Copenhagen Economics

FUTURE TAXATION OF COMPANY PROFITS: WHAT TO DO WITH INTANGIBLES?

COMMISSIONED BY SVENSKT NÄRINGSLIV

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EXECUTIVE SUMMARY

According to recently released documents, the OECD is considering several options to reform global corporate tax systems, one of which is to introduce a new formula for allocating the corporate tax base based on marketing intangibles. In essence, it will create a new concept of "residual corporate income" which consists, essentially, of what is deemed as non-routine returns on business assets – i.e. returns that exceed a certain "normal" return. This tax base will then be allocated to the countries in which the company is selling, based on the allocation of the company's marketing intangibles.

The marketing intangibles approach is a compromise between the current transfer pricing system and destination-based income tax. The marketing intangibles approach implies that more corporate income tax revenue is moved from the country of the entrepreneurial risk-taker to the destination of the consumer. The impact on specific businesses will depend largely on the precise details of the final proposal. At this point, there is no international consensus on how to address these challenges.

We conclude that small, open countries with high-intensity R&D in exporting sectors will lose net revenues. The Nordic countries, with their higher than average share of the life science and ICT industries, clearly fall into this category, as does Germany. This is linked to the fact that industries with a high share of marketing intangibles relative to enterprise value also have high-intensity R&D: in fact, the distinction between the different kinds of intangibles is not clear cut. A high value of marketing intangibles is often the result of previous heavy investment in R&D, which creates market and brand value.

A conservative approximation suggests that 18-21% of the current corporate tax base in the Nordics came from foreign residual profits in 2017. For Germany the share is approximately 17%. If the marketing intangibles approach is introduced, the bulk of this corporate tax revenue would be allocated to other countries.

We also find that the discussions of alternative new ways of reforming the global corporate tax regime are taking place in the absence of a clear discussion of what problems they are intended to solve. The BEPS efforts in conjunction with national tax reforms, notably the latest US tax reform, have markedly reduced incentives and options to shift mobile tax bases to low-tax jurisdictions. Formal tax rates in the OECD area are increasingly converging in the range of 20-25%. The overall tax revenue from corporate taxes has remained stable for decades as reductions in rates have to a large extent also been followed by base broadening. In conclusion, it is

difficult to see a burning platform for radical changes to the global tax system.

Moreover, the new options on the table are problematic in several ways. They may reduce member states' incentives to invest in high-growth, high-risk and R&D-intensive industries: the high returns of successful firms would be shared globally according to the residual income concept, while the losses of unsuccessful firms would be absorbed by the local economy. Moreover, the compliance challenges would be massive.

Looking at all the measures, we suggest that the measures that ensure minimum effective tax rates for firms trading globally have the most merit. While in no way being a walk in the park, such an approach is closely linked to the aim of the BEPS process and likely to present less of a challenge from a compliance perspective.

INTRODUCTION

The discussions addressing the tax challenges of the digital economy in BEPS action 1 are progressing, the aim being to achieve an international consensus by 2020.

The discussions are in part a continuation of two milestone reports:

- the final report, *Addressing the Tax Challenges of the Digital Economy,* from 2015, which concludes that because the digital economy is increasingly becoming the economy itself, it would not be feasible to ringfence the digital economy from the rest of the economy for tax purposes,[1] and
- the interim report, *Tax Challenges Arising from Digitalisation*, from 2018, which sets out the Inclusive Framework's agreed direction of work on digitalisation and the international tax rules through to 2020.[2]

This process should be seen in the context of recent unilateral – e.g. UK, French, Austrian and Spanish – and EU proposals aimed at the digital economy, most notably the EU Digital Services Tax (DST) proposal. However, no proposals have been adopted at the EU level as of the writing of this report.

According to a recent policy note by the OECD, the discussions are already progressing in respect of three proposals:[3]

- a digital-only solution aimed at specific digital services
- a marketing intangibles approach aimed at all MNEs in all industries with a destination-based allocation mechanism
- a minimum tax solution (e.g. denial of deduction on outbound payments if a certain effective tax rate (ETR) threshold of the payee is not met)

In this context, we have been asked by Svenskt Näringsliv (Confederation of Swedish Enterprise) to conduct a study of one of the three proposals: the marketing intangibles approach. Specifically, we have been asked to analyse the likely consequences of the proposal on tax revenues and effective tax rates in the Nordics, the US and Germany.

1 WHAT IS BEING PROPOSED?

The study starts by explaining the marketing intangibles approach (section 1.1). Next, some key features of the approach are explained in a stilised example (section 1.2), emphasising that many of the key details of the proposal are yet to be determined. The final part of section 1 briefly discusses the business models targeted by the proposal (section 1.3).

1.1 THE MARKETING INTANGIBLES APPROACH IS A COMPROMISE BETWEEN THE CURRENT TRANSFER PRICING SYSTEM AND DESTINATION-BASED TAX

Today, the corporate income tax (CIT) base of multinational enterprises (MNEs) is allocated to group affiliates according to the so-called transfer pricing system. Broadly speaking, the system is designed to ensure that MNEs do not obtain an inappropriate tax advantage by pricing within-group transactions differently than independent businesses would, according to the so-called arm's length principle.[4]

The arm's length principle dictates that MNEs should allocate their taxable corporate income among affiliates in different countries in which they do business, in a way that imitates the outcome of transactions that occur between independent businesses.[5]

A key feature of the current transfer pricing system is that corporate income beyond what is allocated according to the cost-plus or return-on-asset basis using the arm's length principle is allocated to the entrepreneurial risk-taker(s) in the MNE group. Specifically, these are defined as affiliates of the group that own the non-routine intangibles, carry non-routine risks and perform

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[1] See OECD (2015), *Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report*, OECD/G20 Base Erosion and Profit Shifting Project, OECD Publishing, Paris, https://doi.org/10.1787/9789264241046-en

[2] See OECD (2018), *Tax Challenges Arising from Digitalisation – Interim Report 2018: Inclusive Framework on BEPS*, OECD/G20 Base Erosion and Profit Shifting Project, OECD Publishing, Paris, https://doi.org/10.1787/9789264293083-en

[3] See OECD (2019), *Addressing the Tax Challenges of the Digitalisation of the Economy – Policy Note*. As approved by the Inclusive Framework on BEPS on 23 January 2019.

[4] Note that more than half of world trade is intra-firm and hence subject to transfer pricing (cf. World Bank (2017) *Arm's-Length Trade: A Source of Post-Crisis Trade Weakness*).

[5] See OECD (2015), *Aligning Transfer Pricing Outcomes with Value Creation, Actions 8-10, Final Report*.

the DEMPE (Development, Enhancement, Maintenance, Protection and Exploitation) functions. Thus, in practice this is often the headquarters (HQ) of the MNE. This additional corporate income is often referred to as excess or residual profits.

The marketing intangibles (MI) approach starts by defining a split between routine and residual income.[6] This implies that affiliates of the MNE group are compensated for their routine functions on a cost-plus or return-on-asset basis according to the arm's length principle (current transfer pricing rules). However, instead of allocating all the residual income to the entrepreneurial risk-taker(s) in the MNE group, the residual income is further divided between income arising from marketing intangibles and income arising from other intangibles.[7]

The share of residual income deemed to arise from marketing intangibles is then allocated to the market of destination for the good or service, while the residual income deemed to arise from other intangibles is still allocated according to current transfer pricing principles. In that sense, the MI approach is a compromise between the current transfer pricing system and a destination-based income tax.

