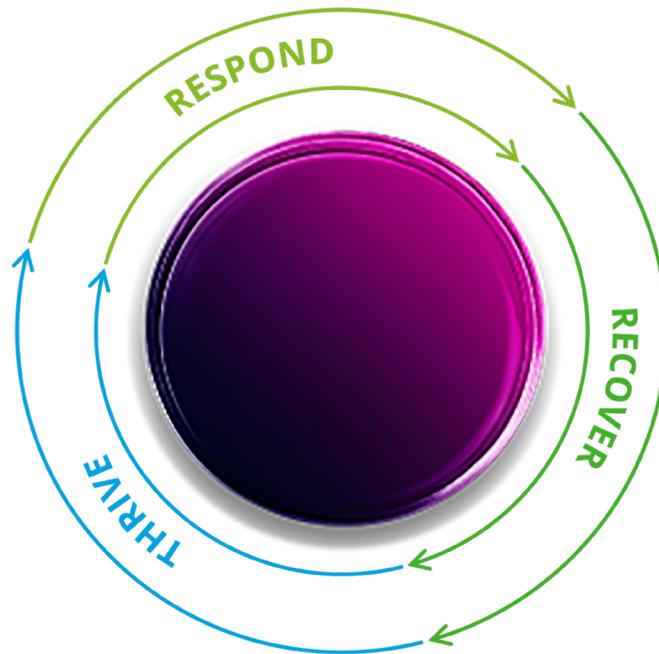


Supply Chain Management – Impact of the Corona Pandemic on Value Chains and Transfer Pricing Systems



1. Introduction

The Corona pandemic is a severe blow to global value chains and the direct related interdependencies between individual stages of the value chain. Supply chains that were developed over a number of years and tailored for efficiency were stable up until this point. With the outbreak of the pandemic in China, supply chains collapsed in the first quarter of 2020. Even prior to the financial crisis in 2008/2009, companies had already begun to demand flexibility and dynamic behavior. Globalization, saturated buyer markets, customer orientation, intense competition, accelerated technological development and increasing reduction of product life cycles had shaped the market in recent times.¹ In order to meet these requirements, it was no longer the organizational structure that defined workflow processes (process follows structure), but the processes that shaped organizational structure (structure follows process).² The consideration of corporate strategies, which generally forms the basis of organizational solutions necessary for strategy implementation, results in the premise “structure follows process follows strategy”.³

However, the Corona pandemic has led to a number of significant changes. From a risk perspective, multinational enterprises are currently examining possible options to mitigate risk in the case of a similar “shutdown” in future scenarios. Due to changes in group strategy following a risk evaluation, existing value chains and process models will need to be reviewed.

The expected shift in group strategies and consequential changes in organizational processes and structure require careful consideration of tax consequences and risks resulting from the associated changes.

Therefore, multinational enterprises will need to carefully evaluate their position and potential outlook following their respective operational changes.

This article presents the impact of the Corona pandemic on individual stages of the value chain for multinational enterprises and illustrates the potential changes that should be considered in the redesign of the value chain. Based on this factual background, potential implications for tax and transfer pricing consequences and risks will be presented.

¹ Bach/Brehm/Buchholz/Petry, Wertschöpfungsorientierte Organisation, 2012, 133.

² Ibid.

³ Ibid.

2. Possible Effects of the Corona Pandemic on Value Chains

In this section, the impact of the Corona pandemic as well as possible changes in corporate strategy and the value creation processes are discussed. This is based on a sequential view on the flows of goods and services, taken into account that in the age of digitalization, value chains are increasingly evolving from one-dimensional to multi-dimensional interconnected networks.

(1) Procurement Process

In principle, the procurement organization can be divided into a strategic and an operational level respectively.⁴ The strategic procurement process deals with the fulfillment of general material and service requirements across all business divisions within the group. This is connected to aspects of strategy development, which helps to determine the respective decisions to be implemented, for example, global sourcing, single sourcing or supplier portfolio. The operational procurement process covers the entire process - beginning with the determination of concrete requirements and ending with creditor management.

The significance of procurement in the value creation process, i.e. whether it has a strategic or operational/supporting role, is dependent on the industry, but also on the level of added value from the respective group.⁵

It can already be foreseen that procurement processes will play a key role in the strategic aftermath of the Corona pandemic. In consequence, the fundamental objective of the procurement function will be to maintain efficient supply chains, in addition to the establishment of external and internal supplier portfolios in order to avoid excessive dependency on one single stage of the value chain.

