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Betreff: [EXTERN] AW: Schriftliche Anhörung des Finanzausschusses zum Thema Faire Besteuerung für digitale Geschäftsmodelle sicherstellen, Drucksache 19/1697

Sehr geehrter Herr Schmidt,
sehr geehrte Mitglieder des Finanzausschusses,

vielen Dank für Ihre Anfrage zu einer schriftlichen Stellungnahme bezüglich Ihres Antrags: Faire Besteuerung für digitale Geschäftsmodelle sicherstellen.
Das ZEW Mannheim und die Universität Mannheim haben im Rahmen des gemeinsamen Leibniz-Wissenschaftscampus MannheimTaxation früh und aktiv an der politischen und akademischen Diskussion zur Besteuerung im Zeitalter der Digitalisierung beigetragen und sind mit unseren Einschätzungen regelmäßig meinungsbildend. In der Stellungnahme anbei finden Sie einen relevanten Auszug unserer aktuellen akademischen Papiere und unsere an die OECD gerichteten Stellungnahmen zur Einschätzung der aktuell diskutierten Reformvorschläge.

Bitte beachten Sie zudem unseren am 20.02.2020 veröffentlichten Policy Brief (Anlage03) zu den aktuellen Diskussionsentwürfen der OECD.

Mit freundlichen Grüßen
Christoph Spengel

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// February 2020

University of Mannheim/ZEW Mannheim/MannheimTaxation

MANNHEIM RESEARCH IN BUSINESS TAXATION

THE DIGITAL ECONOMY – CURRENT PROJECTS AND POLICY CONSULTATIONS

Leibniz Gemeinschaft

MANNHEIM TAXATION

ZEW

CONTENT

EXECUTIVE SUMMARY

The ongoing digitalization of our economy poses the largest disruption to business models since the industrial revolution. In general, academics as well as supranational organizations are confident about the positive impact of the digital transformation on society, economic prosperity and innovative developments. However, the digital revolution has created considerable challenges for the existing system of global corporate taxation. Consequently, in recent years, the debate on how to reform the international tax framework has started to gain momentum.

In spring 2018, the European Commission proposed the introduction of a so-called Digital Services Tax, targeting the digital revenues of large multinational corporations. Our analysis of the capital market reaction of potentially affected digital corporations reveals that ring-fencing digital tax measures may have severe consequences on firms' profitability and future investment potential.

Simultaneously, the OECD continuously asks for public consultation on their identified and proposed approaches to reform the international corporate tax system. Starting with comments on the general possibilities to tax the digital economy in 2017, we constantly express our views and concerns to the OECD. In November 2019, we submitted our comments on the recently proposed "Unified Approach".

While the pressing challenges on how to tax the digital economy remain unsolved, other important policy changes have been implemented in recent years. Since 2016, country-by-country reporting is mandatory for firms operating in the European Union. Tax transparency shall constitute a tool to reduce aggressive tax planning of multinational corporations. We greatly contribute to the understanding of the effects of mandatory country-by-country reporting with two studies.

1. TAXING DIGITAL BUSINESSES

1.1. RING-FENCING DIGITAL CORPORATIONS: INVESTOR REACTION TO THE EUROPEAN COMMISSION'S DIGITAL TAX PROPOSALS

Authors: Daniel Klein (University of Mannheim), Christopher Ludwig (ZEW and University of Mannheim), Christoph Spengel (University of Mannheim and ZEW)

Abstract:

We study the effect of digital tax measures on firm value. By employing an event study methodology, we analyze investor reaction to the European Commission's proposals on the taxation of digital corporations. The two on March 21, 2018 proposed directives suggested the introduction of an interim tax on gross revenues from certain digital services and laid down the rules of taxing corporate profits that are attributable to a significant digital presence. Examining the stock returns of potentially affected corporations surrounding the draft directives' release, we find a significant abnormal capital market reaction of -0.692 percentage points. The investor reaction is more pronounced for firms that engage more actively in tax avoidance, have a higher profit shifting potential, and for those with higher exposure to the EU. The market value of digital and innovative corporations decreased by at least 52 billion euro in excess of the regular market movement during the event window. Overall, our study reveals that expectations about ring-fencing digital tax measures impact firm values.

Full study available at:

Attachment "Anlage01"

1.2. Taxation in the Digital Economy – Recent Policy Developments and the Question of Value Creation

Authors: Marcel Olbert (University of Mannheim), Christoph Spengel (University of Mannheim and ZEW)

Abstract:

The paper reviews the evidence on the challenges of digitalization for direct (corporate profit) and indirect (consumption) taxation. Based on both anecdotal and empirical evidence, we evaluate ongoing developments at the OECD and European Union level and argue that there is no justification for introducing a new tax order for digital businesses. In particular, the significant digital presence and the digital services tax as put forward by the European Commission will most likely distort corporate decisions and spur tax competition. To contribute to the development of tax rules in line with value creation as the gold standard for profit taxation the paper discusses data as a "new" value-driving asset in the digital economy. It draws on insights from interdisciplinary research to highlight that the value of data emerges through proprietary activities conducted within businesses. We ultimately discuss how existing transfer pricing solutions can be adapted to business models employing data mining.

Full study available at:

http://ftp.zew.de/pub/zew-docs/dp/dp19010.pdf

1.3. Steuerlicher Reformbedarf bei Service-Plattformen – Eine Analyse anhand des Deutschen Airbnb-Marktes

Authors: Rainer Bräutigam, Christopher Ludwig (ZEW and University of Mannheim), Christoph Spengel (University of Mannheim and ZEW)

Zusammenfassung:

Online-Plattformen wie Airbnb, die Anbietern eine Möglichkeit zur kurzfristigen Vermietung von Wohnungen oder Zimmern bieten, wurden in den vergangenen Jahren auch in Deutschland zunehmend beliebter. Die vorliegende Studie analysiert erstmals den deutschen Airbnb-Markt in 20 deutschen Großstädten und zeigt Reformoptionen für eine zutreffende Besteuerung der auf Service-Plattformen vollzogenen Transaktionen auf.

Anhand öffentlich verfügbarer Airbnb-Daten zu Art der angebotenen Unterkunft (Wohnung oder Zimmer), Preis pro Übernachtung, Ausstattung, Lage und Belegung in den Städten in einem beobachteten Zeitraum von drei Monaten lassen sich Hochrechnungen zu den Jahresumsätzen durchführen. Demnach werden auf der Plattform monatlich im Durchschnitt rund 57 Millionen Euro umgesetzt bei einem mittleren Übernachtungspreis von 55 Euro und durchschnittlich 20 vermieteten Nächten pro Monat. Der Jahresumsatz aller Airbnb-Unterkünfte in den 20 betrachteten Städten liegt somit etwa bei 683 Millionen Euro.

Die erhobenen Daten ermöglichen auch eine Schätzung des Steueraufkommens aus diesen Umsätzen für Zwecke der Einkommen- und Umsatzsteuer. Anbieter auf Airbnb erzielen grundsätzlich einkommensteuerpflichtige Einkünfte, können allerdings Werbungskosten wie z. B. für Einrichtung und Instandhaltung geltend machen. Bei einem angenommenen Grenzsteuersatz von 35 Prozent und Werbungskosten in Höhe von 50 Prozent der Umsätze, resultiert daraus insgesamt ein Steueraufkommen von rund 114 Millionen Euro. Für andere Grenzsteuer- und Werbungskostensätze ergeben sich stets zweistellige Millionenbeträge hinsichtlich des zu erwartenden Steueraufkommens. Auch umsatzsteuerliche Verpflichtungen können durch die Vermietung über Airbnb entstehen, insbesondere, wenn Umsätze von mehr als 17.500 Euro im Jahr erzielt werden. Dies trifft in den erhobenen Daten und anhand der vorgenommenen Hochrechnungen auf mehr als 40 Prozent der Anbieter zu.

Aufgrund der sehr kleinteiligen Anbieterstruktur, der starken Einbindung des Plattformbetreibers bei der Abwicklung der Transaktionen und der zunehmenden Bedeutung von Service-Plattformen sollten steuerliche Reformüberlegungen angestellt werden, um den Besteuerungsanspruch aus einkommen- und umsatzsteuerlicher Sicht sicherzustellen. So könnte im Rahmen der Einkommensteuer die Einführung einer neuen Abzugsteuer geprüft werden, die in ähnlicher Weise wie die Kapitalertragsteuer ausgestaltet ist. Bei der Umsatzsteuer könnte der Gesetzgeber kurzfristig den zum 1.1.2019 eingeführten Haftungstatbestand für Plattformbetreiber erweitern, der bisher nur bei Lieferungen von Waren einschlägig ist.

Full study available at:

Attachment “Anlage02”

2. COMMENTS ON CURRENT OECD REFORM PROPOSALS

2.1. POLICY BRIEF: DIE OECD-VORSCHLÄGE FÜR EINE WELTWEITE REFORM DER UNTERNEHMENSBESTEUERUNG – EINE WENDE ZUM SCHLECHTEN?

Authors: Leonie Fischer (ZEW and University of Mannheim), Daniel Klein (University of Mannheim), Christopher Ludwig (ZEW and University of Mannheim), Raphael Müller (University of Mannheim), Christoph Spengel (University of Mannheim and ZEW)

Full study available at:

Attachment "Anlage03"

2.2. TAXING THE DIGITAL ECONOMY – AN ACADEMIC PERSPECTIVE

Authors: Christopher Ludwig (ZEW and University of Mannheim), Christoph Spengel (University of Mannheim and ZEW)

Full study available at:

Attachment "Anlage04"

2.3. COMMENTS ON THE PUBLIC CONSULTATION DOCUMENT CONCERNING "SECRETARIAT PROPOSAL FOR A 'UNIFIED APPROACH' UNDER PILLAR ONE - NOVEMBER 2019

Authors: Leonie Fischer (ZEW and University of Mannheim), Christopher Ludwig (ZEW and University of Mannheim), Raphael Müller (University of Mannheim), Christoph Spengel (University of Mannheim and ZEW)

Comments available at:

Attachment "Anlage05"

2.4. Comments on the Public Consultation Document Concerning "Addressing the Tax Challenges of the Digitalisation of the Economy" - February 2019

Authors: Christopher Ludwig (ZEW and University of Mannheim), Raphael Müller (University of Mannheim), Marcel Olbert (University of Mannheim), Christoph Spengel (University of Mannheim and ZEW)

Comments available at:
Attachment "Anlage06"

2.5. Comments on the "Request for Input on Work regarding the Tax Challgenges of the Digitalised Economy" - October 2017

Authors: Marcel Olbert (University of Mannheim), Christoph Spengel (University of Mannheim and ZEW), Ann-Catherin Werner (University of Mannheim)

Comments available at:
Attachment "Anlage07"

3. COUNTRY-BY-COUNTRY REPORTING

3.1. Is Mandatory Country-by-Country Reporting Effective? – Early Evidence on the Economic Responses by Multinational Firms

Authors: Lisa de Simone (Stanford Graduate School of Business), Marcel Olbert (University of Mannheim), Christoph Spengel (University of Mannheim and ZEW)

Abstract:

Over the past decade, policymakers, non-profit organizations, and the media have demanded greater transparency by multinational firms regarding their global operations and tax payments. These demands are motivated by the assumption that multinational firms engage in aggressive planning strategies to minimize their global tax bill, for instance through operations in tax havens and profit shifting to low-tax jurisdictions. Accordingly, tax transparency is high on the political agenda. The political action resulted in the OECD proposal to require multinational firms to disclose their global operations and tax payments on a country-by-country basis to tax authorities. Since 2016, such country-by-country reporting (CbCR) is mandatory for firms operating in the European Union. While the EU policymakers adopted CbCR primarily in response to perceived harmful tax practices of multinational corporations, the effects of such increased disclosure on corporate decisions is an open but economically and politically relevant question as firms might not only alter their tax strategies but also change their real global footprint in terms of investment in assets or employees.

Full study available at:

https://www.zew.de/de/publikationen/is-mandatory-country-by-country-reporting-effective-early-evidence-on-the-economic-responses-by-multinational-firms/?cHash=88ef094a853a17d902daba96183f0e5b

3.2. THE EU PROPOSAL FOR COUNTRY-BY-COUNTRY REPORTING ON THE INTERNET

Authors: Verena Dutt (ZEW and University of Mannheim), Christoph Spengel (University of Mannheim and ZEW), Heiko Vay (University of Mannheim)

Abstract:

Multinationale Unternehmen wie Apple, Google oder Starbucks sparen Steuern auf legalem Weg durch die grenzüberschreitende Gewinnverlagerung in Niedrigsteuerländer. Auf Ebene der OECD-, G20- und EU-Mitgliedstaaten steht nun zur Bekämpfung als Maßnahme zu mehr Transparenz das sogenannte Country-by- Country Reporting (CbCR) im Raum. Das CbCR soll im Rahmen der OECD-Verhandlungen zum „Base Erosion and Profit Shifting“ (BEPS) implementiert werden. Beim CbCR sollen Unternehmen ihre Daten etwa zu Gewinn und gezahlten Steuern Land für Land offenlegen.

Die Europäische Kommission will international tätige Unternehmen mit mehr als 750 Millionen Euro Umsatz darüber hinaus jedoch verpflichten, diese sensiblen Unternehmensdaten im Internet zu veröffentlichen. Ausländische Unternehmen müssten diese Daten nur offenlegen, wenn sie in der EU Niederlassungen unterhalten. Konkurrenten, die nicht unter die Regelung fallen, können diese Informationen zu ihrem eigenen Vorteil ausnutzen, ohne ihrerseits zu einer vergleichbaren Publikation verpflichtet zu sein.

Die Studie des ZEW Mannheim analysiert die Folgen für die großen Familienunternehmen sowie für den BEPS-Prozess.

Full study available at:

https://www.familienunternehmen.de/media/public/pdf/publikationen-studien/studien/Country-by-Country-Reporting_deutsch_Studie_Stiftung-Familienunternehmen.pdf

3.3. Real Effects of Private Country-by-Country Disclosure

Authors: Lisa de Simone (Stanford Graduate School of Business), Marcel Olbert (University of Mannheim)

Abstract:

We investigate the effects of mandatory private Country-by-Country (CbC) disclosure to European tax authorities on economic activity. Using rich data on the operations of multinational firms, we exploit the threshold-based application of this 2016 disclosure rule in a regression discontinuity design. We find evidence consistent with firms affected by the disclosure mandate reducing ownership in tax haven subsidiaries relative to unaffected firms and thereby increasing transparency in their previously opaque organizational structure. We also observe that affected firms increasingly allocate revenue, employment, total assets, and, correspondingly, tax payments to subsidiaries in low-tax European countries. Additional tests at the consolidated firm-level and at the subsidiary-level support the conclusion that firms shift real activities away from operations outside Europe – including from tax havens – to Europe, particularly to non-haven European countries with low corporate income tax rates. Collectively, our findings suggest that mandatory CbC disclosure curbs the most aggressive tax planning achieved through tax haven operations but also affects the allocation of multinationals' real economic activities.

Full study available at:

https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3398116

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Please feel free to contact us with your questions.

Ring-fencing Digital Corporations: Investor Reaction to the European Commission's Digital Tax Proposals

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October 2019

Abstract:

We study the effect of digital tax measures on firm value. By employing an event study methodology, we analyze investor reaction to the European Commission's proposals on the taxation of digital corporations. Examining the stock returns of potentially affected corporations surrounding the draft directive's release, we find a significant abnormal capital market reaction of -0.692 percentage points. The investor reaction is more pronounced for firms that engage more actively in tax avoidance, have a higher profit shifting potential, and for those with higher exposure to the EU. The market value of digital and innovative corporations decreased by at least 52 billion euro in excess of the regular market movement during the event window. Overall, our study reveals that expectations about ring-fencing digital tax measures impact firm values.

JEL Classification: H25, H26, K34, G14

Keywords: digital taxation, corporate tax, digital economy, event study

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1 Introduction

The rapid and ongoing process of digitalization has given rise to a new industry – the digital economy. Despite the innovative character of most digital business models and their positive contribution to economic growth, digital firms have been repeatedly subject to an intensive public and political debate on their tax avoidance activities.[1] The dependence on physical presence for the establishment of a taxable nexus, which is a main feature of the existing, ancient tax framework, poses a great challenge for the taxation of cross-border transactions of digital businesses. In recent years, policymakers and academics across the globe have developed reform proposals to address the tax challenges of the digital economy (Andersson, 2017; Brauner and Pistone, 2018; Devereux and Vella, 2018; OECD, 2018, 2019; Schön, 2018).

In March 2018, the European Commission published a "digital tax package" containing two drafts for council directives presenting tax measures directly targeting digital corporations (European Commission, 2018a). The first draft suggests the introduction of a Digital Services Tax (DST) as interim solution, focusing on revenues from digital services of large corporations. The share of digital revenues that is generated in the European Union (EU) shall be taxed with a flat tax rate of three percent. The second draft aims for a comprehensive solution in the long run. A Significant Digital Presence shall establish a new taxable nexus within the current permanent establishment concept ("virtual permanent establishment"). Despite the importance of understanding the economic effects of such tax changes, no previous study explores the impact of digital taxation on firms. In this study, we fill this gap in the literature.

[1] The effective tax rate of big tech companies is regularly discussed in the public media and Margarethe Vestager, European Commissioner for Competition, has become publicly known for her focus on illegal state aid cases and tax affair investigations. See for example, https://www.ft.com/content/79b56392-dde5-11e8-8f50-cbae5495d92b; https://www.theguardian.com/technology/2018/oct/08/facebook-uk-tax-bill-sales-margaret-hodge and https://www.bloomberg.com/news/articles/2019-09-16/apple-takes-on-eu-s-vestager-in-record-14-billion-tax-battle

Since firm-specific costs and benefits will ultimately be reflected in a change in firm value, we focus on the impact of the draft directives on firm value. Generally, the observable change in firm value is a combination of investors' expectations of the effects of the proposed measures on a firm's future profitability and the ex-ante probability of enactment. Investors' expectations of the potential effects of the proposals may be manifold. First, additional corporate taxes decrease a firm's expected after-tax cash flow, thereby reducing investment opportunities and growth potential (Doidge and Dyck, 2015; Wagner et al., 2018a). Second, investors may evaluate that the conceptions of the draft directives, including arbitrarily chosen size thresholds, cause the discrimination of certain digital firms and lead to a distortion of competition. Third, the newly proposed measures – envisaged as an addition to the existing tax framework – lead to enhanced reporting complexity as well as legal uncertainty and increase the risk of corporate double taxation. Finally, investors may also consider the uniqueness of the proposed measures and perceive the specific targeting of a supranational institution on the digital economy as a threat to future profitability. At the time of the draft directive release, it was seen as very likely that new measures would become effective. Pierre Moscovici, Commissioner of Taxation, stated: "Digital taxation is no longer a question of 'if' – this ship has sailed" (European Commission, 2018b). Overall, we expect to observe a negative capital market reaction in response to the digital tax proposals.

We employ a short-term event study design to measure investor reaction. In line with Gaertner et al. (2019), we apply a Google Trends analysis and find heightened attention towards the EU digital tax proposals on March 21, 2018, the day of the detailed and official communication of the new draft directives, and on the subsequent day. Hence, we use a two-day event window to examine the short-term stock market reaction for 222 potentially affected digital corporations. Our sample is selected in a similar vein as the samples used to estimate the

additional tax revenues to be generated through a DST (European Commission, 2018c; Fuest et al., 2018).

We find a significant negative capital market reaction in response to the release of the draft directives. The cumulative average abnormal return over a two-day window starting at the event day and ending on the day with the highest public attention is negative 0.692 percent. This suggests that investors, on average, perceive the introduction of digital tax measures as both a likely event and negative news for firms' profitability. The observed significant wealth reduction of shareholders may be translated into reduced opportunities for affected firms to invest and grow in the future.

Furthermore, we analyze the cross-sectional variation in market reaction. The negative abnormal return is significantly stronger for firms that are more aggressively avoiding taxes and for firms that have higher profit shifting potential. This suggests that (some) digital firms are currently able to avoid taxation in the EU, but that investors believe that this opportunity would vanish through the introduction of the digital tax package. Thus, the proposed digital tax may be an effective measure to prevent base erosion and profit shifting (BEPS). In line with our expectations, we further find that the stock market reaction is more severe for firms with higher exposure to the EU and for firms with higher revenues.

Next, we translate the cumulative average abnormal return drop into absolute terms. In line with Cline et al. (2018), we calculate the change in market value based on firm-specific abnormal returns. The total abnormal market value change is estimated to be economically meaningful by at least minus 52 billion euro over the two-day event window. Thereof, about 40 percent is attributable to firms located in the U.S., supporting the argument that a DST will mainly affect large U.S. firms and justifying the concern of increased political and economic costs due to potential U.S. countermeasures.

Our analysis adds to the recent call in the literature for further empirical research on the proposed measures of taxing the digital economy and the adaption of the international tax framework to the digital era (Devereux and Vella, 2018; Olbert and Spengel, 2019). While prior studies have mostly focused on a technical evaluation of the DST and virtual permanent establishment concept (e.g., Nieminen, 2018; Becker and Englisch, 2018), the literature is largely silent about the real effects of such measures on firms. Such an evaluation, however, is especially important against the background of ongoing tax discussions at the level of the OECD and unilateral actions of several jurisdictions to introduce a DST. Our results indicate that policymakers should proceed with caution before imprudently introducing digital tax measures. The economic effects of reduced investments and growth of digital companies may outweigh potential benefits.

Furthermore, our study contributes to the literature concerned with the effect of tax reforms on shareholder value. Previous literature has predominately focused on non-European events when assessing the capital market reaction around major tax reforms and reform proposals. Doidge and Dyke (2015) show, amongst others, that additional corporate taxes imply a negative effect on firm value. Several scholars analyze the stock market reactions in response to the recent U.S. tax reforms and find heterogeneous stock price reactions across firms and countries (Gaertner et al., 2019; Overesch and Pflitsch, 2019; Wagner et al., 2018a, 2018b). Hoopes et al. (2016) analyze the events around the U.S. sales tax reform for online retail companies. The study provides evidence of negative abnormal returns for targeted online retailers. A different line of literature has found inconclusive results on investor reaction to the introduction of mandatory tax disclosure rules in Europe and Australia (Chen, 2017; Dutt et al., 2019; Hoopes et al., 2018; Johannesen and Larsen, 2016). To the best of our knowledge, we are the first to examine the stock market reaction in response to the European Commission's draft directives on a tax reform for digital corporations.

Finally, this paper contributes to the literature that examines the effectiveness of anti-tax avoidance policies and BEPS countermeasures. One strand of the literature focuses on the effects of countermeasure on firm behavior and finds that increased transfer pricing documentation regulation and controlled foreign corporation legislation mitigate the possibilities to relocate income (Beer and Loeprick, 2015; Buettner and Wamser, 2013). An alternative strand of the literature shows that a variety of factors such as public scrutiny, executive characteristics, firm's ownership structure or the capital structure of firms affect the tax avoidance behavior of multinational corporations (Armstrong et al., 2012; Blouin et al., 2014; Dyreng et al., 2016). Yet, to the best of our knowledge, only Blouin et al. (2014) analyze the effects of countermeasures on tax avoidance and firm value. Our results indicate that the draft directives effectively target firms with higher tax avoidance activities and higher profit shifting potential.

The remainder of the paper is structured as follows. Chapter two provides an overview of the proposed digital tax initiatives and derives the hypotheses. The third chapter highlights our data sources and the methodological approach. The main results are depicted in chapter four. Furthermore, we provide heterogeneity analyses, economic implications and additional robustness tests in the fourth chapter. Finally, chapter five concludes.

2 Institutional Background and Hypotheses Development

2.1 The Digital Tax Initiatives in the European Union

In response to the challenges that the ongoing digitalization poses on the well-functioning of the international tax framework, various policymakers currently develop and discuss potential measures to adapt the international tax system.[2] The European Commission published a "digital tax package" on March 21, 2018 containing two drafts for council directives that are concerned

[2] The OECD member states are currently proceeding an initiative to address the tax challenges of the digitalization of the economy. In its most recent public consultation document, the OECD proposes a corporate tax reform that intends to shift taxing rights to the market jurisdiction and picks up the concept of a Significant Digital Presence.

with the taxation of digital activities and services (European Commission, 2018a, 2018d, 2018e). The first draft aims to introduce a new EU-wide system of a turnover tax on certain digital services as an interim solution. The second draft focuses on a long-term solution, presenting rules and provisions for the corporate taxation of a Significant Digital Presence (e.g., Nieminen, 2018; Olbert and Spengel, 2019; Petruzzi & Koukoulioti, 2018; Sheppard, 2018).

The DST, proposed in the first draft directive, shall constitute a gross revenue tax of three percent. Taxable shall be those revenues that result from the provision of three types of digital services (European Commission, 2018e). First, the placement of advertising on digital interfaces targeted on users of that interface, second the provision of digital interfaces to users, which allow users to find each other, to interact and to exchange goods and services, and third the transmission of user data generated from users' activities on digital interfaces.

The proposal further suggests that for the purpose of the DST, only those entities shall qualify as a taxable person that exceed two size thresholds. The consolidated amount of worldwide company turnover must exceed 750 million euro within a financial year and the total amount of taxable revenues within the EU – those revenues that are taxable under the scope of the DST – must exceed 50 million euro in the same financial year (European Commission, 2018e).

The second draft directive of the European Commission aims for a comprehensive solution in the long run and intends to establish a new taxable nexus for firms that maintain a non-physical but Significant Digital Presence in one or more member states of the EU. Using a Significant Digital Presence as taxable nexus extends the existing physical permanent establishment concept by the concept of a virtual permanent establishment. According to the draft directive, a Significant Digital Presence exists in a member state if digital services are supplied through a digital interface and one or more of the following thresholds of digital activity are met in a member state in the tax period by an entity itself or together with its

associated enterprises. First, revenues from supplying digital services to users exceed 7 million euro, second, the number of users of digital services supplied exceeds 100,000 or third, the number of business contracts concluded for the supply of digital services exceeds 3,000. With regard to profit allocation, the European Commission recommends the application of the profit split method as the most appropriate method (European Commission, 2018d; Olbert and Spengel, 2019; Sheppard, 2018).

Despite the European Commission's effort to gain political agreement on the DST proposal as a "quick fix" for the international tax framework, member states could not reach a common agreement on the draft directives.[3] Yet, the Vice-President of the European Commission recommended member states to use the DST proposal as a framework for legislative actions at the national level.[4] As depicted in Table 1, several countries have followed this recommendation and started to introduce a DST at the unilateral level. The political and academic debate on digital tax measures is ongoing and empirical insights on the economic effects of such measures are highly valuable.[5]

2.2 Implications of the Digital Tax Package and Hypotheses

It is widely accepted that tax policy changes may have large impacts on stock prices and that it is important to have an awareness of the potential effects implied (Doidge and Dyck, 2015; Downs and Tehranian, 1988). In general, stock prices are related to the cash flow distributions expected to be generated by the firm and incorporate all information that is available to the market (McWilliams and Siegel, 1997). Therefore, ceteris paribus and abstracting from potential tax shields, additional corporate taxes payable intuitively have a negative influence on

[3] See for main results of the ECOFIN meetings on December 04, 2018 and March 12, 2019, https://www.consilium.europa.eu/en/meetings/ecofin/2018/12/04/ and https://www.consilium.europa.eu/en/meetings/ecofin/2019/03/12/.

[4] See Debate in the European Parliament on April, 15 2019: http://www.europarl.europa.eu/doceo/document/CRE-8-2019-04-15-ITM-021_EN.html?redirect.

[5] The European Commissioner-designate for the economy said that he is not willing to wait on a tax for digital corporations (https://www.sueddeutsche.de/wirtschaft/nahaufnahme-herr-gentiloni-und-das-geld-1.4613866).

the stock price of a firm as they constitute additional cash outflows, reducing the after-tax cash flow (DeAngelo and Masulis, 1980; Doidge and Dyck, 2015; Wagner et al., 2018a).

Furthermore, also the conception of the proposed digital tax measures may impact shareholder value. Both academics and practitioners immediately and heavily criticized the digital tax proposals for being populistic and shortsighted (e.g., Fuest et al., 2018; Næss-Schmidt et al., 2018; Spengel, 2018). In particular, the proposal of a DST deviates from the conceptual fundamentals of the existing tax framework of corporate profit taxation. An introduction in addition to the existing system is likely to create a complex and discriminating tax system that distorts competition and harms the position of EU member states in terms of international tax competition (CFE Fiscal Committee, 2018; Petruzzi and Koukoulioti, 2018; Sheppard, 2018; van Horzen and van Esdonk, 2018; Wissenschaftlicher Beirat beim Bundesministerium der Finanzen, 2018).

In general, a tax on gross revenues has a stronger effect on the after-tax cash flow than a corporate net profit tax and may cause serious consequences for affected firms in terms of competitiveness and discrimination (Fuest et al., 2018; Nieminen, 2018; Spengel, 2018). This distress is exacerbated by the inverse proportionality between corporate profitability and the effective tax burden. Furthermore, the proposed method for the relief of double taxation – the possibility to deduct the DST paid from the corporate income tax base – does not eliminate but only mitigate double taxation (European Commission, 2018e). Fuest et al. (2018) point out that the fixed thresholds lead to the undesirable effect that around the limit value additional gross income reduces the net income of a taxable entity. In the same vein, distortion of competition is conceivable, as one competitor, slightly above a threshold, would have to pay the tax, while another competitor, slightly below the relevant threshold, would be tax exempt (Nieminen, 2018). As a consequence, large digital firms are ring-fenced, even though several scholars have shown the impracticability and distortive effect of such practice (Olbert and Spengel, 2019;

Schön, 2018). Simultaneously, the broadly defined digital service revenue categories increase the risk that the scope of the proposed digital tax measures is overshooting.[6]

In addition, the newly proposed measures introduce considerable tax uncertainty for affected corporations. Hanlon et al. (2017) have shown that increasing tax uncertainty is positively associated with costly cash holdings. Furthermore, it is argued that large cash holdings reduce the return on investment and the market misprices it (Dechow et al., 2008; Hanlon et al., 2017).

Based on the findings in prior literature and our assessment of the European Commissions' draft directives, we expect a mean negative investor reaction in response to the communication of the European Commission and large media attention on March 21, 2018.

H1: The abnormal stock price reaction for affected firms is negative in our two-day event window starting on March 21, 2018.

In addition, the digital tax proposals are motivated by the widespread political perception that digital firms pay fewer taxes (European Commission, 2018d; OECD, 2015). In fact, the newly proposed measures have the design of countermeasures to prevent base erosion and profit shifting in the European Union. Hence, we expect that firms that engage more aggressively in tax avoidance and firms with more profit shifting potential are affected to a greater extent by the draft directives.

H2: The negative stock market reaction is more pronounced for digital firms that are more aggressively reducing their tax burden or have more profit shifting potential.

Moreover, the proposed DST shall tax certain digital revenues that are generated in the EU with a flat tax rate of three percent. As the concrete amount of such taxable revenues is

[6] Traditionally non-digital corporations such as the New York Times or the German publishing company Springer, which have a growing online business model, would be subject to the new draft directives.

hardly observable, investors may consider the overall engagement in the European market as a proxy to evaluate whether a firm is affected. Hence, we expect that the stock market reaction is more negative for firms with higher exposure to the European market. Since the tax burden of the DST is proportional to revenues rather than profits, we further expect that the capital market reaction is in absolute terms larger for firms with higher revenues and for loss-making firms that might not have the necessary funds to finance the additional taxes on gross revenues.

H3: The negative stock market reaction is more pronounced for digital firms that are more engaged in the European market, larger digital firms and digital firms in a state of loss.

Finally, we expect that comparable digital firms that are not affected by the draft directives, i.e., that have revenues below the specified threshold of 750 million euro, do not experience a negative abnormal market return on our event date. Firms above the revenues threshold are expected to react negatively, in comparison.

H4: The stock market reaction for digital firms above the proposed revenue threshold is negative in comparison to similar digital firms below the revenue threshold.

3 Data and Research Design

We conduct an event study to estimate the effect of the proposed "digital tax package" on the stock returns of affected firms (Chen, 2017; Eckbo et al., 2007; Frischmann et al., 2008; Thompson, 1985). The event study methodology measures the magnitude of the effect an event has on the expected profitability. In other words, it provides a measure of the impact of that event on the value of a firm and the wealth of investors (Agrawal and Kamakura, 1995; Kothari and Warner, 2007).

