits that CTCs help solve for multinational corporates, as well as the considerations companies need to take into account when setting up CTCs in Europe.

2. What are centralized trading centers?

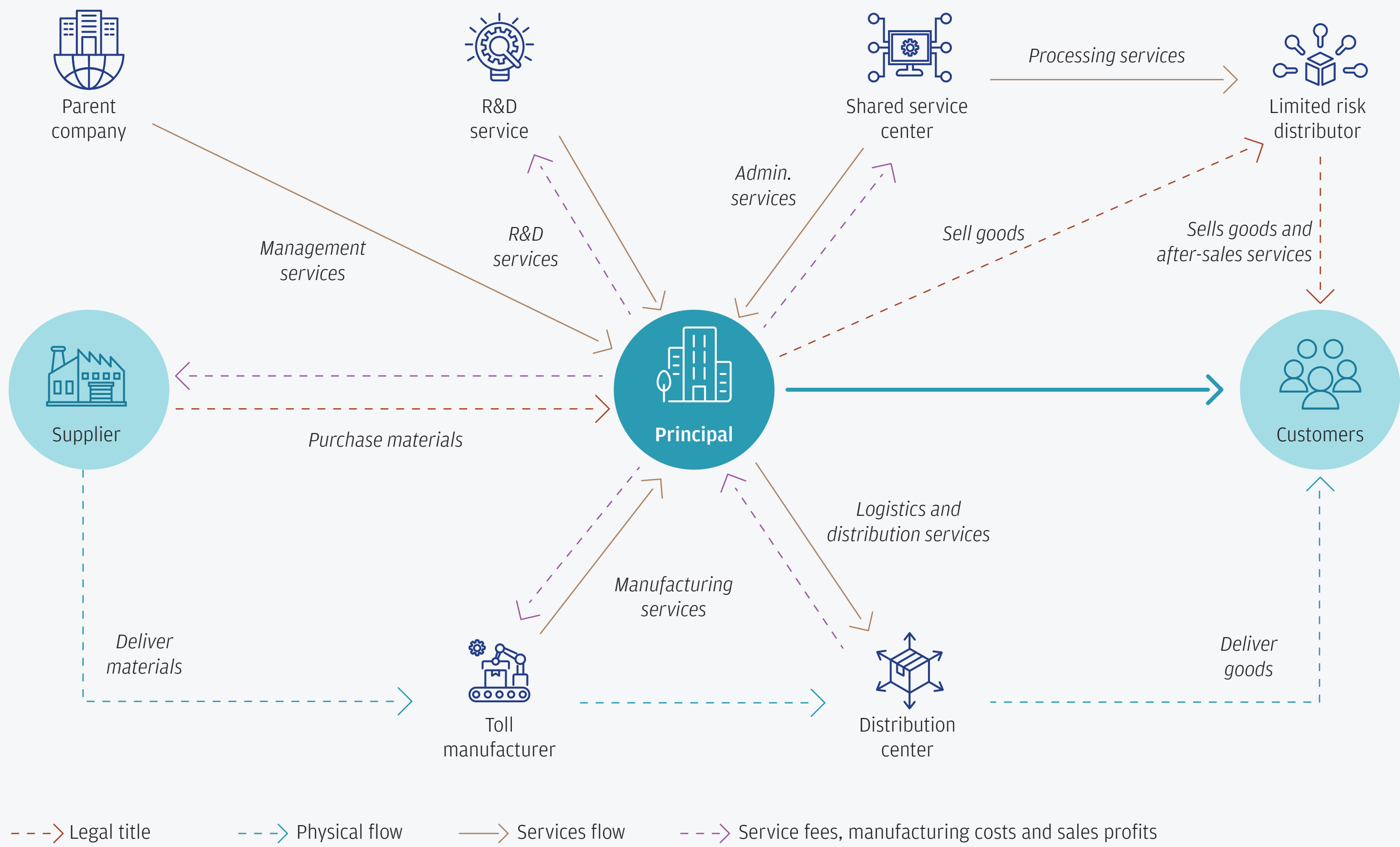
Why CTCs and what do they address?



Source: "Creating value using Centralized Trading Centers—A practical guide to setting up a CTC" by J.P. Morgan and KPMG

A CTC is, at times, also referred to as a "principal company" or "central entrepreneur." It is an organization structure that combines both physical and financial value chains into one central location, bringing a reduction in the cost of goods and an improved client and supplier relationship. It can handle a host of functions, such as demand management, quality control and supply chain management. A CTC helps to generate business process efficiencies, along with foreign exchange management, liquidity management, optimizing working capital and providing flexibility to manage counterparty risk all from one central hub.

