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TAXING THE CLOUD: WHOSE SERVERS, WHOSE LOCATION, WHOSE REVENUE?

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DECLARATION

I, **WANGAI ALBERT NDIRANGU**, do hereby declare that this research is my original work and that to the best of my knowledge and belief, it has not been previously, in its entirety or in part, been submitted to any other university for a degree or diploma. Other works cited or referred to are accordingly acknowledged.

Signed: .....

Date: 30th January 2025 .....

This dissertation has been submitted for examination with my approval as University Supervisor.

Signed:.....

Mr. Peter Kiptanui

LIST OF LEGAL INSTRUMENTS

- OECD, *Tax Challenges Arising from Digitalisation – Report on Pillar One Blueprint*, 2020
- IMF, *Corporate Taxation in the Global Economy*, International Monetary Fund Policy Paper, 2020
- United Nations Conference on Trade and Development, *Key Statistics and Trends in International Trade 2021*
- UK/Kenya Double Taxation Agreement, HM Revenue & Customs, 2022
- OECD Model Tax Convention on Income and on Capital, 2017
- UN Model Double Taxation Convention, 2017

LIST OF ABBREVIATIONS

- **ICT** - Information Communication Technologies
- **OECD** - Organisation for Economic Co-operation and Development
- **BEPS** - Base Erosion and Profit Shifting
- **IMF** - International Monetary Fund
- **NIST** - National Institute of Standards and Technology
- **PE** - Permanent Establishment
- **UNCTAD** - United Nations Conference on Trade and Development

Abstract

The unprecedented growth of cloud computing has revolutionized business operations globally, yet existing tax frameworks struggle to accommodate this borderless digital economy. This research aims to propose a coordinated global tax regime tailored for cloud computing services that addresses key challenges around determining tax nexus, ensuring fair taxation, and minimizing economic distortions. Guided by the Significant Economic Presence and Network Theory of Globalization Concepts, a comprehensive legal analysis will examine domestic laws, international agreements, and judicial precedents across major jurisdictions to reconcile conflicting interpretations on taxation of cloud computing services and user-generated value. Qualitative techniques encompass comparative legal studies and stakeholder consultations to balance diverse interests equitably. The integrated research design enables developing a robust coordinated global tax framework that establishes clear nexus rules linking tax liabilities to server locations and user contributions, adheres to fair taxation principles, and fosters continued digital innovation through minimized distortions. Ultimately, this study establishes a legal-economic roadmap for modernizing outdated tax systems and stabilizing global economic trajectories in the digital age.

CHAPTER ONE

1.1 Introduction

The growth of cloud computing has enabled a new breed of digital entrepreneur. An online business can be run from anywhere using only a laptop connected to servers that host websites, process payments, and store data. But when those servers, that facilitate the exchange of goods and services while recording the payments, sit within one tax jurisdiction and the laptop entrepreneur resides in another, confusion arises around appropriate tax policies and procedures. Where is the business located and what is its tax jurisdiction?

Take the example of a Kenya-based entrepreneur running an online business with 10,000 active users. All the website data, applications, and transactions are processed using rented servers located in the UK. Both the Kenyan and UK governments have reasonable arguments around rights to tax revenue generated by the servers and where liability rests. Complex questions then emerge on how to apportion and assign tax responsibility.

Issues of tech innovation, privacy, environmental impact, and economic growth all interelate with this emerging legal quandry. As governments struggle with widening budget deficits, and declining economies, many view cross-border cloud computing firms as untouched pots of revenue. Yet analysts warn that hurried and hefty taxation schemes may only end up stifling the productivity and competitiveness enabled by affordable and flexible cloud servers.

This essay will study the debate around taxing cloud computing services utilized for online businesses. It analyzes current tax practices in Kenya and comparator countries, challenges, and proposals, summarizing arguments on all sides. Finally, it provides feasible policy suggestions to modernize the tax code for the digital age while avoiding reactionary steps that could doom economic growth. The goal is balanced and informed solutions to fund government fairly while unleashing innovation.

1.2 Background

The migration of businesses, platforms, and infrastructure to the nebulous realm of "the cloud" has progressed swiftly (especially with Big Tech),[1] radically transforming communication, commerce, entertainment and work. Cloud computing enables convenient, on-demand network access to shared pools of configurable computing resources including servers, storage, networks, and services.[2] Global cloud services alone are projected to generate over $445 billion in revenue in 2023 as more operations digitize.[3]

A tax policy model, in the context of cloud computing, refers to the framework or approach adopted by a jurisdiction to levy taxes on these services. It encompasses the rules, principles, and mechanisms used to determine tax nexus, allocate profits, and calculate tax liabilities for businesses providing cloud computing services across borders. The constituents of a tax policy model include nexus rules, profit allocation principles, taxation mechanisms, and double taxation avoidance measures. Variables such as server location, user location, revenue streams, and intangible assets eventually shape these models.[4]

Yet as governments at all levels grapple with widening budget deficits and decaying economies post-pandemic and currently with the Global Economic Crisis, many are eying the ambiguous domain of cloud servers as an untapped source of much-needed tax revenue. These efforts align with ramped up calls for increased taxation on massive tech companies like Amazon, Microsoft, Alphabet (Google), and Apple.[5] Officials argue that Big Tech and cloud providers benefit tremendously from public goods like roads, electricity, security, and infrastructure while contributing negligible tax income, especially compared to past corporations of similar scale that were largely physical like General Motors or Standard Oil.[6]

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[1] The firms referred to collectively as “Big Tech” are Alphabet (Google’s parent company), Amazon, Apple, Facebook, and Microsoft. They are considered “Big” because of the vast amounts of data they control, their massive user bases, their market values, and their influence.

[2] Mell P and Grance T, 'The NIST definition of cloud computing' National Institute of Standards and Technology, 2011, 1-7.