(2) Operation/Production Process

The production process is largely determined by two objectives, namely process and resource efficiency. The entire supply chain management in the area of production/operations is focused on the intercompany coordination of material and information flows across the entire value chain process from goods receipt to shipment. Therefore, the practical efficiency of order processes with the supply chains of upstream and downstream partners is of strategic importance.

In the context of risk allocation with respect to the above processes, key areas are currently being reanalyzed and readjusted, such as: the volume of products; made-to-order production vs. stock production; production levels (single-level vs. multi-level); and organization of production and production quantities.⁶ Similarly, the return from shutdown will result in initial costs due to insufficient functioning supply chains, lack of demand, and costs related to resuming production.

(3) Inventory Management/Outbound Logistics Process

Availability of stock and outbound logistics are crucial factors in fulfilling customer demand on time. Digitalization has increased efficiencies by reducing safety stock levels to the extent possible through accurate forecasting of customer demand and reduced delivery time from an improved logistics network.

The Corona pandemic caused not only the shut down of production entities, but also disrupted logistic chains. Ports and airports were closed which led to freight not being transported. The disruption of supply chains was a major problem for product-driven industries, as there were no available materials and intermediate products to continue production. Various industries and corporations anticipated a start-up phase of minimum 6 weeks before logistics hubs, such as ports and airports, were re-opened.

For future circumstances, several groups have already announced that it can be expected that warehousing policy will be an important component for a robust supply chain structure. There is a further argument that considering the current low interest rate environment, the costs of capital commitment due to the higher inventory levels will be a controllable financial indicator.⁷

(4) Marketing and Sales Process

Customer Relationship Management (CRM) systems form an essential part of the value chain with respect to marketing and sales processes. CRM generally consists of the following systems:

- Operational CRM system, i.e. the digital support of all processes at the point of sale;
- Analytical CRM system, i.e. the digital evaluation of the data generated in the process and its subsequent optimization; and
- Communicative CRM system, i.e. the control, support and synchronization of all communication channels to the customer.⁸

⁴ Bach/Brehm/Buchholz/Petry, Wertschöpfungsorientierte Organisation, 2012, 146 f.

⁵ Ibid., 148 f.

⁶ Bach/Brehm/Buchholz/Petry, Wertschöpfungsorientierte Organisation, 2012, 165

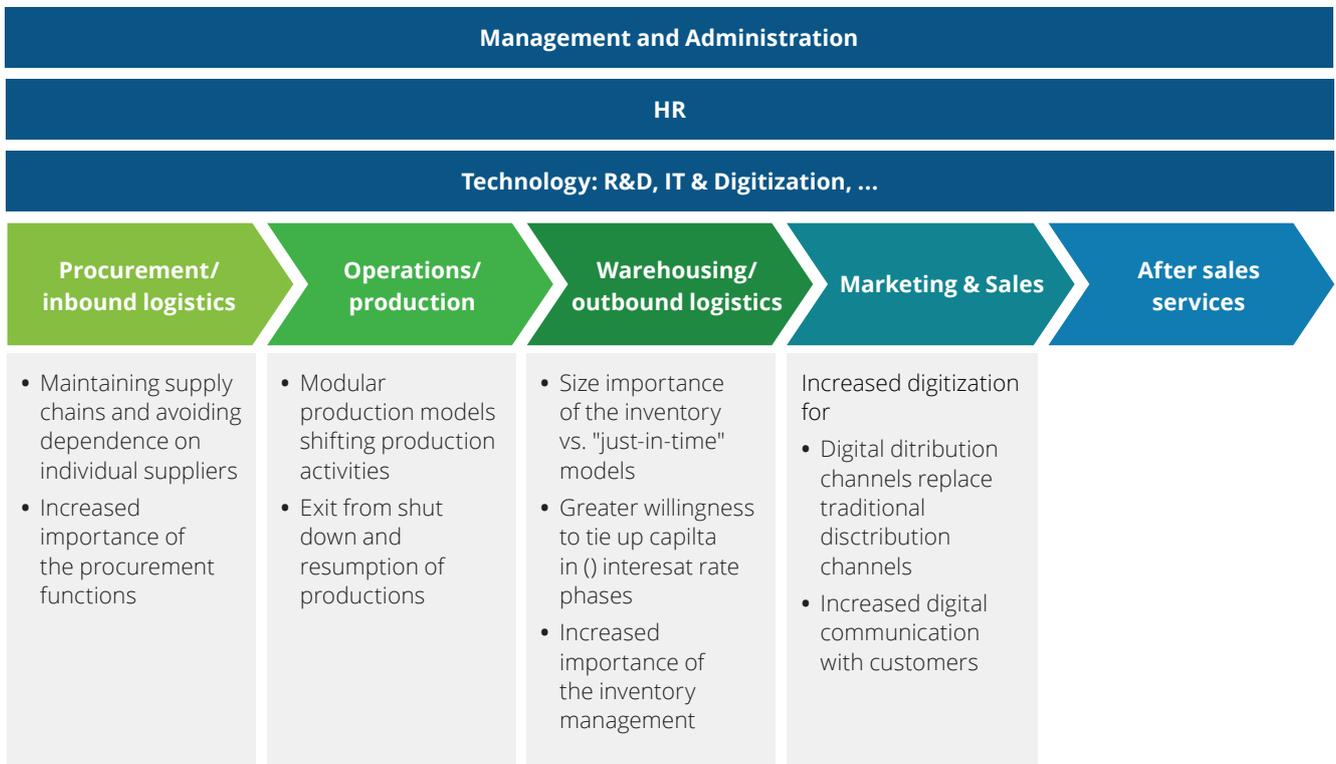
⁷ Giersberg, Warum das Lagern wieder wichtiger wird, <https://www.faz.net/current/economy/world-economy-china-supply-chains-are-again-16729656.html>.