CTC model



Source: "Transfer pricing insight – FAR analysis and most appropriate method" by Manas Rindani

The key objective of CTCs is to help businesses overcome the challenges they may face due to having a decentralized business value chain and the inefficiencies it brings. For example:

- Having multiple business functions running and managing their own supply chain, as well as customer management
- Decentralized procurement and sourcing activities by entity and location, impacting the organization's ability to lower total cost of ownership
- Decentralized R&D function that slows down product development
- Inefficient collection and decentralized invoicing process

The above challenges then negatively affect companies financially by having working capital inefficiencies and high costs:

- Lack of days payable outstanding (DPO) optimization (i.e., non-standard supplier terms)
- High days sales outstanding (DSO) due to multiple customer billing terms
- Inefficient days inventory outstanding (DIO)
- Exposure to foreign exchange (FX) risk and higher FX costs due to lack of intercompany netting

To resolve the above challenges, CTCs become a centralized hub that procures, sources, and buys and sells raw materials and finished goods, thereby benefiting from economies of scale that subsequently create business process efficiency. It can procure raw materials and finished goods from internal entities or third-party suppliers, as well as sell them to internal sales entities, third-party distributors or directly to the customer.

CTCs can be positioned as a future center of excellence for an organization by providing value-added contributions to the ultimate parent company. A CTC is often an entity that takes titular ownership of the underlying goods. Subsidiaries buy and sell in their local currency, while FX risk is transferred to the CTCs. Key profit drivers are placed with the CTC in its principal capacity, while other internal/external entities perform routine functions based on cost agreed.

The advances in technology and computing, maturity of treasury systems and enhanced banking infrastructure have enabled and facilitated treasury centralization. At the same time, the treasury's scope has expanded, as financial risk management evolved into a core competency of treasurers. In the aftermath of the global financial crisis, and accelerated by the Covid-19 pandemic, the need for real-time data analytics, bolstering internal controls and efficient liquidity management have created additional demand for treasury centralization. CTCs represent a high level of centralization, when activities—including procurement, trading and selling, supply chain management, liquidity and working capital, foreign exchange and payments—are consolidated in one entity.

We see considerable interest among treasurers to re-examine treasury models and centralization structures to improve funding and operating efficiencies in a global context. Each centralization model provides specific benefits to a company.

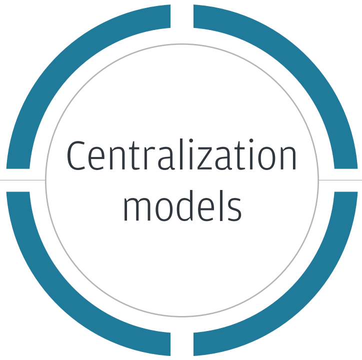
Benefits of CTCs

	Decentralized (Greater autonomy to local subsidiaries)	**Hybrid** (Partially centralized)	**Centralized** (Centralized with full control at RTC/IHB)
	• Visibility of bank accounts, cash and debt for all subsidiaries • Forecasting of FX exposure • Hedging centrally on behalf of subsidiaries	• Cash pooling in each country • Forecasting of cash flows • Centralized finance operations for G/L, AP, AR reconciliation • Set up of re-invoicing center to intermediate cross-border trade flows	• Set up centralized treasury entity (regional TC/ in-house bank) • Cash pooling regionally to RTC/globally to IHB • Pay and receive on behalf of subsidiaries, where regulations allow • Hedge centrally with RTC/IHB, and then hedge net exposures externally
Treasury (Cash, funding, risk)	• Cash/Funding—local entity/ subsidiaries • Risk—treasury	• Regional treasury center • Finance company	• In-house bank
Finance operations	• Local entity/Subs	• Shared service center	**Payment factory**
Trading / Invoicing	• Local entity/Subs	• Re-invoicing center	• Central trading center

CTCs help centralize key activities like procurement, manufacturing, sales, marketing, finance, tax, treasury IP management and more. They help to consolidate functional activities across subsidiaries to leverage economies of scale.

CTCs offer a way to consolidate and demonstrate cost efficiencies in a central location, while efficiently managing operating subsidiaries' commercial flows and their foreign currency transactions.