[3] Gartner. (2022). Gartner forecasts worldwide public cloud revenue to reach nearly $500 billion in 2023. Gartner.

[4] Olbert, M., & Spengel, C. (2019). International Taxation in the Digital Economy: Challenge Accepted? World Tax Journal, 11(1), 3-46 and Spinosa, L., and Chand, V., 'A Long-Term Solution for Taxing Digitalized Business Models: Should the Permanent Establishment Definition Be Modified to Resolve the Issue or Should the Focus Be on a Shared Taxing Rights Mechanism?' 46(6/7) Intertax, 2018, 476-494.

[5] Khan LM, 'Amazon's antitrust paradox' 126(3) The Yale Law Journal, 202, 710-805.

[6] Phillippon T, 'The great reversal: How America gave up on free markets' Harvard University Press, 2019, 5-15.

However, counterarguments abound that overregulation and hefty taxes could discourage innovation and get passed on to end-consumers struggling already with decades-high inflation.[7] Moreover, ambiguities persist around accurately valuing the various services bundled into cloud computing for fair taxation, establishing tax nexus across borders, and correctly apportioning tax liability across multiple jurisdictions.[8]

The taxation argument surrounding cloud computing services and distant servers is intensifying as governments look for new sources of income to close deficits and finance economic revivals. Tax laws must then be updated for businesses operating in the 21st century while avoiding retroactive measures that would hurt innovation and slow down growth in the increasingly digitalized global economy. Existing double taxation agreements between countries, such as the UK-Kenya Double Taxation Agreement, may need to be revisited to address the cross-border nature of cloud computing services and lead to fair taxation without double taxation.[9]

1.3 Research Problem

As cloud computing services continue to expand rapidly, encompassing critical functions across various sectors, the physical infrastructure enabling this digital revolution remains in ambiguous legal and regulatory terrain.[10] Despite extensive investments in cloud computing infrastructure, tax systems struggle with classifying and valuing the income generation potential of these services amidst an absence of physical nexus.[11] Uncoordinated and reactionary tax initiatives by individual nations aiming to unilaterally tap new revenue streams risk fragmenting cooperation, raising compliance costs for businesses, and hampering innovation cycles in the cloud computing industry by creating an uncertain and burdensome tax environment for companies operating across borders.[12]

Consequently, there is a clear need for a consistent global tax framework attuned to the unique characteristics of cloud computing services to fairly fund public infrastructure

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[7] Mertens K and Ravn MO, 'The dynamic effects of personal and corporate income tax changes in the United States' American Economic Review, 2013, 1220-1247.

[8] Mazur O, 'Taxing the Cloud' Urban Institute 2021.
[9] HM Revenue & Customs. (2022). UK/Kenya: Double Taxation Agreement.
[10] OECD, Tax Challenges Arising from Digitalisation – Report on Pillar One Blueprint, 2020.
[11] Aslam A and Shah A, 'Taxation and the Peer-to-Peer Economy' IMF Working Paper Fiscal Affairs Department 2020, 57-66.
[12] Becker J, ‘Taxing Where Value Is Created: What's 'User Involvement' Got to Do with It?' 2020(1) Nordic Tax Journal, 2020, 5-20

supporting the industry's growth while minimizing distortions and enabling continued innovation.[13] This research aims to address this gap by proposing a coordinated global tax regime for cloud computing services. Key questions surrounding the establishment of clear nexus rules, the principles of fair taxation, and mechanisms to minimize economic distortions will be explored. The study will assess prominent existing tax policies, estimate revenue generation potential and sector distortionary effects from divergent approaches, and offer legal-economic recommendations toward equitable, innovation-enabling global tax reform for cloud computing services. This study will focus on key variables such as server location, user location, revenue streams, and intangible assets to develop a comprehensive understanding of the tax challenges associated with cloud computing services and inform the design of a coordinated global tax framework.

1.4 Research Objectives

1. To propose a coordinated global tax framework for cloud computing services that establishes clear nexus rules.
2. To identify principles that ensure fair taxation of cloud computing services within the proposed framework.
3. To explore ways in which the proposed framework can minimize economic distortions while taxing cloud computing services.

1.5 Hypothesis

The current uncoordinated and reactionary tax initiatives by individual nations targeting cloud computing are likely to have significant negative impacts on productivity, investment, and innovation in the digital economy due to increased compliance costs, fragmented cooperation, and an uncertain tax environment for businesses operating across borders. An adoption of a concerted globally unified tax framework, which provides transparent nexus, guarantees equitable taxation and reduces distortions, will lead to significant tax revenue for governments, while preserving continued growth and innovation within the cloud computing industry

[13] IMF, 'Corporate Taxation in the Global Economy' International Monetary Fund Policy Paper, 2020.

1.6 Research Questions

1. How can a coordinated global tax framework establish clear nexus rules for taxing cloud computing services?
2. What principles should guide the development of fair taxation policies for cloud computing services in a coordinated global tax framework?
3. How can a coordinated global tax framework minimize economic distortions while taxing cloud computing services?

1.7 Justification of Study

The rapid growth of cloud computing, digital platforms, and remote services has significantly changed the way businesses operate, consumers behave and perform to the global economy. However, the uncertainty and ambiguity surrounding its taxation has led to a great deal of fragmented and uncoordinated tax policies by individual nations, creating an uncertain environment that risks stifling innovation, increasing compliance costs, and hindering continued growth of the digital economy. This research is significant as it aims to propose a coordinated global tax framework explicitly dedicated and tailored to cloud and remote services, specifically to address the challenges of establishing tax nexus, ensuring fair taxation, and minimizing distortions to the digital economy. The development of such a framework allows for a) a consistent and equitable approach for governments and tax authorities to generate tax revenue from the rapidly expanding digital economy while avoiding the pitfalls of unilateral tax initiatives that fragment cooperation and create an uncertain tax environment for businesses. b) Provide benefit to companies operating in the cloud computing and digital services sector by establishing a clear and coordinated global tax regime that minimizes compliance costs, provides certainty in tax planning, and fosters an environment conducive to continued innovation and growth. c) Will ultimately benefit consumers and end-users, who rely on cloud-based services for various aspects of their personal and professional lives, including healthcare, education, communication, and entertainment.

