

**The Impact of Digitalization on the
Determination and Verification of Transfer
Prices -
the Future of the Transaction-related
Profit Allocation Method?**

**Nontechnical Summary: The most
Important Findings**

Göttingen, Oktober 2019

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Nontechnical Summary: The most important findings

1. Question and procedure

The digitalization of business processes and operational procedures is increasingly influencing traditional production and service companies. Established business models are transformed on the basis of digital technologies and supplemented by dynamic value creation networks. Essential aspects of this development are the inclusion of new and decentralized players, the intensified use of large amounts of data and the increasing focus on the use of intangible assets. Against this background, the question to be answered were whether

- the methods used so far to determine appropriate transfer prices are capable of properly capturing the increasing complexity of cross-border value creation in the age of digitalization, or
- further development of the transactional profit split method would promise enhanced results.

If this turns out to be the case, the consequences of such a reform in terms of tax bill and tax budget for German companies and the public purse would need to be assessed.

To answer these research questions, our research project first examined the effects of digitalization on business models and value creation processes. At the same time, an analysis was carried out of how taxation can be operationalized at the “place of value creation” or the “place where economic activity takes place”, how possible concretizations of the place of value creation can be implemented, and what consequences arise for the tax claims of the participating states. In the third step, the effects of digitalization on the distribution of functions, assets and risks, as well as transactions and methods for the determination of transfer prices in German multinational companies were examined in order to discuss the current proposals for profit allocation on this

basis. With a view to a possible reform of the international allocation of profits, it was also examined whether a simplification of transfer pricing methods could help to reduce conflicts between taxpayers and the tax authorities.

Assessing the consequences of targeted reforms of the transactional profit split method for tax bill and tax budget requires empirical data that is neither publicly available nor available elsewhere, and also could not be acquired through private channels. With the assistance of our project partners, we were able to identify relevant transfer pricing documentation. However, the vast majority of companies addressed chose not to give approval for research use of their transactional transfer pricing data, ultimately making it impossible for us to bring this research question to a conclusion.

2. Empirical analysis of the impact of digitalization on business models

The digitization strategy of German export companies currently focuses on four goals. They consist of the digital enrichment of physical products, the provision of digital services, the realization of efficiency advantages in production, and the exploitation of demand-side economies of scale. For this purpose, both internally and externally generated, (un-)structured data volumes are analyzed, possibilities of location-independent cooperation are used and the networking of corporate planning and production machines is promoted.

Over the next five to ten years, the transformation of established business models and processes will result in far-reaching upheavals in the *automotive* and *consumer & retail* sectors. In *Pharma & Life Science*, research & development in particular offers great potential for digitalization, but here the regulatory framework with regard to personal data is likely to severely limit far-reaching changes for the near future. For all industries, the key to continued success lies in the orientation towards the characteristics of digital business models (“*scale without mass*”, “*reliance upon intangible assets*” and “*user participation*”, OECD 2018), which not only occupy a central place in long-term strategies, but are to some extent already developed today and *live* in numerous applications on a predominantly low level. Although in most of the companies that were the subject of a case study in the present study, the product is in the

foreground, quite a few companies see their role in the coordination (“orchestration”) of a digital ecosystem aimed at solving specific customer needs.

Against this background, digital business models are promoted in all sectors by investments, some of which are substantial, which contribute not only to the digital enrichment of physical products, the provision of digital services and the realization of efficiency advantages in production. However, the revenues generated by digital business models are not yet significant, even at segment level. Against this backdrop, it is to be expected that the primary core business of the German export industry will not change radically in the near future.

3. Theoretical analysis of profit allocation in digitized value chains

Taxation at the place of value creation can be interpreted as taxation at the place where the production factors are located at the time the good is produced or the service is provided.

Digital business models are essentially based on intangible assets, such as a user base, an algorithm or a marketing value, or on network-related market power. Since these values have no physical presence, they also have no whereabouts. The right to tax income based on intangible assets or network advantages cannot therefore be allocated sensibly on the basis of the observation of the place where production takes place or the service is provided.

One could try to see the value added contribution of an algorithm at the location where the corresponding software is installed and calculation results are generated. Since this can be done on a server at any location that can be quickly changed, in this case the right to tax the proceeds from the application of the idea incorporated in the algorithm would be assigned almost arbitrarily to countries that have nothing to do with the creation or use of the algorithm. This does not only prove unsatisfactory with regard to the international distribution of tax substrate, but also opens up simple possibilities for tax avoidance.

Strengthening the taxation rights of market states, as is discussed in the OECD, cannot therefore start from physical points of contact. However, it can be implemented by

taxing profits in the country of consumption, for example by attributing parts of corporate profits to the market state, by not allowing license fees to be deducted from operating expenses, or by imposing a withholding tax on outgoing royalty payments. However, profits and royalty payments do not only include economic rents, which arise from a network monopoly, for example, but also capital costs, which correspond to the loss of interest on the costs incurred in achieving the market position, for example for research or marketing. In this respect, in the course of a reform that is to grant the market states more taxation rights, it must be clarified which types of income are to be allocated to them: only economic rents or also capital incomes and other factor incomes corresponding to non-attributable costs.

4. Effects of digitalization on the profit allocation of German companies

So far, digitalization has not had a uniform effect on the functional spectrum of the group companies of a multinational company. The *networking of products* is associated with new functions, which are under central responsibility and increasingly replace corresponding services from the analogue world (all industries). In addition, *digital access to customers* and the central evaluation of data enable individualized offers with regard to products and services, for which in the analog world mainly national sales companies and intermediaries are responsible (primarily Consumer & Retail, Automotive). Finally, the *networking of man and machine* creates new possibilities for increasingly central control and coordination of production and logistics processes (all industries). The development of digital technologies (in particular software and infrastructure) takes place both centrally and in separate digitalization units, which are usually located close to the head office in terms of organization and geography, but often also in European metropolises in the interest of attracting qualified personnel.