More and more corporates are re-examining centralization structures to improve efficiency, contain cost, mitigate risk and optimize funding as part of treasury transformation efforts, and CTCs are well-positioned to help corporates achieve those objectives.



Shared service center

Drives operational efficiency through the execution and handling of specific tasks

Regional treasury center

Provides treasury process efficiency through regional centralization

Centralized trading center (CTC or principal company)

Improves business process efficiency

In-house bank

Streamlines to a single, legal entity that holds the corporation's balances and manages its market-facing exposures

Benefits	Objectives of CTC	Companies may need
Trading settlements	• Execute payments for goods in efficient and timely manner • Streamline settlements • Timely reconciliation of incoming collections to outstanding invoices	• Multicurrency accounts • Full range of trade services • Automated matching technology for incoming payments • H2H integration with ERP and TMS
Working capital management	• Supplier term standardization/extension • Proactively manage working capital positions • Use surplus cash in CTC to self-fund short positions	• Real-time balance update • Trade loans, receivable financing, payable financing • Reports to track intercompany loan positions
FX management	• Net FX exposures and reduce overall transaction cost • Access to different currencies to cover short-term working capital positions • Invest surplus cash in different currencies	• FX services-Desk-based services for hedging, auto FX for low-value payments • Investment options across all key currencies
Liquidity management	• Cash concentration • Optimize trapped cash • Visibility of exposure across entities	• Cash concentration and multicurrency pooling structures to support self-funding

Operating models to consider with CTCs

There are many options available for CTCs depending on the nature of the company, geographical spread, industry, etc. Below, we will explore various existing operating models and what role CTCs play in them.

Multinational corporations (MNCs) consist of several individual group entities. It also is practical for them to have separate entities for their production and sales activities. The location of a company's production facilities is dependent on their access to raw materials, staffing and logistics; while sales offices need to be established in the group's target markets. Manufacturing entities in many MNCs "sell" their output to the sales offices. Due to economies of scale, sales offices may import goods from different countries. Thus, a sales office may import from within the group, denominated in several different currencies. It also may have to pay for these goods in currencies other than its operating currency, which can make managing FX risk complex.

A CTC also acts as a form of internal clearing house for all intercompany transactions. Manufacturing entities sell their output to the CTC, which then sells it to the sales offices. The CTC takes legal title to the goods, although physically they are transferred straight from the production site to the sales office's depot. Corporates may often decide to centralize intangibles, risk and various business processes/functions with profit potential and incorporate them into a principal company/CTC. To complement centralized trading treasury functions, a broad suite of models should be evaluated and implemented across the physical value chain.

Manufacturing models for CTCs

There are three overall CTC operating models:

Consignment or toll manufacturer

Does not take any titular ownership in the physical and financial flow of goods; converts raw materials supplied by CTC into finished goods; does not take title to either the raw materials or finished goods; and does not bear any significant risks. CTCs bear all risks.

Contract manufacturer

Produces goods for CTC under a guaranteed sales arrangement and invoices CTC directly; sources its own raw materials; and bears limited risk with guaranteed sales agreement from CTC.

Full-fledged manufacturer (FFM)

Bears all risk and ownership prior to sales to CTC and shipment to distributor. An FFM purchases its own raw materials.

	Consignment or toll manufacturer	Contract manufacturer	Full-fledged manufacturer (FFM)
Summary	Converts raw materials supplied by CTC (or supplier) into finished goods, in the name of CTC	Manufactures finished goods for CTC under a guaranteed sale arrangement	Acts in its own name and for its own account with full risk in manufacturing finished goods
Legal title to goods	Supplier to CTC	Contract manufacturer to CTC	FFM to CTC
Invoice to CTC	Supplier	Contract manufacturer	FFM
Assets + risk	Very limited Type of risks: • Working capital	Low Type of risks: • Working capital • Capital	High Type of risks: • Working capital • Capital • Inventory • Credit • FX, price • Warranty, intangibles
Reward	Lowest margin (between sales and purchase)	Margin (between sales and purchase)	Highest margin (between sales and purchase)
VAT refund	VAT refund would not be applicable	VAT refunded, if deemed an export (VAT refund amount would be lower than FFM)	VAT refunded, if deemed an export

Source: "Tax-efficient Supply Chain Management (TESCM) & Transfer Pricing," Ernst & Young

Sales company models for CTCs

The seller typically acts as a low-risk sales representative, commissionaire, limited-risk distributor, etc., that implements the marketing and selling plans developed centrally by the CTC. They also perform specific functions in selling the products in the respective areas/countries, thereby receiving either a cost plus commission or a low margin on sales. Due to the consolidation of the functions and better supply chain optimization under a CTC, the corporate is able to generate process efficiencies and economies of scale, and as a result, the total profits of the entity increase.