The significance of this research lies in its potential to address an economically pressing issue that has far-reaching transboundary implications for government, business, citizens and the global economy. By proposing a coordinated global tax framework for cloud and remote services, this study aims to provide a comprehensive solution that balances the need for tax

revenue generation with the imperative to foster innovation and growth in the digital economy.

1.8 Theoretical Framework

Effectively taxing cloud computing and remote services requires an understanding of both international taxation principles and the unique characteristics of the digital economy. This research will leverage multiple theoretical frameworks to comprehensively analyze this issue.

1.8.1 Significant Economic Presence Concepts

Traditional tax nexus rules rely heavily on physical presence, which is often absent in digital business models. The concept of significant economic presence has and remains alive in trying to address this by considering factors beyond physical presence, such as revenue, users, and digital assets. This will be helpful in determining appropriate tax policies for businesses leveraging cloud infrastructure across borders, as these businesses often lack a physical presence in the jurisdictions where their customers are located.

The concept of significant economic presence in the context of the digital economy has already been engaged in academic debate. For example, Avi-Yonah and Xu propose a framework for determining significant economic presence based on factors such as revenue, users, and digital assets.[14] Bauer argues that significant economic presence should be based on a combination of qualitative and quantitative factors, such as the nature and extent of a company's activities in a jurisdiction.[15]

1.8.2. Network Theory of Globalization

This theory emphasizes the interconnected nature of today's global economy, where value is created through networks of relationships and interactions. In the context of cloud computing and remote services, this theory highlights the importance of considering the global value chain, including the contributions of users and other stakeholders, in determining tax liabilities. It also supports the argument that a coordinated global tax framework is necessary to avoid fragmentation and ensure fair taxation in the digital economy.

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[14] Avi-Yonah, R. S., & Xu, H. (2020). Evaluating BEPS: A reconsideration of the benefits principle and proposal for UN oversight. *U of Michigan Public Law Research Paper No. 670*, 194-198.
[15] Bauer, M. (2018). Digital companies and their fair share of taxes. *ECIPE Occasional Paper*.

Bradbury, discusses the challenges of estimating the fiscal effects of base erosion and profit shifting in a globalized economy, emphasizing the need to consider the interconnectedness of businesses and the flow of value across borders.[16]

In addition to these theoretical frameworks, this research will also draw upon specific frameworks for assessing tax models in the chosen jurisdictions, including:

Nexus Determination: This focuses on how tax models define taxable presence for cloud operations. It will examine various approaches to nexus determination, such as physical presence, significant economic presence, and virtual permanent establishment. Academics have tried to provide a detailed analysis of different nexus concepts in the context of the digital economy, including their implications for cloud computing and remote services.[17] This will form the basis of this research's analysis in this facet.

Revenue Threshold: This examines the minimum threshold for tax liability under different tax models. It will consider various factors, such as revenue generated from cloud services, user base, and digital assets.

Scope of Taxability and Rate: This analyzes the scope of taxable activities and the applicable tax rates under different tax models. It will consider various approaches, such as taxing gross revenue, net income, or specific types of digital transactions. It will evaluate provided conceptual defenses of digital services taxes, which are levies on specific types of digital transactions, such as online advertising and data collection.[18]

User Value Recognition: This examines how user-generated value is accounted for in different tax models. It will consider various approaches, such as profit attribution based on user contributions or specific taxes on user-generated data. It will evaluate the established concepts of user involvement in value creation and its implications for taxing the digital economy.[19]

Profit Attribution: This analyzes how profits are attributed to different jurisdictions under different tax models. It will consider various approaches, such as fractional apportionment

[16] Bradbury, D., Hanappi, T., & Moore, A. (2018). Estimating the fiscal effects of base erosion and profit shifting: Data availability and analytical issues. *Transnational Corporations*, *25*(2), 104-105.
[17] Hongler, P., & Pistone, P. (2015). Blueprints for a new PE nexus to tax business income in the era of the digital economy. *IBFD White Paper*, 9-14.
[18] Cui, W. (2019). The digital services tax: A conceptual defense. *Tax Law Review Forthcoming*, 14-19.
[19] Becker J, 'Taxing Where Value Is Created: What's 'User Involvement' Got to Do with It?' 2020(1) Nordic Tax Journal, 2020, 5-20.

based on sales, assets, or employees, and formulary apportionment based on specific factors. Additionally it will also analyze different profit attribution methods in the context of the digital economy, as discussed by academia, including their advantages and disadvantages.[20]

Double Taxation Mechanisms: This examines the mechanisms used to prevent double taxation under different tax models. It will consider various approaches, such as tax credits, exemptions, and deductions. It will evaluate what Devereux and Vella discuss as the implications of digitalization for international corporate tax reform, including the need to address double taxation issues.[21]

By drawing upon these theoretical frameworks and assessment criteria, this research aims to provide a comprehensive analysis of the challenges and opportunities associated with taxing cloud computing and remote services. The findings will inform the development of a coordinated global tax framework that is fair, efficient, and supportive of innovation in the digital economy.

1.9 Literature Review

The taxation of revenue generated from cloud computing services remains one of the most complex, emerging and contentious issues facing international tax policy today. Current rules and regulations diverge drastically across major economies like the United States, European Union, China, India, and African nations.[22] Some jurisdictions have pushed ahead with unilateral digital services taxes but the consensus among experts is that cooperative multilateral frameworks are much needed to avoid crippling global tax chaos and disruption to cross-border data flows fueling technological innovation.

