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Band 210

**Formulary apportionment
in international tax law**

**An allocation method for the age
of globalization and digitalization**

By

Michael Mautsch



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Abbreviations

AOA	Authorised OECD Approach
APA	Advanced pricing agreement
Art.	Article
BEFIT	Business in Europe: Framework for Income Taxation
BEPS	Base Erosion and Profit Shifting
BFH	Bundesfinanzhof (German Federal Fiscal Court)
BGBI.	Bundesgesetzblatt (German Federal Law Gazette)
BStBl.	Bundessteuerblatt (German Federal Tax Gazette)
BVerfG	Bundesverfassungsgericht (German Federal Constitutional Court)
BVerfGE	Entscheidungen des Bundesverfassungsgerichts (German Federal Constitutional Court Gazette)
CCCTB	Common Consolidated Corporate Tax Base
CCTB	Common Corporate Tax Base
CEN	Capital export neutrality
CESifo	Münchener Gesellschaft zur Förderung der Wirtschaftswissenschaft
CFC	Controlled Foreign Company
CIN	Capital import neutrality
COM	European Commission
CON	Capital ownership neutrality
CPM	Cost plus method
CUP	Comparable uncontrolled price
DST	Digital services tax
EATLP	European Association of Tax Law Professors
ECPR	European Consortium for Political Research
ed.	editor
e.g.	exempli gratia (for example)
EStG	Einkommensteuergesetz (German Income Tax Law)
et al.	et alia (and others)
EU	European Union
EUR	Euros
GAAP	Generally accepted accounting principle
GDP	Gross domestic product
GewStG	Gewerbsteuergesetz (German Trade Tax Law)
GG	Grundgesetz (German Basic Law)
GloBE	Global anti-Base Erosion
GREIT	Group for Research on European and International Taxation
IBFD	International Bureau of Fiscal Documentation
i. e.	id est (that is to say)
IFRS	International financing reporting standard
IIR	Income Inclusion Rule
KStG	Körperschaftsteuergesetz (German Corporate Income Tax Law)

MC	Model Convention
MNE	Multinational enterprise
n.	footnote
no.	numero (number)
OECD	Organisation for Economic Co-operation
OEEC	Organisation for European Economic Cooperation
p.	page
para.	paragraph
pp.	pages
PSM	Profit split method
RPM	Resale price method
sec.	section
STTR	Subject to Tax Rule
SWD	Staff working document
TNMM	Transactional net margin method
UDITPA	Uniform Division of Income for Tax Purposes Act (USA)
UN	United Nations
US	United States
USD	United States Dollar
UTPR	Undertaxed Payment Rule
VAT	Value added tax
Vol.	Volume
vs.	versus

Chapter 1

Introduction

International tax law, by its nature, deals with complex challenges.¹ On the one hand, as part of public international law,² establishing and implementing a legal framework requires an enormous effort in terms of coordination and cooperation between national states.³ Especially in recent times, international tax policy has succeeded in reaching agreements between a vast number of countries even amid “unruly times” of geopolitical conflicts.⁴ While there are many reasons for collaboration in fiscal matters, they usually boil down to “encouraging cross-border economic activity, preventing international tax avoidance and evasion, and, more generally, strengthening political ties with the partner country”.⁵ On the other hand, there is the issue of tax competition, which touches upon the delicate subject of state sovereignty.⁶ Essentially, governments act upon national interests and will decide on reinforcing fiscal autonomy or committing to bilateral or multilateral conventions accordingly.⁷ In most cases, national states will refrain from moving to close to either end of the scale, but aim to profit from the best of both worlds.⁸

¹ For a historical account of the subject matter, see *M. Sadowsky*, *The History of International Tax Law*, *The Oxford Handbook of International Tax Law* (F. Haase & G. Kofler eds., Oxford University Press 2023), pp. 3–20.

² *R. S. Avi-Yonah*, *International Tax as International Law*, 57 *Tax Law Review* 4 (2004), pp. 483–501.