On March 21, the European Commission released two drafts for council directives that contained details on the specific design of the digital tax measures and on the characteristics of affected firms. We assume that market participants have not been aware of – or anticipated –

the detailed content of the digital tax package before its release and have just then started to process and incorporate the relevant information into stock prices. In line with prior studies, we conduct a Google Trends analysis to capture the event date that is most likely to be relevant for the stock price effect (Gaertner et al., 2019). Google Trends provides the frequency of search requests on a specified topic of interest over a time horizon as an index value.[7] Figure 1 depicts the Google Trends analysis. We can see a large spike on March 21, 2018, which corresponds to the date the European Commission released the proposals accompanied by a major press release. The interest in the EU Digital Tax proposal reached an even higher level on March 22, 2018. Hence, we include both days in our event window.

We select treated firms based on the characteristics outlined in the draft directives. Table 2 depicts our sample selection procedure. We use data from the Bureau van Dijk ORBIS database to identify all publicly listed corporations with consolidated worldwide turnover above 750 million euro in the last financial year known at the time of the proposal. In line with the study of Fuest et al. (2018), we restrict the sample to firms active in industries that are likely to fall in the scope of the "digital tax package".[8] Based on this classification, we end up with 192 potentially affected corporations. Furthermore, accompanying the proposals, the European Commission released an Impact Assessment of the draft directives, wherein they explicitly refer to 112 top digital corporations that are assumed to be affected by the measures (European Commission, 2018c; United Nations Conference on Trade and Development, 2017). We manually add all named firms that are not yet captured by the industry classification to our sample.

[7] We searched for several terms that could relate to the EU digital tax proposals such as: "Digital Tax", "Commission Proposal", "Digital services Tax", "Digital Permanent Establishment" "Significant Digital Presence" and all results lead to similar patterns around the release of the directive proposals. Our main specification relies on the most commonly used term to describe both proposals: EU Digital Tax.
[8] The relevant NACE Rev. 2 codes are: 6201, 6209, 6311, 6312, 4791 and 5811 to 5819.

We obtain one year of daily stock market data from the Thomson Reuters EIKON database ending ten trading days after our event date. We use the return index (RI) that shows the theoretical value of a shareholding, assuming that dividends are reinvested to purchase additional shares at the closing price applicable on the ex-dividend date as a base for our daily return calculations.[9] In line with Frischmann et al. (2008) and Dutt et al. (2019), we drop firms without sufficient stock market information and trading activity. Finally, we exclude all corporations that held an earnings announcement immediately before, on or after the event date to eliminate all stock market reactions not directly linked to the draft directives. Overall, our final sample constitutes of 222 corporations, which are listed in Table 3. We show descriptive statistics for the sample in Table 4. The average daily return of treated firms is 0.08 percent, with a standard deviation of 1.69 percent. The country dispersion of all treated digital corporations is depicted in Table 5.

For our main analysis, we follow the event study design of Thompson (1985) and Eckbo et al. (2007). Based on our Google Trends Analysis, our event window covers the day of the release of the proposals, March 21st, 2018, and the subsequent day (0 through +1). We set our estimation window to contain the trading days -11 through -250 relative to the event day. We estimate the following conditional market model:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \gamma_i D_t + e_{it}. \quad (1)$$

R_{it} is the return of firm *i* on day *t* that is likely to fall under the scope of the digital tax proposal (group of treated firms). R_{mt} is the return of the market index *m* (S&P Global 1200) on day *t*. D_t is a dummy set equal to one in the two-day event window, and e_{it} is an error term.

[9] With $P_{i,t}$ as share price of firm i on day t, $RI_{i,t} = RI_{i,t-1} \times \frac{P_{i,t}}{P_{i,t-1}}$. Except when t equals the ex-dividend-date, then: $RI_t = RI_{t-1} \times \frac{P_t + D_t}{P_t - 1}$ with D_t being the dividend payment associated with the ex-date. Based on this price information, daily (total) returns ($R_{i,t}$) are calculated. Daily returns are winsorized at the 1 and 99 percent level, which amount to -5.136 percent and 5.618 percent, respectively. We acknowledge the view that winsorizing of return data may distort the "true" market movement. Hence, we rerun the analysis with non-winsorized return data confirming our results. The results can be found in Appendix Table 17.

α_i provides an estimate for the alpha of an equally-weighted portfolio of all 222 treated firms and β_i is the estimate of the portfolio's market beta. The coefficient estimate of γ_i provides an estimate for the average abnormal return during the event window. The coefficient of interest has to be multiplied by the number of days in the event window to get an estimate for the cumulative average abnormal return (*CAAR*) (Doidge and Dyck, 2015; Eckbo et al., 2007). In line with our two-day event window, we double the coefficient estimate.

For our cross-sectional analyses (*H2-H4*), we include a parameter to account for a firm's level of tax aggressiveness, profit shifting potential or other firm-specific characteristics, which we obtain from the ORBIS database. The conditional market model expands as follows:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \gamma_i D_t + \rho_i I_i + \delta_i I_i D_t + e_{it}. \quad (2)$$

The variables are defined as before and I_i is an indicator for firm-specific characteristics. The estimate of the interaction coefficient, δ_i, becomes the coefficient of interest.

4 Results

4.1 Main Results

The baseline results of the event study are presented in Table 6. In the event period of interest, covering the event day – the day of the release of the digital tax proposals – and the day after, we find a mean negative cumulative average abnormal return of -0.692 percent, which is significant at the one percent level. The regression results further indicate that the portfolio of 222 treated firms has a market beta of 0.676 and a significant alpha of 0.047 percent.

Overall, the analysis provides significant statistical evidence of a mean negative stock price reaction of affected firms to the EU digital tax proposals and confirms our first hypothesis. Assuming efficiency of capital markets, this mean negative change in firm values around the event date represents both the expected costs and profits of the event as well as the ex-ante probability that the event occurs, i.e., the net present value that is associated with the draft

directives (Johannesen and Larsen, 2016; Wagner et al., 2018a). Specifically, when analyzing the impact of additional taxes on the value of a stock, what matters to investors is the potential additional amount in taxes that the firm will be liable to pay in the future (Wagner et al., 2018a). Hence, these results are consistent with investors anticipating that the introduction of the digital tax package negatively affects digital firms' future profitability. Figure 2 shows the buy and hold return of an equally-weighted portfolio of all potentially affected firms, bought one day before the event window. The red line in Figure 2 controls for the market return and depicts the abnormal buy and hold return. It becomes evident from this graph that the significant negative abnormal return maintains over the subsequent days after the event window.

In order to further understand investor reactions and test our additional hypotheses, we interact our event date dummy with different firm-specific characteristics. First, we include a measure of the potential tax aggressiveness of our treated firms. We define the variable *Tax aggressiveness* as the negative of the cash effective tax rate (ETR). Based on the financial statements 2017, we calculate the annual ETR for all potentially affected firms. Despite the well-known drawbacks of short-term ETR measures, we assume that firms with lower ETRs engage more strongly in tax planning and tax avoidance (Dutt et al., 2019; Dyreng et al., 2008). In addition, we define the variable *Profit shifting potential* as the ratio of intangible assets to total assets. It has been shown in various studies that intangible assets, and implicitly the level of research and development activities, are positively associated with the engagement in profit shifting (De Simone et al., 2016; Griffith et al., 2014; Heckemeyer et al., 2014).

Table 7 depicts the stock market reaction in our event window, controlling for the tax aggressiveness of affected firms. As expected, the regression results in column (1) show that the capital market reaction is more pronounced for firms that are more tax aggressive. A firm with an average ETR of 25.63 percent in our sample has a negative stock market reaction in our event window of -0.679 and a one percentage point decrease of the ETR is associated with a

0.021 percentage point lower two-day CAAR. Consistently, column (2) highlights that the investor reaction for the most tax aggressive firms, those in the lowest ETR quintile, is considerably more negative in the event window. Furthermore, stock prices seem to decrease more for firms with a higher profit shifting potential, albeit not significant in conventional terms (column 3). The last column of Table 7 indicates that the stock market reaction is lower for firms with the highest ratio of intangible to total assets (p-value of 0.115). Overall, the results are in line with our second hypothesis. These findings further indicate that digital firms are currently able to avoid corporate taxates in the EU and that investors believe that the proposed measures hamper tax avoidance, increasing affected firms' tax burden to similar levels as those of less-avoiding firms (i.e., considering the DST, all firms pay taxes in proportion to their digital revenues in the EU). Consequently, the stock prices of firms that avoid taxes more 'aggressively' and firms with a higher profit shifting potential react stronger to the proposed tax measures.

Next, we test our third hypothesis. Since exact information about the amount and extent of firms' digital activity, digital revenues or number of users in a country is not disclosed publically, it is difficult for investors to assess precisely to what extent a firm is affected by the digital tax proposals. For this reason, investors may rather evaluate a firm's engagement in the European market. We assume that the level of engagement in the European market is positively correlated with the level of revenues that is recognized in the financial statements of European affiliates of multinational groups. We define the variable *EU exposure* as the ratio of revenues of EU affiliates to the total revenue of the group's affiliates. The higher the ratio, the more a group is engaged in the European market. Table 8 depicts the results of the regressions that include firm-specific interaction variables. Column (1) highlights that a higher EU exposure has a significant negative effect on the two-day CAAR. Additionally, the second column of Table 8 confirms our prediction of hypothesis three and shows that the group of firms with the

highest quintile of EU exposure is affected the most in the event window. This result is in line with the scope of the draft directives that are limited to digital services provided in the European Union.

Column (3) of Table 8 indicates that, as intuitively expected, investor reaction is more negative for firms with a higher turnover. The capital market seems to have incorporated the effects of a flat gross revenue tax that increases the tax burden proportional to the level of turnover. The last column of Table 8 indicates that the drop in stock prices is higher for corporations that have suffered a loss in the preceding financial year, albeit the interaction coefficient is not significant in traditional terms.

Finally, we check hypothesis four and analyze if comparable firms with revenues below the size thresholds - thus not affected by the EU directive proposals - react significantly different than the firms in our treated sample. We limit our sample of comparable digital corporations to listed firms in the same industries as the firms in our treatment sample and delete all firms with annual consolidated revenues below 200 million euro. By doing so, we prevent to compare large digital corporations with very small and potentially structurally different firms. Our sample of control firms includes 123 firms. Table 9 depicts the results of a difference in differences regression that is similar to equation (2) with the indicator I_i being a dummy variable with the value of one for firms above the size threshold of 750 million euro. The negative and significant interaction coefficient provides an estimate for the difference in CAAR between the two groups. The abnormal return over the two event days seems to be by about 1 percentage point lower for affected firms above the size threshold.

Overall and in line with the assumption of efficient markets, the findings imply that investors, when evaluating the effect of the digital tax package, take not only into account whether a firm is purely affected, but also weigh the impact depending on a firm's characteristics.

4.2 Economic Magnitude

Based on our findings of a negative capital market reaction, we estimate the reduction of market value in absolute terms. Table 10 depicts the absolute abnormal market value change. Market values are obtained from the EIKON database and converted into euro using the applicable exchange rate on our event date. The total market value of all 222 affected firms is more than 4 trillion euro.[10] We estimate the firm-specific change in abnormal market value as the product of a firm's market value and its abnormal return in our two-day event window (Cline et al., 2018; Malatesta, 1983; Peterson, 1989).[11] The overall abnormal market value change is the sum of all affected firms' abnormal market value changes. We find that the market value of firms that are likely to be affected by the EU digital tax proposals dropped by at least 52 billion euro in excess of the normal market movement. A considerable share of the abnormal market value change is born by U.S. based corporations, which constitute the largest group of treated firms. About 40% of the market value reduction is attributable to firms headquartered in the U.S.

These results suggest that investors have noticed the ring-fencing and unavoidable nature of the European Commission's draft directives and anticipate a considerable increase in tax burden for digital firms. Up to now, investor perceptions and the magnitude of firm value reduction have not been part of the debate on the suitability of the draft directives.

In a back-of-the-envelope comparison, we relate the magnitude of our result to the findings in prior studies. Doidge and Dyck (2015) analyze the surprising proposition of a corporate tax on a group of previously untaxed Canadian publicly traded firms. The authors find that the additional tax of 31.5 percent on net profits was associated with a drop in firm value of about 17.5 percent (an elasticity of -0.56). If we attribute the stock market reaction in

[10] Based on our average abnormal return estimates during the two-day event window, we find an abnormal change in market value of 28,805 million euro. This estimate is our lowest bound for the abnormal change in market value.

[11] $\Delta MV = \sum_{i=1}^{222} \sum_{t=0}^{1} MV_{i,t} \times AR_{i,t+1}$, where $MV_{i,t}$ refers to the closing market value of firm i at trading day t. AR denotes to the abnormal return. $t = 0$ refers to March 20, 2018. The AR is estimated using the Market Model approach, see Table 12.

our event window purely to the more precisely outlined DST of three percent on gross revenues, our results indicate that the magnitude of capital market reaction is slightly lower per percentage point (-0.231 percent per percentage point). This lower effect of our estimates might result from the higher implementation likelihood of the unilaterally proposed additional corporate tax rate in Canada, compared to the – multilateral approval requiring – European Commission's directive proposals. Additionally, Overesch and Pflitsch (2019) and Gaertner et al. (2019) analyze firm value changes in response to the U.S. tax reform. The effect size of their estimated capital market reaction ranges between 0.45 percent and 0.6 percent, which is – in absolute terms – slightly higher than our estimates on the capital market reaction in response to the release of the directive proposals. Finally, Hoopes et al. (2016) investigate the stock market reaction to the legislative process of making online retailers subject to sales taxes in the U.S. In this setting, which targets digital corporations and may be considered the most comparable to our study in prior literature, the authors find a negative cumulative abnormal return of -0.43 percent, pooling their event dates. Despite the conceivability that the draft directives might have a more severe negative impact on the profitability of digital firms than the introduction of sales tax on e-commerce in the U.S., our estimated capital market reaction is lower than their effect.

4.3 Robustness Tests

We conduct a number of robustness tests to verify our main results. First, in Table 11, we replicate our main analysis for four alternative event dates to mitigate concerns that the event has materialized at a different point in time.[12] None of the prior leaked information about the new proposals did result in a significant news reaction and the official release of the draft

[12] On February, 26 2018 the first rumors on a potential digital tax initiative by the European Commission were spread. On March, 15, 2018 occasional reports on the soon to be released directive proposals can be found (Becker and Englisch, 2018); https://www.ft.com/content/0c38dd10-2929-11e8-b27e-cc62a39d57a0 (05.08.2019); https://www.bloomberg. com/news/articles/2018-03-17/tech-giants-set-to-face-3-tax-on-revenue-under-new-eu-plan (05.08.2019). At the Economic and Financial Affairs Councils on December, 04, 2018 a strong opposition against the council directives was formed and on March, 12 the EU Digital Services Tax proposal was finally taken off the agenda in an official debate.

directive contained a hitherto not available level of detail. Hence, we are confident that our main event date captures the most relevant market reaction to the draft directives. Nevertheless, we test the market reaction on the alternative dates. First, for dates before the release of the proposals on which rumors about a new European DST spread publicly.

Second, for dates after the release of the proposals on which it became less likely or certain that an EU wide political agreement on the DST will not be reached. In general, all results are indistinguishable from zero. Except on March 12, 2019, we find a significant capital market reaction over a two-day period. Albeit the date marks the time when it became certain that the EU DST is not introduced in the near future in the common market, the abnormal return estimates are negative. On the same date, several economy-wide shocks regarding the ongoing debate about the exit of Great Britain from the EU have hit the market. The major news could confound our estimates on that event date. We cannot fully exclude that the capital market has already considered the rumors on the digital tax proposals gradually, but our event study analysis of the additional event dates gives us confidence that investors reacted to the digital tax package primarily on the date of the official proposal, March 21, 2018.

Third, we replicate our event study in Table 12 using the method by Kothari and Warner (2007) and calculate the cumulative abnormal return for each firm separately. If the expected return is based on the market model, as shown in column (1) of Table 12, we find – as expected – a comparable and significant CAAR of negative 0.69 percent. In column (2) of Table 12, we use the average return of a control group as an estimate for the expected return (Dutt et al., 2019; Johannesen and Larsen, 2016). The control group consists of comparable digital firms, with the same industry classification, that have annual revenues below the size thresholds and above 200 million euro. In this specification, we find a significant CAAR of minus 0.986 percent.

Moreover, to check if our results are driven by the choice of an equally-weighted portfolio of affected firms, we construct a value-weighted portfolio reflecting the sum of the market capitalization of each firm in the sample on each day in the estimation and event window (Doidge and Dyck, 2015; Ince and Porter, 2006). In a value-weighted portfolio, firms' returns are weighted according to their relative market value. Thus, the capital market reactions of large digital firms such as Amazon or Alphabet have markedly greater effects on the average abnormal returns of the portfolio. We rerun the baseline event study regression with value-weighted returns. The results are tabulated in Table 13. Again, we find a highly significant negative capital market reaction in our event window of -0.59 percent, which is comparable to our main specification.

Fourth, we disentangle the event window and analyze the daily average abnormal returns. Table 14 shows the results for our first robustness analysis. The daily abnormal returns range between -0.42 and 0.167 percentage and immediately prior to our event window, the direction of the abnormal return seems rather inconclusive. To test if the length of our event window affects our results, we employ a three-day event window starting on March 20 to capture potential stock market movements in anticipation of the draft directives (Austin, 1993; Hanlon and Slemrod, 2009). Regression results are displayed in Table 15. Similar to our main specification, we find a negative stock market reaction during this three-day event window. However, the result is not statistically significant in traditional terms.

Finally, we employ additional parametric and non-parametric significance tests (Table 16) to mitigate concerns on the statistical significance of the results of our alternative event study method, which is depicted in Table 12. In order to account for potential event day clustering, we employ an additional parametric test statistic that uses the variability of the time series of the sample's average abnormal returns in the estimation period (Bernard, 1987; Campbell et al., 1997). Furthermore, to ensure that the found significance was not driven by the

higher uncertainty in the event period (i.e., greater return variability), we additionally employ a non-parametric rank test (Corrado, 1989). The higher uncertainty in the event period compared to the estimation period may emerge from the incremental uncertainty incorporated into the economic environment by the release of the digital tax package. In contrast to the parametric tests, the nonparametric rank test uses ordinal information about the returns. Overall, both additional test statistics confirm the significance of the evidence found. Similar to Hoopes et al. (2016), we additionally test the frequency of negative abnormal returns in our event window for treated and control firms to ensure that our results are not biased by a small number of sizeable negative abnormal return outliers (Hanlon and Slemrod, 2009). The results are shown in Table 16 Panel B. The test highlights the different capital market reaction between treatment and control group and mitigates concerns that the result is driven by one or two large stock price decreases (Hoopes et al., 2016).

5 Conclusion

In this study, we examine the two draft directives of the European Commission on the taxation of the digital economy published on March 21, 2018. The first draft directive suggests the introduction of an interim tax of three percent on gross revenues from certain digital services. The second draft directive lays down the rules for taxing corporate profits that are attributable to a Significant Digital Presence. We employ an event study to analyze the capital market reaction to the proposed introduction of the digital tax measures. In our two-day event window starting at the day of the release, we find a significant reduction in firm value of 222 digital firms which are likely to be affected. We provide evidence that investors believe that the proposed digital tax measures will be implemented and have a negative impact on affected firms' future profitability and competitiveness.

In various cross-sectional analyses, we find that the capital market reaction is, as expected, stronger for firms that can be assumed to engage more actively in tax avoidance and

have a higher profit shifting potential. Moreover, the capital market reaction is more pronounced for firms located in the EU, inversely related to firms' revenues and seems stronger for loss-making firms. Based on our results, we estimate an overall abnormal market value decrease of digital and innovative corporations by at least 52 billion euro in response to the proposed measures. Thereof about 40% is attributable to U.S. based corporations.

Overall, we provide evidence that the introduction of ring-fencing digital taxes leads to disruptive effects on firm value and, potentially, overall economic wealth. Furthermore, our results highlight the distortive nature of the draft directives and substantiate the accusation of being focused on U.S. firms. With regard to the identified shortcomings in the conception and potentially harmful effects of the draft directives on firms, intergovernmental organizations as well as local governments should carefully evaluate the introduction of ring-fencing digital tax measures.

In general, the era of digitalization has led to an intense political and academic debate on how to adapt the principles of corporate taxation to changing means of value creation and innovative business models. Yet, empirical evidence on the effects of proposed adjustments to corporate taxation is scarce. Our findings shall contribute to the recent call in the literature for further research on the proposed policies of taxing the digital economy and help to holistically evaluate the effects of an introduction of digital tax measures.

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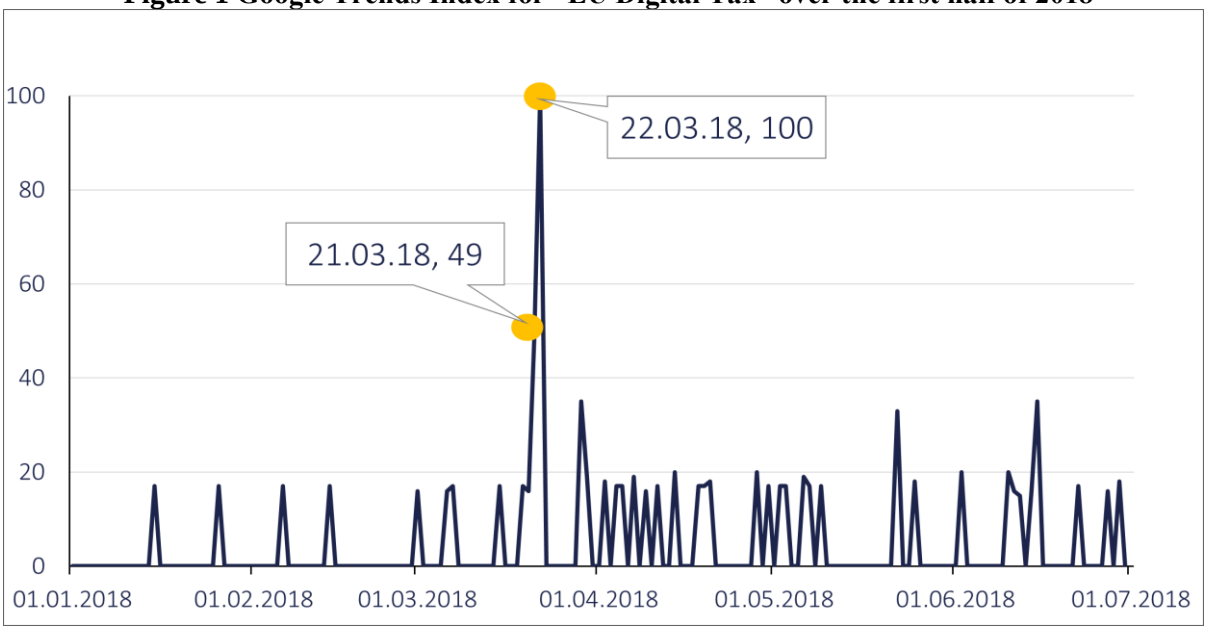
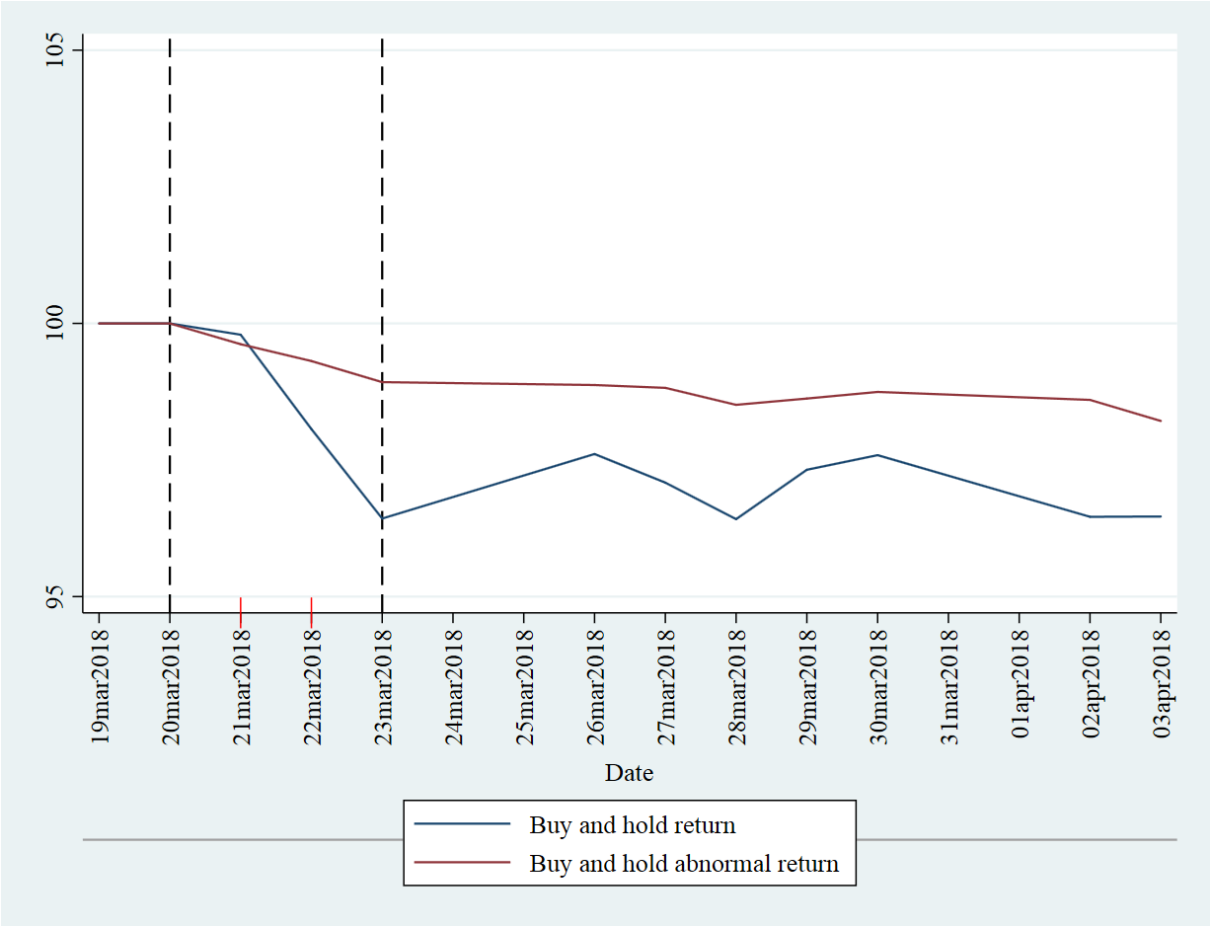
FIGURES

Figure 1 Google Trends Index for "EU Digital Tax" over the first half of 2018



Notes: In Figure 1, we plot the Google Trends Index for "EU Digital Tax" over the first six months of 2018 when EU policymakers were actively working on the draft tax directives. The Index (y-axis) varies from 0 to 100, where 100 represents the highest search activity for a specific time period. All other search activities are displayed relative to the highest search activity. The local peaks correspond to periods of relatively high search activity regarding "EU Digital Tax" and comprise our events of interest. The dots correspond to dates in 2018 and Index values, respectively.

Figure 2: Buy and hold returns – indexed on March 20, 2018



Notes: The figure displays the buy and hold return and the abnormal buy and hold return of an equally-weighted portfolio of all potentially by the draft directives affected firms. The figure is indexed to 100 on March 20, 2018.

TABLES

Table 1 Characteristics of Digital Services Tax proposals

Country	Relevant Dates				Characteristics of the tax			Business categories		
	First discussed	Passed by legal authorities	Effective as of	Date of rejection	Tax rate	Affected firms (global turnover size)	Turnover from digital services (in-country)	online advertising	digital intermediaries	sale of data
EU	21.03.2018	-	-	12.03.2019	3%	750	50	x	x	x
UK	29.10.2018	12.03.2019	01.04.2020	-	2%	500	25	x	x	
France	17.12.2018	24.07.2019	01.01.2019	-	3%	750	25	x	x	x
Spain	23.10.2018	18.01.2019	10.01.2019	-	3%	750	3	x	x	x
Italy	12.2017	01.01.2019	-	-	3%	750	5.5	x	x	x
Austria	29.12.2018	04.04.2019	01.01.2020	-	5%	750	25	x		
Czech Republic	30.04.2019	-	01.01.2020	-	7%	750	2	x	x	x
Belgium	17.01.2019	-	-	-	3%	750	50	x	x	x
Poland	29.04.2019	-	01.01.2020	-	3%	750	50	x	x	x

Notes: The size thresholds are stated in millions of euro. x marks the affected business categories that fall under the scope of the Digital Services Tax.
Sources: EY Tax Alerts; Accountancy Europe available at: https://www.accountancyeurope.eu/wp-content/uploads/190709-Digital-Tax-fact-sheet_FINAL.pdf (accessed 10.07.2019) and Grant Thornton available at: (https://www.grantthornton.global/en/insights/articles/digital-services-tax-in-europe/ (accessed 10.07.2019)

Table 2 Sample selection procedure

Subsample 1: based on ifo Institute	
Firms identified based on turnover, legal status, NACE codes	194
Check for consistently assigned firms	-1
Total subsample 1	193
Subsample 2: based on EU Commission	
Top digital MNEs	100
Check for listed firms and turnover threshold	-8
Total subsample 2	92
Total preliminary combined sample	285
Overlap of firms in samples	-35
Required stock price data not available or infrequent trading	-22
Check for potential confounding events (earnings announcement)	-6
Final sample of treated firms	222

Notes: Turnover refers to the two turnover thresholds incorporated in the Digital Services Tax proposal. NACE codes refer to the codes employed by the ifo Institute. The relevant NACE Rev. 2 codes are: 6201, 6209, 6311, 6312, 4791 and 5811 to 5819.