⁸ Bach/Brehm/Buchholz/Petry, Wertschöpfungsorientierte Organisation, 2012, 161.

Due to the government guidelines on "social distancing", all customer contact and negotiations have come to a stand-still. This has resulted in the acceleration of the digitization of sales processes during the Corona pandemic.

The following depiction illustrates the aspects presented as a basis for the following tax analysis.

Figure 1: Supply Chain Reorganisation⁹.



3. Tax and Transfer Pricing Consequences

In this section, the key aspects as well as the implications on the value chain mentioned above are further elaborated to examine possible medium to long-term transfer pricing consequences.

Disrupted supply chains are considered to be a major reason for the economic slowdown in the wake of the Corona pandemic. In particular, the global dependence on individual locations, e.g. the dependence of global supply chains on any one single country, can strengthen such a disruption.

Due to the Corona pandemic, corporations are likely to focus on the security and stability of value chains - at least in the short to medium term.

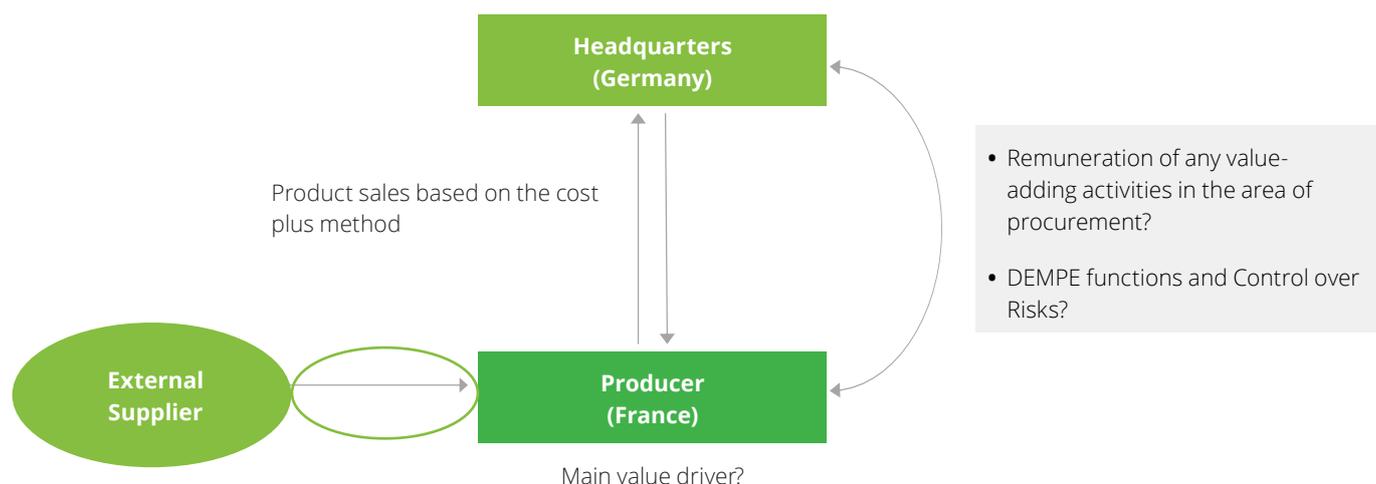
(1) Procurement Function

As explained above, the procurement function can be distinguished between the strategic and operational levels of procurement. The importance of procurement depends on both the industry and the level of the added value from the respective group. Considering that procurement is a key factor of the value chain, it is expected that the flexibility of procurement processes and the reduction of associated risks will become a major focus. Hence, an increased (risk) management with regard to procurement sources is expected.

Strategic importance needs to be allocated to the identification and analysis of suppliers. An increased coordination with direct suppliers has to be made, while an analysis of further suppliers within the supply network should be considered, including the development of alternative procurement sources (e.g. regional control towers for group-wide supply chain management together with procurement and digital solutions are likely to increase. It is still unclear whether the procurement function will be performed more centrally in the future, or whether centralized control will occur alongside strengthened local purchasing.

⁹ Own illustration.

Figure 2: Illustration of procurement function.¹⁰



From a transfer pricing perspective, possible adjustments to the procurement function should be evaluated. In the analysis of the facts and circumstances, the following questions should be addressed on a case-by-case basis:

1. What is the current and future role of procurement in the success of the business?
2. Who performs the function and bears the associated risks with respect to procurement?
3. Should new intangible assets such as digital procurement tools be incorporated? Should an analysis based on the OECD-DEMPE concept be performed. The DEMPE concept for instance stands for an analysis of who is performing the key functions, assuming the main risks and making the management decisions around developing, maintaining, enhancing, protecting and exploiting intangibles,