1.2 KEY FEATURES IN A STYLISED EXAMPLE

In general, the MI approach consists of moving taxable profits from HQ/IP principals that carry non-routine risks, perform non-routine functions (DEMPE functions) and hold non-routine intangibles to destination markets where consumers are located. This feature is shared with many contemporaneous proposals for international corporate tax reform.[8] However, the extent to which this is the case for the MI approach depends crucially on a range of details in which - according to the best of our understanding - no consensus exists at the OECD level at the time of writing this report. Specifically, among others, these details include:

- whether definitions of "permanent establishment" (PE) are revised or not, and if so, how;
- how, in defining residual and routine profits, a normal return to physical/tangible assets and other intangibles is to be defined; and
- how to value marketing intangibles relative to other intangibles.

Table 1 Stylised example of allocation of tax base according to current TP system

	GROUP LEVEL	COUNTRY A: HQ / IP OWNER	COUNTRY B: SUBSIDIARY
Tangible assets	€100	€100	€0
Marketing intangibles	€50	€50	€0
Other intangibles	€50	€50	€0
Sales / revenue	€100	€0	€100
Profits (= 5% return on assets)	€10	-	-
Corporate tax base under current TP system		€10	€0

Source: Copenhagen Economics

[6] The MI approach is related to the Destination-based Residual Profit Allocation – see e.g. Andrus and Oosterhuis (2017) *Transfer Pricing After BEPS: Where Are We and Where Should We Be Going*. Also note that routine and residual profits are often referred to as normal and excess profits, respectively.

[7] Cf. Grinberg (2018), *International Taxation in an Era of Digital Disruption: Analyzing the Current Debate*, it is not clear whether the term "marketing intangibles" covers both marketing and consumer-related intangibles: "There may very well be a substantive distinction between marketing intangibles and customer-based Intangibles." Note that some of the issues in both valuing and defining marketing intangibles are discussed further in section 3.

[8] The user contribution proposals (e.g. the EU Digital Services Tax (DST) and similar unilateral proposals) and the formula apportionment proposals (e.g. the EU Common Consolidated Corporate Tax Base (CCCTB)) all tend to move more taxable profits to destination markets.

To understand this, consider the following stylised example (see table 1 for reference): Consider an MNE with its HQ / IP principal in country A, which holds all non-routine assets (both tangible and intangible), carries all non-routine risks and performs all non-routine functions, and with a subsidiary in country B, which has no assets. However, all sales are generated in country B. Specifically, at the group level the MNE has profits of €10, sales of €100 and assets of €200.[9]

Under the current TP system, the whole corporate tax base is allocated to country A, as all non-routine functions, assets and entrepreneurial risks are located in country A and there are no assets in country B.

Developing this example further, assume now that the normal return to tangible assets and hence routine functions is 5%, that the normal return is 5% for intangibles and that the MI approach is introduced. In this case, the subsidiary in country B is allocated only part of the corporate tax base if it constitutes a PE. If this is not the case, the whole tax base remains in country A, as country B has no taxing rights.[10] However, if the subsidiary in country B constitutes a PE, €2.5 of the corporate tax base are allocated to country B – see also table 2 (left side). This allocation arises as residual profits are equal to total profits minus profits arising from routine functions (in this example tangible assets), i.e. €10 minus €5 (€100*5% in normal return). The residual profits are then evenly split between profits arising from marketing intangibles and other intangibles, i.e. €2.5 arising from marketing intangibles and €2.5 from other intangibles. Profits arising from other intangibles are allocated according to existing TP rules and are therefore allocated

Table 2 Stylised example of allocation of tax base according to MI approach with varying definitions of normal returns

	WITH 5% NORMAL RETURN			WITH 10% NORMAL RETURN		
	Group level	**Country A: HQ / IP owner**	**Country B: Subsidiary**	**Group level**	**Country A: HQ / IP owner**	**Country B: Subsidiary**
Tangible assets	€100	€100	€0	€100	€100	€0
Marketing intangibles	€50	€0	€50	€50	€0	€50
Other intangibles	€50	€50	€0	€50	€50	€0
Sales / revenue	€100	€0	€100	€100	€0	€100
Profits (= 5% return on assets)	€10	-	-	€10	-	-
Routine profits		€5			€10	
Residual profits	€5	-	-	€0	-	-
Residual profits arising from other intangibles	-	€2.5	-	-	€0	-
Residual profits arising from MI	-	-	€2.5	-	-	€0
Corporate tax base under MI approach		€7.5	€2.5		€10	€0

Source: Copenhagen Economics

[9] The split between tangibles, marketing intangibles and other intangibles is set by assumption.

[10] Note that a limited physical presence is often the case in highly digitalised business models.

to country A. However, all profits arising from marketing intangibles are allocated to country B, as all sales and hence consumers are located in country B.

As illustrated in the example above, the distinction between routine and residual profits plays a key role in determining the impact of introducing the MI approach.[11] If the normal return is instead set at 10%, the group generates no residual profits (routine profits equal €10, i.e. all profits) to be allocated according to the MI approach – see table 2 (right side). In conclusion, if the normal return is set at a high level, the impact of the MI approach is relatively less pronounced.

The next challenge is to value marketing intangibles relative to other intangibles.[12] While the value of intangibles can relatively easily be estimated for publicly traded MNEs by comparing enterprise value / market cap with the book value of tangible assets, the split between marketing intangibles and other intangibles is by no means obvious.[13] Returning to the stylised example, if marketing intangibles are valued at €50, as assumed above, the corporate tax base is allocated €7.5 in country A

Table 3 Stylised example of allocation of tax base according to MI approach with varying methodologies for valuing marketing intangibles

	SIGNIFICANT VALUE ASSIGNED TO MARKETING INTANGIBLES			SMALL VALUE ASSIGNED TO MARKETING INTAGIBLES		
	Group level	**Country A: HQ / IP owner**	**Country B: Subsidiary**	**Group level**	**Country A: HQ / IP owner**	**Country B: Subsidiary**
Tangible assets	€100	€100	€0	€100	€100	€0
Marketing intangibles	€50	€0	€50	€10	€0	€10
Other intangibles	€50	€50	€0	€90	€90	€0
Sales / revenue	€100	€0	€100	€100	€0	€100
Profits (= 5% return on assets)	€10	-	-	€10	-	-
Routine profits		€5			€5	
Residual profits	€5	-	-	€5	-	-
Residual profits arising from other intangibles	-	€2.5	-	-	€4.5	-
Residual profits arising from MI	-	-	€2.5	-	-	€0.5
Corporate tax base under MI approach		€7.5	€2.5		€9.5	€0.5

Source: Copenhagen Economics

[11] Note that the distinction between routine and residual profits for taxation purposes is highly controversial – cf. OECD (2016), *Distinguishing between "normal" and "excess" returns in tax policy*. We discuss this in further detail in section 3.

[12] Neither marketing intangibles nor other intangibles are currently valued in annual accounts, as intangibles are generally disclosed on the balance sheet only if MNEs have recently acquired other businesses.

[13] Generally, it is difficult to provide solid economic arguments in favour of a specific split, which is discussed in further detail in section 3.

and €2.5 in country B – see also table 3. However, if a different methodology is used that assigns a lower value to marketing intangibles relative to other intangibles, the tax base in country A is €9.5 and in country B it is only €0.5. This is the case as residual profits are still €5, but now the residual profits are split with 90% to other intangibles and only 10% to marketing intangibles (equal to €5*10%). The inherent uncertainty over the exact valuation methodology used for marketing intangibles will impact the results.