Table 3 List of affected companies

58.Com Inc.	Digital China Holdings Limited	Line Corporation	Scientific Games Corp
Activision Blizzard, Inc.	Discovery, Inc.	Masmovil Ibercom, S.A.	Scsk Corporation
Akamai Technologies INC	DUN & Bradstreet Corp.	Match Group, Inc.	Senshukai CO LTD
Alibaba Group Holding Limited	DXC Technology Company	Maxar Technologies Inc.	Servicenow, Inc.
Alliance Data Systems Corp	Ebay INC	Mediaset S.P.A.	Seven West Media Limited
Allscripts Healthcare Solutions INC	Econocom Group SA	Meredith Corp	SG & G Coporation
Alphabet Inc.	Elanders AB	Micro Focus International PLC	Shanghai Ganglian E-Commerce Holdings Company Limited
Altran Technologies SA	Electronic Arts INC	Mixi Inc.	SK Holdings Co., Ltd.
Amadeus IT Group, S.A.	Entertainment ONE Limited	Modern Times Group AB	SKY Limited
Amazon.Com, Inc.	EOH Holdings Limited	Moody's Corporation	Softbank Group Corp
AMC Networks Inc.	Epam Systems, Inc.	Mphasis Limited	Solocal Group S.A.
Amdocs Limited	Equifax INC	N Brown Group PLC	Sonda S.A.
Anhui Xinhua Media Company Limited	Equinix INC	Nasdaq, Inc.	Sopra Steria Group
Arnoldo Mondadori Editore SPA	Esprinet S.P.A.	Naspers Limited	Square Enix Holdings Co., Ltd.
Asos PLC	Expedia Group, Inc.	Naver Corporation	Super Micro Computer, Inc.
Asseco Poland S.A.	Experian PLC	NET ONE Systems CO LTD	Sykes Enterprises INC
Atos SE	Facebook, Inc.	Netapp, Inc.	Synaptics Incorporated
Autohome Inc.	Factset Research Systems INC	Netease, Inc.	Systemax INC
Automatic Data Processing INC	Fairfax Media Limited	Netflix, Inc.	T-Gaia Corp.
Axel Springer SE	First Data Corporation	Netscout Systems INC	Take-Two Interactive Software Inc.
Baidu Inc.	Fiserv INC	NEW Media Investment Group Inc.	Takkt AG
Bechtle AG	Formula Systems (1985) Limited	NEW York Times CO	Tata Consultancy Services Limited
Belluna CO LTD	Fuji Soft Inc.	News Corporation	Tech Mahindra Limited
Bitauto Holdings LTD	Gakken Holdings Co., Ltd.	Nexon CO LTD	Teradata Corporation
Booking Holdings Inc.	Gannett Co., Inc.	Next PLC	Thomson Reuters Corporation
Broadridge Financial Solutions, Inc.	Gartner INC	Nielsen Holdings PLC	Transcosmos INC
Caci International INC	Gemalto N.V.	Nomura Research Institute, Ltd.	Transunion
Cancom SE	Global Payments INC	NTT Data Corporation	Travelport Worldwide Limited
Capgemini SE	GMO Internet Inc.	Otsuka Corporation	Trend Micro Incorporated
CBS Corporation	Godaddy Inc.	Overstock.Com, Inc.	Trivago N.V.
CDW Corp	Graham Holdings Company	Paypal Holdings, Inc.	Twenty-First Century Fox, Inc.
Cerner Corp	Groupon, Inc.	PC Connection INC	Twitter, Inc.
Check Point Software Technologies Limited	Grupo Televisa S.A.B. de C.V.	Pcm, Inc.	Ubisoft Entertainment SA
China South Publishing & Media Group Company Limited	GS Home Shopping Inc.	Pearson PLC	Verint Systems, Inc.
Chinasoft International Limited	HCL Technologies Limited	Pivot Technology Solutions, Inc.	Verisign INC
Cimpress N.V.	Henan Dayou Energy Co., Ltd.	Playtech PLC	Verisk Analytics, Inc.
CIR S.P.A. - Compagnie Industriali Riunite Siglabile CIR S.P.A.	Henry Jack & Associates INC	Presidio, Inc.	Viacom, Inc.
Citrix Systems INC	Houghton Mifflin Harcourt Company	Prosiebensat.1 Media SE	Vipshop Holdings LTD
CJ ENM CO. Ltd.	Iliad	Quebecor INC	Virtusa Corporation
Cofide - Gruppo de Benedetti S.P.A.	Indra Sistemas SA	Qurate Retail, Inc.	Vmware, Inc.
Cognizant Technology Solutions Corp	Informa PLC	Rakuten INC	Wayfair Inc.
Comcast Corporation	Infosys Limited	RED HAT INC	Weibo Corporation
Computacenter PLC	Insight Enterprises INC	Redington (India) Ltd.	Wipro Limited
Conexio Corporation	Internet Initiative Japan INC	Relx PLC	Wirecard AG
Constellation Software Inc.	Itochu Techno-Solutions Corporation	Reply S.P.A.	Wolters Kluwer NV
Convergys Corp	Jd.Com Incorporated	Rizap Group, Inc.	Workday, Inc.
Copart INC	Jiangsu Phoenix Publishing & Media Corporation Limited	Rizzoli Corriere Della Sera Mediagroup S.P.A.	Worldline
CoreLogic Inc.	John Wiley & Sons, Inc.	RTL Group SA	Xinhua Winshare Publishing and Media Co., Ltd.
Criteo SA	Kadokawa Dwango Corporation	S&P Global Inc.	Yandex N.V.
Cyberagent INC	Konami Holdings Corporation	Sabre Corporation	Yirendai Ltd.
DAI Nippon Printing CO LTD	Lagardere SCA	Salesforce.Com, Inc.	Yonyou Network Technology Co., Ltd.
Daily Mail and General Trust PLC	Larsen & Toubro Infotech Limited	Samsung SDS Co.,Ltd.	YY Inc.
Daou Tech Inc.	Leidos Holdings, Inc.	Sanoma OYJ	Zalando SE
Dassault Systemes SE	Liberty Expedia Holdings, Inc.	Schibsted ASA	Zozo, Inc.
Datatec Limited	Liberty Global PLC	Scholastic Corp	
DHC Software Co., Ltd.	Liberty Tripadvisor Holdings, Inc.	Science Applications International Corp	

Notes: In total 222 companies are classified to be affected by the EU draft directives.

Table 4 Descriptive statistics

Variable	N	Mean	SD	P25	Median	P75	Min	Max
Stock return	53,724	0.08	1.69	-0.72	0	0.87	-5.87	6.17
Market return (S&P 1200)	53,724	0.05	0.57	-0.15	0.07	0.33	-4.07	1.61
Cash ETR	42,350	25.63	12.29	18.37	25.62	31.66	0.06	85.71
Intangible to total assets	53,482	31.67	23.97	9.05	29	49.96	0	89.46
EU revenue/total revenue	50,820	46.25	39.05	1.54	46.71	85.15	0	100
Revenues in billion euro	53,724	6.15	14.6	1.32	2.35	5.1	0.66	148.31
Loss-making (2017)	53,724	0.09	0.29	0	0	0	0	1

Notes: Treated firms are listed firms with consolidated annual turnover above 750 euro million that are classified to be affected by the digital tax proposals. All values, except for the number of firms N and revenues, are stated in percent.

Table 5 Dispersion of treated firms over countries

Country	Frequency	Percent
Australia	2	0.90
Belgium	1	0.45
Bermuda	2	0.90
Canada	5	2.25
Cayman Islands	12	5.41
Chile	1	0.45
China	8	3.60
Finland	1	0.45
France	11	4.95
Germany	7	3.15
India	8	3.60
Israel	2	0.90
Italy	7	3.15
Japan	28	12.61
Korea (Republic of)	7	3.15
Luxembourg	1	0.45
Mexico	1	0.45
Netherlands	5	2.25
Norway	1	0.45
Poland	1	0.45
South Africa	3	1.35
Spain	3	1.35
Sweden	2	0.90
United Kingdom	15	6.76
United States of America	88	39.64

Notes: Treated firms are stock-listed firms whose global consolidated revenue exceeds 750 million euro and the firms operate in an industry that is likely to be affected by the EU digital tax proposal. The relevant NACE Rev. 2 codes are: 6201, 6209, 6311, 6312, 4791 and 5811 to 5819. In total, we have 222 treated firms in our main sample. The country of origin is the location where the firm is incorporated.

Table 6 Cumulative average abnormal return – baseline result

	(1) Stock return
Alpha	0.044**
	(0.019)
Market return (S&P 1200)	0.715***
	(0.048)
21-22 Mar. 2018	-0.692***
	(0.070)
Observations	53,724
Standard errors clustered on firm level	Yes
Standard errors clustered on trading days	Yes
Firms	222
Adj.-R2	0.063

Notes: The Table presents the results of the conditional market model: $R_{it} = \alpha_i + \beta_i R_{mt} + \gamma_i D_t + e_{it}$. R_{it} is the return of firm *i* on day *t* that is likely to fall under the scope of the digital tax proposal (group of treated firms), R_{mt} is the return of the market index *m* (S&P Global 1200) on day *t*. D_t is a dummy set equal to 1 in the two-day event window, and e_{it} is an error term. α_i provides an estimate for the alpha of an equally-weighted portfolio of all 222 treated firms and β_i is the estimate of the portfolio's market beta. The coefficient estimate of γ_i (and the corresponding standard error) is multiplied by two to account for the length of the two-day event window (Eckbo et al. 2007). γ_i can thus be interpreted as an estimate for the cumulative average abnormal return *CAAR* over the two-day event window. The model is estimated using returns of 250 trading days before the event date, excluding the ten trading days immediately prior to the event date.
Clustered standard errors are in parenthesis. *, ** and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 7 Cross-sectional analysis – tax aggressiveness

	(1) Stock return	(2) Stock return	(3) Stock return	(4) Stock return
Alpha	0.047**	0.044**	0.044**	0.046**
	(0.020)	(0.021)	(0.019)	(0.021)
Market return (S&P 1200)	0.676***	0.676***	0.714***	0.714***
	(0.050)	(0.050)	(0.048)	(0.048)
21-22 Mar. 2018	-0.679***	-0.605***	-0.692***	-0.584***
	(0.166)	(0.153)	(0.078)	(0.123)
Tax aggressiveness	0.001			
	(0.001)			
Tax aggressiveness x 21-22 Mar. 2018	-0.021***			
	(0.006)			
Tax aggressiveness: highest quintile=1		0.017		
		(0.030)		
Tax aggressiveness: highest quintile=1 x 21-22 Mar. 2018		-0.485***		
		(0.173)		
Intangible to total assets			-0.001	
			(0.001)	
Intangible to total assets x 21-22 Mar. 2018			-0.009	
			(0.010)	
Intangible to total assets: highest quintile=1				-0.008
				(0.024)
Intangible to total assets: highest quintile=1 x 21-22 Mar. 2018				-0.548
				(0.347)
Observations	42,350	42,350	53,482	53,482
Standard errors clustered on firm level	Yes	Yes	Yes	Yes
Standard errors clustered on trading days	Yes	Yes	Yes	Yes
Firms	175	175	221	221
Adj.-R2	0.060	0.060	0.062	0.062

Notes: The Table presents the results of the conditional market model: $R_{it} = \alpha_i + \beta_i R_{mt} + \gamma_i D_t + \rho_i TAX_i + \delta_i TAX_i D_t + e_{it}$. R_{it} is the return of firm *i* on day *t* that is likely to fall under the scope of the digital tax proposal (group of treated firms), R_{mt} is the return of the market index *m* (S&P Global 1200) on day *t*, D_t is a dummy set equal to 1 in the two-day event window, and e_{it} is an error term. TAX_i is an estimate for the tax aggressiveness or the profit shifting potential of a firm. First, *Tax aggressiveness* is measured as

Table 7 Cross-sectional analysis – tax aggressiveness

the negative of a firm's effective tax rate (ETR). Firms with negative ETRs are excluded from the sample. The negative conversion allows for an intuitive interpretation of the coefficient δ_i on the two-day *CAAR*. The *Tax aggressiveness* variable is centered on the mean. *Tax aggressiveness: highest quintile* is a dummy variable with the value of one for all firms who's ETR is in the lowest 20 percentile. *Profit shifting potential* is measured as the ratio of intangible to total assets. *Profit shifting potential: highest quintile* is a dummy variable equal to one for all firms who's intangible to total assets ratio is in the highest quintile. Coefficients can be interpreted as in Table 6. In addition, ρ_i measures the effect of the firm-specific indicator on the stock return, respectively. δ_i is an estimate of the effect of the firm-specific indicator on the two-day *CAAR*. The model is estimated using returns of 250 trading days before the event date, excluding the ten trading days immediately prior to the event date.
Clustered standard errors are in parenthesis. *, ** and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 8 Cross-sectional variation – firm-specific characteristics

	(1) Stock return	(2) Stock return	(3) Stock return	(4) Stock return
Alpha	0.040	0.036*	0.043**	0.043**
	(0.026)	(0.019)	(0.020)	(0.019)
Market return (S&P 1200)	0.703***	0.703***	0.715***	0.715***
	(0.048)	(0.048)	(0.048)	(0.048)
21-22 Mar. 2018	-0.071	-0.387***	-0.668***	-0.619***
	(0.344)	(0.136)	(0.080)	(0.188)
EU exposure	0.000			
	(0.000)			
EU exposure x 21-22 Mar. 2018	-0.012**			
	(0.006)			
EU exposure: highest quintile=1		0.033		
		(0.027)		
EU exposure: highest quintile=1 x 21-22 Mar. 2018		-1.158***		
		(0.264)		
Revenues			0.000	
			(0.000)	
Revenues x 21-22 Mar. 2018			-0.012**	
			(0.005)	
Loss-making (2017)=1				0.015
				(0.039)
Loss-making (2017)=1 x 21-22 Mar. 2018				-0.770
				(1.348)
Observations	50,820	50,820	53,724	53,724
Standard errors clustered on firm level	Yes	Yes	Yes	Yes
Standard errors clustered on trading days	Yes	Yes	Yes	Yes
Firms	210	210	222	222
Adj.-R2	0.063	0.063	0.063	0.063

Notes: The Table presents the results of the conditional market model: $R_{it} = \alpha_i + \beta_i R_{mt} + \gamma_i D_t + \rho_i I_i + \delta_i I_i D_t + e_{it}$. R_{it} is the return of firm *i* on day *t* that is likely to fall under the scope of the digital tax proposal (group of treated firms), R_{mt} is the return of the market index *m* (S&P Global 1200) on day *t*, D_t is a dummy set equal to 1 in the two-day event window, and e_{it} is an error term. I_i is an indicator for firm-specific characteristics. First, *EU exposure* is measured as the ratio of revenues by subsidiaries located in the EU

Table 8 Cross-sectional variation – firm-specific characteristics

to overall revenue of all the firm's subsidiaries. Second, *EU exposure: highest quintile* is a dummy variable with the value of one for firms with a ratio of EU subsiaries' revenues to total revenue in the highest 20 percentile. Third, *Revenues* measures a firm's consolidated revenues. The variable is centered on the mean. Forth, *Loss-making* is a dummy variable indicating firms with losses in the financial year 2017. Coefficients can be interpreted as in Table 6. In addition, ρ_i measures the effect of the firm-specific indicator on the stock return, respectively. δ_i is an estimate of the effect of the firm-specific indicator on the two-day *CAAR*. The model is estimated using returns of 250 trading days before the event date, excluding the ten trading days immediately prior to the event date.
Clustered standard errors are in parenthesis. *, ** and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 9 Difference in differences regression

	(1) Stock return
Alpha	0.055**
	(0.027)
Market return (S&P 1200)	0.628***
	(0.047)
21-22 Mar. 2018	0.122
	(0.390)
Treated firms=1	-0.004
	(0.021)
Treated firms=1 x 21-22 Mar. 2018	-0.978**
	(0.471)
Observations	83,490
Standard errors clustered on firm level	Yes
Standard errors clustered on trading days	Yes
Firms	345
Adj.-R2	0.042

Notes: The Table presents the results of the conditional market model: $R_{it} = \alpha_i + \beta_i R_{mt} + \gamma_i D_t + \rho_i T_i + \delta_i D_t T_i + e_{it}$. R_{it} is the return of firm *i* on day *t*. T_i is a dummy variable set equal to 1 for firms that are likely to fall under the scope of the digital tax proposal (group of treated firms), R_{mt} is the return of the market index *m* (S&P Global 1200) on day *t*. D_t is a dummy set equal to 1 in the two-day event window, and e_{it} is an error term. α_i provides an estimate for the alpha of an equally-weighted portfolio of all 222 treated firms and β_i is the estimate of the portfolio's market beta. Coefficients can be interpreted as in Table 6. In addition, ρ_i measures if the alpha of the control firm portfolio differs from the treated firm portfolio. δ_i is an estimate of the difference of the two-day *CAAR* between treated and control firms. The model is estimated using returns of 250 trading days before the event date, excluding the ten trading days immediately prior to the event date.
Clustered standard errors are in parenthesis. *, ** and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 10 Change in market value – two-day window starting on event date

	(1)	(2)
average abnormal return based on	firm-specific market model approach	firm-specific using control group as expected return
21-22 Mar 2018	-52,854	-85,394

Notes: Column (1) and (2) use firm-specific estimates to calculate the abnormal market value change. Column (1) uses the market value approach and column (2) estimates the abnormal return as the difference between actual return and average return of comparable non-affected firms. For both expected return estimation approach, the abnormal return is calculated at the level of each of the 222 treated stock-listed firms whose global consolidated revenue exceed 750 million euro and that are, based on their industry affiliation, likely affected by the EU digital tax proposal. Firms' market values are taken from EIKON in the local currency and converted to euro with the applicable exchange rate. Based on the individual abnormal return calculation, the market value changes are estimated over a two-day period, starting on the event date March 21, 2018. The combined market value change of all 222 affected firms represents the overall effect.
Market value changes are depicted in millions of euro.

ROBUSTNESS TESTS

Table 11 Alternative event dates

	(1) Stock return	(2) Stock return	(3) Stock return	(4) Stock return
Alpha	0.038*	0.045*	0.012	0.028
	(0.019)	(0.019)	(0.023)	(0.023)
Market return (S&P 1200)	0.732***	0.718***	0.787***	0.909***
	(0.054)	(0.050)	(0.047)	(0.044)
26-27 Feb. 2018	-0.148			
	(0.670)			
15-16 Mar. 2018		-0.300		
		(0.285)		
4-5 Dec. 2018			-0.017	
			(0.230)	
12-13 Mar. 2019				-1.275***
				(0.046)
Observations	53,692	53,716	52,734	52,320
Standard errors clustered on firm level	Yes	Yes	Yes	Yes
Standard errors clustered on trading days	Yes	Yes	Yes	Yes
Firms	222	222	222	222
Adj.-R2	0.058	0.057	0.102	0.120

Notes: The Table presents the results of the conditional market model: $R_{it} = \alpha_i + \beta_i R_{mt} + \gamma_i D_t + e_{it}$. R_{it} is the return of firm *i* on day *t* that is likely to fall under the scope of the digital tax proposal (group of treated firms), R_{mt} is the return of the market index *m* (S&P Global 1200) on day *t*. D_t is a dummy set equal to 1 in the two-day event window, and e_{it} is an error term. α_i provides an estimate for the alpha of an equally-weighted portfolio of all 222 treated firms and β_i is the estimate of the portfolio's market beta. The coefficient estimate of γ_i (and the corresponding standard error) is multiplied by two to account for the length of the two-day event window (Eckbo et al. 2007). γ_i can thus be interpreted as an estimate for the cumulative average abnormal return *CAAR* over the two-day event window. The model is estimated using returns of 250 trading days before the event date, excluding the ten trading days immediately prior to the event date.
Clustered standard errors are in parenthesis. *, ** and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 12 Cumulative average abnormal returns – alternative event study method

	(1)	(2)
Expected return estimation	market model	using control group as expected return
21-22 Mar. 2018	-0.690*	-0.986**
	(0.417)	(0.436)

Notes: This model estimates the cumulative average abnormal return (*CAAR*) in line with Kothari and Warner (2007). $CAAR(t_0, t_1) = \sum_{t=t_0}^{t=t_1} \left(\frac{1}{N} \sum_{i=1}^{i=N} AR_{it}\right)$. Daily abnormal returns AR_{it} are calculated as the difference between actual returns and expected returns $AR_{it} = R_{it} - R_{it}^{exp}$. We use two alternatives to estimate $R_{i,t}^{exp}$. First, we use parameters from the market model regression for each individual firm to estimate the expected return: $AR_{it} = R_{it} - (\hat{\alpha}_i + \hat{\beta}_i R_{mt})$. Second, we take the average return of a control group, firms operating in the similar industries but below the revenue size threshold, as the expected return: $AR_{it} = R_{it} - \frac{1}{N^{contr}} \sum_{j=n}^{N^{contr}} R_{jt}^{contr}$. The ratio of the *CAAR* and its estimated standard deviation ($\hat{s}$) provides – in the absence of abnormal returns – a normally distributed test statistic. The 222 treated firms are stock-listed firms whose global consolidated revenue exceeds 750 million euro and the firms operate in an industry that is likely to be affected by the EU digital tax proposal.
Standard errors are in parenthesis. *, ** and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 13 Value-weighted portfolio

	(1) Stock return
Alpha	0.036**
	(0.016)
Market return (S&P 1200)	0.473***
	(0.125)
21-22 Mar. 2018	-0.590***
	(0.159)
Observations	53,724
Standard errors clustered on firm level	Yes
Standard errors clustered on trading days	Yes
Firms	222
Adj.-R2	0.016

Notes: The Table presents the results of the conditional market model: $R_{it} = \alpha_i + \beta_i R_{mt} + \gamma_i D_t + e_{it}$. R_{it} is the value-weighted return of firm *i* on day *t* that is likely to fall under the scope of the digital tax proposal (group of treated firms), R_{mt} is the return of the market index *m* (S&P Global 1200) on day *t*. D_t is a dummy set equal to 1 in the two-day event window, and e_{it} is an error term. α_i provides an estimate for the alpha of an equally-weighted portfolio of all 222 treated firms and β_i is the estimate of the portfolio's market beta. The coefficient estimate of γ_i (and the corresponding standard error) is multiplied by two to account for the length of the two-day event window (Eckbo et al. 2007). γ_i can thus be interpreted as an estimate for the cumulative average abnormal return *CAAR* over the two-day event window. The model is estimated using returns of 250 trading days before the event date, excluding the ten trading days immediately prior to the event date.
Clustered standard errors are in parenthesis. *, ** and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 14 Daily abnormal returns

	(1) Stock return
Alpha	0.044**
	(0.019)
Market return (S&P 1200)	0.716***
	(0.049)
19 Mar. 2018	-0.420***
	(0.066)
20 Mar. 2018	0.167***
	(0.039)
21 Mar. 2018	-0.380***
	(0.044)
22 Mar. 2018	-0.310***
	(0.064)
23 Mar. 2018	-0.389***
	(0.105)
Observations	54,390
Standard errors clustered on firm level	Yes
Standard errors clustered on trading days	Yes
Firms	222
Adj.-R2	0.068

Notes: The Table presents the results of the conditional market model: $R_{it} = \alpha_i + \beta_i R_{mt} + \sum_{d=-2}^{d=2} \gamma_{di} D_{dt} + e_{it}$. R_{it} is the return of firm *i* on day *t* that is likely to fall under the scope of the digital tax proposal (group of treated firms), R_{mt} is the return of the market index *m* (S&P Global 1200) on day *t*. D_{dt} is a dummy set equal to 1 on the respective day, and e_{it} is an error term. α_i provides an estimate for the alpha of an equally-weighted portfolio of all 222 treated firms and β_i is the estimate of the portfolio's market beta. The coefficient estimate of $\gamma_i$can be interpreted as the daily abnormal return. The model is estimated using returns of 250 trading days before the event date, excluding the ten trading days immediately prior to the event date.
Clustered standard errors are in parenthesis. *, ** and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 15 Alternative event window length

	(1) Stock return
Alpha	0.044**
	(0.019)
Market return (S&P 1200)	0.718***
	(0.049)
20-22 Mar. 2018	-0.517
	(0.418)
Observations	53,946
Standard errors clustered on firm level	Yes
Standard errors clustered on trading days	Yes
Firms	222
Adj.-R2	0.062

Notes: The Table presents the results of the conditional market model: $R_{it} = \alpha_i + \beta_i R_{mt} + \gamma_i D_t + e_{it}$. R_{it} is the return of firm *i* on day *t* that is likely to fall under the scope of the digital tax proposal (group of treated firms), R_{mt} is the return of the market index *m* (S&P Global 1200) on day *t*, D_t is a dummy set equal to 1 in the two-day event window, and e_{it} is an error term. α_i provides an estimate for the alpha of an equally-weighted portfolio of all 222 treated firms and β_i is the estimate of the portfolio's market beta. The coefficient estimate of γ_i (and the corresponding standard error) is multiplied by three to account for the length of the three-day event window (Eckbo et al. 2007). γ_i can thus be interpreted as an estimate for the cumulative average abnormal return *CAAR* over the three-day event window. The model is estimated using returns of 250 trading days before the event date, excluding the ten trading days immediately prior to the event date.
Clustered standard errors are in parenthesis. *, ** and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 16 Alternative test statistics

	(1)	(2)
Expected return estimation	Market model	Average return of control group
Panel A: Additional parametric test statistics		
21-22 Mar 2018	-0.690	-0.986
Parametric test alternative	(-1.809)*	(-2.313)**
Corrado rank-sum test	(-2.438)*	(-1.861)*
Panel B: Frequency of negative abnormal returns		
Treatment group		
Abnormal return<0 (N)	144	
Abnormal return≥0 (N)	78	
Percent<0	64.9%	
Control group		
Abnormal return<0 (N)	63	
Abnormal return≥0 (N)	60	
Percent<0	51.2%	
Pearson's chi square Statistic (1 DOF)	6.140	
P-value (One-Tail)	0.013	

Notes: The 222 treated firms are stock-listed firms whose global consolidated revenue exceeds 750 million euro and the firms operate in an industry that is likely to be affected by the EU digital tax proposal. Panel A depicts additional parametric and non-parametric test statistics for the main results. The parametric test alternative is based on Kothari and Warner (2007) and is calculated as $t_{parametric\ 2} = \frac{CAAR(0,1)}{\sqrt{s^2(CAAR(d))}}$, with $s^2(CAAR(d))$ as the variance of cumulated average abnormal two-day returns in the estimation period. The Corrado rank-sum test is calculated as $z_{Rank} = \frac{\sum_{t=0}^{t=1} \frac{1}{242} \sum_{i=1}^{242} (k_{i,t} - E(k))}{\sqrt{d \times s^2(k)}}$, with $K_{i,t}$ denoting the rank of the abnormal return of firm i at day t in the time series. The expected rank $E(k)$ is one-half plus half the number of time-series days and d is the number of days. The test statistic is assumed to be distributed asymptotic standard normal. Panel B depicts the absolute number and frequency of negative (and positive) abnormal returns for the treatment and control group, for both different expected return estimation method, excluding the control group.
Test statistics are in parenthesis. *, ** and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

Table 17 Robustness results – non-winsorized returns

	(1) Stock return
Alpha	0.048**
	(0.021)
Market return (S&P 1200)	0.739***
	(0.052)
21-22 Mar. 2018	-0.740***
	(0.064)
Observations	53,724
Standard errors clustered on firm level	Yes
Standard errors clustered on trading days	Yes
Firms	222
Adj.-R2	0.048

Notes: The Table presents the results of the conditional market model: $R_{it} = \alpha_i + \beta_i R_{mt} + \gamma_i D_t + e_{it}$. R_{it} is the non-winsorized return of firm *i* on day *t* that is likely to fall under the scope of the digital tax proposal (group of treated firms), R_{mt} is the return of the market index *m* (S&P Global 1200) on day *t*. D_t is a dummy set equal to 1 in the two-day event window, and e_{it} is an error term. α_i provides an estimate for the alpha of an equally-weighted portfolio of all 222 treated firms and β_i is the estimate of the portfolio's market beta. The coefficient estimate of γ_i (and the corresponding standard error) is multiplied by two to account for the length of the two-day event window (Eckbo et al. 2007). γ_i can thus be interpreted as an estimate for the cumulative average abnormal return *CAAR* over the two-day event window. The model is estimated using returns of 250 trading days before the event date, excluding the ten trading days immediately prior to the event date.
Clustered standard errors are in parenthesis. *, ** and *** indicate statistical significance at the 10%, 5% and 1% level, respectively.

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Rainer Bräutigam/ Christopher Ludwig/ Christoph Spengel

STEUERLICHER REFORMBEDARF BEI SERVICE-PLATTFORMEN

EINE ANALYSE ANHAND DES DEUTSCHEN AIRBNB-MARKTES

Die Studie wurde im Rahmen des von der Leibniz Gemeinschaft geförderten Forschungsprojekts zur Besteuerung in der Ära der digitalen Transformation und des Mannheim Taxation Science Campus (MaTax) durchgeführt.

Leibniz Gemeinschaft

ZEW

INHALT

ZUSAMMENFASSUNG

Online-Plattformen wie Airbnb, die Anbietern eine Möglichkeit zur kurzfristigen Vermietung von Wohnungen oder Zimmern bieten, wurden in den vergangenen Jahren auch in Deutschland zunehmend beliebter. Die vorliegende Studie analysiert erstmals den deutschen Airbnb-Markt in 20 deutschen Großstädten und zeigt Reformoptionen für eine zutreffende Besteuerung der auf Service-Plattformen vollzogenen Transaktionen auf.

Anhand öffentlich verfügbarer Airbnb-Daten zu Art der angebotenen Unterkunft (Wohnung oder Zimmer), Preis pro Übernachtung, Ausstattung, Lage und Belegung in den Städten in einem beobachteten Zeitraum von drei Monaten lassen sich Hochrechnungen zu den Jahresumsätzen durchführen. Demnach werden auf der Plattform monatlich im Durchschnitt rund 57 Millionen Euro umgesetzt bei einem mittleren Übernachtungspreis von 55 Euro und durchschnittlich 20 vermieteten Nächten pro Monat. Der Jahresumsatz aller Airbnb-Unterkünfte in den 20 betrachteten Städten liegt somit etwa bei 683 Millionen Euro.

Die erhobenen Daten ermöglichen auch eine Schätzung des Steueraufkommens aus diesen Umsätzen für Zwecke der Einkommen- und Umsatzsteuer. Anbieter auf Airbnb erzielen grundsätzlich einkommensteuerpflichtige Einkünfte, können allerdings Werbungskosten wie z. B. für Einrichtung und Instandhaltung geltend machen. Bei einem angenommenen Grenzsteuersatz von 35 Prozent und Werbungskosten in Höhe von 50 Prozent der Umsätze, resultiert daraus insgesamt ein Steueraufkommen von rund 114 Millionen Euro. Für andere Grenzsteuer- und Werbungskostensätze ergeben sich stets zweistellige Millionenbeträge hinsichtlich des zu erwartenden Steueraufkommens. Auch umsatzsteuerliche Verpflichtungen können durch die Vermietung über Airbnb entstehen, insbesondere, wenn Umsätze von mehr als 17.500 Euro im Jahr erzielt werden. Dies trifft in den erhobenen Daten und anhand der vorgenommenen Hochrechnungen auf mehr als 40 Prozent der Anbieter zu.

Aufgrund der sehr kleinteiligen Anbieterstruktur, der starken Einbindung des Plattformbetreibers bei der Abwicklung der Transaktionen und der zunehmenden Bedeutung von Service-Plattformen sollten steuerliche Reformüberlegungen angestellt werden, um den Besteuerungsanspruch aus einkommen- und umsatzsteuerlicher Sicht sicherzustellen. So könnte im Rahmen der Einkommensteuer die Einführung einer neuen Abzugsteuer geprüft werden, die in ähnlicher Weise wie die Kapitalertragsteuer ausgestaltet ist. Bei der Umsatzsteuer könnte der Gesetzgeber kurzfristig den zum 1.1.2019 eingeführten Haftungstatbestand für Plattformbetreiber erweitern, der bisher nur bei Lieferungen von Waren einschlägig ist.

1. EINLEITUNG

Die fortwährende digitale Transformation ermöglichte in den letzten Jahren das Aufkommen neuer Geschäftsmodelle. Ein Beispiel ist die sogenannte „Sharing Economy“, die eine gemeinschaftliche Nutzung von Ressourcen vorsieht. Regelmäßig wird dies durch Online-Transaktionen realisiert, bei denen ein Plattformbetreiber eine Vermittlungsfunktion zwischen einem Anbieter und einem Endkunden einnimmt. Der Gegenstand dieser Transaktionen kann vielfältig sein und umfasst Lieferungen gebrauchter Gegenstände (z. B. über Ebay) wie auch taxiartige Beförderungsservices (z. B. über Uber). Die bekannteste Service-Plattform dürfte Airbnb.com sein, die Anbietern eine Möglichkeit zur kurzfristigen Vermietung von Wohnungen oder Zimmern bietet. Mittlerweile ist Airbnb auch in Deutschland sehr stark vertreten und stellt in manchen Städten eine Konkurrenz für das Hotelgewerbe dar.

Ein in der Öffentlichkeit bisher wenig diskutiertes Problem sind die steuerlichen Verpflichtungen, die sich für Anbieter auf Service-Plattformen wie Airbnb ergeben. Neben ertragsteuerlichen Konsequenzen können sich bei einer kurzfristigen Vermietung auch schnell umsatzsteuerliche Verpflichtungen ergeben. Die Plattformbetreiber verstehen sich selbst nur als Vermittler und sehen die Anbieter selbst in der Verantwortung, ihren steuerlichen Verpflichtungen nachzukommen. Gleichwohl werden grundsätzlich alle Zahlungen über die Plattformbetreiber abgewickelt.

Ziel dieser Studie ist es, die Struktur des Airbnb-Marktes in Deutschland genauer zu beleuchten und einen möglichen gesetzgeberischen Handlungsbedarf im Bereich der Einkommensteuer und Umsatzsteuer zu identifizieren. Dazu erfolgt erstmalig eine eingehende Analyse des deutschen Airbnb-Marktes anhand von 20 ausgewählten Städten, die auch Schätzungen zu steuerpflichtigen Umsätzen und dem daraus resultierenden Steueraufkommen auf Airbnb ermöglicht. Bei den steuerlichen Regelungen soll anhand von bestehenden und zum Jahr 2019 neu eingeführten Bestimmungen ein möglicher Reformbedarf aufgezeigt und Reformoptionen, die die Plattformbetreiber stärker in das Besteuerungsverfahren einbeziehen, vorgestellt werden.

Nach einer allgemeinen Analyse des Airbnb-Marktes in Deutschland (Punkt 2) werden die steuerlichen Regelungen beschrieben und aktuelle Reformvorhaben auf deutscher und europäischer Ebene eingeordnet (Punkt 3). Anschließend werden mögliche Reformvorschläge vorgestellt und Schätzungen hinsichtlich des Steueraufkommens vorgenommen (Punkt 4). Den Abschluss bildet ein kurzes Fazit (Punkt 5).

