

USERS, DATA, NETWORKS

A PROPOSAL FOR TAXING THE DIGITAL ECONOMY IN THE EUROPEAN SINGLE MARKET

Executive Summary

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Fair taxation of digital businesses will be a key issue in the forthcoming European election campaign. The debate will most likely revolve around the introduction of a new “digital tax” on companies’ turnover, as proposed by the European Commission, for example. In the short term this may be a workable solution, but it does not solve the real underlying problem: the current rules on corporate taxation in the EU are not fit for purpose when it comes to dealing with digital value creation. That is what we want to change with our proposal.

To this end, we define clear criteria and principles for assessing digital value creation in company taxation, which should apply EU-wide. Our contribution thus fills a central gap even of those current proposals that do not envisage a new tax, but aim at a change in the system itself.

Our proposal has three elements:

- First, it must be clarified where a company is taxable at all. To this end, we propose finding out whether a network of users is present in a Member State. Or to put it another way: operating a user network would create a “virtual permanent establishment” which would in turn give a Member State the right to levy taxes on a company’s profits.
- Second, we need to clarify how far the local user network contributes to the value creation of the entire company. It follows from this how much of that proportional profit is taxed at the precise location of the virtual permanent establishment. Here we define the user network as an intangible asset. For accessing it other parts of the business would then have to pay a “fee” corresponding to the share of the digital value creation provided from the respective country towards the company’s total earnings. This applies, for example, if a digital company based in Ireland advertises in France on the basis of data obtained via the French user network. This “fee” ensures that taxable income is actually generated at the location of the virtual permanent establishment. The basis for calculating this “fee” would be the value of the user network to the business. Three factors should be decisive: volume of user interactions, quality of data collected and market position of the product in the respective country.
- Third, the active cooperation of the companies is necessary to determine the value of the user network. We therefore propose an additional “data declaration” as an instrument of transparency.

Even if these steps should ideally take place within a global framework, the EU can use the principles proposed to ensure a more fitting distribution of corporate tax revenue between the Member States, in Europe for starters.

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1. INTRODUCTION – A PROPOSAL FOR TAXING DIGITAL COMPANIES IN THE EU SINGLE MARKET

Few European policy issues occupy citizens, media and politicians more than the fact that large, usually American, digital corporations only pay very low taxes in the EU.¹ In the upcoming campaign for the 2019 European elections, “fair taxation” of so-called GAFA, i.e. the four big technology companies – Google, Amazon, Facebook and Apple – will be one of the main topics. As we show in this paper, there is a fundamental problem behind this very emotive debate: digitalisation has changed the international division of labour and value chains, which are the basis for the allocation of taxation rights between countries.

Why is that? The fundamental principle of international taxation to date has been that a company’s profits are taxed where its value creation takes place. This principle is challenged by digitalisation: on the one hand, the value creation of digital companies is primarily based on the use of intellectual property such as software. These so-called “intangible assets” are – unlike machines, for example – not tied to a specific object or location. Most companies can therefore have them registered anywhere in the world – usually in tax havens. Furthermore, other value creation factors such as organisational development, marketing, research and development are heavily concentrated in one location. In addition, the business models of digital companies are – to an unprecedented degree – based on the local active and passive participation of their users, who often number in the hundreds of millions worldwide. If they did not interact with digital platforms and the resulting flows of data were not produced, the value creation of digital companies would be impossible in the first place.

This leads to a political problem: although the large digital corporations are omnipresent in the EU with their products, they only pay taxes on their profits in a handful of Member States, and the others lose out. This imbalance has triggered the current debate – and we hereby put forward a way of redressing this imbalance.

By comparing two archetypal companies – the analogue “Daimlatsu” and the digital “Amazon” – we will initially describe the challenges posed by an increasingly digitalised economy for the international tax system. In the second part, we address the question of how digital business models generate value through user interaction, data and networks. Lastly, we will close with a proposal for the taxation of digital value creation in the European Single Market, building on the current proposal from the European Commission.² In order to rectify the shortcomings in the existing system, we start by defining the necessary conditions for the presence of a virtual permanent establishment. We then go on to define categories that can be used for a better Europe-wide and international comparison of the national value creation share of global digital business models. We focus on a quantitative and qualitative assessment of the national user network and on the respective national market position of digital companies. Finally, we describe a transparency instrument (“Data Declaration”) necessary for the implementation of our proposal and demonstrate the possibilities for institutional implementation of the proposal within the current international taxation system as well as in a reformed system within the EU Single Market.

1. Kies Kompas BV, [Public perceptions towards taxing digital companies in six countries](#), 2018.

2. For a detailed presentation of the proposals made by the European Commission and an overview of the European debate, see also Pola Schneemelcher, [Takes Two to Tax](#), 05.2018.