In recent years, a wide array of scholarly literature has emerged analyzing various aspects of this challenge. There has been scrutiny of existing domestic laws and international tax principles like permanent establishment, source vs residence-based taxation, profit attribution, and the implications for cloud computing models.[23] Economists have modeled the impacts of potential regimes like destination-based cash flow taxes, residual profit

[20] Olbert M and Spengel C, 'International taxation in the digital economy: Challenge accepted?' 11(1) World Tax Journal, 2019, 3-46.
[21] Devereux MP and Vella J, 'Implications of digitalization for international corporate tax reform' in Digital Revolutions in Public Finance, 2018, 91-115.
[22] United Nations Conference on Trade and Development, Key Statistics and Trends in International Trade 2021.
[23] Hongler P and Pistone P, 'Blueprints for a new PE nexus to tax business income in the era of the digital economy' IBFD White Paper, 2015, 5-14.

allocation, user/marketing intangible-driven methods, equalization levies, and minimum taxes on digital businesses.[24]

Central to these debates are questions around the unique traits of cloud computing, user-generated value creation through data, scalable digital services delivery models, remote workforce deployment, and the blurred lines between goods and services in this digital economy. Perspectives differ on whether these factors demand entirely new profit allocation rules or if traditional transfer pricing principles can be adapted.[25] However, most perspectives agree that ring-fencing the "digital economy" is problematic and rules should be broad-based across sectors, though some have argued for higher taxes specifically on digital advertising revenue or location-specific data exploitation models.[26]

Literature has also assessed the economic impacts and risks of unilateral digital services taxes, departure from norms of avoiding double taxation, and the punitive tariffs some have threatened in retaliation.[27] Many highlight the need to distribute taxing rights across multiple jurisdictions and reform global anti-avoidance rules in tandem.[28] Some research has focused on the concerns of developing nations at risk of significant tax base erosion without new multilateral rules, as digitalization enables easier remote provision and offshoring of services.[29]

However, major gaps remain in quantifying the specific effects that proposed regimes could have on cloud computing investment levels, data center infrastructure deployment, digital entrepreneurship, productivity and growth rates across industries and countries.[30] Empirical studies are needed projecting economic outcomes under different scenarios, as divergent estimates currently range from relatively muted impacts to risks of severe disruption from tax

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[24] Auerbach A,'Destination-based cash flow taxation' Oxford University Centre for Business Taxation Working Paper 17/01, 2017, 13-16.

[25] Olbert M and Spengel C, 'International taxation in the digital economy: Challenge accepted?' 11(1) World Tax Journal, 2019, 3-46.
[26] Cui W, 'The digital services tax: A conceptual defense' Tax Law Review Forthcoming, 2019, 14-19.
[27] Olbert M and Spengel C, 'International taxation in the digital economy: Challenge accepted?' 11(1) World Tax Journal, 2019, 3-46.
[28] Devereux MP and Vella J, 'Implications of digitalization for international corporate tax reform' in Digital Revolutions in Public Finance, 2018, 91-115.
[29] Avi-Yonah RS and Xu H, 'Evaluating BEPS: A reconsideration of the benefits principle and proposal for UN oversight' U of Michigan Public Law Research Paper No. 670, 2020, 194-198.
[30] Bauer M, 'Digital Companies and Their Fair Share of Taxes: Myths and Misconceptions' 3 ECIPE Occasional Paper, 2018, 11-16.

overhauls.[31] There has also been insufficient analysis reconciling sharply conflicting legal interpretations globally of issues like whether servers constitute a permanent establishment or quantifying user contributions to profits.[32]

Overall, there is an expansive body of thoughtful policy analysis offering pathways to update global tax rules for the digital age – but also exists the pressing need for more rigorous empirical modeling, multilateral coordination, consensus technical guidance, and a unified approach balancing all stakeholder interests appropriately. Resolving these thorny issues will be imperative for efficient resource allocation, continued digital transformation across industries, incentivizing innovation, fairly taxing untapped data-driven profit sources, and stabilizing global economic growth trajectories.[33]

1.10 Research Design & Methodology

This study will employ a doctrinal legal research methodology complemented by comparative legal analysis and policy analysis techniques.

1.10.A Doctrinal Legal Research

- **Analysis of Primary Legal Sources:** An analysis of primary legal sources, including domestic tax legislation, international tax treaties, judicial precedents, and administrative guidance, will be conducted across Kenya and key global economies such as the EU, the United States and South Africa.
- **Interpretation of Legal Principles**: The study will analyze and interpret in the context of cloud computing, established legal principles and doctrines related to topics such as permanent establishment, source vs. residence-based taxation, profit attribution, and nexus determination.

1.10.B Comparative Legal Analysis

- **Cross-Jurisdictional Comparison:** A comparative legal analysis will be conducted to examine how different jurisdictions have approached the taxation of cloud and

[31] Beer S, Klemm A and Matheson T, 'Tax Spillovers from U.S. Corporate Income Tax Reform' IMF Working Paper No. 18/166, 2018, 15-22.
[32] Hongler P and Pistone P, 'Blueprints for a new PE nexus to tax business income in the era of the digital economy' IBFD White Paper, 2015, 48-57.
[33] Bradbury D, Hanappi T and Moore A, 'Estimating the fiscal effects of base erosion and profit shifting: data availability and analytical issues' 25(2) Transnational Corporations, 2018, 104-105.

remote services. Such as looking at legislative approaches, judicial decisions, and administrative practices across countries and regions.

1.10.C Policy Analysis

- **Economic Impact Assessment:** Relevant economic studies, reports, and data will be analyzed to assess the potential impacts of the proposed coordinated tax framework on productivity, investment, innovation, and revenue generation in the cloud computing and digital services sector.