2. AIRBNB-MARKT

2.1. GESCHÄFTSMODELL DER SERVICE-PLATTFORMEN

Die 2008 gegründete Service-Plattform Airbnb ist die vermutlich bekannteste Vermittlungsplattform von privaten Unterkünften für temporäre Vermietungen (andere Anbieter sind beispielsweise 9flats.com oder Wimdu). Das Geschäftsmodell von Airbnb zielt darauf ab, eine Interaktionsmöglichkeit für Anbieter und Endkunden von privaten Kurzzeitunterkünften zu schaffen. Nach eigenen Angaben bietet Airbnb eine Technologie „um Millionen von Menschen auf der ganzen Welt wirtschaftlich zu

befähigen […] Unternehmer im Gastgewerbe zu werden“.[1] Die Plattform hat sich zu einem sehr beliebten Buchungsportal entwickelt und wird durch ihr breites Angebot (weltweit über 5 Millionen Unterkünfte in 81.000 Städten) und ihrer unkomplizierten Buchungsabwicklung zunehmend zu einer Konkurrenz für das traditionelle Hotelgewerbe. Die gestiegene Bedeutung von Plattformen wie Airbnb lässt sich auch daran erkennen, dass mittlerweile gewerbliche Anbieter ihre Unterkünfte auf der Plattform anbieten. Kritiker befürchten jedoch, dass reguläre Wohnungen nur noch für Kurzzeitvermietungen angeboten werden und sich daher die Wohnungsnot in Ballungszentren verschärft. Einzelne Städte wie z. B. Berlin und München haben daher bereits gesetzliche Beschränkungen für die kurzfristige Vermietung von Wohnungen erlassen.

Das Geschäftsmodell von Airbnb (sowie auch das anderer Service-Plattformen) folgt grundsätzlich dem in Abbildung 1 dargestellten vereinfachten Schema. Anbieter inserieren ihr Mietobjekt auf der Plattform. Potentielle Endkunden können das zu ihrem Wunschtermin verfügbare Angebot über die Plattform einsehen, die Objekte vergleichen und ein Objekt über das von der Plattform standardisierte Verfahren buchen.

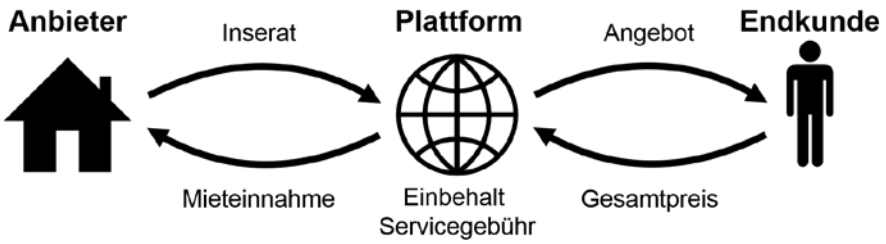

ABBILDUNG 1: SCHEMATISCHE FUNKTIONSWEISE VON SERVICE-PLATTFORMEN

Bei den meisten Plattformen sowie auch bei Airbnb zahlt der Endkunde den für den Aufenthalt fälligen Preis, der sich aus Mietpreis, Zusatzgebühren des Anbieters (z. B. Reinigungsgebühr) und den Plattform-Servicegebühren zusammensetzt, direkt an die Plattform. Nach Einbehalt der Servicegebühr wird der Auszahlungsbetrag von der Plattform an den Anbieter überwiesen.[2] Die Plattform steht somit als Intermediär zwischen dem Anbieter und dem Endkunden. Ein direkter Geldfluss zwischen Anbieter und Endkunde ist nicht vorhanden.

2.2. Analyse des deutschen Airbnb-Marktes

Trotz der zunehmenden Bedeutung des Airbnb-Marktes und von Service-Plattformen insgesamt fehlt es bisher an einer detaillierten Analyse des Marktes und der dortigen Anbieterstruktur. So liegen für den deutschen Airbnb-Markt bisher lediglich einzelne Schätzungen zur Zahl der Unterkünfte vor. Diese Lücke versucht die nachfolgende Analyse zu schließen, für die umfangreiche Informationen für alle über Airbnb angebotenen Unterkünfte in 20 deutschen Großstädten erhoben wurden.[3] Abgesehen von der Anzahl der Angebote und der Anbieter lassen sich durch Belegungspläne und Preise auch Umsatzschätzungen durchführen.

[1] https://press.airbnb.com/de/about-us/

[2] Im Falle von Airbnb wird die Zahlung 24 Stunden nach dem geplanten Check-In des Endkunden freigegeben.

[3] Die 20 ausgewählten Städte sind führend im Ranking der Städte ab 100.000 Einwohner bei Übernachtungen von Städtetouristen (siehe Statistisches Bundesamt, Statistisches Jahrbuch 2018, S. 627).

Für die Untersuchung wurden zunächst alle angebotenen Objekte, die in den betrachteten Städten zum 12.11.2018 verfügbar waren, erfasst.[4] Für diese Objekte wurden vorab detaillierte Informationen wie die Art des Objekts, Ausstattung und Lage erhoben. Im weiteren Verlauf wurden anhand öffentlich zugänglicher Informationen die Preis- und Belegungsdaten dieser Objekte für die Monate September bis November 2018 gesammelt.[5] Diese Quartalszahlen sollen dazu dienen, die Anbieterstruktur des deutschen Airbnb-Marktes zu analysieren und anhand von Hochrechnungen Schätzungen bezüglich der Jahresumsätze durchzuführen.

Tabelle 1 zeigt für die betrachteten 20 Städte die Anzahl der Unterkünfte sowie den mittleren Preis.[6]

Stadt	Anzahl der Objekte				Preis/Nacht (Median)
	Wohnungen	Zimmer	Summe	Prozent	
Berlin	5.493	5.165	10.658	26,10%	50,00 €
München	2.634	2.297	4.931	12,07%	79,00 €
Hamburg	2.962	1.804	4.766	11,67%	55,00 €
Köln	2.540	1.516	4.056	9,93%	58,00 €
Düsseldorf	1.997	766	2.763	6,77%	60,00 €
Hannover	1.499	1.024	2.523	6,18%	77,50 €
Leipzig	1.072	545	1.617	3,96%	40,00 €
Frankfurt	729	874	1.603	3,92%	55,00 €
Nürnberg	865	562	1.427	3,49%	55,00 €
Dresden	832	258	1.090	2,67%	49,00 €
Stuttgart	454	385	839	2,05%	50,00 €
Bremen	501	222	723	1,77%	45,00 €
Bonn	380	261	641	1,57%	49,00 €
Lübeck	513	117	630	1,54%	60,00 €
Freiburg	308	257	565	1,38%	48,00 €
Essen	380	153	533	1,31%	45,00 €
Heidelberg	333	148	481	1,18%	55,00 €
Mannheim	209	155	364	0,89%	40,00 €
Münster	178	147	325	0,80%	45,00 €
Rostock	229	77	306	0,75%	55,00 €
Gesamt	**24.108**	**16.733**	**40.841**	**100,00%**	**55,00 €**

TABELLE 1: AIRBNB-STRUKTUR IN 20 AUSGEWÄHLTEN DEUTSCHEN STÄDTEN (SEPTEMBER - NOVEMBER 2018)

[4] Die Daten wurden anhand einer strukturieren Datenabfrage erfasst, bereinigt und ausgewertet. Ähnliche Datenbestände stehen unter insideairbnb.com sowie airdna.co zur Verfügung.

[5] Die Untersuchung bezieht nur Objekte ein, für die über den gesamten Analysezeitraum Belegungs- und Preisdaten erhoben werden konnten. Nach dem Stichtag eingestellte Objekte wurden nicht einbezogen.

[6] Die Anzahl der Objekte umfasst Wohnungen sowie private Zimmer. Gemeinschaftszimmer werden in der Analyse nicht betrachtet, da sie nur einen vernachlässigbaren Anteil des Gesamtangebots darstellen. Der Median-Preis pro Stadt wird aus den bei uneingeschränkter Suche nach Unterkünften dargestellten regulären Nettomietpreisen ermittelt. Die für die Hochrechnungen notwendige Approximation der pro Monat gebuchten Nächte wird anhand des öffentlich einsehbaren Verfügbarkeitsplans geschätzt. Dabei wird berücksichtigt, dass Objekte auch ohne Buchungen als nicht verfügbar erscheinen können, wenn Anbieter diese beispielsweise selbst nutzen. Oft geht dies mit einer starken Abweichung des Tagespreises von den durchschnittlichen Preisen einher oder Objekte können nie zu dem an dem entsprechenden Tag veranschlagten Preis tatsächlich gebucht werden.

In den betrachteten deutschen Großstädten wurden im Zeitraum September bis November 2018 insgesamt über 40.000 Unterkünfte auf Airbnb angeboten, die im Schnitt Schlafmöglichkeiten für drei Personen anbieten. Mit über 10.500 Unterkünften (relativer Anteil 26,10%) führt Berlin die Rangliste der Städte mit den meisten Inseraten an. Mit deutlichem Abstand folgen München, Hamburg und Köln, wo jeweils weniger als die Hälfte der in Berlin verfügbaren Objekte angeboten werden. Die Zahl der Inserate pro Stadt sinkt relativ schnell deutlich ab. Bei der Hälfte der Städte liegt die Anzahl der Objekte bei unter 1.000. Während in Berlin das Verhältnis von kompletten Wohnungen zu einzelnen Zimmern fast ausgewogen ist, überwiegt in den meisten anderen Städten und in der gesamten Stichprobe der Anteil der kompletten Wohnungen (59,03%) an der Gesamtzahl der angebotenen Objekte.

Der mittlere Preis, den Anbieter für eine über Airbnb gebuchte Übernachtung in diesem Zeitraum verlangen, liegt in den betrachteten deutschen Städten bei 55 Euro (Median). Dieser Preis beinhaltet weder die für viele Inserate in Rechnung gestellte pauschale Reinigungsgebühr noch die fast immer zu zahlenden Service-Gebühren für Airbnb, die bis zu einer Höhe von 20 Prozent der vom Anbieter veranschlagten Buchungskosten betragen kann. Der mittlere Preis für einfache Übernachtungen schwankt von 40 Euro in Leipzig und Mannheim bis 79 Euro in München.

Neben der Struktur der Objekte lässt sich anhand der erfassten Daten auch ermitteln, wie viele Objekte ein einzelner Anbieter vermietet. Dazu werden die Objekte den bei Airbnb hinterlegten Profilen der Anbieter zugeordnet. Diese Untersuchung ist von Relevanz, da die Vermietung von mehr als einer Unterkunft auf eine unternehmerische Tätigkeit hinweisen könnte. Tabelle 2 zeigt die Objekte pro Anbieter sowie den zugehörigen Median-Preis auf.

Objekte pro Anbieter	Anzahl	Prozent	Preis/Nacht (Median)
1	27.319	86,66%	55,00 €
2	2.709	8,59%	52,00 €
3	725	2,30%	55,00 €
4	276	0,88%	60,00 €
mehr als 5	495	1,57%	67,00 €
Gesamt	**31.524**	**100,00**	**55,00€**

TABELLE 2: ANBIETERSTRUKTUR VON AIRBNB IN 20 AUSGEWÄHLTEN DEUTSCHEN STÄDTEN (SEPTEMBER - NOVEMBER 2018)

Die überwiegende Anzahl der Anbieter (86,66%) inseriert lediglich eine Unterkunft auf der Plattform. Bei diesen Anbietern ist es durchaus vorstellbar, dass sie grundsätzlich selbstgenutzte Unterkünfte in Zeiten, in denen diese verfügbar sind, anderen kurzzeitig über Airbnb vermieten. Allerdings gibt es auch einige Anbieter (insgesamt über 13%), die mehrere Unterkünfte anbieten. Vereinzelt sind mit einem Airbnb-Profil über 150 Unterkünfte verknüpft, sodass in diesen Fällen mit ziemlicher Sicherheit von einem gewerblich agierenden Unternehmen auszugehen ist. Zudem lässt sich feststellen, dass der mittlere Übernachtungspreis für Unterkünfte, die von Anbietern mit mehreren Inseraten angeboten werden, ansteigt. Der Aufpreis könnte, neben vielen anderen Faktoren, durch mehr Serviceangebote, bessere Ausstattungsstandards der Unterkünfte oder etwa sonstige zusätzliche Verwaltungskosten begründet sein. Zudem kann der Aufschlag auch durch eine unterschiedliche steuerliche Behandlung erfolgen, auf die im Folgenden verstärkt eingegangen wird.

3. STEUERLICHE REGELUNGEN

Die Analyse des deutschen Airbnb-Marktes hat gezeigt, dass manche Anbieter mehr als ein Objekt über Airbnb vermieten. Aus der Erzielung dieser Umsätze können sich für den Anbieter sowohl einkommen- wie auch umsatzsteuerliche Verpflichtungen ergeben, auf die im Folgenden genauer eingegangen wird. Dabei wird auch die Rolle des Plattformbetreibers näher erörtert.

3.1. EINKOMMENSTEUER

Einkünfte, die durch die Vermietung von Wohnungen über Plattformen wie Airbnb erzielt werden, unterliegen der Einkommensteuer. Es handelt sich um Einkünfte aus Vermietung und Verpachtung (§ 21 EStG), wobei zur Ermittlung der Bemessungsgrundlage von den erzielten Einnahmen die Werbungskosten abzuziehen sind. Werbungskosten können z. B. Aufwendungen für die Einrichtung und Instandhaltung der Unterkunft sein, sodass die steuerpflichtigen Einkünfte in der Regel geringer als die erzielten Einnahmen sind. Die erzielten Einkünfte unterliegen zusammen mit weiteren Einkünften dem progressiven Einkommensteuertarif. Mit Ausnahme einer Billigkeitsregelung der Finanzverwaltung, nach der von einer Besteuerung abgesehen wird, sofern die Einnahmen (also der erzielte Umsatz) weniger als 520 Euro pro Jahr betragen, gibt es hier keine höheren Freigrenzen, um einer Besteuerung zu entgehen.[7]

Derzeit ist allein der Anbieter für die Erfüllung seiner einkommensteuerlichen Pflichten verantwortlich, ohne dass der Plattformbetreiber involviert ist. Gesetzliche Änderungen sind dazu bisher nicht vorgesehen. Das Geschäftsmodell der Plattformbetreiber als Intermediäre weist allerdings eine hohe Ähnlichkeit zu anderen Konstellationen auf, bei denen der Staat diesen Intermediär zum Einbehalt und zur Abführung einer Steuer für den Steuerpflichtigen verpflichtet. Bekanntestes Beispiel für eine solche Verpflichtung zum Einbehalt und zur Abführung einer Steuer an der Quelle ist die Lohnsteuer, da dort der Arbeitgeber verpflichtet ist, für den Arbeitnehmer einen Steuerbetrag einzubehalten und direkt an den Fiskus abzuführen. Ein weiteres Beispiel ist die Kapitalertragsteuer (Abgeltungsteuer), die von Banken auf Dividenden, Zinsen und Veräußerungsgewinne einbehalten und abzuführen ist.

Die Einführung von solchen Abzugsteuern wird oftmals mit der vollständigen Erfassung und der Schließung von Besteuerungslücken begründet.[8] Darüber hinaus handelt es sich häufig um eine sehr große Anzahl an eher kleineren Zahlungen, die durch ein Massenverfahren und unter Einsatz einer hohen Automatisierung abgewickelt werden können. Auch dient diese Form der Besteuerung oftmals der Vereinfachung des Besteuerungsverfahrens, da es sich wie z. B. bei der Kapitalertragsteuer nicht nur um Vorauszahlungen handelt, sondern die Steuerschuld durch den Steuerabzug bereits abgegolten sein kann (Abgeltungsteuer). In dieser Differenzierung zwischen Vorauszahlung und Abgeltungswirkung ist ein entscheidendes Unterscheidungsmerkmal einer Abzugsteuer zu sehen.

[7] Vgl. R 21.2 Abs. 1 EStR. Siehe auch Kußmaul, H./Kloster, F., DStR 2016, S. 1280-1287.

[8] Vgl. dazu die Gesetzesbegründungen zur Kapitalertragsteuer (BT-Drucksache 16/4841, S. 32) oder auch zur Bauabzugsteuer (BT-Drucksache 14/7341, S. 6).

3.2. UMSATZSTEUER

3.2.1. GRUNDLAGEN

Der Anbieter einer Unterkunft tritt im Rahmen der kurzfristigen Vermietung als Unternehmer nach § 2 Abs. 1 UStG auf und ist daher umsatzsteuerpflichtig. Airbnb als Plattformbetreiber versteht sich selbst nur als Vermittler zwischen Anbieter und Kunde und weist daher auf seinen Seiten darauf hin, dass die Anbieter selbst dafür Sorge tragen müssen, ihre sämtlichen steuerlichen Pflichten zu erfüllen.[9]

Die Vermietung von Wohnräumen ist nach § 4 Nr. 12 UStG grundsätzlich von der Umsatzsteuer befreit. Dies gilt jedoch nicht, sofern eine „kurzfristige" Beherbergung vorliegt. Als kurzfristig wird in der Literatur und Rechtsprechung ein Zeitraum von weniger als sechs Monaten verstanden.[10] Seit 2010 wird für kurzfristige Beherbergungen anstelle des regulären Steuersatzes von 19% ein ermäßigter Mehrwertsteuersatz von 7% erhoben. Der ermäßigte Steuersatz bezieht sich ausschließlich auf die Übernachtung an sich und nicht auf andere, in Zusammenhang mit der Übernachtung angebotene Leistungen. Solche Zusatzleistungen (z. B. Frühstück), die auch von Anbietern auf elektronischen Plattformen als Zusatzleistungen angeboten werden, unterliegen dem regulären Steuersatz von 19%. Bei der Abgrenzung und Ermittlung der einzelnen Entgeltbestandteile kommt es oft zu Streitigkeiten zwischen Finanzverwaltung und Steuerpflichtigen.[11]

Die überaus große Mehrzahl der durch Service-Plattformen vermittelten Umsätze stellen somit umsatzsteuerpflichtige Vorgänge dar, durch die Umsatzsteuer vonseiten der Anbieter geschuldet wird. Eine relevante Ausnahme könnte für manchen Anbieter die Kleinunternehmerregelung nach § 19 UStG sein. Demnach wird die Umsatzsteuer nicht erhoben, sofern die Gesamtumsätze des vorangegangenen Kalenderjahres geringer als 17.500 Euro sind. Dieser Freibetrag reduziert sich anteilig, sofern eine Unterkunft nur in einem bestimmten Zeitraum eines Jahres angeboten wird (§ 19 Abs. 3 S. 2 UStG).

3.2.2. RELEVANTE NEUREGELUNGEN AB 2019

Die Sicherstellung der ordnungsgemäßen Besteuerung von Umsätzen, die auf elektronischem Weg direkt erbracht (z. B. E-Book) bzw. bestellt werden (z. B. Amazon), beschäftigt sowohl die Europäische Kommission als auch den deutschen Gesetzgeber seit längerer Zeit. So spielt z. B. die zutreffende Umsatzbesteuerung digitaler Geschäftsmodelle eine entscheidende Rolle im Mehrwertsteueraktionsplan der EU-Kommission. Mit Neuregelungen, die ab 2019 bzw. 2021 in Kraft treten, werden nun erstmals auch bestimmte Plattformbetreiber in die Besteuerung der auf ihren Plattformen erzielten Umsätze einbezogen.

<u>Neuregelung in Deutschland ab 2019</u>

Seit 2017 rückte in Deutschland verstärkt die Frage in den Fokus, ob Händler aus Staaten außerhalb der EU (sog. Drittstaaten), die ihre Waren über elektronische Plattformen anbieten, ihren umsatzsteuerlichen Verpflichtungen in Deutschland nachkommen.[12] Ergänzende Medienrecherchen im Frühjahr des Jahres 2018 ergaben z. B., dass lediglich ein Viertel aller chinesischen Anbieter auf

[9] Siehe https://www.airbnb.de/help/article/436/what-is-vat-and-how-does-it-apply-to-me.

[10] Vgl. z. B. Huschens, F., NWB 2010, S. 101 m.w.N. und BFH vom 27.10.1993, XI R 69/90. Diese Sichtweise wurde auch vom EuGH bestätigt. Vgl. EuGH vom 12.20.1998, C-346/95.

[11] Vgl. z. B. Seifert, M., StuB 2017, S. 29; Grambeck, H.-M., NWB 2018, S. 1514-1521.

[12] Vgl. https://www.tagesspiegel.de/wirtschaft/umsatzsteuerbetrug-amazon-und-ebay-sollen-haften/20657160.html.

Amazon eine deutsche Umsatzsteueridentifikationsnummer haben.[13] Auf Initiative der Bundesländer Baden-Württemberg und Hessen wurde daher die Einführung eines Haftungstatbestandes für Betreiber von elektronischen Marktplätzen beschlossen, der im Laufe des Jahres 2019 in Kraft tritt.[14]

Die Neuregelung gilt nur für elektronische Marktplätze, die anderen Anbietern den Verkauf von Waren ermöglichen. Nicht erfasst sind bisher elektronische Marktplätze wie Airbnb, die Dienstleistungen vermitteln. Durch die Neuregelung sind die Betreiber verpflichtet, einen umfangreichen Datenbestand, der zur Identifizierung der Steuerpflichtigen und ihrer getätigten Umsätze dient, vorzuhalten und bei Aufforderung der Finanzbehörde zu übermitteln (§ 22f UStG). Die Angaben, die zur Identifizierung des Anbieters dienen, müssen dabei durch eine vom Finanzamt ausgestellte Bescheinigung nachgewiesen werden.

Nach § 25e UStG haftet der Betreiber eines elektronischen Marktplatzes grundsätzlich für die nicht entrichtete Steuer aus Umsätzen, die auf seiner Plattform begründet wurden. Dieser Fall tritt jedoch dann nicht ein, wenn der Betreiber seinen Verpflichtungen nach § 22f UStG nachgekommen ist und die entsprechenden Bescheinigungen der Anbieter vorlegen kann. Diese Ausnahme wird jedoch dahingehend eingeschränkt, dass der Betreiber auch dann haften kann, wenn gewisse Anzeichen wie die Höhe der getätigten Umsätze klar für eine Steuerpflicht sprechen. Auch in weiteren Sonderfällen können sich Haftungstatbestände ergeben.

Insgesamt ist die zum 1.1.2019 eingeführte Neuregelung zu begrüßen. Trotz in der Literatur diskutierter Problematiken zur technischen Umsetzung der neuen Bestimmungen tragen die Gesetzesänderungen zu einer umsatzsteuerlichen Gleichbehandlung von Unternehmern in einem durch die Digitalisierung zunehmend fragmentierten Markt bei.[15]

Neuregelung auf Ebene der EU ab 2021

Auch auf Ebene der EU rücken Fragen nach der Besteuerung neuer Geschäftsmodelle im Zuge der voranschreitenden Digitalisierung verstärkt in den Fokus. Im Dezember 2017 wurde eine Änderung der Mehrwertsteuerrichtlinie beschlossen, die auf Betreiber elektronischer Marktplätze abzielt und mit Wirkung ab dem Jahr 2021 in nationales Recht umzusetzen ist.[16]

Die EU-weite Neuregelung verfolgt das Ziel, die Besteuerung aller Anbieter auf elektronischen Marktplätzen sicherzustellen. Das Konzept unterscheidet sich dabei grundsätzlich von der in Deutschland ab 2019 geltenden Regelung, indem eine Leistungskette zwischen Anbieter, Plattformbetreiber und Endkunde fingiert wird. Der Plattformbetreiber wird so behandelt, als hätte er selbst die Ware vom Anbieter erhalten und an den Endkunden geliefert. Durch diese Fiktion greifen beim Plattformbetreiber entsprechende umsatzsteuerliche Pflichten, die eine vollständige Besteuerung sicherstellen. Diese fiktive Leistungskette ist bereits seit 2015 für elektronische Dienstleistungen implementiert, sodass z. B. bei App Store-Betreibern diese Fiktion greift. Die vorgesehene Neuregelung gilt nur für grenzüberschreitende Lieferungen aus einem Drittland oder

[13] Siehe https://www.daserste.de/information/wirtschaft-boerse/plusminus/sendung/chinesische-haendler-amazon-100.html.

[14] Vgl. https://www.baden-wuerttemberg.de/de/service/presse/pressemitteilung/pid/bundesrat-stimmt-fuer-mehr-steuergerechtigkeit-beim-onlinehandel/.

[15] So auch Härtwig, Umsatzsteuer-Rundschau 2018, S. 782.

[16] Vgl. Richtlinie EU 2017/2455 vom 5. Dezember 2017.

innerhalb der EU, nicht jedoch für rein nationale Geschäftsbeziehungen. Zudem ist der Anwendungsbereich auf Lieferungen von Gegenständen über elektronische Marktplätze beschränkt.

Ergänzend sieht die beschlossene Richtlinie vor, dass elektronische Marktplätze jeglicher Art, also für Gegenstände und Dienstleistungen, Aufzeichnungen über die Anbieter und ihre Umsätze sammeln und den Finanzbehörden auf Verlangen zur Verfügung stellen. Ein Haftungstatbestand wie in Deutschland oder andere Sanktionen sind jedoch nicht vorgesehen.

3.3. Zwischenfazit

Die Erörterung der gesetzlichen Grundlagen der Einkommens- und Umsatzbesteuerung hat gezeigt, dass sich bei einer Vermietung über Airbnb zahlreiche steuerliche Fragestellungen ergeben können. Ein Blick in einschlägige online Foren zeigt, dass die Plattformbetreiber die Anbieter bisher weitgehend allein lassen und sich stets auf ihre Vermittlerfunktion berufen.

Bei der Einkommensteuer werden die Plattformbetreiber bisher nicht in die Sicherstellung des Besteuerungsanspruchs einbezogen wie dies in Deutschland in ähnlichen Konstellationen z. B. im Rahmen der Lohn- und der Kapitalertragsteuer geschieht. Aufgrund der sehr geringen Freigrenzen bei Einkünften aus Vermietung und Verpachtung dürften regelmäßig steuerpflichtige Einkünfte durch die Vermietung über Airbnb erzielt werden.

Umsatzsteuerlich werden Plattformbetreiber für Dienstleistungen bisher weder von den auf deutscher noch auf EU-Ebene beschlossenen gesetzlichen Neuregelungen tangiert, da sich diese ausschließlich auf die Lieferung von Waren oder grenzüberschreitende Sachverhalte konzentrieren. Die einzige Ausnahme stellt die Aufzeichnungspflicht über getätigte Umsätze für alle Plattformbetreiber ab dem Jahr 2021 dar.

4. Steuerliche Reformoptionen und Schätzung des Steueraufkommens durch Airbnb-Umsätze

Die in Punkt 2 vorgestellten Daten für die einzelnen Airbnb-Unterkünfte können für eine Quantifizierung der Jahresumsätze der Anbieter genutzt werden. Dadurch lässt sich analysieren, ob die in Punkt 3 aufgezeigten umsatz- und einkommensteuerlichen Verpflichtungen für die einzelnen Anbieter von Relevanz sind. Darauf aufbauend werden mögliche Reformoptionen vorgestellt, die durch eine stärkere Einbeziehung des Plattformbetreibers eine zutreffende einkommen- und umsatzsteuerliche Behandlung sicherstellen könnten. Abschließend erfolgen (unter Berücksichtigung dieser Reformvorschläge) Schätzungen zum Steueraufkommen aus Airbnb-Umsätzen in Deutschland.

4.1. Schätzung der Jahresumsätze auf Airbnb

Basierend auf den täglich beobachtbaren Übernachtungspreisen für die Monate September bis November 2018 und Informationen zur Verfügbarkeit der Unterkünfte lässt sich für diese drei Monate sehr genau der Mietumsatz pro Unterkunft ermitteln. Für die Berechnungen wird angenommen, dass ein Anbieter seine Unterkunft an Tagen, an denen sie nicht auf Airbnb gebucht werden kann,

vermietet.[17] Abbildung 2 zeigt den Gesamtumsatz aller erfassten Unterkünfte auf Airbnb für den betrachteten Zeitraum auf.

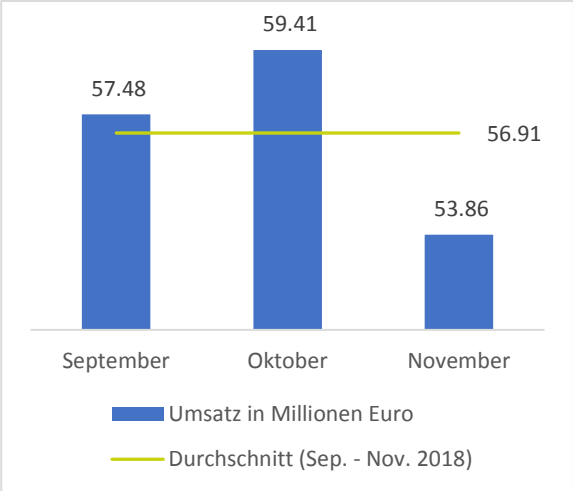

ABBILDUNG 2: GESCHÄTZTE UMSÄTZE AUF AIRBNB VON SEPTEMBER BIS NOVEMBER 2018

In dem Beobachtungszeitraum wurde pro Monat durchschnittlich ein Umsatz in Höhe von 56,91 Millionen Euro erzielt. Im Oktober 2018 war der über Airbnb generierte Umsatz am höchsten (59,41 Millionen Euro). Der hohe Mietumsatz könnte durch vermehrte Kurzurlaube über den bundesweiten Feiertag am 3. Oktober bedingt sein. Für November ergibt sich ein weitaus geringer Umsatz von lediglich 53,86 Millionen Euro.

Ausgehend von den Umsätzen in den drei Monaten, für die Daten erhoben wurden, lässt sich durch Hochrechnung der Jahresumsatz sowohl insgesamt als auch für einzelne Unterkünfte und Anbieter schätzen. Dieser Schätzung liegt die Annahme zugrunde, dass die Monate für das Gesamtjahr repräsentativ sind. Ausgehend von dem monatlichen Mittel von 56,91 Mio. Euro dürfte der Jahresumsatz aller Airbnb-Unterkünfte in den 20 betrachteten Städten daher bei 683 Millionen Euro liegen.[18]

4.2. Steuerliche Reformoptionen

Die vorangegangene Schätzung hat das hohe Potential des deutschen Airbnb-Marktes aufgezeigt. Dabei ist zu beachten, dass die ermittelten Umsätze nur einen Bruchteil des Gesamtumsatzes (eine Plattform, 20 Großstädte) ausmachen dürften. Zugleich berühren die gesetzlichen Regelungen bei der Einkommensteuer und der Umsatzsteuer Plattformbetreiber für Dienstleistungen bisher nicht, da es gänzlich an gesetzlichen Regelungen fehlt (Einkommensteuer) bzw. sie von den Regelungen nicht erfasst werden (Umsatzsteuer). Die Einführung von solch neuen Verpflichtungen sollte insbesondere aufgrund der hohen Bedeutung des Plattformbetreibers bei der Abwicklung der Zahlungen in Betracht

[17] Für die Schätzung der Umsätze werden öffentlich verfügbare, tagesspezifische Mietpreise herangezogen. Anhand des öffentlich einsehbaren Verfügbarkeitsplans ist eine Differenzierung zwischen tatsächlich gebuchten Nächten und vom Anbieter deaktivierten Zeiträumen grundsätzlich nicht möglich. Durch verschiedene Plausibilitätsprüfungen (außergewöhnlich hohe Preisabweichungen, Dauer der Mietzeiträume) wurde versucht, diesem Umstand Rechnung zu tragen.

[18] Wenn Umsätze von Objekten, die an allen Nächten im Monat nicht verfügbar sind, aus den Hochrechnungen exkludiert werden, ergibt sich ein geschätzter Jahresumsatz von 403 Millionen Euro.

gezogen werden. Nachfolgend werden Reformoptionen für die Einkommen- und Umsatzsteuer in Deutschland erörtert.

4.2.1. EINKOMMENSTEUER

Das Geschäftsmodell inklusive der Zahlungsabwicklung über Airbnb weist eine hohe Ähnlichkeit zu Tatbeständen auf, bei denen der deutsche Gesetzgeber schon bisher einen Intermediär zum Einbehalt und Abführung der Steuer verpflichtet. Aufgrund der hohen Anzahl an Zahlungen und des hohen Automatisierungsgrads wird daher im Folgenden insbesondere die Einführung einer Abzugsteuer geprüft. Dass eine solche Abzugsteuer von elektronischen Plattformbetreibern erhoben und abgeführt werden kann, zeigt sich an gemeindespezifischen Beherbergungsabgaben, die wie etwa in Frankfurt direkt von den Plattformbetreibern erhoben und abgeführt werden.