2. THE WEAKNESSES OF THE INTERNATIONAL TAX SYSTEM IN THE TAXATION OF THE DIGITAL ECONOMY



CREATING VALUE THROUGH BRAND RIGHTS OR SOFTWARE PATENTS IS PLAYING AN EVER-GREATER ROLE

Not only does the international tax system offer multinational corporations numerous opportunities to maximise earnings through tax-saving schemes, it is also increasingly not fit for purpose.³ This is because – as we explained in the introduction – the premise supported so far by the OECD, whereby companies must be taxed at the point of value-creation, is no longer compatible with the new forms of value creation.⁴ This is fundamentally due to the increasing role of intangible assets in creating value. Creating value through brand rights or software patents is playing an ever-greater role, both for companies with a purely digital business model and for primarily analogue corporations such as coffee house chains or construction equipment manufacturers.⁵ What impact does this development have on the international tax system?

Let us imagine two archetypal international companies: “Daimlatsu” and “Amazoogole”. Daimlatsu is an international automotive corporation that produces and sells vehicles worldwide. Its headquarters are in Denmark and it has subsidiaries in Poland and other countries. Amazoogole, on the other hand, is an international digital corporation based in Canada. It operates a global online platform that offers a wide range of online services to a network of users. The services include, for example, the operation of an online marketplace, the provision of online advertising space and a streaming service.⁶ Amazoogole has a subsidiary in Ireland, Amazoogole Ltd., which is used to handle the business activities within the EU Single Market.

2.1. Taxing companies – the critical issue is what, where and how much

a) What? The profits are taxed

Companies (more precisely, “legal entities”) must, like every employee, pay a form of income tax on their earnings – corporation tax. The assessment basis, i.e. the taxable income to which the tax rate applies, consists of a company’s revenues minus operating expenses – in other words, a company’s profit. In contrast to taxing revenues,⁷ i.e. a company’s turnover, taxing profits guarantees that a company’s costs are also taken into account.

³ In this regard, see also Marcel Olbert, Christoph Spengel, [International Taxation in the Digital Economy: Challenge Accepted?](#), 04.2017

⁴ For an analysis of the challenges that an increasingly digital economy poses to the international tax system, particularly with regard to permanent establishments and transfer pricing rules, see Paul-Jasper Dittrich, Pola Schneemelcher, [Tax me if you can](#), 03.2018.

⁵ Jonathan Haskel Stian Westlake, [Capitalism without Capital: The Rise of the Intangible Economy](#), 2017.

⁶ Both companies are archetypal and cannot actually be described in such a clear-cut manner, particularly with regard to the range of digital business models. For the sake of simplicity, the archetypal Amazoogole combines various business models on one platform. For more information on the online platforms and their business models, see Paul-Jasper Dittrich, [Online Platforms and How to Regulate Them. An EU Overview](#), 06.2018.

⁷ The proposal made by the Commission for a “Digital Service Tax” (in this regard, see also Pola Schneemelcher, [Takes Two to Tax](#), 05.2018) sets out, for example, that the sales revenue rather than the profits of large digital corporations should be taxed. This should prevent profit shifting practices (see also part II.2.c). This proposal was heavily criticized, particularly in Germany. France, by contrast, has introduced such a tax in the meantime.



THE RIGHT TO TAX A COMPANY'S PROFITS IS GRANTED TO THE COUNTRY IN WHICH THE VALUE IS GENERATED

b) Where and who? The physical permanent establishment

The right to tax a company's profits is granted to the country in which the value is generated. Profit is taxed where value is created. International tax law specifies the details in so-called double taxation treaties. These are based on an OECD model tax convention but are negotiated and adapted bilaterally (also between EU countries). In accordance with the OECD model tax convention, the requirement for the right to levy corporate taxes is the existence of a "permanent establishment" in the respective country. Profits attributable to such a permanent establishment can be taxed by the respective country at the national tax rate. In the case of Daimlatsu, this so-called "permanent establishment" is in Denmark, since the company's headquarters and factories are located there. Therefore, the Danish state has the right to tax these profits. Daimlatsu, however, also has a permanent establishment in Poland on account of its Polish production facility. On the basis of the value created there, the profits generated are taxed in accordance with Polish law.

In the case of Amazoogole, the definition of a "permanent establishment" is more complicated: Amazoogole has a "permanent establishment" in Canada, where the parent company is based. Amazoogole is accordingly liable to tax there. Amazoogole Ltd. in Ireland also constitutes a "permanent establishment", because it can, for example, conclude contracts with European companies that place advertisements on Amazoogole platforms. Accordingly, Ireland owns the taxation rights for these European profits. However – and this is where the problem lies – Amazoogole's operations in other EU Member States also contribute, without a doubt, to its corporate value creation, but cannot be taxed by the Member States. This is because in most EU Member States, these business activities are limited to the operation of a network, the collection of data or the provision of personalised advertising space. However, these tasks are defined in the double taxation treaty as so-called "routine tasks"⁸ or auxiliary activities, which do not contribute to the value creation and therefore do not constitute a "permanent establishment". If we hold onto the paradigm that taxes are only levied where the value is created, then the other countries in this case do not have any taxation rights.