If the strategic procurement function together with (risk) management and the supplier relationship development is seen as a strategic competitive factor in the future, it should be reconsidered whether cost-based remuneration is appropriate or whether at least part of residual profits should be allocated respectively.

With regard to the operational activities of procurement, it is questionable whether this justifies residual profit remuneration. This, however, will depend on the facts and circumstances of each case whether they should be rewarded a return that results in a small profit mark-up or instead take a share of residual profits or losses. Nevertheless, this is probably a matter of implementing strategic framework concepts and the question arises whether a profit margin remains appropriate for the function performed or whether the profit mark-up should be adjusted.

If there are adjustments in the allocation of revenue, for example, because a stronger central procurement function is being established or management responsibility is being moved from subsidiaries to the HQ, IP transfer or relocation of functions with possible exit tax implications will need to be examined. If the local procurement function was remunerated on a routine basis and the intention was to perform these functions centrally in the future, it is anticipated that exit taxation will not be applicable.

The centralization of the procurement function to the entrepreneur within the value chain, could lead to the development of a new risk based procurement framework along with the establishment of valuable procurement tools. Subsequently, the entrepreneur would also be liable to the associated risks resulting from a similar pandemic situation.

(2) Production

Similar to procurement process, the production process is also likely to be reviewed in the medium to long term. In the short term, the resumption of production is likely to lead to start-up and capacity costs, which will be borne initially by the production company. In addition, the disruption of the supply chain leads to short-term cost adjustments to the production network.

In the medium to long term, general parameters of production should be analyzed, such as the volume of products, contract manufacturing vs. stock production, choice of production location and network, flexible production and digitalization of production control.

Corporations have to explore these strategically important issues taking costs and revenues into consideration. The latter was also confirmed by Felbermayr from the Kiel Institute for the World Economy.¹¹ According to the study, the worldwide division of labor has its advantages. Doubling production facilities could lead to rising costs and consequently to higher commodity prices. Companies would have to make carefully considered strategic decisions in this respect. Nevertheless, Felbermayr expects that more production facilities will be built in countries where the end customer is located resulting into a significant decrease of freight traffic. The opportunity to increase quality may also be a direct consequence to the reorganization.

¹⁰ Own illustration.