Als Reformoption könnte sich die Einführung eines neuen Abzugstatbestandes in Analogie zur Kapitalertragsteuer (§ 43 EStG) anbieten. Diese Abzugsteuer würde sich auf die Einkünfte aus Vermietung und Verpachtung (§ 21 EStG) beziehen und es wären ergänzende Definitionen wie z. B. die des elektronischen Plattformbetreibers erforderlich. Diese könnten jedoch dem neu eingeführten Haftungstatbestand des Umsatzsteuergesetzes entnommen werden.

Hinsichtlich der Höhe des Steuersatzes müssten die bei Vermietung und Verpachtung im Gegensatz zu Einkünften aus Kapitalvermögen materiell bedeutenderen Werbungskosten berücksichtigt werden. Durch einen entsprechend niedrigeren Steuersatz würden auch im Vergleich zu Kapitaleinkünften höhere Werbungskosten bei Vermietungseinkünften pauschaliert berücksichtigt.[19] Alternativ könnte der Steuerabzug nicht als Abgeltungsteuer, sondern nur wie eine Vorauszahlung ausgestaltet sein, die dann im Rahmen der Veranlagung angerechnet wird.[20]

Als weitere Alternative könnte eine verbindliche Informations- und Übermittlungspflicht der Plattformbetreiber an die zuständigen Finanzbehörden vorgesehen werden. Eine ähnliche Regelung gibt es bereits in Dänemark und als Vorbild könnte auch die Neuregelung im Rahmen der Umsatzsteuer dienen. Dazu müssten die Plattformbetreiber eindeutige Identifikationsmerkmale wie die steuerliche Identifikationsnummer des Anbieters (§ 139a AO) verpflichtend erheben.

4.2.2. UMSATZSTEUER

Die in Deutschland eingeführte Haftung von Plattformbetreibern für die Umsatzsteuer gilt einerseits generell für alle Transaktionen (national und grenzüberschreitend), jedoch nur für die Lieferungen von Waren. Als kurzfristige Reformoption würde es sich daher anbieten, den Anwendungsbereich der neu eingeführten §§ 22f, 25e UStG auf Plattformbetreiber für sonstige Leistungen zu erweitern. Diese Plattformbetreiber und ihre voraussichtlich stetig steigende Relevanz wurden in den parlamentarischen Debatten zu der nun erfolgten Neuregelung nicht diskutiert. Mit dieser Erweiterung wären die Plattformbetreiber verpflichtet, Daten zur Identifizierung der Anbieter vorzuhalten. Auch hätten die Betreiber ein Eigeninteresse an der sachgerechten Besteuerung, um einer möglichen Haftung zu entgehen.

[19] Für einen angenommenen Spitzensatz von 45% bei der Einkommensteuer würde ein abgeltender Steuertarif von 22,5% einer pauschalierten Berücksichtigung der Werbungskosten von 50% entsprechen. Bei Annahme durchschnittlich niedriger Grenzsteuersätze und höherer Werbungskosten wäre ein entsprechend niedriger Steuersatz zweckmäßig. Eine pauschale Berücksichtigung von Werbungskosten bei Einkünften aus Vermietung und Verpachtung gab es bereits Mitte der 1990er Jahre. Vgl. BT-Drucksache 13/901, S. 126.

[20] Diese Vorgehensweise wird z. B. im Rahmen der Bauabzugsteuer (§ 48 EStG) angewandt.

Bisher ist noch nicht abzusehen, wie die neue deutsche Haftungsregelung mit den ab 2021 geltenden Bestimmungen im elektronischen Versandhandel innerhalb der EU harmoniert. Die Bildung einer fiktiven Leistungskette zwischen Anbieter, Plattformbetreiber und Endkunde könnte in analoger Weise auf die Plattformbetreiber von sonstigen Leistungen übertragen werden. Diese langfristige Lösung sollte dann allerdings nicht nur im grenzüberschreitenden Bereich, sondern auch bei nationalen Fällen Anwendung finden, um eine sachgerechte Besteuerung zu gewährleisten. Eine solche Lösung mittels einer fiktiven Leistungskette ist z. B. bereits heute im Rahmen der Dienstleistungskommission vorgesehen. Die zusätzlich ab 2021 vorgesehene verpflichtende Erhebung von Daten durch jegliche Plattformbetreiber ist bisher zu unbestimmt.

Zudem ist zu überlegen, inwieweit die Kleinunternehmerregelung für kurzfristige Beherbergungsleistungen, die über Plattformen vermittelt werden, weiterhin Anwendung findet. Die Kleinunternehmerregelung besteht bereits seit dem Jahr 1967 und wurde vor allem mit der schwierigen Datenerhebung begründet.[21] Diese Begründung ist angesichts des technologischen Fortschritts und zunehmender Digitalisierung heutzutage nicht mehr stichhaltig.

4.3. Schätzungen zum Steueraufkommen

Ausgehend von dem geschätzten Jahresumsatz von 683 Millionen Euro[22] in den betrachteten 20 Städten lassen sich vereinfachte Schätzungen hinsichtlich des Aufkommens aus der Einkommen- und Umsatzsteuer aus über Airbnb angebotenen Unterkünfte in Deutschland durchführen.

4.3.1. Einkommensteuer

Den geschätzten Einnahmen aus der Vermietung von Wohnraum stehen grundsätzlich – für jeden Steuerpflichtigen in unterschiedlicher Höhe – abziehbare Werbungskosten gegenüber. In Tabelle 3 erfolgt daher eine vereinfachte Schätzung des Steueraufkommens unter Berücksichtigung eines von

Progressive Einkommensteuer (aktuelles System)			
	Grenzsteuersatz		
Werbungskosten in Prozent des Umsatzes (netto 650 Mio. Euro)	**25%**	**35%**	**45%**
50% (325 Mio. Euro)	81,27 Mio. Euro	113,78 Mio. Euro	146,29 Mio. Euro
60% (390 Mio. Euro)	65,02 Mio. Euro	91,03 Mio. Euro	117,03 Mio. Euro
70% (455 Mio. Euro)	48,76 Mio. Euro	68,27 Mio. Euro	87,77 Mio. Euro
80% (520 Mio. Euro)	32,51 Mio. Euro	45,51 Mio. Euro	58,52 Mio. Euro
90% (585 Mio. Euro)	16,25 Mio. Euro	22,76 Mio. Euro	29,26 Mio. Euro
100% (650 Mio. Euro)	0,00 Mio. Euro	0,00 Mio. Euro	0,00 Mio. Euro
Pauschale Abgeltungsteuer (Reformvorschlag)			
	Steuersatz		
	10%	**15%**	**20%**
Steueraufkommen	65,02 Mio. Euro	97,53 Mio. Euro	130,04 Mio. Euro

TABELLE 3: GESCHÄTZTES STEUERAUFKOMMEN IN MILLIONEN EURO FÜR ALTERNATIVE BESTEUERUNGSMODELLE

[21] Vgl. BT-Drucksache V/1581 S.3.

[22] Unter Berücksichtigung von umsatzsteuerpflichtigen Umsätzen (>17.500 Euro pro Anbieter) entspricht dies geschätzten Nettogesamteinnahmen der Anbieter in Höhe von ca. 650 Millionen Euro. Siehe auch Tabelle 4.

den Einnahmen abhängigen Prozentsatzes an Werbungskosten und verschiedener Grenzsteuersätze.[23] Diese Schätzung würde der momentanen gesetzlichen Regelung entsprechen. Zusätzlich werden noch die Aufkommenswirkungen der in Kapitel 4.2.1. vorgeschlagenen Abzugsteuer aufgezeigt.

In der aggregierten Betrachtung ergeben sich aus dem geschätzten Jahresgesamtumsatz und unter Annahme von Werbungskosten in Höhe von 70 Prozent der Umsätze bei einem Grenzsteuersatzes von 45 Prozent beispielsweise Einkommensteuerverpflichtungen von über 87 Millionen Euro. Bei höheren angenommenen Werbungskostensätzen wie z. B. 90% sinkt das Steueraufkommen erheblich ab, bewegt sich aber immer noch durchgängig in einem zweistelligen Millionenbereich. Dies gilt für alle betrachteten Grenzsteuersätze.

Würde man alternativ das Modell einer Abzugsteuer (mit Abgeltungswirkung) realisieren, würde sich tendenziell ein höheres Steueraufkommen ergeben. So würde sich bei einem Steuersatz von 10 Prozent ein Steueraufkommen von knapp 65,02 Millionen Euro ergeben. Dieser Betrag würde zugleich der progressiven Besteuerung unter Annahme eines Grenzsteuersatzes von 25 Prozent und Werbungskosten in Höhe von 60 Prozent der Umsätze entsprechen.

4.3.2. UMSATZSTEUER

Anhand der Datenbasis lässt sich für umsatzsteuerliche Zwecke der durchschnittliche Jahresumsatz für einzelne Objekte schätzen und in Bezug zu steuerlichen Freigrenzen setzen. Bei einem mittleren Übernachtungspreis von 55 Euro und bei durchschnittlich 20 vermieteten Nächten pro Monat ergibt sich ein mittlerer Jahresumsatz von etwa 13.200 Euro. Bei Betrachtung der Umsatzverteilung fällt auf, dass der geschätzte jährliche Umsatz von etwa 60 Prozent der über Airbnb vermieteten Objekte unter dem zur Anwendung der Kleinunternehmerregelung relevanten Grenzwert von 17.500 Euro liegt.

Maßgeblich für die umsatzsteuerliche Freigrenze sind allerdings nicht die pro Mietobjekt erwirtschafteten Umsätze, sondern die gesamten Umsätze des Steuerpflichtigen. Für diese Beurteilung ist daher nicht der Umsatz pro Objekt, sondern der Umsatz pro Anbieter relevant. Insbesondere Anbieter mit mehreren Airbnb-Objekten könnten die Freigrenze der Kleinunternehmerregelung übertreffen und müssten dann Umsatzsteuer einbehalten und abführen.

Basierend auf den erhobenen Daten ergibt sich ein geschätzter jährlicher Umsatz von über 14.500 Euro für Airbnb-Anbieter, sodass dies noch unter die Kleinunternehmerregelung fällt. Für eine genauere Analyse wird in Abbildung 3 die hochgerechnete Umsatzverteilung aller erfassten Anbieter dargestellt.

[23] Beispiel zur Erläuterung der Tabelle 3: Bei Nettogesamteinnahmen von 650 Mio. Euro und einem Werbungskostensatz von 50% (325 Mio. Euro) ergibt sich eine Bemessungsgrundlage von 325 Mio. Euro. Multipliziert mit dem jeweiligen Grenzsteuersatz von 25%, 35% bzw. 45% resultiert daraus die Schätzung des Steueraufkommens von 81,27 Mio. Euro, 113,78 Mio. Euro bzw. 146,29 Mio. Euro.

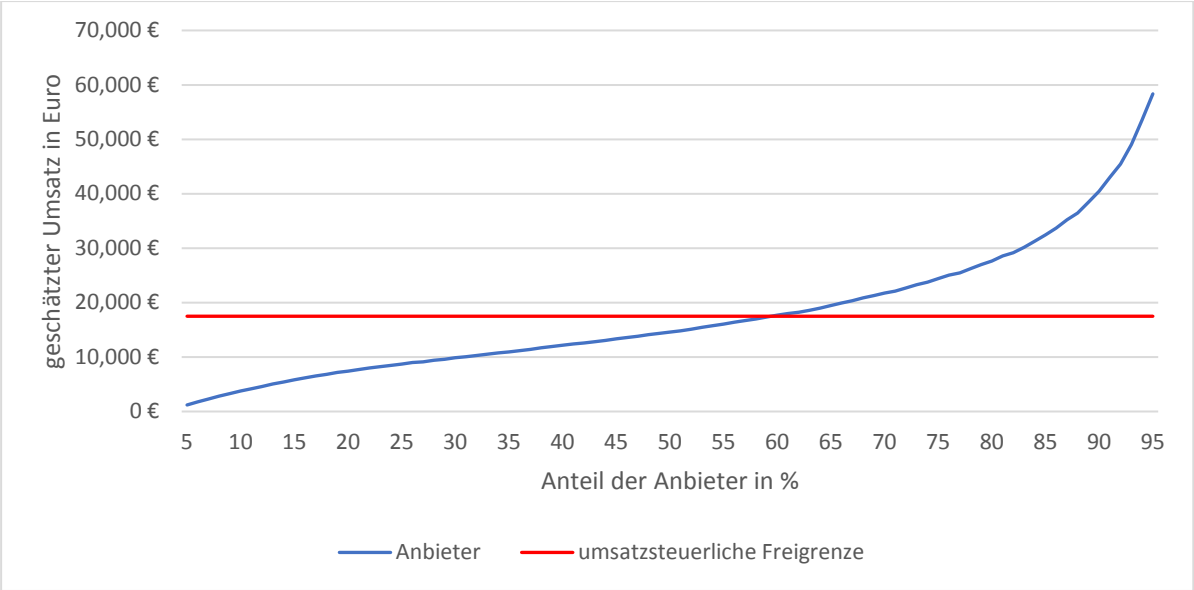

ABBILDUNG 3: AIRBNB-ANBIETERSTRUKTUR UND UMSATZSTEUERLICHE FREIGRENZE

Anhand Abbildung 3 wird deutlich, dass über 40 Prozent der Anbieter Umsätze von mehr als 17.500 Euro erzielen, die damit (teilweise deutlich) über der umsatzsteuerlichen Freigrenze liegen.[24] Diese Anbieter generieren etwa 73 Prozent des gesamten Mietumsatzes der über die Plattform Airbnb abgewickelt wird (hochgerechneter Jahresumsatz ca. 497 Millionen Euro).[25] In diesen Schätzungen werden zusätzliche Serviceumsätze der Anbieter wie beispielsweise Reinigungsgebühren nicht berücksichtigt. Die genannten Zahlen beziehen sich allein auf die Zimmermiete.

Ausgehend von den geschätzten Jahresumsätzen der umsatzsteuerpflichtigen Anbieter lässt sich zusätzlich das mögliche Steueraufkommen errechnen. Dazu wird die Umsatzsteuer aus den jeweils bei Airbnb erhobenen Preisen herausgerechnet. Tabelle 4 stellt die geschätzten Umsatzsteuervolumina für verschiedene Szenarien dar.

Umsatzsteuervolumina in Millionen Euro		
	Umsatz der Anbieter	
	Alle Umsätze	**Nur Umsätze > 17.500 Euro**
Steuersatz	682,98 Mio. Euro	496,75 Mio. Euro
7%	44,68 Mio. Euro	32,50 Mio. Euro
19%	121,28 Mio. Euro	88,21 Mio. Euro

TABELLE 4: GESCHÄTZTE UMSATZSTEUERVOLUMINA IN ABHÄNGIGKEIT DER STEUERSÄTZE UND KLEINUNTERNEHMERREGELUNG

Die zu erwartende Umsatzsteuer aus den Airbnb Mietumsätzen würde bei dem aktuell geltenden Umsatzsteuersatz von 7 Prozent und unter Beachtung der Kleinunternehmerregelung etwa 32 Millionen Euro betragen.[26] Würde von der fraglichen und oftmals strittigen Begünstigung für

[24] In der Hochrechnung wird die anteilige Reduktion der Freigrenze bei nur unterjähriger Vermietung nicht berücksichtigt, da dies nicht quantifiziert werden kann.

[25] Wenn Umsätze von Objekten, die an allen Nächten im Monat nicht verfügbar sind, aus den Hochrechnungen exkludiert werden, ergibt sich ein geschätzter Jahresumsatz von 243 Millionen Euro (relativ 60,30% des Gesamtjahresumsatzes) für Anbieter mit Umsätzen über der Kleinunternehmerregelung.

[26] In diesen Hochrechnungen wird der grundsätzlich durch Vorleistungen mögliche Vorsteuerabzug nicht berücksichtigt, da dieser nicht quantifiziert werden kann.

Beherbergungsumsätze abgesehen und der reguläre Umsatzsteuersatz von 19 Prozent zur Anwendung kommen, müsste (sofern alle Anbieter ihren steuerlichen Verpflichtungen nachkommen) ein Umsatzsteuervolumen von knapp 88 Millionen Euro erzielt werden. Im Falle der oben angesprochenen Nichtanwendung der Kleinunternehmerregelung für Einkünfte aus Vermietungen über Service-Plattformen sind entsprechend höhere Volumina von ca. 45 Millionen Euro (7% USt-Satz) bzw. 121 Millionen Euro (19% USt-Satz) zu erwarten.

5. FAZIT

Die Studie weist auf die steigende Bedeutung der in bisherigen Debatten oft vernachlässigten einkommen- und umsatzsteuerlich relevanten Transaktionen über Service-Plattformen wie Airbnb hin. Bei einem unter Berücksichtigung öffentlich verfügbarer Informationen geschätzten Umsatzvolumen von 683 Millionen Euro im Jahr 2018, das sich nur auf Airbnb-Angebote in 20 deutschen Städten bezieht, und der sehr kleinteiligen Anbieterstruktur scheint es dringend geboten, Plattformbetreiber wie Airbnb sowohl einkommen- wie auch umsatzsteuerlich stärker in die Verantwortung zu nehmen.

Im Bereich der Einkommensteuer dürften von nahezu allen Anbietern steuerpflichtige Einkünfte aus Vermietung und Verpachtung erzielt werden. Die Stellung des Plattformbetreibers als Intermediär weist eine hohe Ähnlichkeit zu anderen Konstellationen auf, bei denen der Besteuerungsanspruch durch einen Steuerabzug sichergestellt wird. Daher könnte die Einführung einer neuen Abzugsteuer angedacht werden. Alternativ könnte eine verbindliche Informationspflicht der Plattformbetreiber an die Finanzbehörden eingeführt werden.

Die bisher vorgenommenen Umsatzsteuerreformen in Deutschland und auf Ebene der EU erfassen bisher nur Plattformbetreiber für Lieferungen. Hier wäre es erforderlich, die entsprechenden Regelungen auch auf Plattformbetreiber von sonstigen Leistungen auszuweiten. Dies dient einerseits dazu, eine ordnungsgemäße Besteuerung sicherzustellen, und würde andererseits auch Besteuerungsgleichheit mit traditionellen Branchen wie dem Hotelgewerbe herstellen, die gerade im Bereich der Umsatzsteuer eine erhebliche Komplexität zu bewältigen haben. Zudem erscheint die Ungleichbehandlung von Online-Plattformen nur aufgrund der Art der Vermittlungen (Lieferungen vs. sonstige Leistungen) grundsätzlich nicht gerechtfertigt. Kurzfristig könnte dazu auf nationaler Ebene die Erweiterung des zum 1.1.2019 eingeführten Haftungstatbestands nach §§ 22f, 25e UStG geprüft werden.

Die durchgeführten Aufkommensschätzungen haben den Reformbedarf zusätzlich verdeutlicht. So würde die Einführung einer abgeltenden Einkommensteuer auf Einkünfte über Service-Plattformen bei einem Steuersatz von 10% zu einem Steueraufkommen von 65 Millionen Euro führen. Auch das Umsatzsteuervolumen unter Berücksichtigung der aktuellen gesetzlichen Regelung ist mit einer Höhe von 32,5 Millionen Euro alleine in den 20 untersuchten Großstädten beträchtlich. Insgesamt wäre eine wettbewerbsgerechte Besteuerung auch ohne wesentlichen Mehraufwand für Service-Plattformen umsetzbar, da die Zahlungen komplett über die Plattformbetreiber abgewickelt werden und die Plattformbetreiber bereits heute über eine Vielzahl von Informationen über ihre Anbieter verfügen dürften.

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ZEW policy brief

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Die OECD-Vorschläge für eine weltweite Reform der Unternehmensbesteuerung – eine Wende zum Schlechten?

Gefahr einer überzogenen Reform der Unternehmensbesteuerung

Die fortschreitende Digitalisierung führt zu neuen Formen der Wertschöpfung. Dies stellt das bestehende System der globalen Unternehmensbesteuerung vor große Herausforderungen. Die OECD diskutiert jedoch derzeit nicht über eine gezielte Anpassung dieses Systems, sondern schlägt eine tiefgreifende und potenziell zu weit gehende Reform der weltweiten Besteuerung von Unternehmen vor, die auf zwei Säulen basiert.

Die erste Säule sieht einen sogenannten „Unified Approach" vor mit dem Ziel, die Besteuerungsrechte zwischen Ländern neu zu verteilen. So sollen die Marktstaaten, in denen vor allem die Nutzer von Produkten und Leistungen sitzen, stärker als bisher am Steueraufkommen beteiligt werden. Dafür sollen die weltweiten, konsolidierten Unternehmensgewinne in Routine- und Residualgewinne aufgeteilt werden. Routinegewinne entsprechen den unternehmensspezifischen Kapitalkosten, Residualgewinne der Differenz zwischen konsolidierten Unternehmensgewinnen und den Routinegewinnen. Routinegewinne sollen entsprechend dem geltenden Verrechnungspreissystem auf die einzelnen Länder verteilt werden (Amount B). Ein Teil des Residualgewinns wird, proportional zur Höhe der entsprechenden Umsätze, auf alle Länder verteilt, in denen das Unternehmen Einnahmen erzielt (Amount A). Der verbleibende Rest des Residualgewinns wird nach der bestehenden Transferpreissystematik aufgeteilt (Amount C). Marktstaaten Besteuerungsrechte auf einen willkürlich gewählten Anteil an den Unternehmengewinnen einzuräumen – auch

ALTERNATIVVORSCHLAG //

Die Reform sollte sich auf die indirekten Steuern konzentrieren

Als Alternative zu den Vorschlägen der OECD empfehlen wir, bei den indirekten Steuern anzusetzen, um höhere Steuereinnahmen in den Ländern zu generieren, in denen die Nachfrager von Produkten und Dienstleistungen sitzen. Die konsequente Erhebung von Mehrwertsteuern auf digitale Dienstleistungen, auf Geschäfte in der Sharing Economy und auf nicht-monetäre Transaktionen ist eine vielversprechende Lösung für einige der größten Steuerprobleme im Zeitalter der Digitalisierung. Der effiziente Einsatz bestehender Steuersysteme verhindert eine Ausweitung der Komplexität und der administrativen Kosten für Unternehmen und Finanzverwaltungen, bei gleichzeitiger Gewährleistung von Steuereinnahmen in Marktstaaten.

ohne eine Niederlassung oder Betriebsstätte in den entsprechenden Ländern – ist überzogen und erhöht sowohl die Steuerkomplexität als auch den Verwaltungsaufwand.
Die zweite Säule zielt auf die globale Bekämpfung der Gewinnreduzierung durch Aushöhlung der Besteuerungsgrundlagen („Global Anti-Base Erosion", kurz GloBE). Mit ihr soll den verbleibenden Risiken einer Gewinnverlagerung durch die Unternehmen entgegengewirkt werden, indem eine koordinierte globale Mindeststeuer und ein weitreichendes Abzugsverbot für grenzüberschreitende Transaktionen eingeführt werden. Die bestehenden Regelungen zur Hinzurechnungsbesteuerung gewährleisten jedoch bereits das Besteuerungsrecht von Sitzländern. Zudem gibt es in vielen Ländern bereits Abzugsbeschränkungen beispielsweise für die steuerliche Absetzbarkeit von Zins- und Lizenzgebühren. Die jetzt ins Auge gefasste Ausweitung der Besteuerung erhöht das Risiko einer Doppelbesteuerung erheblich.

HERAUSFORDERUNGEN FÜR DIE BESTEUERUNG IM ZEITALTER DER DIGITALISIERUNG

Digitalisierung erhöht den Druck auf die globale Unternehmensbesteuerung

Die zunehmende Digitalisierung unserer Wirtschaft stellt für bestehende Geschäftsmodelle die größte Zäsur seit der industriellen Revolution dar. Wissenschaftler und supranationale Organisationen sind allgemein zuversichtlich in Bezug auf die positiven Auswirkungen der digitalen Transformation für die Gesellschaft, den Wohlstand und die innovativen Entwicklungen. Die digitale Revolution bringt jedoch auch erhebliche Herausforderungen für das bestehende globale System der Unternehmensbesteuerung mit sich. Die Debatte über diese Herausforderungen und mögliche Reformen hat aufgrund der jüngst von der Organisation für wirtschaftliche Zusammenarbeit und Entwicklung (OECD) vorgelegten Reformvorschläge sehr an Dynamik gewonnen. In ihrem 2018 veröffentlichten Zwischenbericht „The Tax Challenges Arising from Digitalisation" hat die OECD drei große Herausforderungen aufgrund der Digitalisierung erneut hervorgehoben: (i) den Ort der Besteuerung, (ii) die Bepreisung von Daten und deren Nutzung und (iii) die Bewertung von Zahlungen, die auf neue digitale Geschäftsmodelle zurückzuführen sind. Der Zwischenbericht enthält keine empirische Bewertung der Frage, ob digitale Unternehmen tatsächlich steuerlich aggressiver handeln als weniger digitale Unternehmen. Neben anderen Wissenschaftlern haben Olbert und Spengel (2017) sowie Ludwig et al. (2019) wichtige Spannungsfelder für die Besteuerung digitaler Unternehmen identifiziert und gezielte Anpassungen des aktuellen Systems der Unternehmensbesteuerung empfohlen, um die Besteuerung von Gewinnen besser an den neuen Formen von Wertschöpfung auszurichten. Anfang 2019 schlug die OECD dann zur Bewältigung der steuerlichen Herausforderungen im digitalen Zeitalter eine Zwei-Säulen-Strategie vor. Zum einen geht es dabei um die Neuverteilung der Besteuerungsrechte zwischen den Staaten sowie um die Festlegung von Regeln, an welchen Stellen die Besteuerung anknüpfen soll (erste Säule). Zum anderen wird eine globale Mindeststeuer vorgeschlagen, die über die Reformen im Zusammenhang mit der Digitalisierung der Wirtschaft klar hinausgeht und eine grundlegende Änderung des globalen Systems der Unternehmensbesteuerung darstellt (zweite Säule).

DIE ZWEI-SÄULEN-STRATEGIE DER OECD

Erste Säule – Der „Unified Approach"

Die OECD hat in ihrem öffentlichen Konsultationspapier einen neuen „Unified Approach" erarbeitet. Dieser umfasst die Einführung einer neuen Gewinnallokationsregelung zwischen den Staaten

Einführung einer neuen Gewinnzuteilungsregelung

zur Ergänzung des Fremdvergleichsprinzips und die Berechnung eines Residualgewinns auf konsolidierter Konzernebene unter Verwendung vereinfachter Methoden sowie die Zuweisung eines Teils dieses Gewinns – basierend auf den Umsätzen – an den jeweiligen Marktstaat, in dem die Umsätze erfolgt sind. Einfach zu bepreisende Routinetätigkeiten wie Logistik, Lagerhaltung oder Auftragsproduktion sollen mit Transferpreisen auf der Grundlage des Fremdvergleichsgrundsatzes vergütet werden.

Die vorgeschlagene Maßnahme, insbesondere die umsatzbasierte Zuteilung von Amount A, erfordert die genaue Nachverfolgung, in welchen Jurisdiktionen die Umsätze generiert wurden. Bei diesen Unternehmen, deren Geschäftsmodelle oft hoch integriert und auf der ganzen Welt verstreut sind, hat in den meisten Fällen jedoch nur der Hauptsitz des Unternehmens eine ganzheitliche Übersicht über deren Geschäftstätigkeit. Daher müssten die Behörden im Land des Hauptsitzes eines Unternehmens – zum Beispiel über eine supranational zuständige Behörde – den berechtigten Anteil der Umsätze zuverlässig an die zur Besteuerung von Amount A berechtigten Länder melden.

Generell lehnen wir den Vorschlag ab, eine auf dem Umsatz basierende Nexusregelung zu entwickeln und die Besteuerungsrechte einem Zielland ohne jegliche rechtliche Beteiligung wie etwa dem Vorhandensein einer Betriebsstätte oder einer Niederlassung in diesem Land zuzuweisen. Die Schaffung eines auf den Umsätzen basierenden, steuerpflichtigen Anknüpfungspunkts, der keine physische Präsenz erfordert, würde das Besteuerungsrecht auf alle Arten von Geschäften ausdehnen, sogar auf Exporte. Der Vorschlag, einen willkürlichen Betrag des Residualgewinns umzuverteilen, erhöht aller Voraussicht nach das Risiko der Doppelbesteuerung und den Verwaltungsaufwand für die Steuerverwaltungen. Wir befürworten aber grundsätzlich den Vorschlag, die formelmäßige Aufteilung der Residualgewinne zu überprüfen und diesen Ansatz mit den herkömmlichen Verrechnungspreismethoden zu kombinieren (vgl. z. B. Avi-Yonah und Benshalom, 2011).

Zweite Säule – Der „GloBE"-Vorschlag

Einführung einer Mindestbesteuerung und eines Abzugsverbots

Die zweite Säule der OECD-Empfehlungen befasst sich mit den Risiken einer Gewinnverlagerung durch die Unternehmen in Niedrigsteuergebiete. Sie zielt darauf ab, die im BEPS-Aktionsplan genannten Maßnahmen zur Verhinderung der missbräuchlichen Verlagerung von Unternehmensgewinnen in Niedrigsteuerländer zu unterstützen. Die vorgeschlagene koordinierte Einführung sowohl einer globalen Mindeststeuer als auch eines Abzugsverbots ist allerdings weder auf digitale Unternehmen beschränkt, noch liefern die spezifischen Merkmale digitaler Geschäftsmodelle eine Begründung für die Einführung einer solch grundlegenden Reform. Der Vorschlag für eine Mindeststeuer sieht vor, das Einkommen von kontrollierten Tochtergesellschaften in die inländische Steuerbemessungsgrundlage einzubeziehen, wenn das ausländische Einkommen einem niedrigen effektiven Steuersatz unterliegt. Nach dem jüngsten OECD-Vorschlag soll die Steuer auf das ausländische Einkommen zumindest auf einen allgemein anwendbaren Mindeststeuersatz aufgestockt werden, und die Mitgliedstaaten sollen davon absehen, ihren gesetzlichen Steuersatz auf das ausländische Einkommen anzuwenden. Dieser Vorschlag würde das Ansässigkeitsprinzip stärken, da das weltweite Einkommen von Unternehmen zumindest der Mindeststeuer im Sitzland unterliegen würde. Der zweite Vorschlag der zweiten Säule – eine Steuer auf Zahlungen, die der Gewinnverlagerung dienen – hat einen gegenläufigen Effekt. Diese Empfehlung sieht ein Abzugsverbot für Zahlungen an verbundene Unternehmen vor, die keinem Mindeststeuersatz unterliegen sowie die Verknüpfung von Vorteilen aus Doppelbesteuerungsabkommen mit einem angemessenen Steuerniveau im Empfängerland. Diese Maßnahme würde die Aushöhlung der

Steuerbasis durch innerbetriebliche Transaktionen in Niedrigsteuergebiete verhindern und das Quellensteuerprinzip stärken.
Der vorgeschlagene Nexus und die Stärkung des Prinzips der Sitz- und Quellenbesteuerung könnte die Attraktivität der Verlagerung von Einkommen in Niedrigsteuerländer und die Verlegung des Unternehmenssitzes verringern. Dennoch könnten die neuen Maßnahmen aber den Steuerwettbewerb zwischen den OECD-Mitgliedsstaaten verstärken, wobei die koordinierte Mindeststeuerhöhe die untere Grenze bei diesem Wettbewerb darstellen würde. Darüber hinaus steigt das Risiko der Doppelbesteuerung, wenn alle Nationen versuchen, ihren Zugang zur Steuerbasis multinationaler Unternehmen zu erweitern.