c) How much? – the transfer pricing rules

The fact that the profits are taxed at the respective permanent establishment raises the question of how one should tax multinational companies that have permanent establishments around the world, where they report both income and losses. Daimlatsu, for example, generates revenues at the Danish permanent establishment, but also has a permanent establishment in Poland, where car doors are produced for use in Denmark. The company buys these car doors for its own use. As a result, the profits of the permanent establishment in Denmark decrease and those at the Polish permanent establishment increase – and do so by the amount of the price of the car doors. The amount of this so-called transfer price, i.e. the price set for transactions within a company, is governed, in turn, by the so-called OECD transfer pricing rules – which are then reflected in the double taxation treaties.⁹ They stipulate that profits within a company must be determined in keeping with the arm's length principle (ALP),

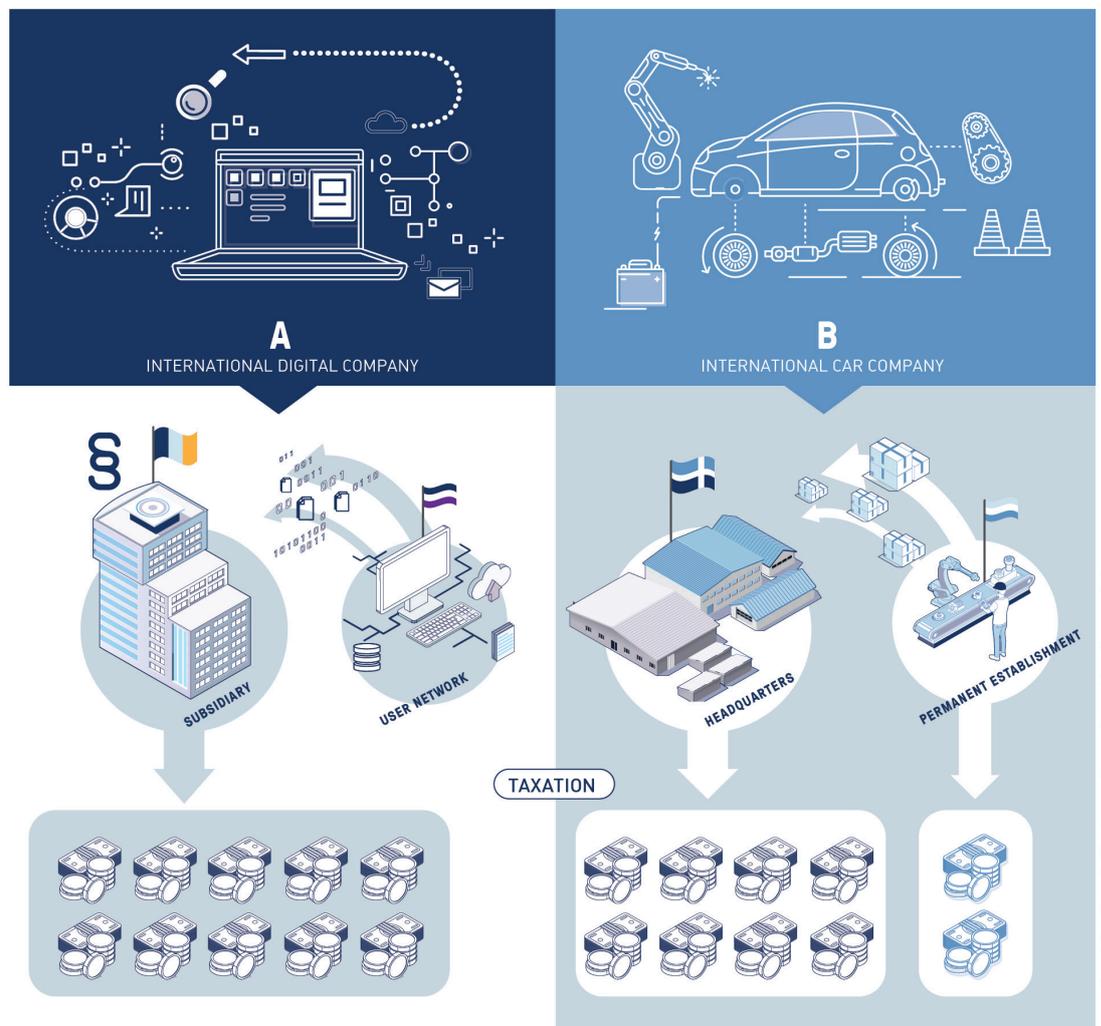
⁸ "Routine tasks" are auxiliary activities and are defined in Article 5 of the [OECD Model Tax Convention for the Avoidance of Double Taxation](#). According to this convention, locations that are intended for the "exclusive storage of goods", for example, or the procurement of information are not deemed to be permanent establishments. Accordingly, the country in which they take place does not have a taxation right.