³ OECD, *Action Plan on Base Erosion and Profit Shifting* (OECD 2013), pp. 9–11; on the boundaries of such international efforts, see *B. Ferreira Liotti*, *Limits of International Cooperation: The Concept of “Jurisdiction Not to Tax” from the BEPS Project to GloBE*, 76 *Bulletin for International Taxation* 2 (2022), *Journal Articles & Opinion Pieces IBFD*, pp. 63–81.

⁴ *W. Schön*, *International Tax Rules for Unruly Times*, Working Paper of the Max Planck Institute for Tax Law and Public Finance No. 2023-08 (2023).

⁵ *J. Braun & M. Zagler*, *An Economic Perspective on Double Tax Treaties with(in) Developing Countries*, 6 *World Tax Journal* 3 (2014), *Journal Articles & Opinion Pieces IBFD*, p. 243.

⁶ Regarding the theoretical principles, see *M. Keen & K. A. Konrad*, Chapter 5 – The Theory of International Tax Competition and Coordination, in *Handbook of Public Economics*, Vol. V (A. J. Auerbach et al. eds., North Holland 2013), pp. 257–328; *T. Dagan*, *International Tax Policy between Competition and Cooperation* (Cambridge University Press 2018).

⁷ *W. Schön*, *Internationale Steuerpolitik zwischen Steuerwettbewerb, Steuerkoordination und dem Kampf gegen Steuervermeidung*, *Internationales Steuerrecht* 6 (2022), p. 182; *W. Schön*, *International Tax Rules for Unruly Times*, Working Paper of the Max Planck Institute for Tax Law and Public Finance No. 2023-08 (2023), p. 5.

⁸ *W. Schön*, *International Tax Rules for Unruly Times*, Working Paper of the Max Planck Institute for Tax Law and Public Finance No. 2023-08 (2023), p. 7.

Therefore, both tax cooperation and tax competition merely define the playing field from which the “flawed miracle”⁹ of the international tax regime emerges.¹⁰ Consequently, they constitute the framework conditions with respect to deliberations on reform.

Over the last decades, the development of technology has had an enormous effect on the global economy.¹¹ One of the main outcomes is the fact that multinational enterprises (MNEs) are able to carry on economic activity with minimal need for personnel to be present.¹² Given these circumstances, MNEs have an incentive to engage in aggressive tax planning and tax avoidance¹³. To cope with this problem, the Organisation for Economic Co-operation and Development (OECD) and the G20 initiated the Base Erosion and Profit Shifting (BEPS) project in 2013.¹⁴ Two years later, in 2015, the OECD released a 15-point Action plan with the principal aim to “ensure that profits are taxed where economic activities take place and value is created”.¹⁵ This was followed by the “Statement on a Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalization of the Economy” in 2021.¹⁶ These works reflect the broadening of purpose of the international tax regime.¹⁷ It moved beyond the mere prevention and mitigation of double taxation to include cross border transparency and preventing tax evasion and tax avoidance.¹⁸

⁹ R. S. Avi-Yonah, The Structure of International Taxation: A Proposal for Simplification, Texas Law Review 74, no. 6 (1996), pp. 1303–1304.

¹⁰ On the concept of an international tax regime or system in general, see Y. Brauner, An International Tax Regime in Crystallization, 56 Tax Law Review 2 (2003), pp. 259–328; W. Schön, Is There Finally an International Tax System?, 13 World Tax Journal 3 (2021), Journal Articles & Opinion Pieces IBFD, pp. 357–384.

¹¹ For a historic outline on the discussions regarding the digitalization of the economy, see R. S. Collier, The Evolution of Thinking on Tax and the Digitalization of Business 1996–2018, 15 World Tax Journal 2 (2023), Journal Articles & Opinion Pieces IBFD, pp. 145–204.

¹² OECD, Addressing the Tax Challenges of the Digital Economy, Action 1 – 2015 Final Report, OECD/G20 Base Erosion and Profit Shifting Project (OECD 2015), para. 158.