1.11 Assumptions of the Study

1. **Availability and Accessibility of Data:** The study assumes that relevant economic data, legal sources, and stakeholder inputs will be reasonably available and accessible to conduct the proposed analyses effectively.
2. **Cooperation and Coordination among Jurisdictions:** The proposals to build and to apply a joint global tax regime are, in principle, based on a quantified degree of cooperation and coordination among countries. Although the study is intended to provide a foundation for such coordination, its realization will necessarily require agreement among the countries to participate in multilateral efforts and compromise on several issues.
3. **Stability of Economic and Legal Conditions:** The study assumes relative stability in the global economic and legal environments during the research period. Therefore, notable changes or disruptions in these conditions would be likely to affect the validity or utility of the findings and the proposed framework.

1.12 Limitations of the Study

1. **Data Limitations:** Comprehensive and consistent data on the economic impacts of various tax regimes on the cloud computing and digital services sector may be limited, particularly for emerging or rapidly evolving business models, which may lead to a lower level of accuracy of econometric modeling and impact assessments.

   To Mitigate this: Triangulation of data sources, collaboration with industry stakeholders, and reliance on reputable economic forecasting models can help mitigate data limitations.
2. **Rapidly Evolving Technology Landscape:** The study focuses on the current state of cloud computing and digital services, but the rapid pace of technological innovation

may introduce new paradigms or disruptive models that challenge the assumptions or applicability of the proposed framework.

To Mitigate this: Flexibility and periodic review mechanisms can help adapt to technological advancements and ensure its continued relevance.

3. **Jurisdictional Differences and Legal Complexities:** The diversity of legal systems, domestic laws, and judicial interpretations across jurisdictions may pose challenges in developing a truly harmonized global framework. Given that such reconciliation of conflicting legal principles and navigating complex international tax treaties can be intricate.

   To Mitigate this: Extensive comparative legal analysis, consultation with legal experts, and a focus on principles-based harmonization rather than strict uniformity can help.

1.13 Chapter Breakdown

Chapter 1: Literature Review, Theoretical Framework, and Methodology

This chapter reviews existing tax policies for cloud computing across jurisdictions, highlighting economic impacts and research gaps. It explores the Significant Economic Presence and Network Theory of Globalization as theoretical frameworks to support the study's hypothesis. A doctrinal legal, comparative, and policy-based methodology is outlined, with attention to the study's assumptions and limitations.

Chapter 2: Theoretical and Conceptual Frameworks

This chapter delves into the foundational theories and concepts of cloud computing taxation. It focuses on nexus rules, profit allocation principles, and mechanisms to avoid double taxation. The frameworks guide the research in addressing jurisdictional challenges and creating a harmonized global tax model.

Chapter 3: Research Question Analysis

The chapter addresses the study's core questions: establishing clear nexus rules, ensuring fair taxation, and minimizing distortions. Using case studies and theoretical insights, it evaluates

global challenges in taxing cloud services and proposes solutions rooted in economic presence and fairness principles.

Chapter 4: Case Studies

The chapter analyzes approaches to taxing cloud services in three regions:

1. **United States** – Explores key tax issues, reform proposals, and implications for global policies.
2. **European Union** – Examines unique challenges in taxing digital services within a unified market.
3. **Developing Countries** – Highlights their struggles and reforms to protect tax bases.

Comparative insights are drawn to identify best practices and lessons for a global framework.

Chapter 5: Recommendations and Conclusion

This chapter proposes a unified global tax framework emphasizing fairness, efficiency, and innovation. It advocates for significant economic presence rules, simplified compliance mechanisms, and multilateral cooperation. The study concludes by addressing stakeholder concerns and offering guidance for a smooth transition.

1.14 Timeline

Date	Task
March 8th, 2024	Submit Research Proposal
November 18th, 2024	Submit Chapter 1 to Supervisor
November 29th, 2024	Submit Chapters 2 and 3 to Supervisor
December 12th, 2024	Submit Chapters 4 and 5 to Supervisor
December 12th, 2024	Mock Final Submission and Grading

December 12th - 30th, 2024 Corrections and Final Dissertation Submission

CHAPTER TWO

2.1 Introduction

The rapid growth and widespread adoption of cloud computing services have transformed the global business landscape, presenting unique challenges for international taxation. As these services transcend traditional nexus, existing tax frameworks struggle to effectively capture and tax the value created by cloud computing businesses. This chapter introduces the theoretical and conceptual frameworks that attempt to provide a foundation for examining the taxation of cloud computing services, and highlights the importance of research methodologies and their justification in conducting legal research on this complex issue.

The theoretical and conceptual frameworks will establish a lens to analyze the taxation of cloud computing services. To support the theoretical framework, the study shall also present a conceptual framework that can help fill gaps that the theoretical frameworks do not address adequately.

2.2 Theoretical Framework

2.2.1 Significant Economic Presence Concept

The Significant Economic Presence Concept is an emerging theory that can indeed serve as an answer to this legal problem, if well implemented. It seeks to address and better the traditional tax nexus rules that heavily rely on physical presence, which is in most cases absent in digital business models.[34] It tries to address this challenge by looking at factors beyond physical presence, such as revenue, users, and digital assets, in determining a company's taxable presence in a jurisdiction.[35]

The Significant Economic Presence Concept provides a basis for analyzing the issues related to taxing cloud computing services and helps respond to the research questions. By focusing on economic factors rather than physical presence, this concept enables the examination of how value is created in the cloud computing industry and how it can be effectively taxed.[36] Currently, there are proposed frameworks for determining significant economic presence

[34] OECD, Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report, OECD/G20 Base Erosion and Profit Shifting Project, OECD Publishing, 2015.
[35] OECD, Tax Challenges Arising from Digitalisation – Interim Report 2018: Inclusive Framework on BEPS, OECD/G20 Base Erosion and Profit Shifting Project, OECD Publishing, 2018.
[36] Olbert M and Spengel C, 'International taxation in the digital economy: Challenge accepted' 9(1) World Tax Journal, 2017, 3-46.