⁹ See also [OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administration](#), or Article 9 of the OECD Model Tax Convention for the Avoidance of Double Taxation.

i.e. they must reflect the market prices that independent parties would have paid for similar transactions. A global comparative market determines the price of the car doors that Daimler buys from its affiliated subsidiary in Poland.

This transfer pricing system, and particularly the arm's length principle has, however, clear weaknesses in the case of multinational corporations whose value creation is based on intangible assets. This is because structures such as software and algorithms and thus the associated business models are often unique constructs. Frequently, there is no comparable product on the market so the company can set the price largely at its own discretion. Amazoogole transfers licences for the use of an algorithm to its subsidiary in Ireland, for example. The headquarters of Amazoogole based in Canada must pay a fee for the use of this licence – expenses that reduce the profit in its home country– Canada in this case – and increase it at the location of the subsidiary in Ireland. This form of profit shifting lets Amazoogole lower its entire tax liability if, as is the case here, the tax rate in Ireland is lower than in Canada.

FIGURE 1 ■ Comparison of the taxation of two ideal-typical companies under the current tax system



Graphic: Burak Korkmaz (www.burakkorkmaz.de)

2.2. Summary: Value creation through intangible assets is the core problem

The existing international tax system gives an advantage to digital business models and multinational corporations that generate profits from intangible assets; it does so in two ways that complement each other:

- The outdated rules mean that value creation through intangible assets often does not constitute a “permanent establishment”. As a result, the country in which the value creation really takes place has no taxation right.
- Even if there is a permanent establishment, multinational corporations can minimise their tax burden through existing transfer pricing rules. They report their profits at permanent establishments in low-tax countries and thus enjoy a tax benefit.

The inadequate definition of a permanent establishment and opaque transfer prices are symptoms of a loosely defined “digital value creation” involving data, user participation and networks. In order to rectify the shortcomings in the existing tax system, two fundamental questions need to be clarified:

1. What is digital value creation that should constitute a permanent establishment?
2. How should digital value creation be reflected in the distribution of profits?

3. WHAT IS DIGITAL VALUE CREATION?

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DIGITAL VALUE CREATION IS BASED ON A COMBINATION OF USER INTERACTION, DATA AND NETWORKS

As outlined in the first part, when we speak about “digital value creation”, we are not dealing with international value chains of suppliers, machine parts and sales companies, as in the case of analogue Daimlatsu. The core of the vast majority of digital business models consists of a platform on which companies broker or provide online services.¹⁰ The value creation here is from the combination of user interactions, data and networks. In our example, Amazoogole gains knowledge from data through the interactions users have with each other. This knowledge about markets, user conduct or social trends lets the archetypal company control and improve its offer of digital services – for example by feeding more and more data into self-learning programmes. The evolving “product” is then, for example, the online advertising space that can be used according to increasingly precise categories or a constantly improving match of supply and demand. What matters here is that users are not only consumers, but rather simultaneously more or less directly involved in the production or improvement of a product, as “prosumers”.

¹⁰ We adopt here the definition of the EU Commission for online platforms, which includes a broadly defined class of services. See the report by the Commission titled “[Online-Plattformen im digitalen Binnenmarkt Chancen und Herausforderungen für Europa](#)” [On-line Platforms in the Digital Single Market – Opportunities and Challenges for Europe], 25 May 2016, for more information.

Researchers are now variously discussing whether and how this form of data-based value creation – actively involving users – can be considered taxable.¹¹ Three characteristics of digital business models are taken as starting points:

- user interaction
- data
- networks

User interaction as a basic prerequisite

Interactions of users with the platform and other users are a basic prerequisite for value creation within digital business models. Initially, users interact directly with the platform. They, for example, offer goods, place advertisements, communicate with each other and upload their own content such as photos or videos. This input is supplied by users free of charge. The platforms themselves do not offer any content in many cases, but rather just transmit it between users. The platforms generate value and thus profit from the content provided by these users. Furthermore, users also interact indirectly with the platform: in all interactions with the platform, users leave behind a constant flow of data, for example, on account of their click behaviour in an online shop, and this is monitored by the platforms. This flow of data can be analysed in real time and automatically so as to improve the platform’s services.

Data facilitates and improves the service

The platforms gain knowledge in the form of data derived from the information provided and uploaded by users. This knowledge about users and their behaviour is used in two ways for value creation:

First, most services provided by digital companies need data from user interaction if such services are to be provided in the first place. For example, a video streaming service can only give a user good recommendations for films if s/he has interacted with the service to a relevant degree. That alone represents a fundamental difference with a – in our example, completely analogue – car. The car runs as soon as it leaves the factory and has no need to get used to the driving habits and preferences of individual drivers in order to run. Secondly, most digital companies use the aggregate data of their users to improve their product for old and new users. The greater the quantity and the more diverse the data with which, for example, self-learning algorithms are fed, the better they become and the more attractive the offer the company can make to its clients.