¹³ These and similar terms will be further explained below, see sec. 3.3.3.

¹⁴ OECD, Action Plan on Base Erosion and Profit Shifting (OECD 2013). As regards the problem posed by the digital economy, there is an “intermeshing of the avoidance theme and the broader issue of the degree to which the international tax rules (including the physical nexus standard) remain able to accommodate current business practices”, R. S. Collier, The Evolution of Thinking on Tax and the Digitalization of Business 1996–2018, 15 World Tax Journal 2 (2023), Journal Articles & Opinion Pieces IBFD, p. 171.

¹⁵ OECD, BEPS Project Explanatory Statement: 2015 Final Reports, OECD/G20 Base Erosion and Profit Shifting Project (OECD 2016), para. 1.

¹⁶ OECD, Statement on a Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalization of the Economy (OECD 2021), available at: www.oecd.org/tax/beps/state-statement-on-a-two-pillar-solution-to-address-the-tax-challenges-arising-from-the-digitalisation-of-the-economy-october-2021.htm (last accessed 19 Jan. 2026).

¹⁷ R. S. Collier, The Evolution of Thinking on Tax and the Digitalization of Business 1996–2018, 15 World Tax Journal 2 (2023), Journal Articles & Opinion Pieces IBFD, p. 146; W. Schön, International Tax Rules for Unruly Times, Working Paper of the Max Planck Institute for Tax Law and Public Finance No. 2023-08 (2023), p. 6.

¹⁸ P. Hongler, International Law of Taxation (Elements of International Law) (Oxford University Press 2021), p. 215.

Corresponding to progress in the realm of digitalization, the question of justly allocating taxing rights within the international framework arises (anew).¹⁹

This thesis draws on the interplay between the parameters of international tax law (tax cooperation and tax competition) and the changes in the real world (digitalization of the global economy). Following contemporary debates on how to reform the international tax system, it focuses on the necessity of rethinking the allocation of taxing rights in the digital age. In concrete terms, the author argues that this issue is the essential underlying rationale of the work of the OECD over the last decades.²⁰ Therefore, the aim of this thesis is to lay down the basic prerequisites for taxing MNEs' global profits in times of globalization and digitalization.

Such an approach necessitates some caveats. When discussing the pros and cons of a specific method of business taxation, proponents and critics alike frequently tend to mix aspects of rationale and feasibility.²¹ Similarly, differences of opinion may also occur depending on whether one's way of thinking derives from "traditional legal wisdom" or "traditional economic wisdom".²² Finally, legal scholars and economists (perhaps unconsciously) enter the realm of political science as soon as they reflect on the probability of government action with respect to proposed solutions. To a certain degree, this conjuncture is inevitable in the field of international tax law, which has always been shaped by global tax governance.²³ After

¹⁹ OECD, Tax Challenges Arising from Digitalisation – Interim Report 2018: Inclusive Framework on BEPS, OECD/G20 Base Erosion and Profit Shifting Project (OECD 2018), para. 367; *M. P. Devereux & J. Vella*, Taxing the Digitalised Economy: Targeted or System-Wide Reform?, *British Tax Review* 4 (2018), pp. 387–406.

²⁰ Countries participating in the process headed by the OECD also address the following issues: "the anti-avoidance agenda (including the accessing of revenues retained in tax haven entities); the wish to update the international tax system so that it can accommodate new business models (including dealing with the deficiencies of the existing ALP [arm's length principle]-based system); the wish to put an end to the unlevel playing field between offshore digitalized businesses and their onshore traditional 'bricks and mortar' competitors; the goal of implementing an approach more in keeping with the BEPS-heralded notion of value creation; and the wish to head off a break-up of the international tax system and the general chaos caused by the spread of uncoordinated unilateralism", *R. S. Collier*, The Evolution of Thinking on Tax and the Digitalization of Business 1996–2018, 15 *World Tax Journal* 2 (2023), *Journal Articles & Opinion Pieces IBFD*, p. 201.