There are four models:

Full-fledged distributor

Bears all risk and ownership of goods before sales to customers

Limited-risk distributor

Buys the goods from the CTC as a "reseller" and sells directly to customers, but bearing limited risk through "flash ownership"

Commissionaire model

Similar to limited-risk distributor model, however accounting rules and various tax implications differ

Sales rep office

Essentially an agent or a "branch" of the principal and distributes goods on behalf of the CTC

Below is high-level comparison of the four distinct models. The location of the CTC and other tax and structural implications will determine the optimal model for a company.

	Full-fledged distributor	**Limited-risk distributor**	**Commissionaire model**	**Sales rep office**
Summary	Acts in its own name and for its own account with full risk (and profit than LRD)	Acts in its own name and for its own account	Contracts in its own name for account of CTC	Contracts in name and for account of CTC
Legal title to goods	CTC to FFD	CTD to LRD (flash title), LRD to customer	CTC to customer	CTC to customer
Invoice to CTC	FFD	LRD	Commissionaire	CTC
Assets + risk	High Type of risks: • Credit • Capital • Inventory • Working capital • FX, price	Low Type of risks: • Credit • Capital • Working capital	Very limited Type of risks: • Credit (limited)	Very limited Type of risks: • Limited
Reward	Highest margin (between sales and purchase)	Margin (between sales and purchase)	Commission (% of sales)	Total compensation
VAT refund	Buy-sell transaction from CTC to FFD	Buy-sell transaction from CTC to LRD to customer	Deemed to be a buy-sell from CTC to commissionaire to customer	Sales by CTC to customer, with rep office services

Source: "Tax-efficient Supply Chain Management (TESCM) & Transfer Pricing," Ernst & Young,; Tax Management Consultancy, "Limited Risk Distributor," 2014

3. History of setting up CTCs

Impact of global tax policy on CTCs

Historically, tax efficiency has been a key consideration when determining where to establish a treasury center, and tax remains an important factor in formulating an MNC's strategy in this regard. Indeed, tax and transfer pricing are key outcomes to manage when setting up an effective CTC. However, the tax landscape is rapidly evolving, and current global tax reform will impact the tax profile of a corporate group. In particular, the Organization for Economic Co-operation and Development's (OECD) latest Base Erosion and Profit Shifting initiative (BEPS 2.0) will ultimately lead to tax reform aimed at counteracting tax benefits of structures or arrangements involving profits booked in low- or no-tax jurisdictions, making commercial rationale and business process efficiencies key to decision makers.

In short, BEPS 2.0 will likely see a globally consistent and coordinated approach to how much tax MNCs pay and where they pay it. This will include, in accordance with "Pillar II" of BEPS 2.0, a mechanism that requires corporate groups to pay a minimum of 15% tax in the jurisdictions in which they operate. Accordingly, any tax benefit that may have emerged from booking profits in a jurisdiction that imposes tax in a lower rate is anticipated to be counteracted in the future.

The world post-Covid is going digital

The Covid-19 pandemic has had a significant impact on the structure, roles and priorities within treasury organizations. Two major themes are discernible: On one hand, treasurers push for automating time-consuming and labor-intensive activities; on the other hand, they are keen to explore new areas that provide additional value to their organizations.

Digital transformation

The need to automate treasury processes is driving digital transformation in many companies. Surveys indicate that treasurers are keen on automating administrative and compliance work, cash management and FX functions. Businesses are, therefore, prompted to implement a host of technological solutions: RegTech for alleviating the compliance burden and digital payments; and TreasuryTech, which helps automate and efficiently manage a number of activities. A rising focus is on data management, particularly capturing all the data in one place in order to enhance transparency and allow businesses to make more informed decisions.

Due to the CTCs' nature as "centers of excellence," digital transformation projects facilitated by them are not limited to the treasury function. They also extend to other areas, such as supply chain management, quality control or compliance, all of which are of central importance in the post-Covid world.