In both of these ways, data generated by users via interactions contributes directly to a company’s value creation and must be treated as such for taxation purposes.¹²

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THE PLATFORMS GAIN
KNOWLEDGE IN THE
FORM OF DATA DERIVED
FROM THE INFORMA-
TION PROVIDED AND
UPLOADED BY USERS

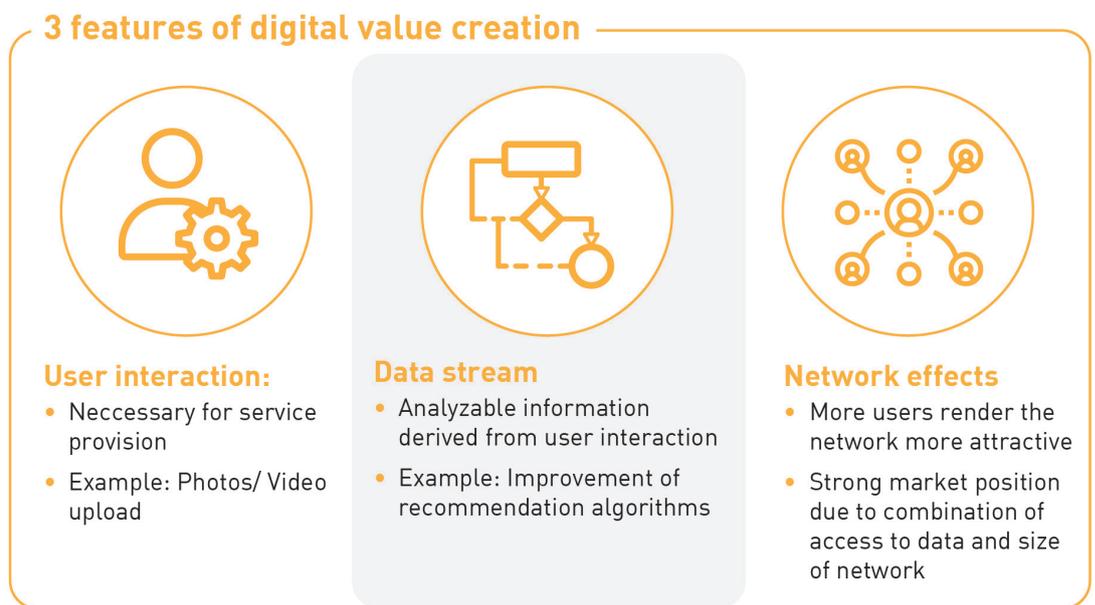
11. A discussion of various aspects of digital value creation can be found, for example, in Marcel Olbert and Christoph Spengel, [International Taxation in the Digital Economy: Challenge Accepted?](#), 04.2017, Johannes Becker and Joachim Englisch, [Taxing Where Value is Created: What’s User Involvement Got To Do with it?](#), 10.2018, or in [Interim Report of the OECD](#).

12. For more information on the subject of on-line platforms and approaches to regulation in the EU, see Paul-Jasper Dittrich, [Online Platforms and How to Regulate Them in the EU](#), Policy Paper 06.2018.

Networks enhance value

Moreover, there is another important aspect to constant user interaction: value creation through online platforms profits tremendously from network effects.¹³ The platform becomes increasingly attractive as the number of users grows – the more buyers there are, the more attractive a marketplace is for sellers and vice-versa. At the same time, the addition of more users becomes ever cheaper since every new user can simply be added to the existing digital infrastructure of the network. What’s more, companies like Amazoogole with a growing network and an increasing trove of data are finding it easier to build an entire ecosystem out of services to the existing network of users, since they have an enormous advantage over competitors in terms of knowledge, thanks to previously collected data.¹⁴ The combination of data advantage and large network is thus also a decisive factor for any company’s market position.

FIGURE 2 ■ 3 Characteristics of digital value creation – user interaction, data flows, network



Graphic: Burak Korkmaz (www.burakkorkmaz.de)

Digital value creation is therefore chiefly based on three elements: first, users’ interaction with the product itself; second, the processing of data created by user interaction to provide and improve the product; and third, the networks resulting from the mass of users.

All of these aspects have been ignored or treated as routine tasks in international taxation rules to date,¹⁵ yet they clearly contribute to the value creation of digital companies. This discrepancy is the starting point for our proposal.

¹³. For an introduction to multi-sided markets and platforms, see Jean Tirole, Jean-Charles Rochet, [Two-Sided Markets: An Overview](#), 03.2004.

¹⁴. See Bertin Martens, [An Economic Policy Perspective on Online Platforms](#), JRC Technical Reports, Digital Economy Working Paper 2016/05, 2016.

¹⁵. See Article 5 of the OECD Model Tax Convention for the Avoidance of Double Taxation.