1.3 THE MARKETING INTANGIBLES APPROACH NOT AFFECTS NOT ONLY TECH COMPANIES BUT ALSO OTHER KNOWLEDGE-INTENSIVE INDUSTRIES

While the marketing intangibles proposal is part of the discussions on addressing the tax challenges of the digital economy in BEPS action 1, the MI approach affects most industries and not just large digital companies. This contrasts with e.g. the EU Digital Services Tax and the user contribution approach which are specifically aimed at a range of digital services and hence seek to ring-fence specific digital services for tax purposes.[14]

The MI approach broadly affects all industries that:

- have high returns relative to tangible/physical assets;
- rely heavily on intangibles;
- are internationally focused (have affiliates in multiple countries); and
- have an international customer base.

This is indeed the case for tech MNEs but also, as argued in more detail in section 2, for MNEs in e.g. pharmaceuticals and car manufacturing and, in general, for all R&D-intensive business models.

Key learning points from section 1

- The marketing intangibles approach is a compromise between the current transfer pricing system and destination-based income tax.
- The marketing intangibles approach implies that more corporate income tax revenue is moved from the entrepreneurial risk-taker to the destination of the consumer relative to the status quo.
- The impact on specific businesses will depend largely on the precise details of the final proposal. At this point, there is no international consensus on how to address these challenges.
- The marketing intangibles approach is not just a tax on tech MNEs but will likely affect most industries and R&D-intensive industries in particular.

2 SMALL, INNOVATIVE, OPEN ECONOMIES LIKELY TO LOSE TAX REVENUE

In this section, we start by reviewing recent estimates of the role of marketing intangibles across sectors (section 2.1). Next, we explain why the Nordics in particular are likely to lose a substantial share of their current corporate income tax revenue if the marketing approach is adopted (section 2.2). Furthermore, the Nordics are not likely to be compensated by new incoming tax revenue (section 2.3). Also, other countries relying on knowledge-intensive sectors – such as Germany and the US - are for some of the same reasons also likely to lose revenue but to a smaller extent (section 2.4). The final part of section 2 discusses the impact of the MI approach on effective tax rates (ETR) on specific businesses (section 2.5).

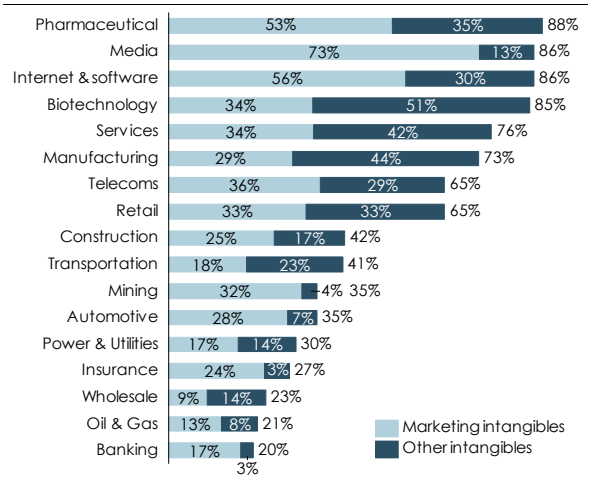
[14] Note that such ring-fencing of specific services is generally controversial. For example, OECD (2015) *Addressing the Tax Challenges of the Digital Economy, Action 1 - Final Report* notes: "[… The report] notes that because the digital economy is increasingly becoming the economy itself, it would not be feasible to ring-fence the digital economy from the rest of the economy for tax purposes." A more thorough discussion of this specific challenge is, however, beyond the scope of this study.

2.1 MARKETING INTANGIBLES MAKE UP A SIGNIFICANT SHARE OF ASSETS ACROSS SECTORS

Recent empirical evidence suggests that marketing intangibles and intangibles in general make up a significant share of enterprise value across sectors – see figure 1.[15] This is certainly the case for the tech sector (internet and software) but it is equally true of pharmaceuticals and the media.[16] Furthermore, the manufacturing and automotive sectors have lower (28-29%) but still very significant marketing intangibles. At the lower end, wholesale, oil and gas and power and utilities have relative moderate levels (9-17%) of marketing intangibles relative to enterprise value. This highlights the fact that the MI approach is not specifically focused on digitally intensive tech companies.

It is also clear that marketing intangibles tend to make up a larger share of enterprise value in R&D-intensive sectors. Ceteris paribus, this suggests that these sectors are affected by the MI approach to a greater extent and that the problems associated with making distinctions between marketing and other intangibles will be very substantial.

Figure 1 Marketing intangibles and other intangibles as a share of total enterprise value by sector, percent



Note: The definition of marketing intangibles is based on the IFRS 3 definition of marketing and consumer-related intangibles and equals the sum of the two. Furthermore, the results should be considered as indicative only according to the authors. See the appendix for a more detailed description.
Source: Brand Finance GIFT report 2017, pp. 33 & 47. Table 4: Copenhagen Economics based on OECD Structural Analysis (STAN) database

Table 4 Gross value added as a share of total gross value added by sector

INDUSTRY	DENMARK	FINLAND	GERMANY	SWEDEN	USA
Internet and software	2.1%	3.3%	2.6%	3.8%	2.1%
Media	1.6%	1.2%	1.1%	2.7%	2.5%
Pharmaceuticals	3.7%	0.7%	0.8%	1.3%	1.0%
Telecoms	0.9%	1.2%	1.0%	1.2%	1.6%
Automotive	0.2%	0.5%	5.1%	3.0%	1.7%
Insurance	1.0%	0.7%	0.9%	1.1%	3.3%
Transportation	5.3%	4.9%	4.6%	5.4%	3.3%
Banking	5.2%	2.1%	3.1%	3.5%	4.3%
Wholesale and retail	11.8%	7.8%	8.3%	9.2%	8.9%
Construction	4.7%	6.4%	4.6%	5.8%	4.2%
Other manufacturing	10.7%	16.0%	17.1%	11.1%	9.7%
Other services	47.9%	49.1%	47.2%	47.2%	52.8%
Others	4.8%	6.0%	3.5%	4.6%	4.7%
Sum	**100%**	**100%**	**100%**	**100%**	**100%**

[15] This figure is based on specific assumptions of what constitute marketing intangibles and could therefore differ substantially from the yet-to-be-determined definition to be applied for taxation purposes.

[16] Note that the impact of the MI approach on the media sector is potentially limited in the Nordics as these businesses are to a large extent domestically focused. Examples include Walt Disney Co and Comcast Corp.

The high dependence of marketing intangibles in specific sectors should not least be seen in the context of high gross value added (GVA) in these sectors in the Nordics, Germany and the US. For example, Denmark relies disproportionately on pharmaceuticals, the US, Finland and Sweden on the internet and software and Germany on automotive – see table 4.

2.2 A SIGNIFICANT SHARE OF THE NORDIC AND GERMAN CORPORATE TAX BASE IS AT STAKE

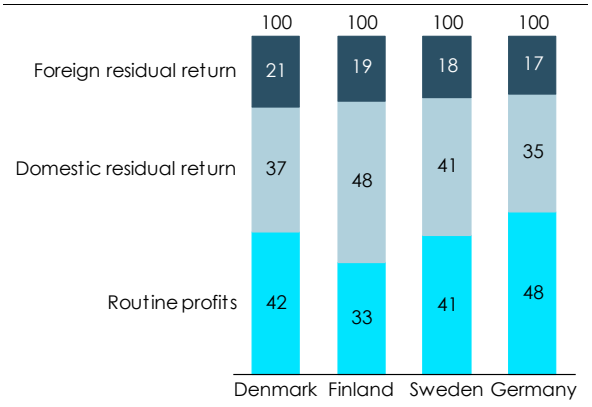
A conservative estimate suggests that 18-21% of the current corporate tax base in the Nordics came from foreign residual profits in 2017 – see figure 2.[17] For Germany, the share is approximately 17%. If the MI approach is introduced, the bulk of this CIT revenue would be allocated to other countries.[18]

Based on a specific assumption about what constitutes a normal return, the results suggest that routine profits make up 33-48% of the overall return. This is generally consistent but higher than existing literature suggests, i.e. that 32-40% of corporate income is attributable to the normal return on capital.[19] A significant share of residual profits is, however, attributable to domestic sales.[20]

The extent to which this will result in a loss of the current corporate tax base will depend crucially on how marketing intangibles are valued and defined relative to other intangibles.[21] At this point, no specific details regarding the split and methodology have been released by the OECD.