Modern treasury function/digital transformation

Finance and payments

- Multi-funder models
- Digital payments and collections
- End-to-end workflow automation
- In-house bank

Data and systems

- Data analytics
- Centralized master data management
- API
- Internal systems integration

Compliance

- Sanctions screening
- Cybersecurity and IT governance
- Digital signatures
- Mobile access and remote approval

New agendas

Due to the disruptions precipitated by the Covid-19 pandemic, treasurers are increasingly focused on the resilience of their supply chains, from both the operational and financial perspectives. Other areas of interest are the opportunities that have come with the fast rise of environmental, social and governance (ESG) interests and green financing. As real-time data has become crucial in navigating the evolving environment, treasurers have embarked on digitization programs that leverage large amounts of data in decision making. CTCs are well-positioned to spearhead the rollout of ESG and digitization initiatives, as they leverage the benefits of co-location with other business functions. The highly skilled staff they typically employ provides strategic, organizational and technical guidance to teams across various functions and assists in enhancing their digital and ESG capabilities.

In terms of ESG, CTCs can supervise procurement practices in order to identify and terminate unethical suppliers, to ensure compliance with sanctions, local laws and regulations, as well as to measure the environmental impact of a firm's activities. CTCs may also drive diverse ESG-enhancing programs, such as reducing the amount of packaging, lowering the use of energy and increasing employees' safety standards.

Remote work

As indicated above, one of the lasting effects of the Covid-19 pandemic has been the shift towards remote and virtual working. Physical location is becoming increasingly irrelevant, as most functions can be performed remotely. The degree to which a treasury can accommodate remote and virtual working is defined by two criteria: The level of centralization and standardization of processes, and the level of technology adoption and automation.

However, treasurers should weigh the pros and cons of remote work. There are certainly a number of tangible and intangible benefits in embracing it, including cost reduction (in both overhead, as well as labor costs), access to a larger talent pool and the push towards technology utilization. As top-level human capital is one of the key advantages of CTCs, the enhanced ability to access and retain employees with expert skills through remote work delivers synergies across the whole business. Remote working allows for the CTC staff to sit in various locations, thus enabling the set up of virtual CTCs, which combine the benefits of a CTC jurisdiction with reduced labor costs.

On the other hand, remote work entails higher cybersecurity risks (including fraud), complexities arising from managing employees in multiple jurisdictions and the employees' lack of corporate identification (feeling "peripheral"). The legal, regulatory and tax implications of an agile workforce also need to be considered for both employer and employee. There are a myriad of potential consequences of an employee working in a jurisdiction other than the location in which their employer was established, and there can be significant additional tax and other costs associated with this.

CTC location considerations: What modern CTC function needs to look like

To realize the anticipated benefits from developing a CTC structure, an appropriate and tax-efficient location, as well as the related tax-aligned operating model for the CTC, would need to be determined. This process requires consideration for various tax and transfer-pricing issues, including potentially the availability of any tax incentives/specific regimes, profit repatriation strategies, transfer pricing, trade and customs planning and managing cross-border matters for multinational corporations with such permanent establishment (PE) risk, controlled foreign company (CFC) rules, and indirect tax issues. As mentioned earlier, this all needs to be evaluated in the context of evolving global tax law and practice.

Co-locating a CTC with other functions, primarily with the trading principal headquarters or the corporate headquarters, is another important factor, as it delivers two benefits for the company. Firstly, it leads to cost reduction, as the CTC uses an already existing business infrastructure. The second benefit of a treasury sitting next to business operations is an increase in controls, monitoring and oversight, as well as communication. In fact, it is uncommon for companies to separate CTCs from their headquarters, as there would have to be a strong and compelling business case for opening a CTC in a new location.

Additionally, CTCs can provide strategic guidance to other teams, especially by helping them navigate through geopolitical events, sharing best practices in managing a firm's finances, as well as increasing focus on emerging markets.

A modern treasury function employs highly skilled staff. Therefore, an access to a pool of highly qualified workforce is essential. CTCs are commonly found in established global financial centers with a high number of finance professionals.