based on factors such as revenue, users, and digital assets, which can be applied to the analysis of cloud computing services.[37]

2.2.2 Network Theory of Globalization

The Network Theory of Globalization emphasizes the interconnected nature of today's global economy and the need to consider the global value chain in determining tax liabilities. It highlights the fact that value is created through networks of relationships and interactions, rather than solely through traditional linear value chains.[38]

In the context of cloud computing services, the Network Theory of Globalization supports the argument for a coordinated global tax framework to avoid fragmentation and ensure fair taxation. Given the interconnectedness of the global network (inclusive of users, data centers and other assets) and the flow of value across borders, it highlights even more the need for a harmonized approach to taxing cloud computing services.[39]

The Network Theory of Globalization also highlights the challenges of estimating the fiscal effects of base erosion and profit shifting (BEPS) in a globalized economy. As Bradbury, Hanappi, and Moore discuss, the interconnectedness of businesses and the flow of value across borders make it difficult to accurately assess the impact of BEPS on individual countries.[40] Creating a more pressing need for a coordinated global tax framework that takes into account the complex networks and relationships in the cloud computing industry.

2.3 Conceptual Framework

The conceptual framework for this study encompasses key concepts and their relationship to the taxation of cloud computing services which include tax policy models, nexus rules, profit allocation principles, taxation mechanisms, and double taxation avoidance measures. The conceptual framework will supplement the theoretical framework and curve out a context for interpreting the findings of the study.[41]

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[37] Avi-Yonah RS and Xu H, 'Evaluating BEPS: A reconsideration of the benefits principle and proposal for UN oversight' 6(2) Harvard Business Law Review, 2016, 185-238.
[38] Castells M, The Rise of the Network Society, John Wiley & Sons, 2011.
[39] Cockfield AJ, 'The rise of the OECD as informal "world tax organization" through national responses to e-commerce tax challenges' 8(1) Yale Journal of Law and Technology, 2006, 136-187.
[40] Bradbury D, Hanappi T, and Moore A, 'Estimating the fiscal effects of base erosion and profit shifting: Data availability and analytical issues' Transnational Corporations, 25(2), 2018, 91-106.
[41] Jabareen Y, 'Building a conceptual framework: Philosophy, definitions, and procedure' 8(4) International Journal of Qualitative Methods, 2009, 49-62.

The relationships between these concepts will lead to a better understanding of the taxation of cloud computing services. For example, nexus rules and profit allocation principles work together to determine the extent to which a jurisdiction can tax a cloud computing business. Double taxation avoidance measures, such as tax treaties, interact with these concepts to prevent double taxation and ensure fair taxation.[42]

See figure 1 below, a diagram that showcases the key concepts and their relationships in the context of taxing cloud computing services. It attempts to illustrate the logical and sequential design of these concepts.