A recent study suggests that marketing intangibles make up 60-68% (depending on R&D intensity) of total intangibles[22], suggesting that more than half of residual profits related to foreign returns will be allocated to destination markets.

Figure 2 Approximate distribution of tax revenue from routine and residual profits by country, 2017
percent



Note: This assumes a normal return of 4% and uses average export shares within R&D intensity sectors. The estimates are based on a sample from 2010-2015 corrected for the real change in corporate tax revenue from 2010-2015 to 2017. See the appendix for a detailed description of the methodology.
Source: Copenhagen Economics based on Amadeus database, input-output tables, OECD and Eurostat

2.3 THE NORDICS ARE LIKELY TO LOSE TAX REVENUE WITH THE MARKETING INTANGIBLES APPROACH

The MI approach potentially also allows the Nordics to capture part of the corporate tax base currently paid

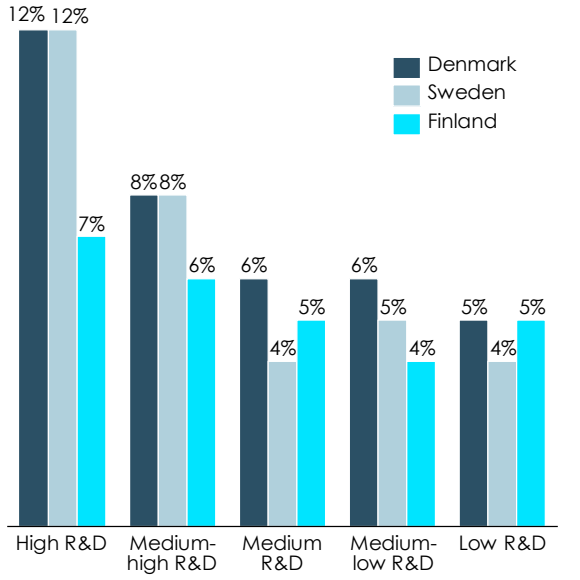
[17] Note that this estimate is based on a restrictive set of assumptions and relies on proxies. Furthermore, the calculation is based on a specific assumption of return allowed on routine functions. However, the estimated impact is considered conservative for multiple reasons, as discussed in detail in the appendix.
[18] As discussed in more detail in section 3, this will depend on what methodology is chosen for valuing marketing intangibles.
[19] See Gentry and Hubbard (1996), *Distributional Implications of Introducing a Broad-Based Consumption Tax*; Toder and Rueben (2005), *Should We Eliminate Taxation of Capital Income?* and Cronin et al. (2012), *Distributing the Corporate Income Tax: Revised U.S. Treasury Methodology*. However, the methodology used in these studies differs substantially from the approach used in this study.
[20] Our approach potentially overestimates the share of residual profits attributable to domestic sales as we rely on sector averages of exports – see appendix for a detailed discussion.
[21] As discussed in section 3, there seem to be no stable economic arguments to base such methodologies on currently.
[22] See Brand Finance GIFT report 2017 assuming that both marketing and consumer-related intangibles are captured in the OECD MI approach.

abroad. However, this will likely not be enough to compensate for the loss of tax base, as:

1. R&D-intensive industries have high returns and hence substantial residual returns in the Nordics;
2. tax revenue is disproportionately large in R&D-intensive sectors compared to gross value added (GVA) in the Nordics;
3. marketing intangibles makes up a large share of enterprise value in R&D intensive sectors; and
4. the Nordics are net exporters in the R&D-intensive industries that are most affected by the proposal and rely more heavily on intangibles than important trading partners do.

In sum, this implies that outgoing CIT revenue is not compensated by incoming CIT revenue, thus yielding a net loss of CIT revenue for the Nordic countries. Next, we go through the arguments one by one.

Figure 3 Return on Assets (ROA) across sectors, average 2010-2015, percent



Note: Sectors cover industries according to R&D intensity – cf. OECD (2016) OECD Taxonomy of Economic Activities Based on R&D Intensity, *p. 14.*
Source: Copenhagen Economics based on Amadeus database

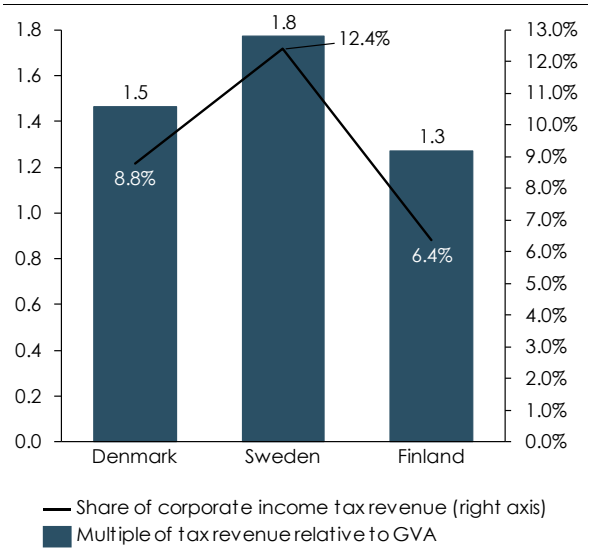
R&D-intensive industries have high returns and hence substantial residual returns in the Nordics

The MI approach will affect business models that generate substantial residual profits, which is especially relevant in R&D-intensive industries – see figure 3. Denmark, Sweden and Finland all have high returns in their R&D-intensive industries. As explained above, the MI approach affects businesses with substantial residual profits.

Tax revenue is disproportionately large in R&D-intensive sectors compared to gross value added (GVA) in the Nordics

The tax revenue from R&D-intensive industries makes up a significant share of overall CIT revenue, even though most gross value added occurs in industries with low R&D intensity – see figure 4. Specifically, the multiples of CIT tax revenue relative to GVA are 1.5, 1.8 and 1.3 for Denmark, Sweden and Finland respectively. This

Figure 4 CIT revenue relative to GVA and share of CIT revenue for high R&D-intensive industries, 2010-2015, multiple/percent



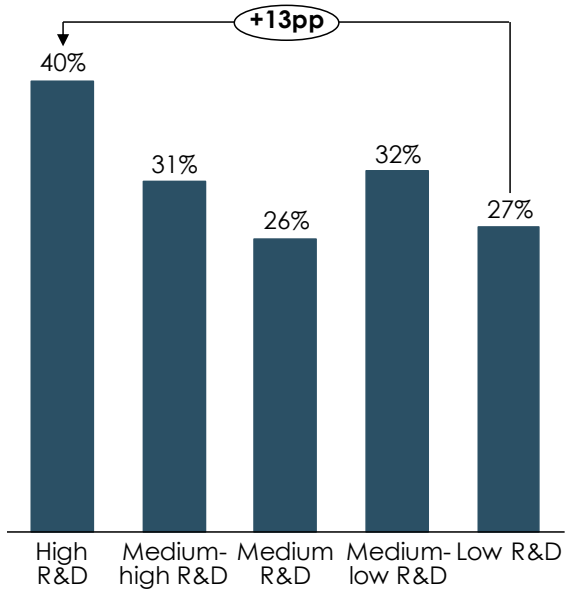
Note: High R&D-intensive sector covers industries as set out in OECD (2016) OECD Taxonomy of Economic Activities Based on R&D Intensity, *p. 14.*
Source: Copenhagen Economics based on Amadeus and OECD Stan database

is equivalent to approximately 9% of Danish CIT revenue, 12% Swedish CIT revenue and 6% of Finish CIT revenue.