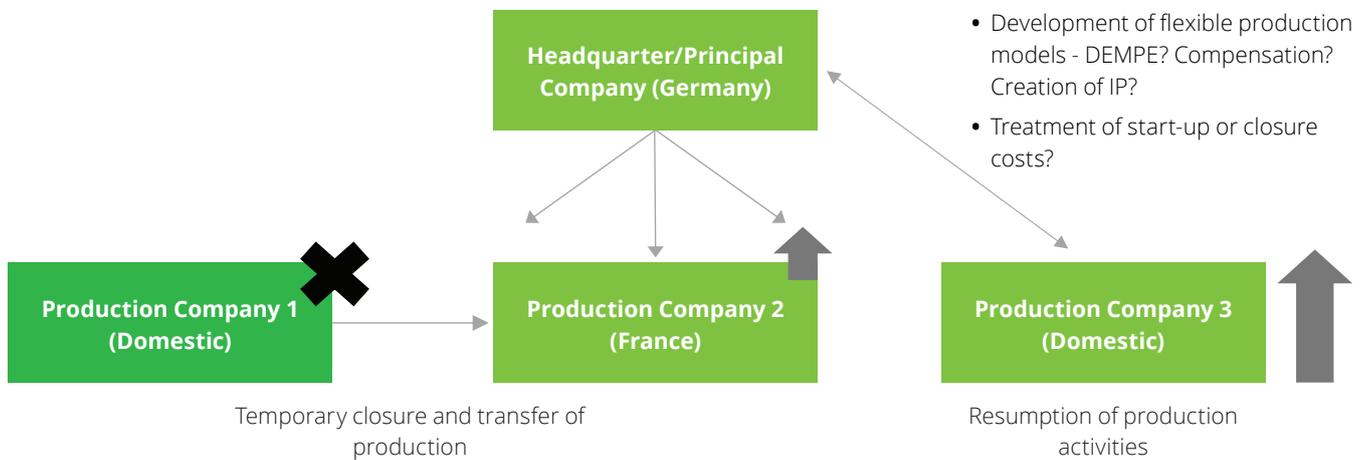
¹¹ Deutschlandfunk Kultur v. 7.4.2020, The world will remain highly networked, https://www.deutschlandfunkkultur.de/ifw-chef-felbermayr-ueber-globalisier-rung-die-welt-wird.1008.de.html?dram:article_id=474273.

Furthermore, the World Economic Forum has noted that the ability to collect production data and to leverage respectively to manage a more flexible and modular production network is increasing in importance due to the Corona pandemic.¹²

In addition to the increase of production facilities, the number of warehouses and demand for capital are also likely to increase.

The following diagram illustrates various aspects by way of example.

Figure 3: Effects of production.¹³



From a transfer pricing perspective, the current and future allocation of function and risk has to be assessed and documented respectively. Any adjustments and the introduction of new control systems have to be assessed with regard to their value contribution and remunerated accordingly. In particular, profit allocation should be reevaluated if a new value-generating software is introduced as an intangible asset. In this case, the DEMPE concept requires the identification of the entities performing the management decisions, executing the functions and assuming the risks. In addition, business data models are of particular importance in this regard. If production structures are to become more flexible, good production planning is necessary for efficient control, which should be digitalized. The development, maintenance and analysis of data models play an essential role in value creation, for which remuneration should be based on the DEMPE concept.

In cases where production structures change in the short, medium or long term, it should be determined if essential functions are relocated. This is particularly the case should there be a transfer of intangible assets. If the local production function was compensated based on routine remuneration, exit taxation for a going concern business should not be applicable. Generally, in this scenario, an individual valuation of single assets should be sufficient. Nevertheless, it must be examined whether, for example, long-term purchase commitments, valuable expertise, machines, inventories or customer relationships are also transferred. For this purpose, individual arm's length transfer prices have to be determined.

Any start-up and closure costs must be assessed on a case-by-case basis, by taking into account the specific allocation of functions and risks. In the case of models involving a principal, such costs should generally be borne by the principal, unless an alternative treatment would be more reasonable for the specific case. Furthermore, in the current situation, an external third party producer will also have to bear start-up costs, including costs related to inactivity. The risk of costs arising from inactivity is generally not insured.

It is necessary to check whether production contracts provide for purchase obligations within the group. In such cases, a third party could reference the contractual purchase commitment and make a claim for any violation in contractual obligations in a hypothetical arm's length analysis.

The risk of creation of permanent establishments has to be examined with regard to new warehouses. Although in many Double-Tax-Agreements, warehousing is seen as an auxiliary activity. However, this could be questioned to consider the following: a) anti-fragmentation rules under the Multilateral Instrument¹⁴ and b) classification of the warehouses as a "non-auxiliary activity"¹⁵.