With regard to transfer pricing, it appears that among the companies observed standard methods are still largely robust against the changes resulting from digitalization. With regard to *product-related developments, the production and distribution of goods*, however, there are increasing demands, particularly from emerging markets, to allocate higher shares of corporate profits to research and sales activities in these countries. Moreover, particular difficulties arise from the cooperation of global teams promoted by digitalization and an increasing mobility of staff in relation to the identification and

ongoing (re-)evaluation of DEMPE functions. In the case of digital *corporate services*, the cost-plus method is often the method of choice. In addition, cross-border cooperation is charged on the basis of cost allocation agreements. Here the necessity of a revaluation of the (transaction-oriented) profit distribution method becomes apparent, especially with regard to digital group services. However, against the background of resolving *transfer pricing conflicts with market states and foreign research locations*, a revaluation is also discussed by representatives of companies, transfer pricing consultants, and the tax authorities. The difficulties involved in applying the profit-sharing method are not minor, either from a technical or a content point of view. Against this backdrop, companies are focusing their attention and expectations on the international community of states and on robust proposals for a simplified distribution of profits that is legally secure, justiciable and internationally coordinated.

5. Implications for the further development of the profit split method

The analysis of the proposals on this subject put forward by the OECD shows that the allocation of taxation rights on the basis of a digital or economic presence cannot be reconciled with the arm's length principle. If for tax purposes the fact that marketing of digital services requires appropriate infrastructure is to be taken into account, a new right to taxation in deviation from the status quo, i.e., taxation where value is created, must supplement profit allocation according to the arm's length principle. Conceivable approaches include withholding taxes on digital revenues or separate attribution of (a part of) the residual corporate profit. Possible grounds for the tax participation of the market states in corporate profits lie in the principle of fiscal equivalence. In digital business models this might mean that services provided by market states made available for remote enterprises are reflected in such enterprises' sales revenues.

On this basis, a simple way to *allocate income to the market states* would be to determine (a portion of) the MNEs net sales commission (after taking into account the cost of capital) and apply this commission to the sales revenues realized in the market states concerned. The appropriate share of operating income to be allocated to market states is not defined in economic terms. Allocating 100 percent would result, however, in taxation of the entire residual income in the market states; zero percent would reflect the status quo. Taking the cost of capital into account would mean that residence and

source states would retain the taxing rights regarding market return on investment. Reference to segmented results reflects the observation that a group's business units can vary substantially in terms of profitability. With regard to the *allocation of profits between the states of residence and/or source*, the effects of digitalization observed so far give no grounds to question the use of the arm's length principle. But with digitalization, the significance of specific, generally intangible values for which the use of standard transfer pricing methods does not typically lead to satisfactory results increases. Where more than one group entity providing intangible values is involved, the allocation of profits for digital services such as control and coordination of logistic processes, or the development of digital technologies may require the application of a profit-oriented method, in particular the profit split method.

For such splitting of profits, several allocation factors are conceivable. In this context, reference to the production factor "labor" appears to have special advantages. Such costs can be identified clearly and simply and stand in close relation to the creation of intangible values. In order to achieve this, it may be necessary to record project cost on unit accounts and distribute them across the period in which the project results are utilized. Such unit accounting serves to assign costs to relevant periods and helps to avoid the allocation of profits to projects that remain unsuccessful. This involves calculating the costs of creation of intangible values, with the consequence that the capital invested, for which the owner is entitled to receive compensation, is recorded for transfer pricing purposes.

6. Impact of a simplified profit allocation system on the tax compliance behavior of taxable persons

One can assume that the taxpayers can improve the result of their determination and documentation efforts and reduce the risk of a transfer price adjustment, if they increase their budget for, for example, further personnel, the acquisition of data or consulting services. They will do so, if they can improve the result of their determination and documentation efforts, since they do not only increase their own knowledge in this way, but also satisfy the information needs of the tax authorities and, in addition, limit their scope of assessment. If, however, the requirements of determination and documentation can only be fulfilled to a limited extent, since the comparison yardsticks are blurred and the documentation requirements are described only abstractly, the taxpayer

carries an *unavoidable risk of a transfer pricing adjustment* even, if s/he achieves maximum expenditure.

If the determination and documentation of transfer prices is “simplified” in the sense that standards are to be followed and the number of degrees of freedom is reduced, it can be assumed that the unavoidable adjustment risk is smaller compared to the situation under current law. It is conceivable that simplification may be accompanied by an incentive to save compliance costs. Theoretically, however, it can be shown that taxpayers should react by *increasing compliance costs* if this simplification is associated with a reduction in the unavoidable correction risk.

In order to test this correlation empirically, the dependence of compliance costs on the adjustment risk of simplified transfer pricing was *experimentally tested*. It was shown that a higher, unavoidable adjustment risk has a negative effect on the level of compliance costs.

The results remain stable even where the data is adjusted for extreme values; they are unbiased and statistically reliable in terms of model significance. If it is assumed that the results of this experiment are externally valid, these findings show that a simplification of transfer pricing, combined with the possibility of a perceptible reduction in the adjustment risk, leads to higher compliance costs and thus also *improves the tax compliance behavior of taxpayers*.