Marketing intangibles make up a large share of enterprise value in R&D-intensive sectors

In high R&D-intensive industries, marketing intangibles make up on average 40% of enterprise value – see figure 5. This should be compared to 27-32% in less R&D-intensive industries. This means, everything else being equal, that businesses in R&D-intensive industries are affected to a larger extent by the MI approach.[23]

Figure 5 Marketing intangibles as a share of enterprise value, percent

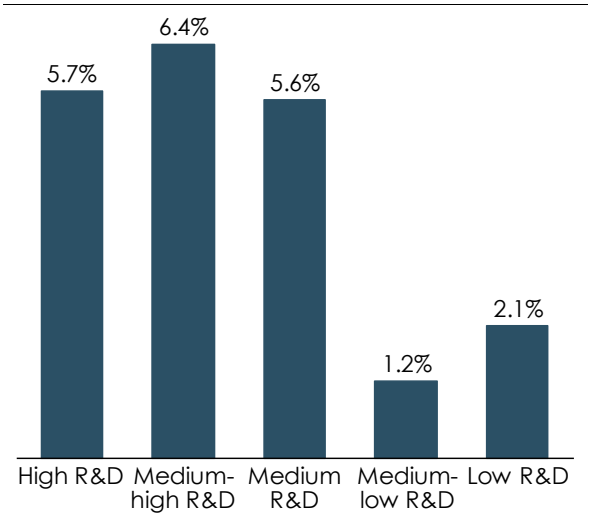


Note: The definition of marketing intangibles is based on the IFRS 3 definition of marketing and consumer-related intangibles and equals the sum of the two. Furthermore, the results should be considered indicative only according to the authors. The estimates are based on a global sample and therefore do not account for differences across countries.
Source: Copenhagen Economics based on Brand Finance GIFT report 2017, pp. 33 & 47

The Nordics are net exporters in the R&D-intensive industries the most affected by the proposal

The key argument for why the Nordics are likely to lose CIT revenue is that loss of CIT revenue from high R&D-intensive industries is not compensated one on one by foreign businesses having to pay more CIT in the Nordics – see figure 6. Broadly speaking, the Nordics are exporting high R&D-intensive goods and services (resulting in a relatively large loss of their current tax base) while importing low R&D-intensive goods and services (that are affected by the MI approach only to a limited extent).

Figure 6 Average net export in the Nordics as a share of total output by R&D intensity, percent



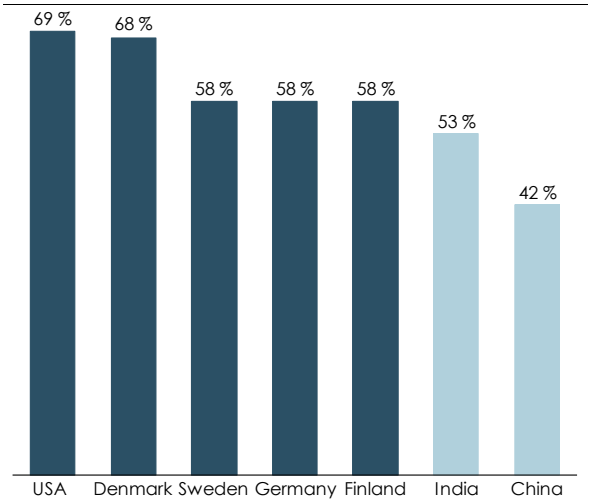
Note: Sectors cover industries according to R&D intensity – cf. OECD (2016) OECD Taxonomy of Economic Activities Based on R&D Intensity, *p. 14, but with specific amendments – see appendix.*
Source: Copenhagen Economics based on input-output tables

Furthermore, the Nordics, Germany and the US all rely heavily on intangibles as compared with important

[23] This is given the specific definition of marketing intangibles used in this report.

trading partners (e.g. China and India) according to a recent study – see figure 7.

Figure 7 Intangibles as a share of enterprise value by country, percent



Note: These numbers are based on publicly traded companies and hence the difference is potentially even larger between western and developing economies.
Source: Brand Finance GIFT report 2017

On a subtler note, introducing the MI approach can lead to more disputes and tax uncertainty.[24] Such uncertainty generally tends to disfavour small economies such as the Nordics, as their bargaining power in e.g. dispute cases is generally limited compared to that of large economies.

2.4 The US and Germany potentially also lose tax revenue

Our analysis also suggests that a substantial share of Germany's export CIT revenue is at risk if the MI approach is introduced. Ultimately, this is likely to provide a net loss, mainly driven by the net export of medium-high R&D-intensive industries (including the automotive industry) and a generally large trade surplus.[25]

The US potentially will also lose tax revenue. However, the expected impact is likely to be smaller, as the US economy is less export-and-import intensive – even though most of the large tech companies are based in the US. Furthermore, the significant trade deficit also suggests a smaller loss of tax base.[26]

2.5 Effective tax rates for businesses

The MI approach will also affect the tax burden on businesses. In particular, MNEs with HQs in low-tax countries will experience an increase in effective tax rates as the tax base is shifted from origin to destination markets.[27] This problem is naturally compounded in high R&D-intensive industries that rely heavily on intangibles. Specifically, for the Nordics this implies MNEs with a large customer base in e.g. North America will likely experience an increase in ETRs.[28]

Such increases are likely to have negative real economic effects in low-tax countries given the distortive nature of corporate income taxes compared to less distortive taxes (e.g. consumption taxes).

However, and perhaps more importantly, it is generally unclear how consolidation and loss offset at the group level will be affected by the MI approach, as no harmonised set of rules exists to ensure that MNEs can offset

[24] In Grinberg (2018), *International Taxation in an Era of Digital Disruption: Analyzing the Current Debate*, p. 57, note that: " [… the MI approach] creates a new set of administrative challenges for which we may not have solutions, while leaving the problems of the current transfer pricing system in place, and adding a new source of fundamental controversy – the appropriate split of excess returns between the market and the current transfer pricing system. These issues could play out as between governments and between governments and MNCs with respect to every cross-border transaction."

[25] The loss of CIT revenue can be separated into both structural loss (differences in composition of imports and exports) and current trade surpluses that converge over time.

[26] Note that we have not been able to collect the necessary input data (our Amadeus data does not cover the US) and hence we have not approximated the impact.

[27] Low-tax countries are countries with relatively low statutory CIT rates or narrow CIT bases.

[28] Even after the US tax reform, the ETRs in the US are still higher than in the Nordic countries according to ZEW (2018), *Analysis of US Corporate Tax Reform Proposals and their Effects for Europe and Germany*.

cross-border losses. For MNEs that will have a more diffused tax liability under the MI approach, this could potentially be problematic as this type of asymmetry tends to increase the effective tax burden.

Key learning points from section 2

- While the marketing approach is being discussed as a proposal to address challenges in taxing the digital economy, it has a much larger scope, potentially affecting the majority of industries.
- A very substantial part of the current corporate tax base in the Nordics and Germany will potentially be lost to other countries.
- The Nordic countries are not likely to be compensated in full by new incoming CIT revenue.
- Furthermore, larger countries – such as the US and Germany – are also likely to lose corporate income tax revenue, as they too rely on R&D-intensive industries for generating revenue.
- The proposal potentially hurts MNEs as effective tax rates increase, especially in low-tax countries.