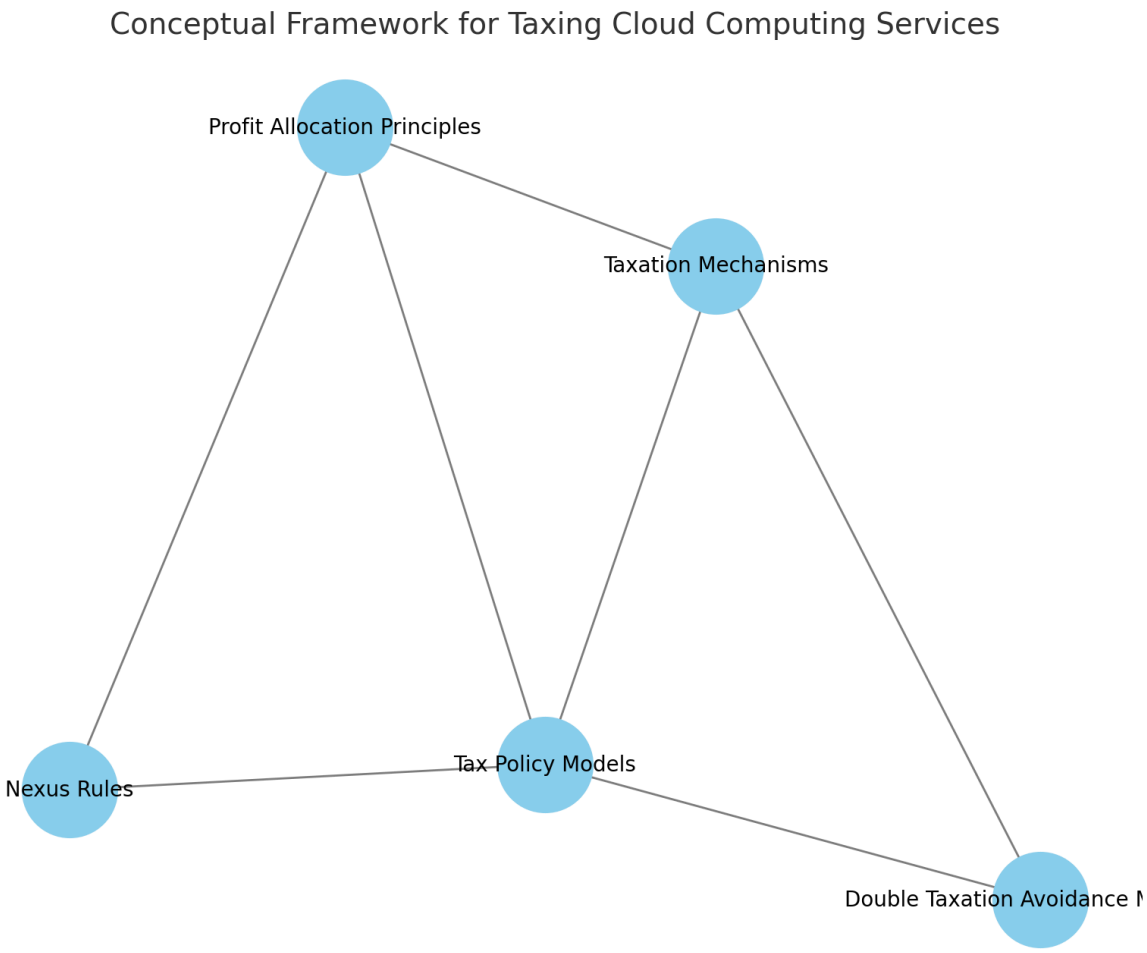

Figure 1: Conceptual Framework for Taxing Cloud Computing Services

[42] OECD, Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report, OECD/G20 Base Erosion and Profit Shifting Project, 2015.

The conceptual framework will provide a foundation for interpreting the findings of the study by establishing a clear understanding of the key concepts and their interrelationships. It will help contextualize the analysis of tax policy models, nexus rules, profit allocation principles, taxation mechanisms, and double taxation avoidance measures in the specific context of cloud computing services.[43]

2.4 Research Methodologies

This study employs a combination of doctrinal legal research, comparative legal analysis, and policy analysis, to address the research problem and attempt to achieve a framework that ensures fair cloud computing taxation but at the same time spurring innovation.

2.4.1 Doctrinal Legal Research

This will involve the analysis of primary legal sources, such as legislation, case law, and international treaties, and the interpretation of established legal principles and doctrines.[44] This will help in the identification of gaps, inconsistencies, and challenges in the current legal landscape.

2.4.2 Comparative Legal Analysis

Here, the study will examine and compare legislative approaches, judicial decisions, and administrative practices related to the taxation of cloud computing services. By examining how different jurisdictions address the taxation of cloud computing services, this will help to identify best practices, common challenges, and potential solutions.[45] It will also contribute to the development of a coordinated global tax framework by highlighting the need for harmonization and identifying areas of convergence and divergence.

2.4.3 Policy Analysis

Policy analysis, such as economic impact assessments will be employed to assess the potential impacts of the proposed coordinated tax framework and ensure a balanced approach. Economic impact assessments will involve an analysis on the potential economic

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[43] Miles MB, Huberman AM, and Saldaña J, Qualitative Data Analysis: A Methods Sourcebook, Sage Publications, 2014.
[44] Chynoweth P, 'Legal Research' in Knight A and Ruddock L (eds), Advanced Research Methods in the Built Environment, Wiley-Blackwell, 2008.
[45] Siems M, Comparative Law, Cambridge University Press, 2014.

consequences of different tax policy options, such as their effects on investment, innovation, and revenue generation.[46]

The justification for choosing these research methodologies lies in their ability to provide a comprehensive and multifaceted examination of the taxation of cloud computing services. Doctrinal legal research establishes the legal foundation, comparative legal analysis offers insights into different approaches and best practices, and policy analysis ensures that the proposed framework is economically sound and practically feasible.[47]

2.5 Research Methods

The study shall gather data through the analysis of domestic tax legislation, international tax treaties, judicial precedents, and administrative guidance across Kenya and other comparator countries or key economies.

The analysis of domestic tax legislation will involve examining the relevant tax laws and regulations in each of the selected jurisdictions. This includes a detailed review of the Income Tax Act and related legislation in Kenya, the Income Tax Act 2007 and Finance Acts in the United Kingdom, the Internal Revenue Code in the United States, and the Income Tax Act 58 of 1962 in South Africa.[48]

International tax treaties will be analyzed to identify the provisions and principles that govern the taxation of cross-border transactions, including those related to cloud computing services. This involves examining bilateral tax treaties between the selected jurisdictions, as well as multilateral instruments such as the OECD Model Tax Convention and the UN Model Double Taxation Convention.[49]

Judicial precedents, including court decisions and rulings, will be analyzed to understand how the legal principles and provisions related to the taxation of cloud computing services have been interpreted and applied in practice. This will lead to a better and practical understanding of the legal landscape and help identify potential challenges and inconsistencies.

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[46] Vito T, 'Analyzing the Effects of Tax Policy: An Introduction to Microsimulation' in Vito T (ed), The Routledge Handbook of Microsimulation Modelling, Routledge, 2022, 3-23.
[47] Vibhute K and Aynalem F, Legal Research Methods, Justice and Legal System Research Institute, 2009.
[48] Olivier L and Honiball M, International Tax: A South African Perspective, 5th edition, Siber Ink, 2011.
[49] OECD Model Tax Convention on Income and on Capital, OECD Publishing, 2017.

An analysis of administrative guidance, such as regulations, rulings, and interpretive statements issued by tax authorities, will provide insight into the practical application of tax laws and treaties in the context of cloud computing services.

2.6 Relationship between Theoretical Perspectives and Methodology

The Significant Economic Presence Concept and the Network Theory of Globalization form a basis for explaining the chosen research methodologies in this study. These theoretical perspectives align with the assumptions and philosophical underpinnings of the research, such as the need to consider factors beyond physical presence and the interconnectedness of the global economy.

The Significant Economic Presence Concept will highlight the need to examine how factors such as revenue, users, and digital assets factors are addressed in the existing legal frameworks.[50] The Network Theory of Globalization, shall complement the examination of legislative approaches, judicial decisions, and administrative practices across different jurisdictions, and lead the study to take into account the interconnectedness of the global economy and the need for a coordinated approach to taxing cloud computing services.[51]

2.7 Conclusion

The theoretical and conceptual frameworks, research methodologies, and methods discussed in this chapter contribute to the slow march towards addressing the cloud computing tax challenges and establishing a global coordinated framework.