Considerations for a CTC location

Financial considerations

- Access to capital markets
- Business environment
- Market uncertainty
- Government incentives
- Banking factors
- Tax attractiveness

Operational considerations

- Geographic proximity
- Transportation network
- Telecommunication
- Human capital
- International access
- Cost of living

4. Client case study

Leading technology company

Situation

- The goal was to set an innovative structure that would help manage both treasury and commercial flows through the combination of a global treasury structure with a re-invoicing structure
- Adopt a treasury model that would help the client unlock value from cash trapped in emerging markets with restrictive capital controls
- Achieve goals of financial globalization by establishing a CTC structure, as well as a re-invoicing center in a single hub at Singapore
  - Enable transformation and supply chain optimization
  - Simplify cash flow management to solve for trapped cashed due to operations in restricted capital control economies

Challenge

Integration of acquirer's business and target's global business without the existence of any global treasury system/CTC offered unique challenges:

Complex model
of cross-border intercompany agreements when manufacturing unit sold directly to any subsidiary

Cash trapped
in emerging markets like India, Brazil and South Africa with restrictive capital controls due to a decentralized structure

- Minimize duration of trapped liquidity in emerging markets (which could be as long as one year)

Solve problems
related to intra-month mismatches of liquidity positions across different currencies

FX risk
compounded due to expenses of resulting entity concentrated in USD, while revenue received across international currencies

CTC solution

Established a CTC with an innovative structure – a combination global treasury center and re-invoicing center

The results:

Management of both treasury and commercial flows

Cash pooling achieved through remittance of funds into one location to eliminate cross-border company loans/agreements

Automated concentration of balances into one region without loss of value-date

One-stop shop for transacting in short-term investments

5. Establishing a CTC

The following considerations should be made when evaluating the establishment of a CTC in Europe:

- A firm's strategy for Europe
- Business requirements and priorities
- Location considerations
- Regulatory awareness
- Tech/digital readiness
- Governance and supervision
- Access to talent
- Partners (clients, banks)

The trend towards centralizing of treasury functions in regional centers has been gaining traction in Europe since the turn of the millennium. During that period, four European cities have emerged as the top locations for establishing CTCs: London, Zürich, Amsterdam and Luxembourg. All four offer superb financial, technological and legal infrastructure that facilitates treasury operations.

Nevertheless, there are differences between individual locations, and an MNC must carefully consider the specifics of each financial center. From a macroeconomic view, Amsterdam and Luxembourg are located in both the European Union (EU), as well as the eurozone. After the United Kingdom left the EU in 2020, London's interconnectedness with other EU countries has decreased. While Zürich traditionally sits outside of both the EU and the eurozone, its membership in the European single market facilitates deep embeddedness in the European financial and trade infrastructure.

The four cities also differ in three governance-related policies that significantly impact the operations of any CTC, namely transfer pricing, exchange rate and invoicing policy.

Governance

Transfer pricing policy

A CTC structure is subject to a whole set of regional tax issues, covering the CTC jurisdiction, as well as all the other jurisdictions where the transactional counterparties of the CTC are located. The key issue from a transfer pricing perspective is that both the business model/transaction structure and the actual intercompany pricing policies should be determined on an arm's-length basis.

An appropriate intercompany transactional structure and the corresponding pricing policies and arrangements should be established to ensure that the actual functionality of the CTC and its counterparties are properly reflected in the intercompany pricing policies. It is important that the CTC has economic substance, and the actual practices are in line with the planned CTC structure (e.g., presence of people/management that are in charge of the centralized functions in the CTC, capital and control of risks). Also, if the CTC operates as a trading hub, customs duty considerations often enter into the mix and, particularly when interacting with transfer pricing policies and adjustments, can increase the complexity of the structure. Equally, indirect taxes (VAT, GST) may apply to CTC transactions in various countries.

As such, the CTC structure should be supported by a robust intercompany transfer pricing policy, legal agreements and appropriate economic analyses should be conducted to determine the arm's-length arrangements among the group of companies. Transfer pricing can be a complicated area, but with appropriate planning and analysis, both tax efficiency and the increasing compliance and documentation obligations can be managed. Without a robust transfer pricing policy, rigorous implementation and supporting documentation, the purported benefits from setting up a CTC may not be sustained.

Another consideration to be made would be for treasury-related functions to be involved, since the establishment of a CTC would often involve centralized intercompany settlements. To appropriately compensate the centralized treasury functions, for example, isolated investment activities or individual funding arrangements may need to be separately considered and benchmarked. In the case of short-term working capital funding, financing M&A, structural finance or bespoke transactions such as structured subordinated debt arrangements can differ from day-to-day funding items.

In particular, intercompany financing transactions are one of the areas many tax authorities in the region are currently focusing on. To come up with a sound mechanism to determine the group's inter- or intracompany transaction rates, specific market data would need to be analyzed to demonstrate that the company is depositing or borrowing at the rate that it is able to secure on a standalone basis. Applying a broad-based group borrowing or lending rate may not necessarily be a good reflection of the individual entity required rates in many situations.