ALTERNATIVE EMPFEHLUNGEN

OECD-Strategie will Besteuerungsrechte der Mitgliederstaaten stärken

Bislang dienen alle OECD-Initiativen zur Anpassung des Systems der Unternehmensbesteuerung, einschließlich des allgemein bekannten BEPS-Aktionsplans, ausschließlich dem Schutz der Steuereinnahmen der Mitgliedsstaaten. Das geht auf Kosten der Verbesserung der Investitionsbedingungen und damit der Beschäftigung, einschließlich der damit verbundenen Einnahmen aus Steuern und Sozialversicherungsbeiträgen. Die jüngsten Reformvorschläge gehen in die gleiche Richtung. Die Doppelstrategie der OECD zielt darauf ab, den Marktstaaten einen fairen Anteil am Besteuerungsrecht zu sichern (erste Säule). Gleichzeitig sollen die vorgeschlagenen globalen Mindestbesteuerungs- und Abzugsverbotsregelungen den Steuerwettbewerb einschränken und sowohl das Sitzland- als auch das Quellensteuerprinzip stärken (zweite Säule).
Eine globale Mindeststeuer verfälscht voraussichtlich die Eigentumsstrukturen, wenn nicht alle Länder eine weltweite Besteuerung einführen und ausländische Steuern anrechnen. Darüber hinaus wird die Wahl des Standorts für reale Investitionen verfälscht, wenn einige Länder davon absehen, die Abzugsverbotsregelung zu übernehmen. Schwerwiegende wirtschaftliche Verzerrungen können nur dann verhindert werden, wenn die Unternehmensbesteuerung auf globaler Ebene – inklusive aller Steuersätze – vollständig harmonisiert wird (Tanzi, 1995).
Als Alternative zu den Vorschlägen der OECD empfehlen wir unter Bezugnahme auf die Mindestbesteuerung zunächst, sich bei Auslandsinvestitionen auf die bestehende Hinzurechnungsbesteuerung zu stützen. In Bezug auf Investitionen im Inland empfehlen wir bei allen grenzüberschreitenden Transaktionen umfassend und einheitlich Quellensteuern zu erheben. Eine international koordinierte Ausweitung der Quellensteuer stellt die Quellenbesteuerung und damit die Zuteilung von Besteuerungsrechten sicher.[1] Im Einklang mit dem bestehenden System kann eine Doppelbesteuerung durch die Anrechnung von Quellensteuern im Wohnsitzland vermieden werden. Durch diesen Vorschlag könnten Steueroasen trockengelegt werden.
Um bei den Besteuerungsrechten die Marktländer stärker einzubeziehen (erste Säule), empfehlen wir, den Schwerpunkt auf die indirekten Steuern zu legen, um dort, wo die Umsätze erfolgen, entsprechende Steuereinnahmen zu erzielen. Die Mehrwertsteuer (MwSt), als ein bereits vorhandenes Instrument zur Besteuerung des Verbrauchs in den Marktländern, ist hierzu ideal geeignet. Die Erhebung der Mehrwertsteuer bei digitalen Diensten durchzusetzen, ist ein entscheidender Schritt, um Steuereinnahmen in den Marktstaaten zu generieren und zu schützen.[2] Darüber hinaus trägt die zunehmende Bedeutung der Sharing Economy zu einer Defragmentierung der Marktanbieter bei. Dadurch stellt sich die Frage, ob die Mehrwertsteuerbefreiung für kleine Unternehmen, die bei Einführung vor über 50 Jahren in Deutschland mit unverhältnismäßigen Auf-

1 Fuest et al. (2013), S. 319.
2 Laut einer Einschätzung des ZEW für das Bundesfinanzministerium lagen die Gesamteinnahmen aus digitalen Dienstleistungen in Deutschland im Jahr 2016 bei über 5,7 Mrd. ZEW (2017), S. 20.

zeichnungs- und Mitwirkungspflichten begründet wurde, bei hochgradig digitalisierten Interaktionen zwischen Marktteilnehmern mit systematischen und vollständigen Kenntnissen über Transaktionsdaten eigentlich noch angemessen ist. Darüber hinaus könnte die Durchsetzung der Mehrwertsteuer auf nicht-monetäre Transaktionen, das heißt die Bezahlung mit Nutzerdaten für Dienste von Google oder Facebook, eine praktikable Lösung sein, um die Steuereinnahmen im Marktstaat zu sichern, und steht zudem in Einklang mit den bestehenden Steuerprinzipien.

Fokusierung auf Mehrwertsteuer statt auf digitale Steuern

Insgesamt verweisen wir auf die potenziellen Nachteile der jüngsten OECD-Reformvorschläge, sollten sie nicht global vereinheitlicht werden. Unsere kurz skizzierten Empfehlungen – eine Erweiterung des Quellensteuerkonzepts und eine Verlagerung des Schwerpunkts auf die Mehrwertsteuer – könnten kurzfristig pragmatische Lösungen für einige der dringendsten Steuerprobleme im Zeitalter der Digitalisierung sein.

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WEITERE INFORMATIONEN //

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Taxing the Digital Economy – An Academic Perspective[1]

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1 General Tax Challenges in the Era of Digitalization

The ongoing digitalization of our economy poses the largest disruption to business models since the industrial revolution.[2] In general, academics and supranational organizations are confident about the positive impact of the digital transformation on society, economic prosperity and innovative developments.[3] However, the digital revolution has created considerable challenges for the existing system of global corporate taxation. The debate on the most pressing challenges and reform proposals has started to gain momentum in response to the recently intensified discussion at the level of the Organization for Economic Co-operation and Development (OECD). In its 2018 released Interim Report on "The tax Challenges Arising from Digitalisation", the OECD has affirmed three major challenges: (i) the nexus of taxation, (ii) the attribution of value to data and its usage, and (iii) the characterization of payments that are attributable to new business models.[4] The Interim Report lacks an empirical evaluation if digital businesses are more tax aggressive than less-digital corporations. Among other scholars, Olbert and Spengel (2017) have acknowledged key pressure areas for taxing digital businesses and recommended careful adjustments to the prevailing system of corporate taxation to realign the taxation of profits with value creation.[5] Early 2019, the OECD proposed a two pillar strategy to address asserted tax challenges of the digitalized economy.[6] On the one hand, the OECD

[1] This work is based on the ongoing academic projects at the University of Mannheim and the Leibniz Centre for European Economic Research in Mannheim (ZEW) to understand digital business models and to develop careful reform proposals for an integrated adjustment of corporate tax systems in response to the era of digitalization.
[2] Brynjolfsson and McAfee (2016), p. 90.
[3] See for example Brynjolfsson and Mitchell (2017); McAfee and Brynjolfsson (2017); OECD (2017) and OECD (2016).
[4] OECD (2018a), p. 169; OECD (2015), p. 99.
[5] See for an additional discussion of key challenges for taxation and reform proposals i.a. Devereux and Vella (2018); Schön (2018) and see for an update on the assessment of the recent political discussions: Olbert and Spengel (2019).
[6] OECD (2019a), p. 6; OECD (2019b), p. 7; OECD (2019d) and OECD (2019e)

proposes the revision of the profit allocation regulation and recommends to establish new nexus requirements (Pillar One). On the other hand, a global minimum tax is proposed which goes beyond reforms that address the digitalization of the economy but presents a more fundamental change to the global system of corporate taxation (Pillar Two).

The digitalization opened opportunities to adjust the value creation of traditional businesses and created the ground for entirely new business models. Most digital businesses rely on powerful hardware, self-collected or acquired data, innovative software and a high degree of digital interconnectivity.[7] Understanding new business models is vital to develop recommendations on how to adjust the corporate tax system. It can be appreciated that the OECD acknowledges this need and any reform proposals should be based on insights gained in this process.[8]

Our contribution at hand adds to the insights in digital business models by sketching the process of transforming raw data into knowledge and providing guidance on the application of transfer prices to allocate taxable profits across tax jurisdictions. Further, we assess the OECD's key reform proposals and relate them to the ongoing academic debate.

2 Value Creation – Analyzing Business Models and Allocation of Taxable Profits

2.1 From Data to Knowledge

Data has become an important value driver for business. Today, 'Big Data' is a key asset for many digital (and traditionally non-digital) businesses and contributes to improved decision making and to value creation. Among policymakers and academics, however, it is not yet agreed upon, how to determine the value of data and how to treat it with regard to corporate income tax purposes. It is generally accepted that the value of data should be considered for taxation of corporate income. In simple terms, there are two options to take the value of data into account.[9] First, if it is seen as impossible to determine the true value of data, a fundamental tax reform towards a destination-based cash flow tax or residence-based shareholder taxation seems inevitable.[10] Second, a more promising and politically feasible approach would be the adjustment of prevailing principles to allocate profits according to the arm's length principle along the value chain. To provide clear guidance on the application of transfer prices it is

[7] According to the OECD Interim Report 2018, the main characteristics of digital business models are scale without mass, high reliance on intellectual property and the importance of data from user participation. OECD (2018a), p. 24; Olbert and Spengel (2017), p. 6.
[8] OECD (2019b), p. 6; OECD (2018a), pp. 24–26.
[9] Olbert and Spengel (2019), p. 17.
[10] The reform options are discussed by Devereux and Vella (2018) and Schön (2018).

necessary to understand the structural concept of how data is used to create value. The role and location of specific people functions in integrated, digital business models should be the focus for any efforts to design tax rules in response to the digital economy.

While some argue that data can be compared to valuable natural resources and draw an analogy to raw oil, this comparison is flawed.[11] Data is an important input factor for an IP intensive transformation of raw information to knowledge by discovering meaningful structures and patterns.[12] This process, which can be split across different legal entities and functions of a globally operating company, is often referred to as 'Data Mining'. For example, in a digital business model, such as a digital music platform, it is an important competitive advantage in the business to consumer market to understand the needs of customers and adapt the supplied services accordingly. The corporation can collect raw data from users in the market jurisdiction, pre-process and store the data in a data warehouse at a different location. Its employees can then apply self-developed and continuously revised and adapted algorithms (in the form of software applications) to the prepared data. Finally, the decision maker has to interpret and evaluate the gathered information and can use the knowledge to improve and sell services in foreign markets. The process of 'Data Mining' is unique for any company. Both firms that are founded in the digital sector and firms experiencing a gradual digital transformation can perform it. Central to the process of knowledge development is the involvement of specific people functions. Policymakers should refrain from any short-sighted tax legislation that intends to tax the usage of data as many firms already perform 'Data Mining' activities to various degrees.[13]

2.2 Guidance on Transfer Pricing

In a recent survey, conducted among corporate transfer pricing managers, tax consultants and auditors of German tax authorities, Greil, Müller and Olbert (2019) find that transfer pricing in digital business models is a pressing issue for corporations. They find that traditional transfer pricing methods (i.e. the cost-plus method) are still prevalently used despite the profit split method is recommended as the most appropriate method for digital transactions.[14] Based on

[11] Similar critical considerations of this comparison can be found in Goldfein and Nguyen (2018); Marr (2018) and Olbert and Spengel (2019).
[12] See Linoff and Berry (2011) and Witten et al. (2016) for an introduction to data mining techniques.
[13] Ludwig et al. (2019), chapter 2.3.2.
[14] This argument has also been brought up by Hongler and Pistone (2015).

their survey, the authors conclude that the resolution of uncertainties with regard to transfer pricing guidelines should be a major concern for policymakers.[15]

In light of the above discussed 'Data Mining' process, the first task of allocating profits to legal entities within an integrated company is to identify the activities performed by individual entities along the value chain of the knowledge development process. The next challenge is to determine the value of the specific activities in relation to the overall value creation by 'Data Mining' to set transfer prices in accordance with the arm's length principle. The nature of intra-firm transactions makes it – for traditional and inevitably also for digital business models – extremely difficult and almost impossible to find comparable transactions between unrelated market participants.[16] Furthermore, the individual characteristics of digital businesses' key value drivers, intellectual property and know-how add complexity to the determination of activities' value.

Nevertheless, a conceptual analysis of the functions and risks involved in the 'Data Mining' process or other digital business models, with a focus on the specific people functions, can provide benchmarks to set transfer prices in accordance with comparable market prices. Across many industries, companies have evolved that focus on separate steps of the 'Data Mining' process, such as the collection of raw data, the preparation of data or the provision of information, and sell their services on the market.[17] Besides, traditional research and development processes, which have to some extent similar characteristics as data mining activities, could serve as a blueprint for the application of transfer pricing guidelines. If the standard transfer pricing methods are not suitable to allocate profits within an integrated company, the profit split method should be considered to find consistent transfer pricing solutions. The OECD's recommendations on the residual profit split method can provide guidance for highly integrated business models.[18]

3 Recently Discussed Reform Proposals

3.1 Significant Digital Presence (Pillar One)

The OECD has proposed in its public consultation on the project to address the tax challenges of the digitalization of the economy in March 2019 to introduce the concept of a significant

[15] Greil et al. (2019), p. 30.
[16] Keuschnigg and Devereux (2013), p. 432; Olbert and Spengel (2019), p. 21.
[17] In addition to raw data providers, such as Thomson Reuters or Bureau van Dijk, many firms provide services along the value chain of data mining such as the German Kendaxa Group that specializes in data intelligence.
[18] OECD (2019a), p. 13.

digital presence. While the OECD refers to this concept as a significant economic presence, the European Commission has proposed a similar idea in March 2018 and referred to it as a digital presence or virtual permanent establishment.[19] In its most recent update on Pillar One, the OECD has further stressed the need to develop new nexus rules.[20] The concept of a significant digital presence is motivated by the assumption that the specific characteristics of digital business models allow enterprises to be economically active in a market country without setting up a permanent establishment in traditional terms.[21] According to the traditional corporate tax system, an enterprise is in general only liable to profit taxes in a country if a sufficient nexus – in the form of residence or a permanent establishment – is given. The OECD assumes that the existing profit allocation methods are ineffective because digital businesses can, in principle, be active in attractive consumer markets without the need to establish a traditional nexus.

Measurable factors should provide the basis to assess if a company qualifies to have a significant economic presence in a jurisdiction. The primary factor – and according to the OECD simplest factor – for this classification should be revenue in a respective country. In the program of work, published in May 2019, the OECD has still recommended to complement it by a choice of other factors such as (i) a countries user base, (ii) the amount of digital content derived from the jurisdiction, (iii) the billing in the local currency, (iv) the maintenance of a local website, (v) the responsibility to deliver the goods or services and (vi) marketing and sales activities. Yet, in the "Unified Approach" proposal a fixed quantitative revenue threshold is suggested as the primary factor of involvement in a market jurisdiction. Fixed thresholds are always, at least to some extent, arbitrary. Pre-determined cutoff points are especially for unique and non-generalizable digital business models problematic because these businesses generally rely on different forms of revenue generation (e.g., pay-per-use agreements or the sale of personalized commercials). If, as proposed by the European Commission in 2018, the amount of contractual agreements with users serves as a threshold, highly specialized service providers which, for example, conclude few – but highly valuable – contracts with their customers would be treated systematically different to platform providers with millions of small-scale customer interactions, despite having similar overall revenues.

[19] See the Press release IP/18/2041 on the proposed council directive: European Commission (2018).
[20] OECD (2019a), p. 11 and OECD (2019d), p. 5.
[21] OECD (2019b), p. 16.

Overall, this proposal increases the risk of double taxation and results in unintended discrimination between comparable digital business models. It is not recommended to develop tax reform proposals based on arbitrary thresholds and ring-fence certain businesses.

3.2 Profit Split Method – The "Unified Approach"

Guidance on the application of the transactional profit split method has already been updated in June 2018 as part of the BEPS-Project: Action 10. These transfer pricing regulations are recommended to highly integrated business models whose transactions involve unique and valuable intangibles and the involved parties share the assumption of economically significant risks.[22] Digital corporations, in general, meet these characteristics. The OECD develops a new "Unified Approach" in its most recent public consultation document. In general, the proposed "Unified Approach" introduces a new profit allocation rule that should complement the arm's length principle. The proposal suggests to calculate a deemed residual profit at consolidated group level using simplified methods and to allocate a fraction of this profit – based on sales – to market jurisdictions. Routine tasks should be remunerated with arm's length principle based transfer prices.[23]

Leading tax scholars have proposed a more systematic profit split approach and argue that this method combines traditional transfer pricing methods for routine tasks with a more flexible approach for hard to compare transactions of digital corporations.[24] They argue that this reform proposal, which recommends allocating the profits based on residual gross income, would be an improvement in comparison to the existing system on several dimensions. The idea to re-examine the formulary apportionment of residual profits and to combine this approach with traditional transfer pricing methods has been regularly discussed in the academic literature.[25] The OECD suggests sales as the allocation key do disperse taxable income across jurisdictions. A convincing feature of a more systematic profit split approach is that the determinants to allocate profits are in principle not chosen arbitrarily.[26] The combination of production based factors, such as assets and labor, and consumption based determinants, such as turnover, ensures the allocation of the tax base in accordance with the source based and the destination based principle.

[22] OECD (2018b), p. 14 ff.
[23] OECD (2019d), p. 6.
[24] See Devereux et al. (2019) for an intensive discussion on the potential design of a residual profit split method.
[25] Avi-Yonah and Benshalom (2011) have already promoted the formulary apportionment system.
[26] Jacobs et al. (2016), p. 238.

In general, it is impossible to replicate the true economic value of intra-group transactions with traditional transfer pricing methods. Corporations are mostly concerned with tax compliance and avoidance of double taxation.[27] Any reform proposal, such as a profit split method, and adjustments to the transfer pricing guidelines should consider a pragmatic approach. They should minimize uncertainty for taxpayers, be relatively easy to implement into the existing system and facilitate the administration of cross-border transactions. Yet, the "Unified Approach" cannot achieve this goal convincingly.[28]

3.3 Minimum Tax and Deduction Disallowance (Pillar Two)

The second pillar of the OECD recommendations is devoted to any post-BEPS risks of profit shifting to low-tax jurisdictions. Despite its position in the report on challenges of the digitalization of the economy, the proposed coordinated introduction of both a minimum tax and a deduction disallowance are neither restricted to digital firms, nor can the specific characteristics of digital business models provide the main rationale for the introduction of this more fundamental reform option to prevent income relocation.[29]

The minimum tax proposal suggests to include the income of controlled affiliates in the domestic tax base if the foreign income is subject to a low effective tax rate.[30] According to the most recent OECD contribution, the tax on the foreign income should be topped-up to at least a generally applicable minimum tax rate and member states should refrain from applying their statutory tax rate to foreign income.[31] This proposal would strengthen the residence principle as corporates' worldwide income would be subject to at least the minimum tax in the residence country. Companies might try to evade the minimum tax by relocating their residence to non-compliant countries. The second proposal of Pillar Two – the tax on base eroding payments – provides a counteracting force. This recommendation proposes a deduction disallowance for payments to related entities that are not subject to a minimum tax rate and suggests to tie treaty benefits to an appropriate tax level in the recipient jurisdiction.[32] This measure would prevent the tax base erosion by intra-company transactions to low-tax jurisdictions and strengthen the source based principle.

[27] Greil et al. (2019), p. 21.
[28] See our comment on the public consultation document to pillar one of November 2019.
[29] Grubert and Altshuler (2013) have analyzed the potential effects of a minimum tax in a model demonstration and Englisch and Becker (2019) provide a recent overview of policy rationales to introduce a minimum tax.
[30] OECD (2019b), p. 25.
[31] OECD (2019a), p. 27 and OECD (2019e).
[32] OECD (2019b), p. 27.

The proposed coexistence and reinforcement of the residence and source based taxation principle might lower the attractiveness to relocate income to low-taxed jurisdiction and to relocate the residence of companies. Nevertheless, the new measures could also increase tax competition between OECD member states with the coordinated minimum tax level being the lower bound. Furthermore, the risk of double taxation increases if all jurisdictions try to expand their access to the tax base of multinational enterprises. The design of far-reaching reform proposals should be considered carefully and provides the opportunity to replace existing unilateral and diverse BEPS countermeasures.

4 Assessment of Reform Proposals and Alternative Recommendations

So far, all OECD initiatives to adjust the system of corporate taxation, including the well-known BEPS Action Plan, exclusively aim at protecting tax revenues of member states at the expense of improving conditions for investment and, thus, employment including underlying revenues from taxes and social security contributions. The most recently proposed reforms step in the same direction. The OECD's two-fold strategy intends to ensure market countries a fair share of taxation right (Pillar One). Simultaneously, the proposed global minimum taxation and deduction disallowance regulations aim to restrict tax competition and to strengthen both the residence and the source principle (Pillar Two).

With regard to Pillar Two, a global minimum tax likely distorts ownership structures if not all countries adopt worldwide taxation and credit foreign taxes. In addition, the location of real investment will be distorted if some countries refrain from adopting the deduction disallowance regulation. Severe economic distortions can only be prevented if corporate taxation is fully harmonized on a global basis including tax rates. This has been known and recognized for decades now.[33] Furthermore, minimum taxation measures already exist around the globe in the form of controlled foreign corporation legislation (CFC legislation) and interest and royalty deduction limitations rules. The EU Anti-Tax Avoidance Directive has already put forward a harmonized approach for both CFC and interest deduction limitation rules within the EU member states until the end of 2019.[34] An extension of these concepts, as proposed by the OECD, thus, increases tax complexity, administrative costs and the risk of double taxation.

[33] Tanzi (1995).

[34] Anti-Tax Avoidance Directive (ATAD): Council Directive (EU) 2016/1164 of 12 July 2016 laying down rules against tax avoidance practices that directly affect the functioning of the internal market, OJ L 193/1 (19 July 2016), at 1–14.

As an alternative, referring to minimum taxation, we first recommend to rely on existing CFC legislation for outbound investment. Regarding inbound investment, we recommend to levy withholding taxes at source comprehensively and consistent on all cross-border transactions. Extending withholding taxes in an internationally coordinated way ensures source taxation and thus the allocation of taxing rights.[35] In line with the existing system, double taxation can be avoided by crediting withholding taxes in the residence country, the proposal would dry out tax havens.

Second, referring to the allocation of taxing rights to market countries according to Pillar One, we recommend to concentrate on indirect taxes to generate tax revenues at the location of user participation. The role of value added taxes (VAT), as an already existing mean to tax consumption in market countries, is surprisingly not at all considered in the current political discussion.[36] Yet, billions of tax revenue are at stake if consumption taxes are not collected appropriately.[37] Enforcing VAT on digital services thoroughly is a crucial step to generate and protect tax revenue in market jurisdictions.[38] Furthermore, the increasing relevance of the sharing economy contributes to a defragmentation of the economy and the appropriateness of small-business VAT exemption regulations is debatable for highly digitalized interactions between market participants with systematic and complete knowledge of transactional data. Platform providers could be integrated in the process of consequent VAT collection.[39] Moreover, enforcing VAT on non-monetary transactions, i.e. the exchange of user data for services such as Google or Facebook, could be a viable solution to ensure tax revenues at the market jurisdiction and is in line with existing tax principles.[40]

Overall, we highlight the potential disadvantages of the recent OECD reform proposals if they are not harmonized globally and our briefly sketched recommendations – to expand the concept of withholding taxes and to shift the focus on VATs – could provide pragmatic short-term solutions to some of the most pressing tax issues in the era of digitalization.

[35] Fuest et al. (2013), p. 319.
[36] The OECD has recently presented a recommendation on the collection of VAT: OECD (2019c).
[37] The VAT gap is estimated to exceed EUR 150 billion in the European Union in 2015. CASE and IHS (2017), p. 8; Olbert and Spengel (2019), p. 3.
[38] An assessment by the ZEW for the German Ministry of Finance estimates that the total revenue of digital services exceeds 5.7 billion Euro in Germany in 2016. ZEW (2017), p. 20.
[39] See also Bräutigam et al. (2019) for a discussion of reform proposals.
[40] It has been admitted among legal scholars that such non-monetary transactions are subject to VAT. See Pfeiffer (2016), p. 161.

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Mannheim, 12 November 2019

Comments on the Public Consultation Document Concerning "Secretariat Proposal for a 'Unified Approach' under Pillar One"

Dear members of the Task Force on the Digital Economy (TFDE),

We appreciate the opportunity to deliver our views on the current state of the OECD's work concerning the secretariat proposal for a "Unified Approach". We believe that the analysis provided in the Interim Report of March 2018, the updated proposals in the Consultation Document of February 2019, and the new proposal in the public Consultation Document at hand are a fruitful base for further work. It is highly appreciated that the TFDE acknowledges potential key issues as outlined in Section 2.5 of the Consultation Document and continuously tries to develop a consensus solution that keeps the administrative and compliance burden as low as possible and prevents the distortion of investment.

Please allow us to provide only input on the general design and selected issues of the proposed "Unified Approach" (in particular, Question 1 to Question 4) and to leave it to practitioners to provide direct answers on the feasibility and potential design issues of the discussed proposal.

- Limiting the scope of the "Unified Approach" is ring-fencing across two dimensions (*Question 1*)

We have highlighted in our previous response to the public consultation document "addressing the tax challenges of the digitalisation of the economy" in March 2019 that it was particularly sensible that the TFDE, as opposed to the European Commission, had not put forward interim solutions or changes of the international tax system that include measures targeted at digital transactions that would be of "ring-fencing" nature. Yet, the consultation document at hand proposes to limit the scope of the "Unified Approach" to large consumer-facing businesses. This suggestion implies that the proposed reform of the tax system has the potential to be ring-fencing across two dimensions.

First, the "Unified Approach" seems to differentiate between business models depending on the type of customers. According to the public consultation document, the proposed "Unified Approach" should apply to businesses that generate revenues from product or services sales to a firm's consumers or users. In a narrow sense, this suggestion would limit the scope of the proposal to business-to-consumer (B2C) models and exclude business-to-business (B2B) models. Especially in the digital economy, business models are very heterogeneous and we consider a fundamental analysis of business models as the core step to develop recommendations on how to adjust taxation (Olbert and Spengel, 2017). For example, some business models, such as digital search engines or social networks, collect data to approximate the interests of users and can sell this information or precisely targeted advertising space to other businesses. Despite having a large user base, direct sales to consumers or users account in general only for a minor part of their revenues. Furthermore, the proposed limitation of the scope might provide disincentives for businesses to refocus their activities towards consumers. We highly appreciate that the TFDE intends to further clarify the scope of the proposed measure and discusses how to define consumers and users.

Second, limiting the scope of the proposed "Unified Approach" to large multinational enterprises requires – as suggested in the public consultation document – some kind of fixed size thresholds. Monetary thresholds, as used and proposed in different settings such as the OECD country-by-country reporting requirement or the European Commission's draft directive for a digital services tax in March 2018, are in principal arbitrary (Olbert and Spengel, 2019). Fixed quantitative cut-off points result in a theoretically unjustifiable differentiation between firms slightly below and slightly above the threshold. Any arbitrary threshold could distort the decision of firms to expand their business and might prevent innovative and profitable business models to grow beyond the fixed size limit. We would recommend the TFDE to evaluate the discussed barriers carefully and to refrain from introducing additional inhibitions for the growth of innovative business models.

- Calculation of group profits and determination of Amount A (*Questions 3 and 4*)

The consultation document points out that the functional analysis under current rules would result in zero profits being attributed to the non-physical nexus because no functions are performed, no assets are used, and no risks are assumed in the market jurisdiction. The new profit allocation rules intend to solve the problem by going beyond the arm's length principle and break with the long-established concept of taxation at the point of value creation. The proposal suggests to calculate a deemed residual profit at consolidated group level using

simplified methods and to allocate a fraction of this profit to market jurisdictions. Substituting the functional analysis by fixed profit percentages, which are yet to be determined, and allocating this proportion of the deemed residual profit to market jurisdictions based on sales, would introduce a high degree of arbitrariness to the principles of cross-border profit allocation. The simplified approach ignores the economic reality of the multinational businesses and would result in even more arbitrary outcomes if the percentages vary for different industries or business lines. The amount of non-routine profits is not generalizable within industries because it depends on each firms' business model. We caution members of the TFDE to rely on simplifying conventions and argue that the level of arbitrariness could be reduced substantially by considering the three Amounts jointly.

First, the actual non-routine profits should be determined rather than using simplified conventions. The proposal at hand acknowledges that the arm's length principle works reasonably well in the context of most routine activities. This view is also supported by transfer pricing practitioners in a recent survey (Greil et al., 2019). Thus, existing rules could be used to remunerate those group members that assume routine functions in the value creation process with an appropriate margin for low risk activities. Since the actual costs of routine functions have been deducted from the profits, only the margins should then be subtracted from the group's overall profits to determine the actual non-routine profits. If the current rules are retained for the determination of Amount B the deduction of routine margins could help to avoid complex delineation issues between both amounts.

Second, the non-routine profits should be attributed to the headquarters' jurisdiction and market countries by carefully assessing the interaction of the multinational group with the market jurisdictions. The level of interaction is highly business specific. On prior occasions, the OECD has highlighted the need for understanding the value creation process in the digitalising economy (OECD 2015, 2018). We would recommend the TFDE to build on existing findings from the analysis of digitalised business models (see, for example, the case study on data mining by Ludwig et al. (2019) as well as the analyses in the Interim Report (OECD 2018)). The TFDE proposes, in line with various scholars, to re-examine the formulary apportionment of non-routine profits and to combine this approach with traditional transfer pricing methods for routine profits (see, e.g. Devereux et al. 2019; Avi-Yonah and Benshalom 2011). In general, we agree that the formulary apportionment of profits, that combines production-based factors, such as assets and labour, and consumption-based determinants, such as sales, ensures the allocation of the tax base in accordance with the source based and the destination-based principle (Ludwig and Spengel 2019).

Furthermore, the TFDE should thoroughly analyse the consequences of using financial accounting standards for the determination of the group's consolidated profits for the calculation of amount A. In order to avoid potential conflicts, all countries must accept the profits derived under the accounting standards of the headquarters jurisdiction. Financial accounting rules are the starting point for determining taxable profits in most jurisdictions. However, one should be aware that financial accounting principles such as fair value accounting, are in general incompatible with established tax principles such as the prudence principle, which is firmly established in most national tax regulations. We would, therefore, recommend to carefully consider the consequences of selecting profit measures from financial accounts without additional adjustments.

- Marginal effect on state revenues and at the price of increased complexity (*Questions 2 and 3*)

According to the public consultation document, the TFDE intends to address the challenges of taxing the digital economy by introducing a simple and administratively feasible solution to reallocate taxing rights in favour of market jurisdictions. Yet, the TFDE suggests a three-tier mechanism for profit allocation to market jurisdictions and a new nexus rule. In our opinion, both suggestions have the potential to fundamentally increase the complexity of international taxation and the risk of double taxation.

The proposed "Unified Approach" would undoubtedly lead to increased administrative costs both at the level of enterprises and tax authorities. The suggested measures, especially the sales-based allocation of Amount A, require multinational enterprises, with often highly integrated and globally dispersed business models, to precisely track the location of their sales. In most cases, only the headquarter of the enterprise has a holistic view of the firm's operations. Thus, authorities in the nation of an enterprise's headquarter would be required – for example via a supranational competent authority – to credibly report the eligible share of sales to the tax jurisdictions that are entitled to tax Amount A. Furthermore, under the current international tax system tax authorities levy profit taxes on enterprises – without differentiation between routine and non-routine profits – if sufficient nexus is given. However, if non-routine profits are reallocated to market jurisdictions under the "Unified Approach", this would considerably increase the risk of double taxation unless the reallocated profits are deductible from taxable profits in another jurisdiction or exempt from profit taxation in the residence country of the headquater or the residence country of an affiliate that provides services. Again, this could require an additional exchange of information or even clearing accounts between countries and hence would increase complexity even further.

It is highly questionable if the increased complexity and higher administrative costs can be outweighed by higher tax revenues in market countries. The suggested proportion of non-routine profit that should be reallocated to market jurisdictions (Amount A) amounts only to a small fraction of enterprises' profits and highly depends on the chosen proportion. Consider a multinational enterprise with a profitability of ten percent of which five percent could be attributed to routine activity. If the fraction for Amount A is set to 20 percent, this will lead to a reallocation of one percent of revenues (5% non-routine profit * 20% fraction for Amount A) to multiple market jurisdictions. Therefore, we would recommend the TFDE to carefully evaluate the raised complexity concerns and to refrain from reallocating a fraction of residual profit to market jurisdictions based on sales.

In general, we reject the idea to develop a sales based nexus rule and assign taxing rights to a destination country without any legal involvement such as a permanent establishment or a subsidiary. Creating a taxable nexus based on sales, with no need for a physical presence, would extend the taxing right to all types of businesses, even to exports. This suggestion presumably increases the risk of double taxation and the administrative burden for tax administrations that lack a legally liable taxable person in their jurisdiction.