4. A PROPOSAL FOR A EUROPEAN SOLUTION

Over the last year, the European and international debate has seen a number of proposals on how to tax digital companies.¹⁶ The most concrete example in the European context is the twin proposal made by the European Commission, which, one, puts forward the short-term taxation of revenues for large corporations (so-called DST or digital services tax) and, two, foresees the creation of a virtual permanent establishment over the longer term. Elsewhere, we have discussed in detail where we consider these proposals to be sensible and where we consider them problematic.¹⁷

The main problem with regard to the long-term solution – as proposed by the Commission – is that it fails to broaden the definition of value creation. Therefore, we propose expanding the Commission’s proposed Directive so that it:

- first, defines a “virtual permanent establishment” that is made up of the user network,
- second, regulates the use of the “virtual permanent establishment” as an intangible asset and its price, and
- third, introduces a data declaration so that the tax authorities can gain the necessary insight into how businesses use data.

4.1. Where should taxes be levied in future? – “virtual permanent establishments”

If one wants to assign taxation rights to a country, there must be a permanent establishment there. The basic requirement would be that there are users in that country. However, individual user interaction says nothing about its type or share in value creation (see step 2 below for more in this regard). Instead, the value is generated through the complex interaction of a very high number of users and their data within a network. Thus, it is not the mere existence of individual users that should be made a sufficient prerequisite for a permanent establishment, but rather the presence of a user network. As soon as a company has a network of users in a Member State, it also has a permanent establishment. Here we essentially are adopting the idea of Johannes Becker, Joachim Englisch and Deborah Schanz, who coined Sustained User Relationship (SURE)¹⁸ as a starting point for taxation.

¹⁶. The international debate is largely taking place within the framework of the OECD-BEPS Action Plan (<http://www.oecd.org/tax/beps/beps-actions.htm>) where BEPS means: Base Erosion & Profit Shifting). It consists of 15 action points through which challenges to the international taxation system posed by globalisation and digitalisation can be met. Action point 1 addresses the digital economy. Within its framework the members of the so-called OECD/G20 Inclusive Framework on BEPS, a group of more than 110 member states, under the mandate of G20 finance ministers, are due to come up with concrete solutions by 2020. In 2015 the Action I Report on this was published. The Interim Report followed in 2018 and in 2019 this was augmented by a Policy Note for specific work up to 2020. The OECD’s goal here is a comprehensive reform of the international taxation system.

¹⁷. For a detailed presentation of the proposals made by the EU Commission and an overview of the European debate, see also Pola Schneemelcher, *Takes Two to Tax*, 05.2018.

¹⁸. See Johannes Becker, Joachim Englisch & Deborah Schanz, *How Data Should (Not) Be Taxed*, 11.2018.



THE MAIN PROBLEM WITH REGARD TO THE LONG-TERM SOLUTION – AS PROPOSED BY THE COMMISSION – IS THAT IT FAILS TO BROADEN THE DEFINITION OF VALUE CREATION

With this proposal, we want to significantly broaden the definition put forward in the Commission’s Directive Proposal. So far, “significant digital presence”¹⁹ has been defined solely by thresholds for user totals, revenues from services through a digital interface and contracts concluded for the provision of said services. Our proposal portrays digital value creation in a much more comprehensive manner.

4.2. What should be taxed? – use of the “user network” intangible asset

A permanent establishment alone, regardless of whether it is physical or virtual, is simply the prerequisite for a country to be able to tax profits at all, and to do so in line with the value created there. For the profit generated to reflect value creation as well, a second step is necessary on top of the definition of a permanent establishment: the user network should be defined as an intangible asset. For the value generated through use of this asset, parts of the company in other countries should have to pay a “fee” so that a portion of the profits is shifted to the country that is home to the user network. Its level would be determined by the assumed element of the digital value creation generated via the user network as a proportion of the company’s total profits in the EU. The “fee” is therefore not an ex-ante fixed sum, but rather results from the ratio of the contributions of user networks in all interested Member States to the value creation of a company.

In calculating this ratio, we must determine the value of a user network in each Member State. The critical question here under the arm’s length principle is: What would a competitor pay for the use of the corresponding network? To this end, three criteria should be drawn on for an allocation key:

- The average number of users in a country: the more users in a network, the higher the value of the network.
- The quality of the collected data: the better and more diverse the possibilities are for using the collected data, the higher the value of the network – this is because if one has the same quantity of user interactions, it makes a difference what types of data can be collected and used, for example, to improve the service.
- The market position of the company: the more dominant a company is in a local market, the higher the value of the network – this is because if one has the same quantity and quality of data, it makes a difference whether a company has a market-dominant position in one local market and not in another.

Broadening the Commission Proposal to include our factors of quantity, quality and market share would let the allocation of profits within the EU reflect the value creation much better than hitherto. The current Commission Proposal sticks to the existing system with regard to transfer pricing rules. Since it does not adequately define digital value creation, however, the aforementioned problem of fictive transfer prices will continue. This would change with our proposal.

The “data declaration” instrument explained in the following paragraph is meant to supply the tax authorities with the information required to examine the criteria.

¹⁹. See Article 4 of the Directive Proposal.