More general tax considerations will include the domestic tax system of the jurisdiction in which the CTC is established, with any potential beneficial tax outcomes for the CTC needing to be considered in the context of the MNC's broader operations in the current tax environment. In addition, the possible application of withholding and indirect taxes in one or more jurisdictions, including VATs/GSTs and sales taxes, as well as customs and excise duties, needs to be considered before a holding and operating model is finalized.

Exchange rate policy

A FX risk is another consideration for the set up of CTCs. In determining the right location for a CTC, the macroeconomic environment that impacts FX rates should be evaluated, in particular, factors such as regulatory changes, political uncertainty stemming from events such as Brexit, inflation and changes in interest rate policy. The exchangeability of a currency is a factor that needs to be incorporated into any exchange rate policy. However, this is less of a concern in Europe than in other parts of the world.

Exchange rate policies must also consider transaction and translation risks. Transaction risks are generated by the changes in exchange rates occurring between when a transaction is signed and when it is executed. Translation risk stems from currency fluctuations between when funds in foreign currency are received and when they are reported on financial statements.

Invoicing policy

In deciding a location for a CTC, regulatory frameworks defining invoicing policies must be closely examined, as there has been considerable change in recent years. Many European countries still employ a traditional post-audit policy, in which firms first exchange invoices and only then are accountable to the administration. However, with the advent of e-invoicing, a number of countries are moving towards the clearance model, which mandates firms to first send invoices to a government agency for pre-approval.

There are considerable differences between individual European countries. Italy was the first to implement the clearance model, with France and Poland moving in that direction, as well. On the other hand, countries such as the Netherlands and Germany have adopted a more laxed approach and do not go beyond mandating the use of e-invoicing.

Locations in Europe

London, Amsterdam, Luxembourg and Zürich have emerged as top locations for CTCs in Europe. They differ significantly in their financial infrastructure, cost of labor, regulatory environment and a number of other aspects. The most appropriate location would depend on a firm's own preferences, such as size of a CTC, need for access to capital markets, or costs. For instance, larger CTCs are typically set up in London due to access to financial markets, while smaller ones opt for Amsterdam for cost reasons. An emphasis on tax considerations would favor a CTC in Luxembourg or Zürich. As many CTCs are co-located with their principal business or trading centers, Zürich would be a top CTC location choice for many firms seeking to leverage the synergies of co-location.

Firms concerned with access to a large talent pool would favor London. In terms of connectivity, London and Amsterdam host airline hubs with direct flights to a large number of destinations. While all localities have advanced infrastructure, Zürich stands out slightly in terms of road, rail and IT networks. In terms of reputation, London is ranked second on the global financial centers index and clearly stands out in this metric.

Our rating in the below table provides a high-level comparison between the four localities, in which "high" stands for the best. Note that the notions of "high," "medium" and "low" are used solely in a comparison between the four locations, and it is not a general statement about an individual city.

As each company places a different emphasis on individual factors when choosing a location for their CTC, proper evaluation of the best CTC location would, at minimum, need to add weighting to individual factors, in order to reflect the firm's needs and requirements.

	London	Amsterdam	Zürich	Luxembourg
Cost of labor	Medium attractive	More attractive	Less attractive	Less attractive
Access to talent	More attractive	Medium attractive	More attractive	Less attractive
Co-location with business ops	Medium attractive	Medium attractive	More attractive	Less attractive
Income tax rate	Less attractive	Medium attractive	More attractive	More attractive
Other tax considerations	Medium attractive	Medium attractive	More attractive	More attractive
Connectivity	More attractive	Medium attractive	Medium attractive	Less attractive
Housing and quality of life	Less attractive	Medium attractive	More attractive	Medium attractive
Infrastructure	Medium attractive	More attractive	More attractive	Less attractive
Access to capital markets	More attractive	Medium attractive	More attractive	Medium attractive
Reputation as a CTC	More attractive	Medium attractive	More attractive	Less attractive

Less attractive | Medium attractive | More attractive

New technology innovations that can help CTCs

A discussion of the digital aspects impacting CTCs would be incomplete without mentioning blockchain and related technologies that will likely play an increasing role in the future. CTCs will likely adopt blockchain-based solutions in the payments domain, as these are faster, more reliable and safer. Blockchain-based applications provide added value for CTCs in a number of treasury, procurement and trading functions, such as:

The adoption of blockchain technology requires a technical readiness of both a corporate's internal IT infrastructure, as well as that of a wider financial infrastructure. It also requires acceptance of business partners and coordinated rollout across subsidiaries. Apart from technology and cost considerations, a deployment of blockchain-based solutions requires a revision of regulatory and tax implications and the ensuing development of internal governance frameworks, especially regarding the use of cryptocurrencies. CTCs can act as internal drivers in the adoption of blockchain technologies by companies, as they roll out digitization projects and provide experienced guidance in the governance, tax and regulatory matters.