²¹ As pointed out by *M. A. Kane*, Transfer Pricing, Integration and Synergy Intangibles: A Consensus Approach to the Arm's Length Standard, 6 *World Tax Journal* 3 (2014), *Journal Articles & Opinion Pieces IBFD*, p. 297 and *L. E. Schoueri*, Arm's Length: Beyond the Guidelines of the OECD, 69 *Bulletin for International Taxation* 12 (2015), *Journal Articles & Opinion Pieces IBFD*, p. 698.

²² *W. Schön*, International Tax Coordination for a Second-Best World (Part I), 1 *World Tax Journal* 1 (2009), *Journal Articles & Opinion Pieces IBFD*, pp. 71–84.

²³ Fundamentally, see *P. Dietsch & T. Rixen*, Global Tax Governance: What It Is and Why It Matters, in *Global Tax Governance: What Is Wrong with It and How to Fix It* (P. Dietsch & T. Rixen eds., ECPR Press 2016), p. 8; for a recent assessment of its shortcomings, see *T. Diniz Magalhães*, What Is Really Wrong with Global Tax Governance and How to Properly Fix It, 10 *World Tax Journal* 4 (2018), *Journal Articles & Opinion Pieces IBFD*, pp. 499–536; for a

all, taxation “is the most direct interface between the market and the state” and “represents one of the core functions of the modern nation-state.”²⁴ Therefore, a holistic approach that takes into account the findings from law, economics and political science is key to understand the big picture. This is true especially with regard to the debate on the taxation of the digitalized economy.²⁵ However, in order to do so, one must first be firm on the relevant insights stemming exclusively from the respective field of study. This goes hand in hand with a certain amount of humility with respect to the inherent limits of the contributions made by academics from the different fields of study.²⁶ On that account, the author will focus on the legal line of reasoning wherever possible. Otherwise, i. e. in those instances where legal and economic considerations are too closely intertwined, the author will state this explicitly. When discussing the advantages and disadvantages of a certain way of taxing MNEs’ global profits, the author distinguishes between the issues of rationale and feasibility. In this context, the objective of diminishing opportunities for tax avoidance is paramount. Last but not least, predictions as to the probability of the findings coming to fruition remain out of consideration.

Substantially, the author analyzes the potential of formulary apportionment in meeting the challenges of international taxation in times of globalization and digitalization. In order to do so, the author will, firstly, supply background information regarding the BEPS project and the fundamental principles of international tax policy. This is followed by the three main topics of this thesis. The first topic deals with the current state of research regarding formulary apportionment and the arm’s length standard. Both methods’ advantages and drawbacks will be compared to each other in the light of allocating MNEs’ global profits. The second focal point is directed towards the study of previous and existing examples of formulary apportionment in German, European and international tax law. Based on a “best practice” derived therefrom, the third and last main emphasis of this thesis involves a draft for applying formulary apportionment to overcome (most of) the conceptual shortcomings identified before. The author concludes by briefly highlighting some potential remaining issues regarding implementation and feasibility of said formulary apportionment method conception.

critical note on the role of the OECD/G20 in setting global standards and norms, see *I. Ozai*, Institutional and Structural Legitimacy Deficits in the International Tax Regime, 12 *World Tax Journal* 1 (2020), Journal Articles & Opinion Pieces IBFD, pp. 53–78.

²⁴ *P. Dietsch & T. Rixen*, Global Tax Governance: What It Is and Why It Matters, in *Global Tax Governance: What Is Wrong with It and How to Fix It* (P. Dietsch & T. Rixen eds., ECPR Press 2016), p. 1.

²⁵ *A. J. Martín Jiménez*, BEPS, the Digital(ized) Economy and the Taxation of Services and Royalties, 46 *Intertax* 8/9 (2018), p. 621, who characterizes the debate as “a mixture of economics and legal reasoning together with policy and politics”.

²⁶ *W. Schön*, One Answer to Why and How to Tax the Digitalized Economy, Working Paper of the Max Planck Institute for Tax Law and Public Finance, No. 2019–10 (2019), p. 4.