We recommend concentrating on indirect taxes to generate tax revenues at the location of consumers and user participation. The role of value added taxes (VAT), as an already existing mean to tax consumption in market jurisdictions, is surprisingly barely considered in the current

political discussion. Yet, as found in a study for the European Commission (CASE and IHS 2017) billions of tax revenue are at stake if consumption taxes are not collected appropriately. Thouroughly enforcing VAT on digital services is a crucial step to generate and protect tax revenue in market jurisdictions. Moreover, enforcing VAT on non-monetary transactions – which are in most tax jurisdictions a taxable event, i.e. the exchange of user data for services such as Google or Facebook – could be a viable solution to ensure tax revenues at the market jurisdiction and is in line with existing tax principles.

We hope that our comments will contribute to the recent efforts at the OECD-level. We look forward to receiving critical remarks on our comments. We are available for further exchange of opinions and would be happy to discuss ongoing projects on the tax challenges of digitalization at the ZEW and the University of Mannheim.

Yours sincerely,

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Mannheim, 28 February 2019

Comments on the Public Consultation Document Concerning "Addressing the Tax Challenges of the Digitalisation of the Economy"

Dear members of the Task Force on the Digital Economy (TFDE),

We appreciate the opportunity to deliver our views on the current state of the OECD's work concerning the tax challenges of digitalisation. We believe that the analysis provided in the Interim Report of March 2018 and the current proposals in the Consultation Document are a fruitful base for further work. It is particularly sensible that the TFDE, as opposed to the European Commission, has not (yet) put forward interim solutions or changes of the corporate tax system that include measures targeted at digital transactions that would be of "ring-fencing" nature. It is also noteworthy that the TFDE is well aware of potential shortcomings of the three proposals outlined in Section 2.2 of the Consultation Document.

Our input only addresses the questions asked in Section 2.4 of the Consultation Document. We leave it to practitioners to provide direct answers on the feasibility and potential design issues of the discussed proposals. Instead, our comments aim to hint at academic output we have

produced in the past 24 months. We briefly summarize this output and offer some suggestions on how the implications of this work could be considered when answering the questions in Section 2.4 of the Consultation Document. For a more detailed view on the general issue of addressing the tax challenges of digitalisation, please refer to our comments on the public consultation in October 2017 (Olbert, Werner, and Spengel, 2017). We provide all references at the end of this document.

- Business Model Analysis and Solutions for Allocating Taxable Profits between Countries (and Business Units of Multinational Corporations) (*Question 3*)

If the OECD members do not pursue fundamental reforms of the corporate tax system, we consider the work on analyzing digital business models as the correct step towards developing solutions for taxation (see 4. in chapter 1.1 of the Consultation Document). We appreciate that the OECD's Interim Report refers to our earlier contribution motivated by the OECD's 2015 Report on BEPS Action Item 1 (Olbert and Spengel, WTJ 2017) and we recognize parts of the approach to analyzing business models in the Interim Report as of March 2018. However, we suggest that, based on the underlying business model analysis, more detailed and specific recommendations for the application of transfer pricing solutions should be developed. We particularly discuss on how transfer pricing guidelines could be developed in Section 5 in Olbert and Spengel (WTJ 2017). We consider these insights as potential answers on design considerations asked for in Question 3 in Section 2.4 of the Consultation Document.

- Significant Digital Presence and Similar Considerations (*Question 1*)

In a recent working paper soon available as a ZEW discussion paper (Olbert and Spengel, 2019), we offer our view on the policy development including a critical review of the European Commission's proposals to introduce special tax regimes for the digital economy. These proposals include a Significant (Digital) Presence based on which taxing rights are supposed to be defined. The OECD currently considers a similar approach as the third proposal in the Consultation Document. We reject this idea on the grounds of potential ring-fencing and double taxation issues as well as difficulties of reconciling such an approach with the common principles of income taxation.

- Data and User Participation (*Questions 3 and 4*)

We caution policymakers to consider the mere availability of data and user participation as significant value drivers that justify the allocation of taxable income. This concern is particularly related to the "user participation" proposal in the current Consultation Document. We believe that one must not neglect the significant contribution that is made by an enterprise's employees engaged in creating and further developing the algorithms and software infrastructures for search engines and social media platforms. The investment in and the management of this human capital is crucial for these business models' success. No matter how big a user base in, e.g., a developing country might be - if a firm employs and manages all software engineers and important decision-makers at a central location in a developed country, it would not be appropriate to allocate substantial parts of profits to the developing country if the notion of value creation is to be reconciled with a firm's investment decisions, risk profile, and production factors (also in the digital age). Further, it is questionable to draw a line between firms that would fall under the scope of this proposal and firms that would not. For instance,

consider potential future developments in the automotive sector. If cars of different participants in road traffic communicate with each other, the functioning and the quality of services related to using a car (real-time navigation, finding parking spots etc.) clearly relies on the participation of users. This issue would then rather call for a business line segmentation approach such that traditional car manufacturers would also be considered as platform providers (see 2.3.2 of the Consultation Document).

As an alternative solution, we put forward the idea to extend the existing analyses of digital business models and focus on the phenomenon and the process of Data Mining. Data Mining is at the core of value creation of the above-mentioned business models. Further, the different processes of Data Mining can be analyzed which would allow to identify and locate a firm's value drivers. We provide a detailed discussion in a forthcoming contribution to the IBFD's Conference Book Taxing the digital economy: the EU proposals and other insights (Ludwig, Olbert, and Spengel, 2019). An excerpt can be found in the Appendix at the end of this document.

Overall, we would like to stress the need for guidance on how to determine and document transfer prices for intracompany transactions involving digital technologies. In a recent survey among German transfer pricing managers, consultants and tax auditors we find that there is no common understanding of the appropriate methods and their application to price intercompany transactions relating to digital business models (Greil, Müller, and Olbert 2019). For instance, issues arise when one affiliate offers cloud computing services to other group members or when data mining is performed by one affiliate and respective results are exploited by other group members. While great uncertainty exists with regard to the current tax treatment, the majority of participants expect disputes in transfer pricing audits as well as severe risks of double taxation in the future due to the lack of clearly defined transfer pricing guidelines based on an internationally harmonized approach. Most practitioners therefore advocate for a revision of the existing transfer pricing guidelines and favor "safe havens" for non-strategic but dynamic and frequent transaction types in the digital economy. The survey results support our early request to design specific guidance on how to apply transfer prices in digital business models (see section 5.2 in Olbert and Spengel, WTJ 2017). In our view, transfer pricing guidance should be developed with priority since such work would ensure certainty for transactions that are already becoming predominant and will be major topics in tax assessments and tax audits in the near future.

- Centralization, Participation in Remote Jurisdictions, and Locational Factors for Investments in Digital Business Models (*Question 2.i*)

We do agree that the technological progress has led to the emergence of (digital) business models that operate in a physically centralized fashion while generating revenue globally. We have analyzed digital business models and respective consequences for income taxation in detail in the study titled *Digital Tax Index 2017* (ZEW, PWC, and University of Mannheim 2017). Regarding direct taxes, we conclude that profit taxation of digital business models is being "centralized" under current tax law. Abstracting from any tax planning considerations, foreign markets can be accessed without a significant taxable nexus, which leads to taxable profits accruing at the location where a digital business model's people perform the strategic investments and the relevant activities.

At the same time, we observe interesting developments in international tax policy. Domestic policy makers seem to be aware of the above-outlined centralization of business models and offer competitive tax incentives to attract investments in digital business models (doubtlessly involving employment) in order to promote a country's attractiveness in the digital economy.

The recent update of the *Digital Tax Index* (ZEW, PwC, and University of Mannheim 2018) quantitatively shows that the tax attractiveness for digital businesses varies considerably across Europe and other developed countries. Further, digital business models face increasingly low effective tax burdens (and lower costs of capital) due to special tax incentives available for innovative activities as well as the weaker reliance on long-term capital assets.

We make no normative statements regarding this development. We highlight, however, that the OECD might consider this increasing pressure in international tax competition caused by the intention to attract investment in digital businesses. One could indeed argue that the centralized business functions of digital firms are substantial value drivers if domestic policy makers try to attract them in order to bolster economic growth.

For further results with regard to tax burdens of digital vs. traditional business models and recent developments in digital firms effective tax burdens on investment, we refer the *Digital Tax Index 2018* (ZEW, PwC, and University of Mannheim 2018)[1] and a discussion of results recently published in the academic journal *Intertax* (Olbert, Spengel, and Werner, Intertax 2019).

- The Digital Economy and BEPS Issues

We finally would like to remind the tax policy community that, at least to the best of our knowledge, only very limited, if any, empirical evidence exists that firms characterized by a higher degree of digitalization engage more heavily in different forms of tax avoidance. However, recent evidence suggests that digital firms are responsive to consumption taxes and act as to minimize their consumption tax burden (Olbert and Werner 2019). Policymakers might consider this evidence when designing consumption tax systems and reforming corporate income taxation in a way that sales become a significant factor when allocating taxable profits to respective jurisdictions.

We hope that our comments will contribute to the recent efforts at the OECD-level. We look forward to receiving critical remarks on our work and comments. We are available for further exchange of opinions and would be happy to discuss ongoing projects on the tax challenges of digitalization at the ZEW and the University of Mannheim.

Yours sincerely,

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[1] The executive summary in English is available at http://ftp.zew.de/pub/zew-docs/gutachten/Digital_Tax_Index_2018.pdf. For the full study (in German only), please visit https://www.zew.de/en/publikationen/steuerlicher-digitalisierungsindex-2018/?cHash=a615e00a6f64ef9146e245a29b55ebcf. Please also see a note by PwC on how to interpret the quantitative results at https://www.pwc.com/us/en/press-releases/2018/understanding-the-zew-pwc-report.html.

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Appendix

Data Mining and Transfer Pricing Solutions (Full article by Ludwig, Olbert, and Spengel forthcoming in the IBFD Conference Book Taxing the digital economy: the EU proposals and other insights)

Conceptual considerations on the usage of big data in business models

Research and macroeconomic statistics confirm that data is an increasingly important value driver. However, the views on what exactly the value of data is and how it should be treated for corporate income tax purposes are diverging and often premature.[2] In this section, we aim to highlight that the ways data contribute to value creation can differ widely across industries and businesses. Yet, we offer a conceptual approach to think about the data-driven value creation process within the tax policy debate. Such conceptual approach could then help to assess specific digital business models since they all rely on some form of value creation through the collection and use of data.

While businesses have always relied on some form of data, the ongoing discussion refers to businesses using large amounts of data that help to make better business decisions and shape entire business models. Such data is often labeled Big Data. To extract value from Big Data, businesses have to go through an "entire discovery process that requires insightful analysts, business users, and executives who ask the right questions, recognize patterns, make informed assumptions, and predict behavior" (Brynjolfsson and McAfee 2017; Oracle 2018). Figure 1 shows that the market for big data, i.e. investments, applications, and services related to this discovery process, is expected to grow steadily in the future and offers businesses great potential. In 2018, the global big data industry is expected to be worth more than USD 50 billion. Since the value of data, in general, can hardly be reflected in current accounting figures produced by businesses (Lev and Gu 2017),[3] we suggest to think about the specific investments and activities business conducted to create value with data. As recent research in innovation management confirms, it is not the quantity of (user) data but the quality of how such data is used to generate network effects that are crucial for value creation (Schrage 2016). While it might seem too superficial from a technical point of view, we, in general, refer to the phenomenon of data mining when analyzing these investments and activities in the next section.

[2] For a detailed discussion, see (Olbert and Spengel 2017).
[3] https://blogs.cfainstitute.org/investor/2018/04/18/assessing-value-in-the-digital-economy/

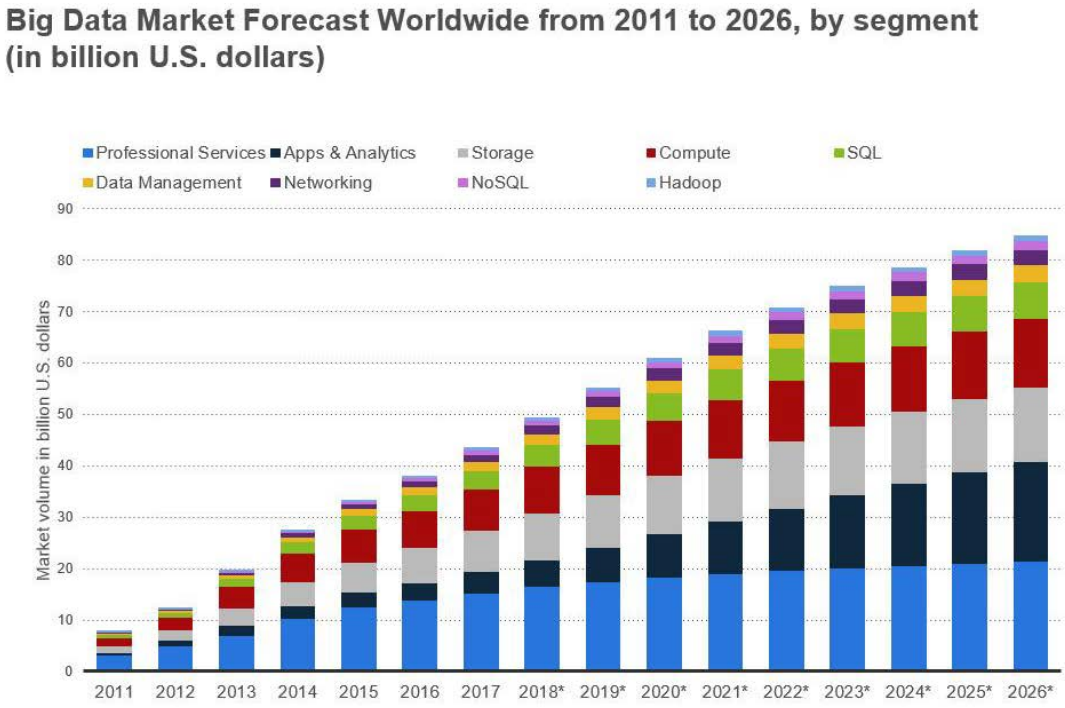

Figure 1: Big Data Market Forecast Worldwide from 2011-2026, by segment (in USD billion), source: Statista[4]

On the international tax policy level, it is widely acknowledged that the value of data should be considered when taxing business profits.[5] Put simply, there are two general options to adapt the tax system to reflect the value of data. First, one could acknowledge that it is impossible to correctly reflect the value of data (and other processes in digital business models) in the existing framework. Such acknowledgement would call for a fundamental tax reform with options ranging from a destination based cash flow to a residence based shareholder taxation as proposed by leading scholars (Devereux and Vella 2017; Schoen 2018). The merit of such reforms is that the tax base would depend on rather immobile factors limiting the potential of economic distortions, tax planning, and tax competition (Devereux and Vella 2018). Considering the need for international consensus and inherent political feasibility, a more promising approach in the near future would be the second option to further develop existing principles, i.e. allocating profits according to the arm's length principle based on the separate entity approach. A major task would first be to define the notion of value creation and then produce some clear guidance on how to allocate profits.[6]

[4] Available at https://www.statista.com/statistics/255970/global-big-data-market-forecast-by-segment/.
[5] EC (2014), OECD (2015), OECD (2018b), HM Treasury (2018).
[6] We acknowledge that the paradigm to tax business profits in line with value creation is not uncontested and no perfect solutions exist in theory (see, e.g., Devereux and Vella (2018) and Schoen (2018)).

In an earlier publication, we have suggested that a thorough analysis of digital business models based on interdisciplinary research and practical examples is both feasible and a promising starting point to adapt the existing tax framework with regards to the allocation of profits (Olbert and Spengel 2017). Schoen (2018) further argues that such an approach helps to rethink the notion of taxable nexus in terms of where companies commit to digital investments. In general, digital business model analysis shows that digitalization produces intangibles that are not only quantifiable fixed assets but also involve process changes and „organizational inventions“ (Brynjolfsson and McAfee 2014). Businesses create value along their entire value chain and information technologies are no longer supportive elements but integral parts of the value chain (Porter 1985, Zott et al. 2011, OECD 2018b). In their recent work, Brynjolfsson and McAfee (2017) highlight that businesses can harness the forces of three new types of assets: machines (intelligent computers), platforms (business models using software interfaces), and crowds (high-scale access to information and users). They argue, however, that the respective counterparts of the old economy: mind (people), products (physical goods and services), and core (internal knowledge across the supply chain) are not obsolete. Instead, there is a common "need to rethink the balance" between these new and old assets in order to understand "when, where, how, and why machines, platform, and crowds can be effective (…)". The World Bank estimates that 64% of the global wealth resided in human capital in 2014 (World Bank Group 2018). In today's increasingly digital economy, any efforts to design tax rules in line with value creation should thus center on the role (and location) of specific people functions in integrated, digital business models.

Data mining process in business models

During the rise of the digital economy, claims have been made that data contains value similar to valuable natural resources like oil. However, this analogy is flawed (Marr 2018, Goldfein and Nguyen 2018). Data only compounds in value if it is tied to a particular problem domain and solves problems for customers and businesses. In other words, data needs to be transformed by businesses that aim at value creation and this fact should be taken into account when thinking about corporate income taxation and data. Clearly, (raw) data is not comparable to oil.

The concept of data mining refers to the techniques, methods, and algorithms to analyze large amounts of data with the ultimate goal to transform data into knowledge by discovering meaningful structures and patterns (Witten et al. 2017, Larose and Larose 2014; Linoff and Berry 2011). The terminology of mining data could be a misleading analogy to the comparison of data to oil, because the end product of the mining process is not data itself but novel and

potentially useful information (Klösgen and Zytkow 2002). The complete and nontrivial process of uncovering meaningful patterns in data is often referred to as knowledge discovery in databases (KDD) and data mining is an integral part of this process (Fayyad et al. 1996). As mentioned above, we stick to the common practice in the literature and use the terminology of KDD and data mining interchangeably (Fayyad et al. 1996; Hand et al. 2000; Kurgan and Musilek 2006).

When put into the context of a business model analysis, data mining can be considered as the part of a business model that creates value out of data. This notion is confirmed by practical and empirical evidence that companies invest in data mining with the ultimate purpose to increase their return on investment (Boire 2014). We aim to conceptualize the process of data mining that can be spread across different legal entities and functions of a globally operating company. While this approach does not provide a specific business model analysis of a single company, some form of data mining is inherent to any digital business model. It should thus be helpful to thinking about profit allocation for tax purposes in line with value creation in the digital economy. For example, many products of Alphabet Inc. directly rely on the data mining process[7] and the value created monetizes in the form of revenue in exchange for offering targeted advertisements. Other data applications of companies offering physical goods or services are more subtle since the internal data mining process helps to develop these goods and services internally.[8]

Figure 2 depicts the process of data mining with raw data located at the left end of the picture and valuable "knowledge" symbolized by a diamond at the right end. In a B2C business model, a company collects raw data from users located in their consumer market and finally use the knowledge when deciding about what services to offer where and when and how to develop them. In a traditional, industrial business model, a company might collect raw data on its internal transactions (e.g. wear and tear, results of chemical reactions etc.) at a plant in a country where little other business functions are located and finally uses knowledge to improve and sell services in several foreign markets. The current political concern is that companies can collect raw data and later sell their services and products (leveraged by knowledge) without establishing a (physical) taxable nexus under existing rules in markets where data are collected.

[7] http://research.google.com/pubs/DataMiningandModeling.html
[8] For example, SAP's Netwaever Business Warehouse (based on the S4/Hana platform) helps industrial companies to manage and leverage their internal data to improve a diverse range of (non-digital) business models. See https://help.sap.com/saphelp_erp60_sp/helpdata/de/4a/eb293b31de281de10000000a114084/content.htm.

Profit taxation typically occurs where companies (report to) allocate knowledge as proxied by entrepreneurial functions (people, assets, risk).

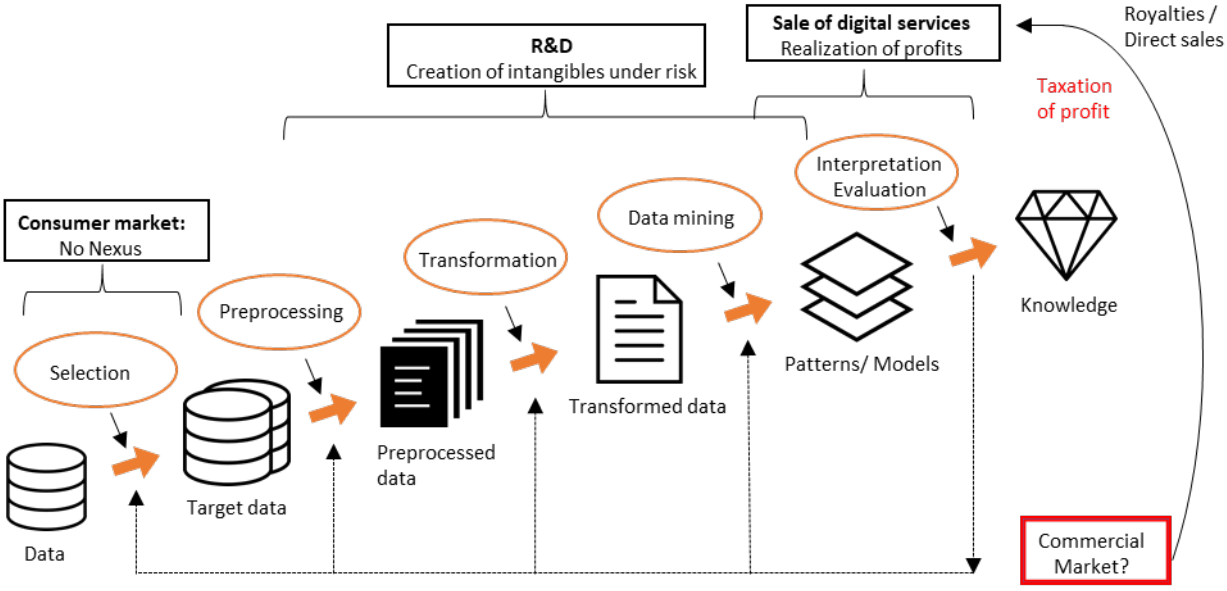

Figure 2: The process of Data Mining, based on Fayyad et al. 1996[9]

As the figure shows, value creation through data mining, however, requires several activities to transform raw data into valuable knowledge. The first, and crucial, step of data mining is to identify the objectives of the KDD process by understanding the business model and defining the business problem (Klösgen and Zytkow 2002; Larose and Larose 2014). The overall data mining process is in general highly adapted to the specified objectives. Applying data mining techniques mechanically to any set of data, without specifying process objectives, could easily lead to the discovery of meaningless data patterns and result in false conclusions (Fayyad et al. 1996).

The first step depicted in Figure 2 is to decide upon data selection to extract target data from raw data. For instance, only some of the information gathered from consumers or transactions are relevant to create future value. Furthermore, most data mining tools work best with only a few thousand relevant observations and the selection of the appropriate data subset often requires human judgement, time and effort (Roiger 2016). Then, this data must be preprocessed and transformed into a format that is useful for the subsequent analysis. While the preprocessing and cleaning of data is not very rewarding itself, it is essential to reduce noise in the data and to create a reliable base for the mining techniques (Hand et al. 2000). During this phase of the process, a first explorative look on the data is advisable and the applicable data mining

[9] Icons taken from authors Freepik and Smashicons by flaticon.com.

techniques should be chosen. The next step involves data mining when defined more narrowly, i.e. a company's data scientists that collaborate with managers at diverse business functions (Boire 2014, McKinsey Global Institute 2016, Witten et al. 2017) analyze the data to recognize patterns and models in the data. Data mining in its technical meaning can be largely automated and data mining tools, based on e.g. machine learning techniques, can be used to verify hypotheses or discover new patterns (Roiger 2016; Fayyad et al. 1996). Despite the automation potential in this step, the mining tools and modeling techniques require itself valuable IP and expertise. Ultimately, the discovered knowledge has to be interpreted and evaluated. The last step in the KDD process is essential to meet the initially set objectives and enhance the value for the business model. To improve the data mining procedure, the whole process can be restarted, and intermediate steps can be adjusted based on the gained insights.

Each digital business model and each traditional business model that gradually experiences a digital transformation is unique and, consequently, companies create value through data mining in different ways. Also, a company might not engage in all steps of the outlined data mining process but either outsource some parts of it or, for example, monetize processed or transformed data by selling it to third parties that then engage in further data mining activities. Accordingly, different legal entities of the same company can be engaged in different steps of the data mining process.

For example, data providers engage in collecting raw data and sell it directly to businesses that further transform and analyze this data. Numerous firms exist that collect, for instance mass media and publicly financial macro and micro-economic information and generate substantial revenue by selling it to other parties that extract value from it (e.g. financial analysts or researchers). Other companies are more intensive internal users of data that they collect, select and process. Such data could be on customer behavior or internal operations (e.g. wear and tear). Based on this internal data, companies can improve and develop their goods and services. Other businesses conduct more advanced data mining and use the valuable data (i.e. knowledge) internally or sell services or physical products based on the extracted value. For instance, many formerly traditional mechanical engineering firms already cover the entire data mining process and offer a wide range of physical products.[10] Overall, tax policy makers should be aware of the fact that firms from a wide range of industry segments are already engaged in data mining activities. Importantly, they perform these activities to varying degrees and might thus face

[10] For instance, consider Bosch's internet of things platform, see https://www.bosch-si.com/iot-platform/bosch-iot-suite/homepage-bosch-iot-suite.html.

great uncertainty if they confront any short-sighted tax legislation that is intended to tax the use of data.

Functional analysis of digital business models for transfer pricing

The challenge for allocating profits to legal entities within an integrated company according to the arm's length principle (and, presumably, in line with value creation) is to identify in what part of the data mining process a legal entity (i.e. taxpayer) is engaged in. The next question asks what the value of the specific activities relative to the overall value created through data mining is. This transfer pricing challenge could be addressed based on the conceptual analysis of the data mining process and the different business models that exist along the value chain of data mining.

Transfer pricing according to the arm's length principle relies on the comparability of controlled (intrafirm) transactions with third-party transactions (United Nations 2017, OECD 2017b). The very nature of intrafirm transactions often makes it impossible to find third market comparables (Keuschnigg and Devereux 2013) and this problem is obviously inherent to data-driven business models, too. Furthermore, special characteristics of IP and know-how, which are key value drivers of the data mining process, make the determination of an arm's length price even more difficult. We argue, however, that transfer pricing solutions can be developed for data-driven businesses in a similar way as for traditional business models because there exist (standalone) businesses that engage in specific activities of the data mining process.

To arrive at such a solution, common techniques of a functional analysis should identify the significant people functions involved and the investments made and risks assumed within the data mining process. Based on the above conceptual analysis of the data mining process, the relative value contribution of the respective affiliated legal entities of an integrated firm in which such people functions and investments are located might then be identified by finding comparable functions and assets at standalone firms engaged in the same part of the data mining process. The functional analysis should carefully take into account the iterative nature of the knowledge development process and the risks associated with the ex-ante uncertain outcomes of this process. The development of knowledge is the goal of data mining and, thus, traditional research and development processes could serve as a role model for transfer pricing methods. Knowledge discovery in databases is essentially a special form of R&D activities and, at most, the outcome is in both cases valuable IP.

Proxies for the value of collected raw data can be derived from prices that companies focusing on data collection demand for their services. Such companies exist across many industries.[11] If an affiliate of a company running a digital platform is only concerned with collecting data in its specific market and if this data is processed and analyzed in business functions at a different location, respective profits can be allocated to this affiliate based on available market prices. If, however, such an affiliate is also engaged in processing the data to contribute to the business' success (e.g. when software engineers are engaged in the R&D process), the identified market prices for the raw data can only be the lower bound for allocating profits. As a firm is involved in more activities towards the (valuable) part of the data mining process (towards the right on Figures 2), finding comparable transactions becomes a more tedious task. In such a situation, the profit split method should be considered to find consistent transfer pricing solutions. The OECD's recent work on when and how to apply the profit split method and on revising the internationally accepted transfer pricing guidelines (OECD 2017b, 2018a) could build on these considerations to provide guidance as a comprehensive, consensus-based solution in a timely manner.

[11] This market is also called Data as a Service (https://www.idc.com/getdoc.jsp?containerId=IDC_P31301). See, e.g. McKinsey Global Institutes (2016), https://www.greenbook.org/market-research-firms/data-collection.

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Mannheim, 12 October 2017

Public input on the tax challenges of digitalisation

Dear members of the Task Force on the Digital Economy (TFDE),

Dear Mr. Saint-Amans,

We appreciate the opportunity to deliver our views on the tax challenges of digitalization as a response to your request for input. We believe that major shortcomings in the ongoing debate still exist. We further believe that uncoordinated action is dangerous and hampers future investment within the OECD-Area. Therefore, we propose a well sounded plan for future action and we believe that OECD-Standards might be enhanced to tackle business models in the digitalized world. Above all, no new tax order for digitalized businesses is recommended.

The digitalization of the economy is considered as a key driver of innovation, economic growth and societal change, and is a major challenge for the international tax system. However, respective tax reform proposals are still premature. We thus welcome the OECD's approach to discuss the matter with all kinds of stakeholders in order to develop solutions on common ground. In our opinion, one major reason for the difficulties to precisely define the tax challenges of the digital economy and to develop appropriate reform options is – above all – the lack of a common understanding of what the digital economy consists of. In our believe, major traditional business models will turn to digitalized business models very soon.

A major difficulty for policy makers with respect to the taxation in the digital economy is the lack of scientific evidence on the tax challenges as well as profound academic work on the potential merits and drawbacks of the reform options under review. The novelty of the subject to the academic world in business taxation as well as the need for action motivated us to initiate several research projects on taxation in the digital economy at the University of Mannheim and the Centre for European Economic Research (ZEW).[1] We thus seize the opportunity to comment on several of the questions in your request for input based on our early findings and ongoing work as well as insights from other academic work.

A. Digitalization, Business Models and Value Creation

In general, we consider the understanding of digital business models in the international tax community still incomplete. We argue that business model analyses based on economic characteristics that are identified relying on interdisciplinary knowledge are helpful to reach a more profound understanding to develop solutions for tax policy. Based on insights from literature in the fields of industrial economics, management and information technology we have qualitatively analyzed three stylized types of digital business models: Business models in the B2C and B2B sectors as well as the digital transformation of (formerly) traditional, physical business models.[2] We summarize our findings in the following (A1-A5) and also relate our comments on the tax challenges to this work.

A1. Impact of digitalization on business models

A business creates value if the revenues exceed the corresponding costs. In traditional management science, information technology was seen as a supporting element of the process of differentiation. In the digital economy, the increasing relevance and strategic use of information requires a modern value chain analysis within digital markets to take into account the combination and integration of resources, innovative technologies and information. A digital business model "depicts the content, structure, and governance of transactions designed

[1] In particular, we have conducted the following studies: A qualitative analysis of digital business models and the respective tax challenges in an article published in the World Tax Journal, see Olbert/Spengel, International Taxation in the Digital Economy: Challenge Accepted?, World Tax Journal, 2017, pp.3-46, available at https://online.ibfd.org/kbase/#topic=doc&url=/collections/wtj/html/wtj_2017_01_int_4.html; The derivation and quantification of Effective Average Tax Rates (EATRs), Effective Marginal Tax Rates (EMTRs) and the Cost of Capital for digital business models depending on the location of investment for 33 countries, see PWC/ZEW, Steuerliche Standortattraktivität digitaler Geschäftsmodelle: steuerlicher Digitalisierungsindex 2017, 2017, Frankfurt/Mannheim, ("Digital Tax Index 2017") available at http://ftp.zew.de/pub/zew-docs/gutachten/Studie_Digitale_Geschaeftsmodelle_2017.pdf; An explorative study in cooperation with ICT experts from the ZEW on the German market for digital services with an evaluation of the relevance of digital service providers from third countries to detect critical market segments in need for support ("Structure and Volume of the Market for Digital Services with a Focus on Companies from third Countries", initiated and funded by the German Ministry of Finance), see http://www.zew.de/de/forschung/struktur-und-volumen-des-marktes-von-internetdienstleistungen-mit-fokus-auf-drittlandsunternehmen/?cHash=5adc68515f54ce8b47094cb3bd7b3480.
Currently, we are working on a qualitative analysis of the tax treatment of cross-border cloud computing transactions; on a survey-based study on the challenges for transfer pricing of digital business models; and on an empirical investigation on the response to tax incentives from value-added taxes and corporate income taxes by multinational companies in the digital economy.