3 POLICY OPTIONS TO ADDRESS CHALLENGES GOING FORWARD

In this section, we argue that problems and aims should be defined before moving to solutions (section 3.1). Next, some obvious drawbacks of the MI approach are discussed (section 3.2) and finally we discuss an alternative going forwards (section 3.3).

3.1 DEFINE PROBLEMS AND AIMS BEFORE MOVING TO SOLUTIONS

The global tax policy debate in the context of the OECD BEPS project was focused initially on addressing transfer pricing policy issues. Key elements have been changes to transfer pricing guidelines, discussion of principles for establishing permanent establishments and strengthening effective regulation of foreign-controlled companies (CFC), as well as policies versus so-called "tax heavens". More recently the debate has moved beyond that, discussing and challenging notions of where economic value is being created – the user contribution principle.

We would also like to add two further objectives that should be included in any discussion on the reform of international tax policy: What is their effect on countries' incentive to invest in growth-friendly policies? And is it likely that proposed policies are de facto based on meaningful and verifiable criteria not leading to substantial increases in compliance costs in a wider sense?

So, we suggest that policy reforms should:

- aim to reduce transfer pricing problems, taking into account already implemented BEPS efforts as well as national reforms of corporate tax regimes, notably in the US;
- maintain/increase incentives for growth-friendly policies at the national level; and
- be based on meaningful, verifiable criteria with manageable compliance costs.

Starting off with transfer pricing issues, we suggest that the effect of the US tax reform should be fully digested before new, untested ideas are added to the global corporate tax arena. We make specific reference to key aspects of the US tax reform such as a lower rate as well as the move towards an exemption tax combined with effective CFC rules that entail an effective minimum tax rate on US-based companies.

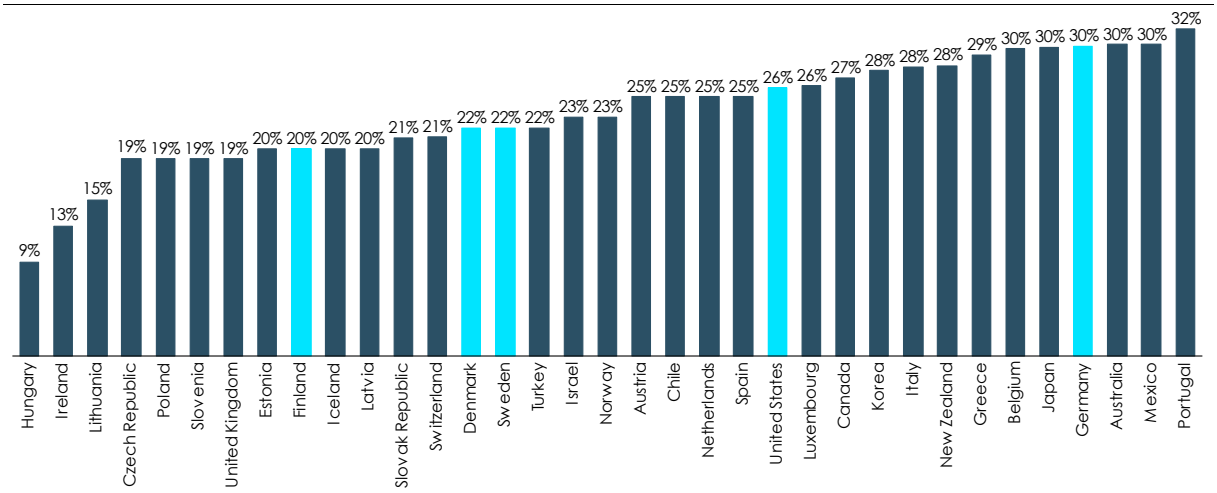
These rules will seriously address a number of issues related to the taxation of US-based companies. There will be:

- less risk of profits not being taxed, and
- less risk of tax inversions.

The convergence of global statutory rates will also tend to reduce transfer pricing issues. The vast majority of OECD countries now have formal rates in the range of 20 to 25% - see figure 8. Arguably the challenges are greater for the remaining outliers with high formal rates to introduce lower rates than to reform the global tax system (including Germany).

In this context, we would also underline that the reduction in statutory rates seen over the last decades is not mainly about a race to the bottom; it is also a response to the huge debt bias in tax systems. This bias had already been identified in the early 1980s as impeding

Figure 8 Statutory corporate income tax rates, 2018, percent

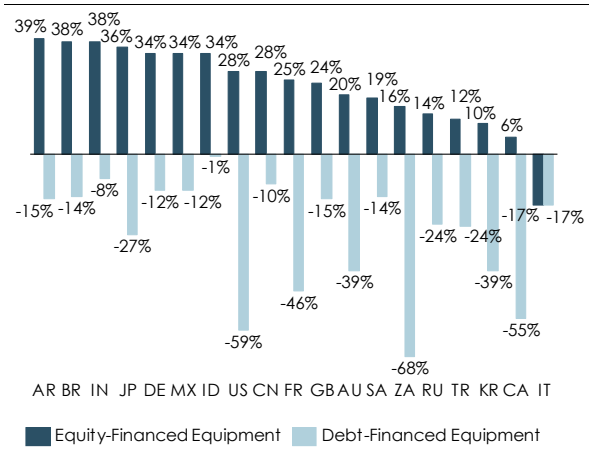


Note: For France the 2022 corporate tax rate is displayed. The figure shows the combined statutory corporate income tax rate including both government and sub-government corporate taxes.
Source: OECD database, Dataset: Table II.1. Statutory corporate income tax rate

growth by providing incentives to make low-risk, low-return investments and also, e.g. through high taxation of dividends/capital gains, "lock-in" effects that slow the flow of funds to other firms with greater expected returns on investment (lower taxation of investments based on retained earnings rather than on new equity). Moreover, as shown in a recent US study – from before the US tax reform – debt bias is still a major feature of global systems – see figure 9.

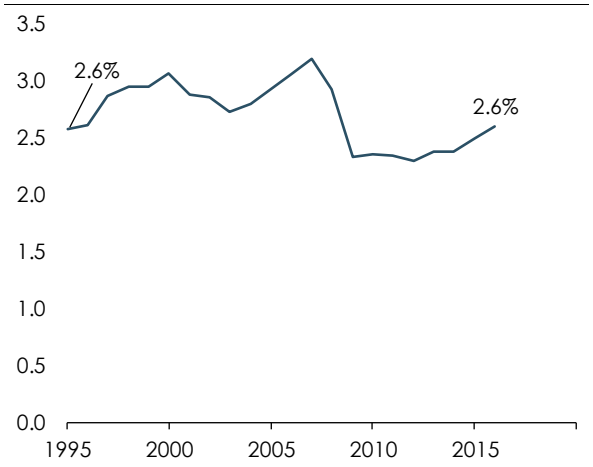
Finally, a substantial proportion of statutory rate reductions was financed by reforms – notably a reduction in the tax value of depreciations of physical assets - as also evidenced by stable revenues from corporate tax revenues across the OECD world – see figure 10. From 1995 to 2016, corporate tax revenue as a share of GDP remained at approximately 2.6% at the EU level. Moreover, we suggest that the fall in revenues post 2008 is largely cyclical, with corporate tax income being very dependent on the state of the business cycle. We do not suggest that the stable tax shares were not influenced by other factors, such as the growing share of economic activity undertaken by corporations, but simply emphasise that there is no evidence yet of widespread fiscal losses from lower statutory rates.