THE BETTER AND MORE DIVERSE THE POSSIBILITIES ARE FOR USING THE COLLECTED DATA, THE HIGHER THE VALUE OF THE NETWORK

4.3. The data declaration

Determining the value of a user network and thus the scale of the usage fee on the basis of the criteria quantity, quality and market position would be impossible for the tax authorities without the aid of companies and access to their internal data. Furthermore, companies in the industrial sector in particular often collect data automatically from networked sensors, but do not necessarily use them to improve the product. In these cases, taxation of the mere potential of data collection through networks consisting of sensors would be counterproductive and, in a worst case scenario, might even hinder innovation. Acquiring better insight into the concrete use of a network and its data requires a transparency instrument that tax authorities can use to gain the information required to evaluate that network. To this end, we put forward a “data declaration” that companies would have to submit, containing the following information

- how many users access your services on a paid and unpaid basis annually,
- how has the national user network developed on the basis of the company’s usage metrics, for example time spent per person or intensity of user interaction, and
- what type and amount of user data is collected regarding the evolution of the service and whether services based on this data are then in fact improved.

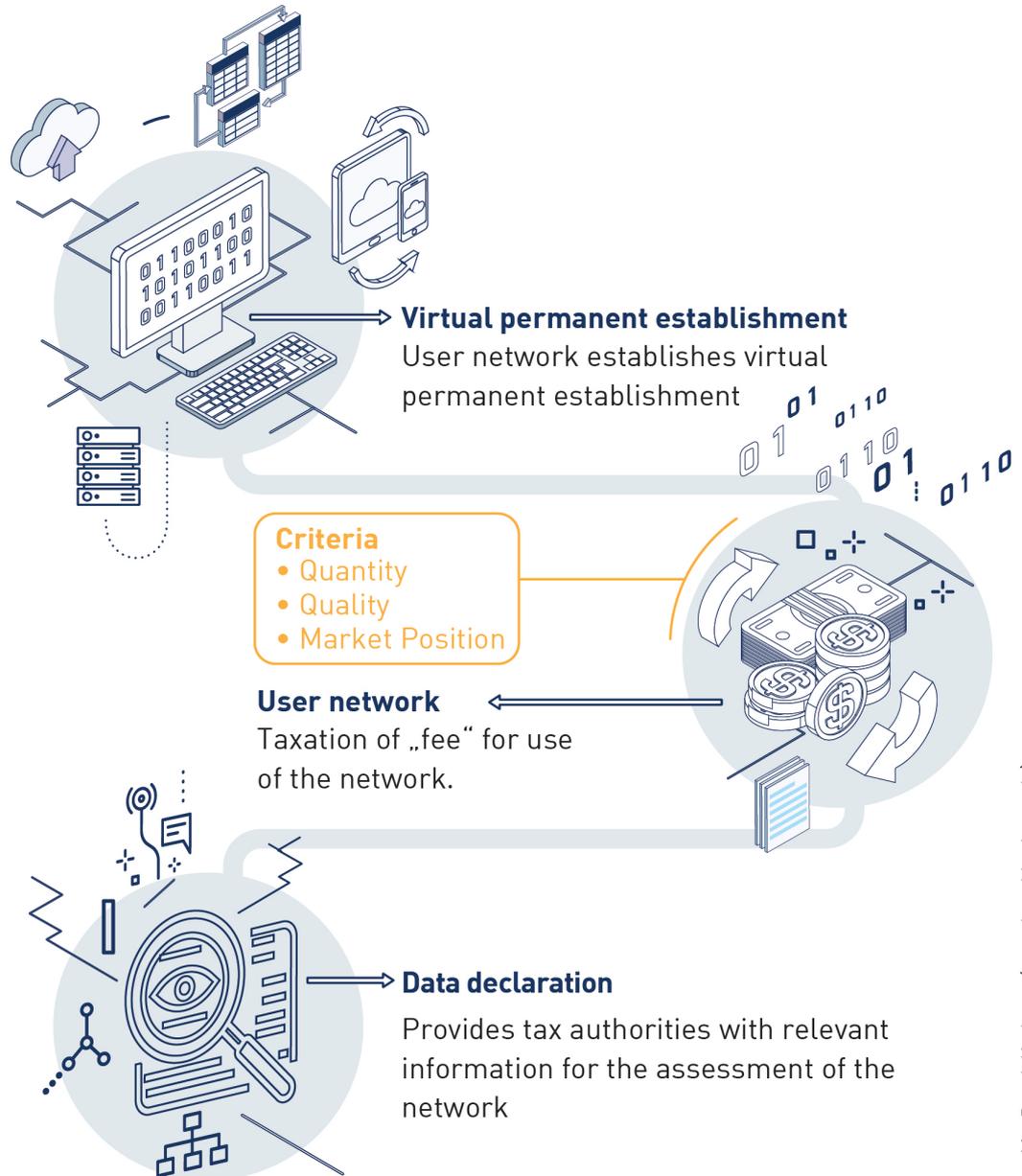
This transparency instrument, which complements the Country by Country Reporting (CbCR) tool and gives insight into the type of data collected and data flows,²⁰ could help national tax authorities better determine the value of the network in comparison to other jurisdictions in the Single Market.