Furthermore, the Corona pandemic has led to an additional storage risk due to the decline in the market, as well as inactivity, spoilage of goods, technical overhaul and capital commitments. If "normal" volumes were being produced at the beginning of the pandemic, it is also assumed that a third party would also bear such risks because it would not have been able to react quickly enough in response to the pandemic. Nevertheless, it should be examined whether a routine group entity produced normal quantities or whether it had already a higher production volume prior to the pandemic due to the entrepreneur's guidelines. Should this be the case, then the question would be whether the additional storage risk should be borne by the entrepreneur. This could be the case for a situation, in which production planning is digitalized with data modelling provided by the entrepreneur. Not only could the entrepreneur be entitled to the residual profits, but it could also have to bear the risks, which it effectively controls.

¹² Cf. World Economic Forum v. 6.4.2020, Supply chains have been upended. Here's how to make them more resilient, <https://www.weforum.org/agenda/2020/04/supply-chains-resilient-covid-19/>.

¹³ Own illustration.

¹⁴ Cf. e.g. Heidecke/Lappe/Linn, IWB 2016.

¹⁵ Cf. e.g. Popat/Schoppe, Betriebsberater 2016, p. 1113.

If no exclusive right of use has been granted, it is questionable whether there is a business relationship to be remunerated at all. Ultimately, a third party could also buy the producer's goods and distribute online without the local distribution company being able to refuse to do so and demand compensation for attracting customers. If remuneration is nevertheless required, it could only be an intermediary provision, for example, to be measured via the berry ratio¹⁸ or a service fee for local marketing support.

(4) Management Functions

It can be expected that additional risk control functions and elements will be established by the group's headquarter, for example in the supply chain. In addition, there may be control functions performed not only at the group's headquarters, but also at the local entities. This would lead to an enhancement of functions in order to avoid certain risks in the future. This raises the question of how the resulting costs will affect cost allocation for the group. According to current transfer pricing guidelines, costs should be allocated to group entities based on the "benefit test". For costs that cannot be directly allocated, an appropriate cost allocation key is chosen. Shareholder costs are excluded from the calculation.

The question is thus whether the additional activities represent shareholder costs or not. The OECD states: "whether these activities [i.e. costs of managerial and control (monitoring) activities related to the management and protection of the investment as such in participations] fall within the definition of shareholder activities as defined in these Guidelines would be determined according to whether under comparable facts and circumstances the activity is one that an independent enterprise would have been willing to pay for or to perform for itself".¹⁹

In practice, the first question that should be asked is the reasoning behind the additional costs incurred. For example, new legal requirements, shareholders' decision, or additional measures to ensure functionality and efficiency for the group.

The next question that should be asked is whether a third party would be willing to pay a compensation, i.e. to pay fees for the additional activities. If supported by further benefits such as additional risk protection it is plausible that third parties would be also willing to compensate such activities. However, in case of a sole or predominant interest in additional control by the shareholders it could be appropriate that the additional costs are not or only to be charged proportionately. A detailed analysis of the additional benefits and root cause for higher cost in terms of interested parties should be conducted.

4. Conclusion

The current pandemic situation has proven that the high efficiency targeted in modern supply chains is highly exposed to risks due to the interdependencies presented in a global business environment. Companies will need to evaluate their business position and develop strategies to increase flexibility in supply chains.

As discussed in sections 2 and 3, this flexibility would mean a higher control of risks for each of the supply chain elements (e.g. through further suppliers, increased stock, etc.), but at the same time, could result in the loss of cost benefits generated through a high concentration.

In addition to this business view, it would also be necessary to review the intragroup roles and responsibilities from an organizational perspective. The risk control function should not be performed by one single entity dedicated to a specific element of the supply chain (e.g. procurement, production, distribution), as this would not ensure a holistic approach by taking into account the consequential effects to the remaining parts of the supply chain. Therefore, a central coordination and risk management function would be necessary.

Such a central function could be established at the principal/entrepreneur entity, entitling this entity also for an additional remuneration in accordance with the functions performed, risks assumed and potential (intangible) assets developed.

Not only has the pandemic situation demonstrated that supply chain management has a crucial relevance in the current global market, but also other initiatives (e.g. the initiative for a supply chain law) confirmed the increasing relevance of this topic and the fact that multinational groups cannot continue their operations as established in the last century.

¹⁸ Cf. accordingly envisaged by *Schmidtke* (forthcoming).

¹⁹ OECD 2017, OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations, para. 7.10.

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