Figure 9 Equity is taxed at higher effective tax rates than debt in G20 Countries, 2012, effective tax rates



Source: CBO (2017), International Comparisons of Corporate Income Tax Rates*, p. 24*

Figure 10 Corporate tax revenue in the EU, 1995-2016, percent of GDP



Source: European Commission

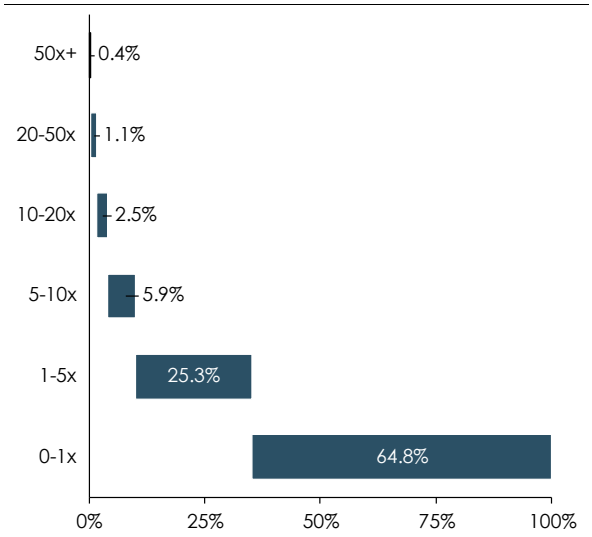
3.2 The marketing intangibles approach has three obvious drawbacks

Reducing national incentives to support innovation. The residual profits concept will to a very large extent ship the profit from countries with high-risk, high-return industries to countries with low R&D intensity, as discussed in section 2.

This will reduce countries' incentive to implement innovation-friendly policies. The basic driver is that getting firms to deliver high returns requires significant public investments. This obviously includes investment in public R&D and complementary policies. These policies are already partly enjoyed by other countries through cross-border spillover effects, but now fiscal gains from the successful innovation projects resulting from such measures will also need to be shared with other countries.

Such effects are compounded in particular for the high knowledge-based industry due to the "hockey stick" nature of returns from such industries – see figure 11. Around two thirds of all early-stage venture capital (VC) investments generate a loss and only one third of the investments eventually generate a positive return. This hockey stick nature implies that most venture businesses never generate any corporate tax revenue. Stated differently, most VC-backed investments lead to negative returns, which likely leads to a concentration of fiscal losses in host countries as these firms never become international. However, for the few businesses that make it and become global players, the MI approach implies that more of the tax revenue is shared globally.

Figure 11 Distribution of returns of early-stage venture in the US, 2004-2013, return multiple



Note: The return multiple measured as TVPI is the total value of the funds' cumulative distributions compared to paid-in capital.
Source: Industry Ventures (2017)

So, in essence, the residual profits scheme is very much an asymmetric system: the fiscal spoils from successful high-risk entrepreneurial projects are shared globally while the costs of failures are borne by the host countries.

Key parameters have no solid empirical foundation. Both routine and residual profits must be defined if the MI approach is implemented. The problem is that there is no clear definition of what constitutes a routine or

"normal" return, especially for taxation purposes.[29] Defining such returns will run into practical problems, including uncertainty, information asymmetry and heterogeneity. There is simply no one-size-fits-all routine return.

Governments simply cannot observe businesses' required or actual returns. In practice, policymakers therefore have to set some (arbitrary) level that potentially deviates substantially from the returns that businesses require in order to commit their capital. This can potentially have negative economic consequences, such as a decline in investment and, ultimately, lower tax revenue.[30]

In addition, it is unclear how to value marketing relative to other intangibles. One argument could be that no value can be created without customers, suggesting that all value across all sectors is driven by marketing intangibles. On the other hand, one could argue that any positive image in the minds of customers comes down to businesses providing superior services or goods. This would suggest that very limited value should be assigned to marketing intangibles.

In practice, the division of marketing and other intangible will have to be accomplished in the absence of meaningful yardsticks based on sound economics.[31]

High compliance costs and requirement for unrealistic levels of international co-operation. The MI approach creates new administrative challenges for which no obvious solutions exist, while at the same time keeping in place the challenges of the current transfer pricing regime. This could potentially add new sources of fundamental controversy between governments.[32] Ultimately, it requires unrealistic levels of international co-operation.

For businesses, as well as for tax administrations, the additional compliance burden is potentially high. If consumers are perceived to generate value, many businesses will have to comply with tax legislation in multiple countries – even if they are based almost solely in one country and currently have no transfer pricing issues (having a tax liability in only one country). Such challenges should be analysed in detail before moving ahead.

3.3 A minimum taxation regime: targeted and realistic

A minimum taxation regime could, in principle, take many forms. One prominent example is a minimum tax solution that denies deduction on outbound payments if a certain effective tax rate (ETR) threshold of the payee is not met.

This is generally in line with the BEPS efforts to limit base erosion and create a level playing field. It also seems consistent with the GILTI and BEAT introduced in the US tax reform, which are attempts to have outbound and inbound minimum taxes. In principle, these could be reimagined to suggest a workable alternative for the medium-term future of the international tax system.[33]

Depending on how ambitious they are, most OECD countries already have a high degree of convergence in CIT rates, as documented in figure 8, providing a solid foundation for the discussions going forwards.

Even more importantly from a policy-efficiency perspective, a minimum taxation regime would stop industry-specific distortions. Especially within the EU, the differences in effective taxation are really driven by industry-specific regimes, e.g. the IP box regime in France.[34]

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[29] See OECD (2016), *Distinguishing between normal and excess returns in tax policy*.

[30] OECD (2016), *Distinguishing between normal and excess returns in tax policy*, p. 28.

[31] Grinberg (2018), *International Taxation in an Era of Digital Disruption*, p. 54, states: "That said, if policymakers consider the compromise that is the [MI approach], they should abandon the notion of measuring the relative value of marketing and non-marketing intangibles and accept a simple formulary split between the two residual return categories. It seems to me that in a [MI] system, a formulary approach, ideally backstopped by mandatory binding arbitration, is the only way to control the extent of tax controversy."

[32] See Grinberg (2018), *International Taxation in an Era of Digital Disruption*, p. 54.

[33] As suggested by Grinberg (2018) in *International Taxation in an Era of Digital Disruption*, p. 45.

[34] See e.g. Copenhagen Economics (2018), *The proposed EU digital services tax: Effects on welfare, growth and revenues*.

Finally, while making a minimum tax regime work is not necessarily a walk in the park, it appears to be infinitely more manageable and meaningful than the other alternatives on the table.[35] Any attempts to ring-fence digital sectors are inherently meaningless, as documented in a wealth of studies, while also lacking a real rationale.[36] The residual profit concept linked to the marketing intangibles approach avoids the ring-fencing but, as documented, raises a number of other questions.

So, in our opinion, if the aim is to review further reforms of the global tax system that promote innovation and protect the tax base of individual countries – and that go beyond the already implemented BEPS process and national tax reforms – then a well-designed global minimum tax regime is the proposal that has the most to offer and merits further study.

Key learning points from section 3

- The challenges should be better understood and clearly defined before solutions are considered.
- The marketing intangibles approach has three obvious drawbacks: it reduces national incentives to support innovation, key parameters have no solid empirical foundation, and high compliance costs require unrealistic levels of international co-operation.
- A minimum taxation regime seems more targeted and realistic.

[35] A minimum taxation regime could trigger a need to identify the beneficial owner, which could prove complicated.

[36] This is documented most clearly in OECD (2015), *Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report*.