BOX 1 ■ How would Amazoogole be taxed under our proposal? One scenario

Amazoogole operates 28 user networks in the EU, but all the sales revenues are generated by its subsidiary in Ireland – for example, because advertising customers have their contracts directly with the Irish subsidiary, even if they are, for example, based in Portugal and order Portuguese advertising for local users of the Amazoogole network. Our proposal would result in the creation of “virtual permanent establishments” in the 27 other Member States in future. Amazoogole Ltd. would have to pay a usage fee for operating them. The amount would be determined by the three criteria of quantity, quality and market position. Amazoogole, for example, has ten million active users in Germany, but only eight million in Italy (quantity). However, Amazoogole has already launched the intelligent speaker “Hey Alex” in Italy and can draw on users’ audio files in this network, unlike in Germany. The quality of the combined data in the Italian user network is therefore higher. The last criterion to be determined is market position. Comparing the user networks and thus setting a price for the use of the respective network would result from all this information. Payments would then flow, for example, from Amazoogole Ltd. to the permanent establishment in Italy, where the “intangible asset” – the user network – is located. As a result, Amazoogole in Italy would be fiscally liable and have to pay taxes on the permanent establishment’s earnings – i.e. the profit allocated to the permanent establishment on the basis of its share of the value creation – in full, at the prevailing Italian rate.

²⁰ Country by Country Reporting (CbCR): Multinational corporations based in the EU with total earnings of €750 million would have to disclose, inter alia, their sales revenue, profits and taxes paid. To date, company information is received solely by the tax authority for the reporting company and is then shared with the tax authorities in other countries. A more far-reaching Commission proposal, by contrast, requires the disclosure of internal company information. This proposal is, however, politically controversial and has not yet been adopted.

FIGURE 3 ■ Proposal on taxation of digital value creation



Graphic: Burak Korkmaz (www.burakkorkmaz.de)

4.4. Implementation

As already discussed, all three elements – the definition of the virtual permanent establishment, the determination of the value of the networks for the purpose of taxation, and the data declaration – should become part of EU law through the Commission’s Directive Proposal. This would apply to profits generated in the EU. However, in a second step, the double taxation treaties between Member States and third countries would have to be amended to include these elements, so that they can also apply without any limitation to global compa-

nies, which would require a compromise within the OECD/G20 Extended Framework.²¹ Nonetheless, an internal EU regulation would be the first step in the right direction and would at least counter the uneven distribution of tax revenue among the Member States.

Another more far-reaching step would be for Member States to finally agree on a Common Consolidated Corporate Tax Base (CCCTB), so that the transfer pricing system and the possibility of “shifting” profits between Member States would be eliminated. Instead, EU-wide profits would be distributed via a formula that also embraced data-driven value creation, as we have described.

5. OUTLOOK

The political, social and academic debate on the “fair” taxation of digital companies will continue to intensify in the coming years in the EU and internationally. How to reassess data-based value creation should play a central role in this debate. Therefore, our paper takes up the proposals already made by the EU Commission and develops them further regarding the evaluation of digital value creation. In particular, it is important to bring in criteria and instruments with which the value creation of a user network in a market can be measured.

Of course, our proposal leaves central questions unanswered: How exactly would the factors of data quality, quantity and market position be quantified in a comparable way and compressed within a formula for calculating the value of a user network? What thresholds should apply to avoid overburdening small businesses and undermining incentives for innovation? And, of course, we do not say anything about the expected effects of our proposal on Member States’ tax revenues, even if there is a great temptation to do so. There are simply too many loose ends to produce figures here. Our proposal is intended to encourage a rethink of the fundamental principles of company taxation. The details will then have to be decided politically – and even more analytical work will be required here.

Moreover, it is of course impossible to predict how the digital economy and the possibility of creating value with data will develop over the next few years. This applies in particular to the area of networked industry, where sensors are used to generate terabytes of data at any time. Here, completely new challenges arise, especially if the collected data from user networks are not processed immediately or even monetized. But here, too, the principles we have put forward could set important signals for how to deal with flexible developments in the future.

21. See for example [OECD/G20 Inclusive Framework on BEPS \(Base erosion and profit shifting or tax avoidance strategies\): Progress Report July 2017–June 2018](#)

ON THE SAME TOPIC

- Paul-Jasper Dittrich, Pola Schneemelcher, [Tax me if you can. The current debate on taxing digital businesses in the EU](#), Policy Brief 16.01.2018.
- Pola Schneemelcher, [Takes Two to Tax. On fair taxation of the digital economy](#), Policy Brief 11.05.2018.
- Paul-Jasper Dittrich, [Online Platforms and How to Regulate them: An EU Overview](#), Policy Paper No. 227, 14.06.2018.

This publication is part of the research project "Repair and Prepare", a joint project of the Bertelsmann Stiftung and the Jacques Delors Institute Berlin. For more information, please visit www.strengtheningeurope.eu

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