While the adoption and implementation of blockchain-based technological solutions may require significant effort and investment, they can return considerable benefits. Increases in speed, efficiency, operational efficiency, transparency and automation can yield large cost reductions.

Cross-border trade finance solutions

As part of working capital management, CTCs can use blockchain-based trade finance solutions in supply chain management. Enhanced tracking, transparency, real-time view, automatic settlement and disintermediation increase operational efficiency and decrease costs.

Securitization, custodian and brokerage services

Firms that use cryptocurrencies and tokens in their transactions with customers benefit from the CTCs expertise in the areas of securitization, custody and brokerage of digital assets.

Financial transactions without intermediaries

When executing transactions on blockchain, CTCs can accelerate payments to suppliers and collections from customers, while at the same time achieving cost reduction by removing intermediaries from payment processing.

Immutable records of laws, events and rights

The transparent trail of records on blockchain facilitates audit in supply chains. CTCs have a higher visibility into the movement of goods, which allows them to identify fraudulent behavior, breach of sanctions or the use of suppliers engaging in unethical operations.

6. Next Steps

The impact of the Covid-19 pandemic has accelerated the uptake of digital tools and solutions by treasury organizations. When setting up a new CTC or upscaling an existing one, corporates should apply a holistic approach, as multiple components of a treasury's operations are being transformed. The following table compiles the main impact areas, organized into the following categories: People, process, technology, metrics, governance and service delivery.

People

Remote work
The post-pandemic shift towards remote and virtual work provides access to a larger talent pool, which is likely to increase the expertise and competence of CTC staff to the benefit of all functions. At the same time, risks in the areas of cybersecurity and human resources management need to be addressed.

Cultural change management
The extension of treasury functions leads to changes in the organizational structure of a company. Work activities are conducted within larger and more complex operational designs.

Organizational politics
Movement in internal roles and responsibilities will lead to internal power shifts.

Process

Change management
Deployment of new technologies and related alterations in process need to be budgeted, planned and rolled out in a consistent manner. A CTC supports change management in providing skillful advice on the implications in compliance, regulation and tax areas, which need to be addressed within a project delivery.

Digitalization, automation and standardization
Understand the need to streamline treasury processes, as well as select and implement tools that facilitate automation and digitalization.

Tax considerations
Changes in processes and tools employed often have tax implications that need to be carefully considered.

Technology

Technology as an enabler

Leverage a host of technological solutions that reduce manual and repetitive tasks and drive efficiency. Treasury management systems, APIs or cloud-based solutions are seeing wide adoption across treasury centers.

Data management

Capture data generated across your organization and centralize master data management.

Digital payments

Accelerate and centralize payment processing, reduce cost and enhance cash management efficiency.

Metrics

Analytics

Standardize and harmonize data in order to gain new insights and support operational and strategic decision making.

Prioritization of KPIs

Enhance decision-making efficiency by creating a hierarchy of KPIs in order to better use available data.

Management reporting

Use management reports and business intelligence tools in order to achieve real-time visibility and enhance decision making.

Governance

RegTech and LegalTech

Leverage technology to address the legal and regulatory requirements your company must comply with.

Oversight and governance frameworks

Establish control of the operations, and implement policies and security measures to ensure compliance with the jurisdiction guardrails.

Service delivery

Digital strategy

Plan for maximizing the business benefits of data assets and technology-focused initiatives.

Operational efficiency

Reduce the amount of time dedicated to non-value-added activities.

7. Summary

There are number of benefits for MNCs in setting up CTCs across the financial and physical value chain. In the post-Covid era, this requires careful planning, deep knowledge of regulatory, tax and related areas, readiness to embrace digital transformation, leveraging economies of scale, and driving operational efficiency. The dynamic developments in the post-Covid global economy place demands on companies to make smart strategic decisions, stay on top of the latest regulatory and tax developments, and continuously streamline operational activities. MNCs opt to establish a CTC for their European operations in order to manage their value chains, enhance oversight, leverage operational synergies, and increase specialist knowledge and capabilities.

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