References

Andrus and Oosterhuis (2017), *Transfer Pricing After BEPS: Where Are We and Where Should We Be Going*

Boulogne (2018), *Transfer Pricing of Intangibles: A Comparison between the Netherlands and the United States*

Brand Finance (2017), GIFT report

Brown et al. (2016), *Stock markets, credit markets and technology-led growth*

CBO (2017), *International comparisons of corporate income tax rates*

CBO (2018), *How taxes affect the incentive to invest in new intangible assets*

Chen (2016), Cross-Country Income Differences Revisited: Accounting for the Role of Intangible Capital

Copenhagen Economics (2018), *The proposed EU digital services tax: Effects on welfare, growth and revenues*

Cronin et al. (2012), *Distributing the Corporate Income Tax: Revised U.S. Treasury Methodology*

Crouzet and Eberly (2018), *Understanding weak capital investment: the role of market concentration and intangibles*

Gentry and Hubbard (1996), *Distributional Implications of Introducing a Broad-Based Consumption Tax*

Grinberg (2018), *International Taxation in an Era of Digital Disruption*

Industry Ventures (2017), *The Venture Capital Risk and Return Matrix*. See http://www.industryventures.com/2017/02/07/the-venture-capital-risk-and-return-matrix/

Keightley (2014), *The Corporate Income Tax System: Overview and Options for Reform*

OECD (2015), *Addressing the Tax Challenges of the Digital Economy, Action 1 – 2015 Final Report*

OECD (2015), *Aligning Transfer Pricing Outcomes with Value Creation*

OECD (2015), *Designing Effective Controlled Foreign Company Rules – Action 3*

OECD (2016), *Fiscal incentives for R&D and innovation in a diverse world*

OECD (2016), *Distinguishing between normal and excess returns in tax policy*

OECD (2018), *OECD taxonomy of economic activities based on R&D intensity*

OECD (2018), *Tax Challenges Arising from Digitalisation – Interim Report 2018*

OECD (2018), *Loss carryover provisions: Measuring effects on tax symmetry and automatic stabilisation*

OECD (2018), *Statutory tax rates on dividends, interest and capital gains: The debt equity bias at the personal level*

OECD (2018), *Corporate Effective Tax Rates: Model Description and Results from 36 OECD and Non-OECD Countries*

OECD (2019), *Addressing the Tax Challenges of the Digitalisation of the Economy – Policy Note*

Phillipson (2018), *A primer on concentration, investment and growth*

Ramey (2018), *Increasing differences between firms remarks on Reenen paper*

Toder and Rueben (2005), *Should We Eliminate Taxation of Capital Income?*

van Reenen (2018), *Increasing differences between firms' market power and the macro economy*

World Bank (2017), "Topical Issue: Arms-length trade" in *Global Economic Prospects,* June 2017

ZEW (2016), *Effective tax levels using the Griffith Devereux methodology*

ZEW (2018), *Analysis of US Corporate Tax Reform Proposals and their Effects for Europe and Germany*

Appendix: Data & Methodology

This annex describes the methodological approach used in this report.

Industry classification

In the report, we use an industry classification system for R&D intensity defined by the OECD.[37] Here the industries are clustered into the following five segments based on R&D expenditures relative to the industry value added:

1. High R&D intensity
2. Medium-high R&D intensity
3. Medium R&D intensity
4. Medium-low R&D intensity
5. Low R&D intensity

The OECD draws on the fourth revision of the International Standard Industrial Classification (ISIC), an international reference classification of productive activities, which is compatible with other widely used classifications such as the European Classification of Economic Activities (NACE).

Assets by sector from STAN

To obtain data on gross value added (GVA) on an industry level, we used the OECD Structural Analysis (STAN) database. As mentioned above, the observations are based on ISIC Rev. 4 on a two-digit level and are categorised by the five R&D segments.

The data used in our analysis are 2010-2015 averages measured in local currency. Please note that small inconsistencies potentially exist between the STAN data and the Amadeus data described below due to the structure of the data.

Import and export shares from input-output tables

The data are from 2014 (the newest available). The input-output tables use the two-digit sector level, whereas OECD (2016), *OECD Taxonomy of Economic Activities Based on R&D Intensity* allows for classification at the three-digit level. We have made the following assumptions regarding the classification. C25 is classified as medium-low, but C252 is medium-high. C30 is classified as high; however only C303 is high, whereas C302-305 is medium-high and C301 is medium. C31-C32 is classified as medium, though C325 is medium-high and C31 is medium-low. J58 is classified as high; however only J582 is high, and J581 is medium-low.

Tax base and return on assets by sector from Amadeus database

Data on total assets, the tax base and tax revenue for each R&D group are taken from the Amadeus database. These data are classified using the NACE Rev. 2 specifications, and hence we have linked the NACE Rev. 2 specifications with the ISIC Rev. 4 specifications using the EUROSTAT RAMON conversion tables and hereby aggregated data on each of the R&D groups.[38]

The data used in the analysis are 2010-2015 averages (2011-2015 for Denmark) and values are reported in thousands of euros.

Methodology for approximating how much current CIT revenue is potentially lost

The approximation is based on a six-step procedure:

1. For each firm and for each year we calculated the return on assets for the period 2010-2015 based on micro data from the Amadeus database.
2. To provide an estimate for 2017 we updated the returns on assets by the real development in the CIT tax base based on Eurostat and OECD data, implicitly assuming that the additional return in 2017 is evenly split between all companies. Note that 2016 CIT revenue is used for Germany due to missing data. Note also that this correction affects the results only to a limited extent.
3. For given assumptions about the "normal" return on assets we calculated the yearly residual return for each firm. Specifically, we applied a 4% normal return.
4. We then calculated the average residual and routine return for each R&D intensity.
5. Export shares of total output for each R&D intensity were estimated on the basis of input-output tables.[39]

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[37] Galindo-Rueda, F. and F. Verger (2016), "OECD Taxonomy of Economic Activities Based on R&D Intensity", *OECD Science, Technology and Industry Working Papers*, 2016/04, OECD Publishing, Paris

[38] The aggregated micro data generally show high consistency with aggregate statistics from Eurostat.

[39] We acknowledge that import and export data are an imperfect proxy for MNEs' global structures.

6. We then combined the information on routine and residual returns, export shares and the share of the CIT tax base for each R&D intensity to calculate the approximate residual profits attributable to routine and to domestic and foreign residual returns for each country.

These estimates are considered conservative for two main reasons:

- We also used average export shares for each R&D intensity. However, it very likely that high return businesses have larger export shares than the average business – i.e. "winning" business models are more often taken global.
- Using total assets most likely captures too broad an asset base compared to what is attributable to routine functions. This, ceteris paribus, suggests that we underestimated the residual returns and ultimately the share of returns linked to foreign sales.

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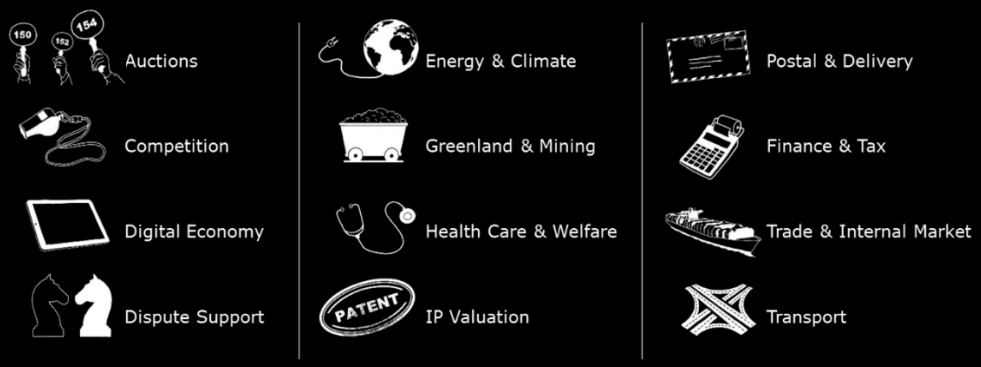

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