[2] See Olbert/Spengel, International Taxation in the Digital Economy: Challenge Accepted?, World Tax Journal, 2017. Our results were summarized in several other outlets such as Austaxpolicy (http://www.austaxpolicy.com/international-taxation-digital-economy-challenge-accepted/), Public Finance International (http://www.publicfinanceinternational.org/feature/2017/09/tax-and-mend). A Chinese translation is available in the Shenzhen-based Taxation Translation Journal.

so as to create value through the exploitation of business opportunities".[3] In practical terms, the value creation of a digital business model can be defined as the way of generating revenue (exploitation of business opportunities) by using data and information (content) in a specific form of products or services (structure). This process has to be implemented by skilled personnel acting in strategic management and operations and using appropriate assets within their organization (governance). We suggest to rely on the concept of economic value added (EVA) to quantify the value creation. It captures both sales and related current costs, as well as the opportunity cost of the employed assets within a business model. As a result, one should analyze at what point in time (and for international tax purposes in which location) revenue is generated by sales on the market, costs are incurred through relevant activities (performed anywhere) and assets are employed within digital business models.

A2. Role of IP and types of IP in business models

Intangible assets are key value drivers of digital business models. Yet, for understanding value creation of digital business models, it is important to note that they can take on new forms other than patents or copyrights, i.e. other than traditional IP that has been intensively discussed in the past. For instance, a lot of R&D is never formalized as IP but still adds substantial value to businesses. Also, hardly measurable categories, such as organizational capital, user-generated content, and human capital related to digital capabilities are large parts of intangibles in digital businesses.[4]

We consider it particularly critical to distinguish between assets of ordinary character that involve only little risk and those assets with a larger contribution to value creation. According to the OECD's current work on transfer pricing of intangibles, an ordinary asset involving low risk would be, e.g., an assembled workforce (if qualifying as intangible) or only internally used software. However, a detailed analysis of digital business models might reveal that these assets are more crucial for generating profits. In particular, most parts of the IT infrastructure are very important tangible and intangible assets of digital business models because products and services have embedded digital technologies that cannot be disentangled from the underlying IT infrastructure. For instance, empirical studies confirm that investment in IT is positively associated with sales growth and profitability.[5] Not only inherently digital firms, such as cloud software or online platform providers but also traditional businesses make strategic investments to foster the digitalization of their value chain. Therefore, the work on the OECD guidelines on intangibles should be extended with regards to the development and management of the IT infrastructure as well as the strategic location of IT investments and the people influencing the respective business processes.

As a specific type of IP, software is a crucial asset of any digital business model. The tax treatment of the investment in software as well as on its development and use is thus a key pressure area. Today's software business models are not always formalized in the form of copyrights. The generation of revenue from software is dependent on ongoing maintenance and development. As revenue is further based on service-oriented cloud transactions, protecting software from unauthorized copying through copyrights becomes (partly) obsolete. As a

[3] Amit/Zott, Value Creation in E-Business, Strategic Management Journal 6/7, 2001, p.496.
[4] See Brynjolfsson/McAfee, The Second Machine Age, 2014, p. 119 et sequ. ("Intangibles").
[5] Cardona/Kretschmer/Strobel, The Contribution of ICT to Productivity: Key Conclusions from Surveying the Empirical Literature, Information Economics and Policy, 25(3), 2013, pp. 109-125.

practical example, the traditional German automotive supplier Bosch is transforming its business model from a purely physical product-driven approach towards the supply of a cloud through which industrial and private customers are offered software-related services.[6] Tax policy should carefully analyse new forms of software provision, the underlying ownership structure and related business transactions so as to clearly define taxing rights and the nature of underlying income as well as to avoid double taxation.

A3. Sales operations in digital business models

The sales function is decisive for any company's profitability and should thus be appropriately reflected when aligning taxation (and, in particular, transfer prices) with value creation. While the sales function in many traditional physical product-oriented companies is considered to perform routine activities, it might be of much more strategic nature for certain digital business models due to the reliance on market penetration (user base, network effects). Yet, this notion is hard to capture within the traditional tax framework since digital business models expand internationally via slim organizational structures. Under current tax law, digitalization leads to a convergence of core activities and thus taxable nexus at the location of the parent company or regional hubs. While the sales function is performed locally, the underlying legal and tax structure often takes on the form of commissionaire arrangements. As a result, little profit stemming from digital business models of foreign companies is attributed to market jurisdictions for tax purposes.

We stress that this specific form of sales operations is not necessarily tax-driven but rather represents the outcomes of the technological development. Yet, providing high-quality digital services to end-users requires a certain degree of infrastructure in proximity to the customer market. Also, customer orientation and all related activities are crucial for the success of digital business models. Thus, activities performed by local staff, such as customer support or the technical adaptation of digital products and services to the particularities of local markets (e.g. language features, legal requirements, customer characteristics, etc.), might not be best interpreted as routine tasks from a tax perspective.

Potentially new forms of the sales function of digital business models should be analyzed in more depth as to develop criteria that distinguish between important activities that contribute to customer-centric value creation and rather supportive activities.

In our study on the German market for digital services, we investigated where providers of digital services that are delivered to private consumers are located and to which market segments they belong.[7] Given the size of the market segments and the relevance of B2C-services in that category, we identified eight relevant segments: Gambling, Digital Games, Education, Pornographic Content, Digital Video, Digital Music, Classifieds and Dating.[8] These first market analyses show that providers of digital services can operate from everywhere in the world no matter where the consumers are located. Multiple third-country service providers are

[6] See https://www.bosch-si.com/iot-platform/bosch-iot-suite/homepage-bosch-iot-suite.html.
[7] We analysed the data traffic (over a period of roughly 9 months) of relevant websites using data from the Amazon Alexa Web Services, available at https://aws.amazon.com/de/awis/.
[8] Listed here according to the sales volume with final consumers in Germany in 2016.

active in the German market, as is probably true for many other consumer markets.[9] Consequently, different issues concerning indirect taxation arise. On the one hand, tax authorities are in need to identify the providers of these remote online sales for consumption tax purposes. On the other hand, the providers themselves are burdened with identifying the location and status of their customers in order to adequately declare and remit tax.

A4. Types and roles of data

In the ongoing discussion, data is considered a new type of intangible asset for which the tax treatment is crucial but unresolved. We do not share the apparently common perception that the mere process of collecting data substantially adds to value creation. One should rather acknowledge that increased computing power, proprietary software and database management tools have to be managed and strategically used by people in order to facilitate the processing and analyzing of data. Only this sophisticated use of data then is a success factor for digital businesses.

Further, it is important to examine in which functions the data is exploited in order to create value. Additionally, different business models rely on different types of data. While biographic data on private users is crucial for personalized advertising, such data is less relevant for an automotive supplier aiming to digitally optimize maintenance. Due to the dynamic development as well as the individual nature of business models, it is impossible to distinguish how much value for the business is associated with the data of a specific platform user or any other type of data. In the digital age, not only the IT or operations departments exploit data but other functions too. Marketing, customer support and sales may also engage in data collection, processing and analysis depending on the business model. Particularly market-related activities, such as marketing or sales, make extensive use of data and digital technologies.

To arrive at solutions for taxing businesses that make use of data, these phenomena should be accounted for in the functional analysis for transfer pricing purposes. Taxing corporate profits based on the functional analysis will be a less complicated and a more efficient way of taking the value of data into account for tax purposes than any attempt to tax the use of data separately. Theoretical studies show that taxing profits will not influence the amount of data collected by platform providers.[10] In contrast, transaction-based taxes on data are expected to create economic distortions.

In order to exploit data within a business model, database systems are a key asset that combine hardware and software features. The nature and relevance of databases has dramatically changed due to the uptake of online services and cloud computing applications. Guidance on the nature of related payments for the use of database systems (often involving cloud computing transactions) is needed, as it is unclear how the existing principles should be applied for this growing business segment.

[9] Further insights on the relevance of third-country service providers, next to domestic or EU-based providers, in the respective segments can only be discussed after the official release of the report by the German Federal Ministry of Finance.
[10] Bloch/Demange, Taxation and Privacy Protection on Internet Platforms, France Stratégie, 2016, pp. 3-4.

A5. Platforms for value creation

Digital business models running an online platform usually rely on a well-performing IT landscape without necessarily owning any tangible or intangible assets when accessing foreign markets. Instead, hosting services allow for the same activities to be conducted as when the infrastructure was owned.

Several theoretical studies and practical reports highlight the importance of a meaningful user base for the success of digital business models.[11] The reason is that major (financial) benefits arise for digital businesses relying on the use of platforms due to network externalities. Theory suggests that taxing network externalities can directly increase overall efficiency. Yet, such an approach would clearly depart from existing tax principles. Similarly, it would be difficult to enforce regulation that defines and measures the user base as separate intangibles since not all users are customers that contribute in the same (financial) manner to a platform's value (see our comments in A.4).

When a digital business runs a platform business in foreign markets, the functions of the local subsidiary in the country of the platform users and customers are certainly of high relevance since platforms depend on local usage and customization (see our comments in A.3). E.g., the business model depends on a platform tailored to the local language and regulation as well as to customer-specific configurations. As a result, subsidiaries in countries where users and customers are located might deserve a closer analysis even if their assets and functions are limited from a traditional perspective. Such analyses would be in line with the OECD's idea to consider that the user base might serve as an indicator for value contribution as well as the OECD's statement that the value of consumer-related data is indirectly reflected in financial outcomes such as advertising revenue.

B. Challenges and Opportunities for Tax Systems

Based on the OECD's work on BEPS Action 1 and our qualitative analysis of digital business models, we have initiated several research projects that focus on analyzing and quantifying the tax challenges. We have analyzed the tax rules of 33 countries that are relevant for investments in digital business models in order to compute effective tax burdens for such investments measured as Effective Average Tax Rates and the Cost of Capital. The results offer insights on the implications for the taxation of digital business models (B.1.ii). When commenting on the tax challenges, we further refer to other ongoing work on transfer pricing, cloud computing as well as sales reporting and profit shifting.

B1. Issues with the current framework

The OECD aims to overcome this primarily legal view and tax businesses according to value creation and economic activity. However, current tax law attributes taxing rights and, in particular, taxable profits primarily to the jurisdiction where parent companies or regional operating centers of multinational digital businesses are located and important intangible assets are legally owned. The market side of digital business models is largely neglected for tax purposes under existing rules since the slim organizational structures for international

[11] See France Stratégie, Taxation and the digital economy: A survey of theoretical models, 2015.

expansion, in particular with regard to sales and marketing, circumvent the establishment of (significant) taxable nexus.

We acknowledge that there is a certain political will to assign more taxing rights to market countries in the digital economy.[12] However, we advocate to act with caution since activity in the market country measured by proxies leading to a virtual or digital presence might lead to uncertainty and economic distortions. As highlighted above, different digital business models act differently in their markets. In other words, data and activities in the country where customers are located do not necessarily attribute the same value to a business.

Further, there is no empirical evidence for the alleged excessive profit shifting activities of digital companies. In a current research project based on a large dataset of European affiliates of multinational companies, we find no differential income tax sensitivity of reported pre-tax profits for firms in the digital sector. While prior studies do not focus on the digital economy, they show that profit shifting behavior is relatively steady across industries. Despite the lack of empirical evidence, the anecdotal cases of Google and Amazon suggest that digital companies engage more aggressively in profit shifting. Yet, the anecdotal evidence also extends to firms relying on sales of physical products such as Apple[13] or Caterpillar[14]. We thus promote rationality when it comes to discussing anti-avoidance measures to combat BEPS in the digital economy.

In a recent survey among German transfer pricing managers and consultants we find that there is no common understanding of the appropriate methods and documentation to price intercompany transactions relating to digital business models. For instance, issues arise when one affiliate offers cloud computing services to other group members or when data mining is performed by one affiliate and respective results are exploited by other group members. While great uncertainty exists with regard to the current tax treatment, the majority of tax managers expect disputes in transfer pricing audits as well as severe risks of double taxation in the future due to the lack of clearly defined transfer pricing guidelines based on an internationally harmonized approach. Most practitioners therefore advocate for a revision of the existing transfer pricing guidelines and favor “safe havens” for non-strategic but dynamic and frequent transaction types in the digital economy. In our view, transfer pricing guidance should be developed with priority since such work would ensure certainty for transactions that are already becoming predominant and will be major topics in tax assessments and tax audits in the near future.

[12] E.g. https://www.eu2017.ee/news/press-releases/eu-finance-ministers-agreed-develop-new-digital-taxation-rules.
[13] See http://www.nytimes.com/2013/05/03/business/how-apple-and-other-corporations-move-profit-to-avoid-taxes.html.
[14] See https://www.ft.com/content/8b68af3a-b8ed-11e3-a189-00144feabdc0?mhq5j=e7.

B2. Implications of digital business models on taxation policy

i. Existing tax bases, structures, distribution of tax bases

Regarding the indirect taxation of businesses via consumption taxes such as the VAT, distortions of competition have been identified since digital services are treated differently than non-digital services.[15] Similar issues exist in the U.S. context of the sales tax where sellers only need to collect sales taxes on shipments to states where they have a physical presence (nexus).[16] The fact that online sellers delivering to consumers in a state where they have no nexus do not have to collect sales taxes serves as an argument for online sellers' location decisions being affected by sales taxes.[17] The enforcement and collection of consumption taxes is thus one of the major issues for tax authorities. Only since 2015, digital service suppliers in the EU need to comply with the VAT legislation of the Member States where their customers are located (destination principle). This means they need to identify the customers' location in order to apply the correct VAT rate.[18] For the supply of digital services, these pieces of information may not be available[19], leading to compliance costs and enforcement issues on the on hand and potential loopholes for VAT avoidance on the other hand. We advocate to examine in detail which issues exist regarding the enforcement of the destination principle for digital services (as enacted from 2015) within the EU in order to design a VAT system that is fit for the digital age. Collecting consumption taxes consistently across all segments of the economy is an integral part of fair competition and crucial for generating tax revenue.

Regarding direct taxes, we conclude that profit taxation of digital business models is being "centralized" under current tax law. Abstracting from any tax planning considerations, foreign markets can be accessed without a significant taxable nexus, which leads to taxable profits accruing at the location where a digital business model's people perform the strategic investments and the relevant activities. As a result, we observe two opposing strategies for tax policy. On the one hand, competitive tax incentives are offered to attract investments in digital business models (doubtlessly involving employment) in order to promote a country's attractiveness as a locational hub in the digital economy. On the other hand, defensive tax policy includes specific tax legislation targeted at foreign digital companies.

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[15] The value-added taxation according to the origin principle in place until 2014 provided an incentive to locate in countries with a low VAT rate. Exploiting respective tax rate differentials granted a competitive advantage for supplying digital services to consumers in a high VAT rate country compared to service providers located in such a high VAT rate country and compared to non-digital service providers. On the one hand, final prices for consumers could be set lower while still generating the same net revenue. On the other hand, equal prices could be charged while generating higher net revenues. Considering the highly flexible, i.e. delivered electronically or online, distribution of digital services to private consumers, distortions of competition favouring low-tax countries were a problem for the single EU market.

[16] See e.g. Agrawal/Fox, Taxes in an E-Commerce Generation, International Tax and Public Finance, forthcoming; Fox/Luna/Schaur, Destination taxation and evasion: Evidence from US inter-state commodity flows, Journal of Accounting and Economics 57, 2014, pp.43-57.

[17] Hoopes/Thornock/Williams, Does use tax evasion provide a competitive advantage to e-tailers?, National Tax Journal 69 (1), March 2016, p. 133-168; Bruce/Fox/Luna, E-tailer sales tax nexus and state tax policies, National Tax Journal 68 (3S), September 2015, p. 735-766.

[18] If this information is not available, the location of the customer is based on two items of non-contradictory evidence. These are either the billing address, bank details, IP address or any other commercially relevant information (VAT Implementing Regulation (1042/2013)).

[19] A billing address is typically not necessary, the bank account of the receiving customer may be set up in another country than the country of the customer's usual residence and the IP address identified the location of the computer but not necessarily the customer. See Bal, EU VAT: New Rules on B2C Supplies of Digital Services from 2015, European Taxation, 2014, p. 303.

Tax policy should consider both, indirect and direct taxation simultaneously when reforming tax law in the digital economy since income and non-income taxes are interrelated with respect to the tax bases (and thus tax revenue) as well as firms' tax planning considerations. In our ongoing work, empirical results suggest that firms react to both, lower value-added tax rates via sales reporting and lower corporate income tax rates via profit reporting. We further find particularly strong value-added tax rate sensitivities for digital businesses. Also, there is robust evidence that the reaction to low corporate income taxes is dependent on the applicable value-added tax rate in the same country (and vice versa). Again, this interrelation seems to be particularly strong for firms in the digital sector.

ii. Implication for the taxation of business profits

Due to the "centralized" nature of assets and functions for digital businesses under current tax law, the effective tax burden primarily depends on the location of these assets and functions even if sales are largely generated abroad. Thus, investment decisions with regard to digital business models might be particularly contingent on the tax environment. We have quantitatively shown that the tax attractiveness for digital businesses varies considerably across Europe and other developed countries. Further, digital business models face significantly lower effective tax burdens (and lower costs of capital) due to special tax incentives available for innovative activities as well as the weaker reliance on long-term capital assets. For further results with regard to tax burdens of digital vs. traditional business models, we refer to our joint study with PWC "Digital Tax Index 2017".[20]

[20] Executive Summary in English available at https://www.pwc.de/de/industrielle-produktion/executive-summary-digitaliiserungsindex-en.pdf. Full version (only in German) available at http://www.zew.de/en/das-zew/aktuelles/steuerlicher-digitalisierungsindex-2017-deutschland-hat-nachholbedarf-im-internationalen-vergleich/. Online appendix available at https://www.pwc.de/de/technologie-medien-und-telekommunikation/assets/anhang-steuerlicher-digitalisierungsindex-2017.pdf.

Tab. 1 Main results of the 2017 digital tax index

	EATR				CoC			
Country	Rank	Ø	Δ Rank	Δ in percentage points	Rank	Ø	Δ Rank	Δ in percentage points
Ireland	1	–10.32%	3	–24.44	4	0.24%	6	–5.46
Italy	2	–8.84%	20	–32.43	1	–4.09%	1	–9.26
Hungary	3	–6.85%	11	–26.18	3	–0.15%	16	–6.15
Latvia	4	0.33%	1	–13.94	8	2.25%	4	–3.46
Lithuania	5	0.44%	–2	–13.18	9	2.27%	–3	–3.29
Belgium	6	2.28%	22	–26.07	5	1.29%	11	–4.57
Croatia	7	5.19%	2	–11.28	12	2.49%	–7	–2.88
Romania	8	6.62%	–2	–8.11	16	3.55%	–8	–2.10
Czech Republic	9	7.48%	1	–9.18	14	3.23%	–7	–2.36
Norway	10	8.02%	11	–15.27	7	2.22%	16	–3.99
Switzerland (Zurich)	11	8.39%	1	–10.25	13	3.09%	–2	–2.61
Cyprus	12	8.73%	–10	–4.38	26	4.64%	–23	–0.69
Slovenia	13	9.51%	–6	–5.96	19	4.08%	–10	–1.58
Bulgaria	14	9.52%	–13	0.52	30	5.18%	–26	–0.15
Luxembourg	15	10.76%	9	–14.76	27	4.82%	–6	–1.20
United Kingdom	16	11.11%	2	–10.44	22	4.45%	4	–2.18
Portugal	17	11.63%	8	–14.99	11	2.47%	13	–3.80
France	18	12.39%	15	–25.96	2	–0.72%	28	–8.14
Poland	19	12.63%	–8	–4.86	23	4.53%	–9	–1.27
Spain	20	12.85%	9	–17.43	10	2.39%	22	–5.48
Malta	21	13.12%	9	–19.12	6	1.45%	23	–5.39
Netherlands	22	13.61%	–3	–6.93	18	3.84%	2	–2.17
Denmark	23	14.81%	–6	–5.23	24	4.58%	–7	–1.33
Slovakia	24	15.09%	–8	–4.48	25	4.62%	–12	–1.16
Austria	25	15.16%	–5	–7.93	20	4.14%	2	–2.02
Finland	26	15.86%	–13	–3.04	29	5.18%	–11	–0.80
Canada (Ontario)	27	16.05%	–4	–9.07	21	4.29%	7	–2.35
Estonia	28	16.27%	–20	0.57	32	5.27%	–31	0.10
Greece	29	16.73%	–3	–10.84	17	3.76%	10	–2.88
Sweden	30	16.93%	–15	–2.50	31	5.22%	–16	–0.63
Germany	31	22.61%	–4	–5.41	28	5.13%	–3	–1.32
USA (California)	32	22.82%	0	–13.70	15	3.32%	16	–4.30
Japan	33	25.46%	–2	–8.79	33	5.76%	0	–2.34
Average		10.20%		–11.73		3.18%		–2.95

Germany is ranked 31st based on to its EATR. In comparison to traditional business models Germany even loses 4 places. In other words: The EATR for digital business models is 5.41 percentage points lower than for traditional ones. Regarding capital costs Germany ranks 28th with a CoC of 5.13%. This means Germany ranks three positions worse compared to the CoC of traditional business models.

C. Implementation of the BEPS Package

C1. Did BEPS Actions 3, 6, 7, 8-10 address BEPS risks and broader challenges, examples

The OECD as well as its members have worked on implementing new tax regulation and anti-avoidance measures to combat BEPS at high pace. The content and pace of this work is unprecedented and has remarkably changed the tax landscape while it has certainly closed loopholes for aggressive tax planning. However, existing concepts of international taxation and their potential adoptions are discussed separately in the corresponding action points and are not specifically analyzed with regard to the tax challenges of the digital economy. In particular, with regard to Actions 8-10, an opportunity was missed to include guidance on assets, activities and transactions of digital business models. Further, the implementation of specific BEPS action points in national or supranational law faces obstacles of compatibility with EU law, and proposals regarding transaction and withholding taxes for the digital economy might collide with international trade law.

Certainly, the question of defining a source and allocating taxing rights arises and is therefore thoroughly discussed in Action 1. However, even if the threshold for PEs is lowered, the profit allocation via transfer pricing cannot be circumvented in a second step. Several scholars highlight that the key question for taxing businesses in the digital economy is how to allocate profits generated by the underlying new types of business models. Currently, we see no sustainable guidance with respect to transfer pricing for digital business models that would account for the new forms of value creation and thus allocate profits accordingly. As a result, the OECD's preferred proposal to amend the exception of auxiliary and preparatory activities from the PE status will not remarkably affect income allocation in the digital economy.

Rather, we anticipate that taxpayers will face higher compliance costs and higher risks of double taxation in case their business model implies more PEs after the BEPS reform. One example is the case of cloud computing. If the distribution of cloud services through formerly commissionaire arrangements now leads to PEs in foreign markets, not only primary software companies will be faced with a surge in PEs in their organizational structure but also traditional businesses that now offer cloud-based services alongside their physical products[21] will be confronted with additional complexity. Yet, it is unclear how profit allocation and the tax proceedings will work after establishing additional taxable nexus.

Against this backdrop, we encourage the OECD to further work on the development of a guidance on profit splits (PS). As the magnitude of comments received and recently published on 04 October 2017 suggests, arriving at a globally coordinated application is ambitious since both, criteria when to apply the PS method and how to allocate profits, depends on numerous factors and the specificities of the underlying business model. In our qualitative analysis, we conclude that the profit split method might be best suited to determine transfer prices (and thus profit allocation) for international and vertically integrated business models in the digital economy. As many practitioners have noted in their comments, vague wording and a rather

[21] E.g. the aformentioned automotive supplier offering a cloud for additional „internet of things" services after selling physical products, pharmaceutical companies, digital health applications (https://www.ft.com/content/d7a60642-0361-11e7-ace0-1ce02ef0def9?mhq5j=e7) or software applications for additional B2B services in the chemical industry (https://www.basf.com/en/company/about-us/digitalization-at-basf/digital-business-models.html).

conceptual nature of PS guidance creates uncertainty and implies the potential for transfer pricing disputes between taxpayers and the respective tax authorities across the globe. We anticipate that this scenario is particularly probable for digital business models since the underlying value chains are neither well understood nor commonly defined. We thus recommend to include a specific section on digital business models in the guidance on transfer pricing in general and profit splits in particular including practical examples (e.g. in the Annex).

C2. Experience from new VAT/GST collection models

Digital service providers typically run highly mobile business models such that they do not necessarily have a physical presence in the country of their consumers. While firms have no discretion over where to remit VAT due when generating revenues from digital services since the regulatory changes in 2015, the OECD still identifies major difficulties in the collection of consumption taxes on digital transactions between companies and consumers (see also our comments in B.2.i.).[22] For the cross-border supply of digital services, a major challenge is to identify the country of the consumption (the consumer's place of residence or the place of final consumption) as well as the country of the service provider's establishment.[23] This problem is especially pronounced due to the numerous low-value transactions in the digital services sectors. Many transactions at very low prices are being closed across borders aggravating the amount of information that needs to be collected. An evaluation of the effectiveness of the regulatory changes in 2015 together with the introduction of the MOSS, which should simplify registration, declaration and tax remittance, has still to be conducted. First statistics, however, have shown that registration numbers have been relatively low compared to actual market growth in the digital services sector.[24] This suggests that there are further issues to tackle since potentially not all providers active in the EU market registered in at least one Member State and even the registration does not necessarily mean that revenues are declared adequately. The enforcement of the new regulation and hence the collection of the VAT is still difficult and puts pressure on national governments to develop control systems and new enforcement strategies. In ongoing work, we identify an incentive for digital service providers to report sales where VAT rates are low (also see our comments in B.2.i). We will examine whether the introduction of the destination principle in 2015 has altered these forms of behavior once sufficient data is available for the period after 2015.

D. Options to Address the Broader Challenges

D1. Proposals of the 2015 Report

Your request also asks for comments on the following reform proposals that were mentioned in the 2015 report on Action 1:

a) Nexus concept of significant economic presence
b) Withholding tax on certain types of digital transactions

[22] OECD (2015), Addressing the Tax Challenges of the Digital Economy – Action 1: 2015 Final Report.
[23] See Bal, EU VAT: New Rules on B2C Supplies of Digital Services from 2015, European Taxation, 2014, p. 303; also Basu, To Tax or Not to Tax? That is the Question? Overview of Options in Consumption Taxation of E-Commerce, Journal of Information, Law and Technology 1, 2004, pp. 1-25.
[24] European Commission, VAT Aspects of cross-border e-commerce - Options for modernization Final report – Lot 3, November 2016, available at https://ec.europa.eu/taxation_customs/sites/taxation/files/vat_aspects_cross-border_e-commerce_final_report_lot3.pdf, p.14.

c) Digital equalization levy

In our qualitative analysis on the tax challenges and respective reform options, we have concluded that none of these proposed concepts represents a feasible option that would enhance profit taxation in line with value creation and consistently complement the existing tax framework.[25]

In the other sections of our comments, we encourage to analyze the specifics of digital business models in order to develop further the existing principles based on a global coordination. Such an approach takes into account longstanding practices and would ensure the highest level of certainty and feasibility.

Regarding the proposed options in the 2015 report we again stress our following view. We do not consider the identification of a taxable nexus in the digital economy a major issue. Tax policy should rather focus on how to allocate profits once a digital business model has a taxable nexus. If there is no nexus under prevailing tax rules, this fact should be accepted since cross-border trade without creating a nexus is also possible within the "old" economy (e.g. in the form of export/direct businesses).

Further, we consider the concept of withholding taxes an effective mechanism to collect/remit taxes. Yet, we do not recommend to further expand the concept to digital transactions since already existing problems of gross taxation, uncertainty and double taxation might aggravate. Further, expanding source taxation through withholding tax mechanisms is a politically delicate approach since particularly developed countries with large economies relying on export would lose substantial tax revenue.[26]

Finally, we do not consider an equalization levy as a suitable way forward. Such a levy on turnover of digital companies results in double taxation for cross-border cases since the "equalization tax" will most probably not be credited against income taxes in the residence country.[27] It is important to note that the equalization tax is not levied on foreign source income but on turnover and thus does not fit into the current framework of taxing business income. Moreover, the idea of an equalization tax restricted to companies currently accessing foreign markets and avoiding taxes is flawed. Also traditional businesses tend to have more and more income from digital services and would thus be harmfully affected by such special taxes in the future.

D2. Unilateral developments

While not recommending any of the considered options discussed in the BEPS report on Action 1, the OECD has left the unilateral or bilateral implementation of such options to countries wishing to proactively limit perceived tax challenges of the digital economy. We have mentioned that such unilateral approaches are problematic since they cause uncertainty for

[25] Olbert/Spengel, International Taxation in the Digital Economy: Challenge Accepted?, World Tax Journal, 2017, pp. 12 et sequ.
[26] Finke/Fuest/Nusser/Spengel, Extending Taxation of Interest and Royalty Income at Source – an Option to Limit Base Erosion and Profit Shifting?, ZEW Discussion Paper No. 14-073, September 2014.
[27] For the Indian case, see Wagh, The Taxation of Digital Transactions in India: The New Equalization Levy, Bulletin for International Taxation, 2016, pp. 538-552.

internationally acting digital business models and might lead to economic distortions.[28] Further, countries considering unilateral (anti-avoidance) measures need to weigh the benefit of potential revenue gains and the cost of foregone investment if adverse tax legislation affects corporate decision making as suggested by our quantitative results on effective tax burdens.

We thus strongly recommend to pursue a globally coordinated approach when working on new tax principles or (transfer pricing) guidelines for digital business models instead of encouraging unilateral approaches. Tax policy should bear in mind that digitalization is seen as a major driver of innovation and economic growth. Tax systems in general, but particularly concerning digitalization's potential for innovation, should promote growth and investment (besides other political goals).[29] Due to the globalized nature of most digital business models, such policy is best pursued in an internationally coordinated way.

E. Other Comments

E1. Issues we would like to see considered by the TFDE

As with other issues and debates on tax reform, we recommend to evaluate reform options and base political decisions on a broad range of input, in particular from the academic as well as practitioner's community. So far, there is no empirical evidence on the tax challenges of the digital economy. Apart from anecdotal evidence, it is particularly unclear whether digital business models are structured in order to minimize taxes. Interdisciplinary research efforts can help to shed light on the issue with the aim to support political decision making.

Further, we highly recommend to broaden the scope of the understanding of digitalization and the respective tax challenges towards the transformation that traditional business models are experiencing. While it is tempting to initiate tax legislation targeted at inherently digital firms that are assumed to exploit customer markets in high tax jurisdictions without paying "a fair share" of taxes, such legislation might affect a broad range of industrial companies without anticipation. Besides ensuring a fair taxation "in line with value creation", the overall objective should be to establish an investment-friendly environment through international cooperation and avoiding double taxation. In our opinion, a first and necessary step is to arrive at a common understanding of value creation in the digital economy and develop respective guidelines within the existing tax framework.

A first step in ensuring the indirect taxation of digital transactions at destination is the regular and consistent exchange of information between countries (especially since there are often no control mechanisms at the frontiers). While one such tool exists in the EU, the VAT Information Exchange System (VIES), services provided by non-EU companies or transactions involving only non-EU countries cannot be tracked in a similar way. Potential solutions have been discussed such as including the financial intermediaries in the process[30] or obliging service providers themselves to provide information to tax authorities on their customers[31]. So far, none

[28] See Olbert/Spengel, International Taxation in the Digital Economy: Challenge Accepted?, World Tax Journal, 2017, p. 19.
[29] See Olbert/Spengel, International Taxation in the Digital Economy: Challenge Accepted?, World Tax Journal, 2017, p. 42 for a more detailed discussion.
[30] See also discussions by the OECD, Consumption Tax Aspects of Electronic Commerce, A Report from Working Party No. 9 on consumption taxes to the Committee on Fiscal Affairs, February 2001.
[31] See Ligthart, Consumption Taxation in a Digital World: A Primer, CentER Discussion Paper No. 2004-102, 2004.

of these suggestions (and there may be even more of this kind) imply a successful solution to the problem; neither for the tax authorities nor for the taxpayers. We recommend tackling these issues further given that the potential VAT or sales tax foregone is large.[32] Alternatively, one has to find an integrated solution taking into account the interests of the tax authorities as well as the structure of the service transactions.

We hope that our comments will contribute to the discussions. We look forward to receiving critical remarks with the aim to deliver reliable input for the ongoing work on the tax challenges of digitalization.

Yours sincerely,

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[32] The unbalanced value-added taxation contributed to an estimated VAT gap of EUR 170 billion in 2013, European Parliament, Tax Challenges in the Digital Economy, 2016, available online at http://www.europarl.europa.eu/RegData/etudes/STUD/2016/579002/IPOL_STU(2016)579002_EN.pdf, p. 67.