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[50] Petruzzi R and Buriak S, 'Addressing the tax challenges of the digitalization of the economy – A possible answer in the proper application of the transfer pricing rules?' 72(4a) Bulletin for International Taxation, 2018, 1-18.

[51] Hearson M, 'The challenges for developing countries in international tax justice' 54(10) The Journal of Development Studies, 2018, 1932-1938.

CHAPTER THREE

3.1 Introduction

This chapter shall provide an in-depth analysis and discussion of the research questions, drawing upon the theoretical and conceptual frameworks introduced in Chapter 2 ultimately attempting to contribute to the development of an effective global tax framework for cloud computing services.

3.2 Analysis of Research Question Question 1: Establishing Clear Nexus Rules

Determining tax nexus for cloud computing services under existing frameworks has poved to be difficult. There exists significant challenges. For instance ,traditional nexus rules are often inadequate in the context of the digital economy, given that cloud computing services can be provided remotely without the need for a substantial physical presence in the market jurisdiction.[52] This disconnect between the location of the economic activity and the ability to tax the profits arising from that activity has led to concerns on base erosion and profit shifting (BEPS) in the cloud computing sector.[53]

The Significant Economic Presence Concept, as discussed in Chapter 2, offers a potential solution to the challenges of establishing nexus in the digital economy. When applied, it could help establish clear nexus rules that better reflect the economic reality of these services.

For example, consider a cloud computing service provider physically based in Country A, which offers its services to customers in Country B, where it lacks a physical presence (such as servers or a local office). Under traditional nexus rules, it may not be subject to taxation in that Country B. However, the service provider may still generate significant revenue from customers in Country B and may rely on digital infrastructure and resources (to service this infrastructure) located in that country to deliver its services.[54] The Significant Economic Presence Concept could be applied here to establish a taxable presence for the service provider in Country B based on its revenue, user base, or use of digital infrastructure in that jurisdiction.

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[52] Petruzzi R and Tavares RJS, Transfer Pricing and Value Creation, 1 ed, Linde Verlag, 2019, 3-23.
[53] OECD, Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report, OECD/G20 Base Erosion and Profit Shifting Project, 2015.
[54] Lee-Makiyama H and Verschelde B, OECD BEPS: Reconciling global trade, taxation principles and the digital economy (Publication No. 04/2016), European Centre for International Political Economy (ECIPE), 2016.

Or consider a multinational enterprise (MNE) that provides cloud computing services through a network of subsidiaries or affiliates located in different jurisdictions. The MNE, (as has been the case) may structure its operations in a way that allows it to avoid establishing a taxable presence in certain jurisdictions, even though it derives significant revenue from those markets.[55] By applying the Significant Economic Presence Concept, tax authorities could establish a taxable presence for the MNE based on its economic activities in each of the market jurisdictions, regardless of physical presence or legal structure.

To establish clear nexus rules for cloud computing services the study recommends:

First, which commendably has gained traction, an adoption of the Significant Economic Presence Concept as a basis for determining taxable presence in the context of cloud computing services.[56] To supplement this, there should be a development of a set of uniform criteria, such as revenue thresholds, user base, or digital infrastructure, that would trigger a taxable presence in any given market jurisdiction.

Thereafter, a multilateral agreement or instrument that provides a common definition of the Significant Economic Presence Concept and outlines the principles for its application to cloud computing services, should be developed. [57] This disallows for fragmentation or inconsistencies and will help avoid under taxation or double taxation.

Lastly, sharing of information across different tax authorities would improve coordination. Nevertheless, regardless of the approaches taken, there must at least be a development of clear guidance for cloud computing service providers to help them determine their taxable presence in different jurisdictions based on the SEP Concept.[58] Which would reduce uncertainty and compliance costs for businesses operating in the cloud. This could borrow from existing digital solutions such as the one stop VAT shop in the EU.

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[55] Hadzhieva E, Impact of Digitalisation on International Tax Matters: Challenges and Remedies, European Parliament, 2019.
[56] Hongler P and Pistone P, 'Blueprints for a New PE Nexus to Tax Business Income in the Era of the Digital Economy' SSRN Electronic Journal, 2015.
[57] OECD, Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report, OECD/G20 Base Erosion and Profit Shifting Project, 2015.
[58] Petruzzi R and Buriak S, 'Addressing the Tax Challenges of the Digitalization of the Economy – A Possible Answer in the Proper Application of the Transfer Pricing Rules?' 72(4a) Bulletin for International Taxation, 2018, 19-39.

This would ensure that the profits arising from these services are correctly taxed in the jurisdictions where the economic activities occur. At the same time, such certainty provides a stable economic environment that boosts innovation in this field.

3.3 Analysis of Research Question 2: Ensuring Fair Taxation

The OECD Ottawa Taxation Framework Conditions outline a number of key principles for fair taxation in the digital economy, including a) neutrality, b) efficiency, c) certainty, d) simplicity, e) effectiveness, f) fairness, and g) flexibility.[59] These principles are developed as a guide to the development of tax policies for cloud computing services. To ensure that such policies do not distort economic decisions, increase compliance burdens, or lead to tax avoidance.

One of the main challenges in ensuring fair taxation of cloud computing services is the allocation of profits among different jurisdictions. The traditional arm's length principle, which is based on the separate entity approach and the comparability analysis, may not be suitable for the highly integrated and digitised business models of cloud computing service providers.[60] The value creation in cloud computing often involves complex interactions among multiple entities, assets, and activities located in different jurisdictions, which makes it difficult to determine the appropriate transfer prices and allocate profits based on the arm's length principle.[61]

When there exists Inconsistent approaches to the allocation of profits from cloud computing services, across different jurisdictions the risk of double taxation or non-taxation is raised. For example, if the jurisdiction where the cloud computing service provider is a tax resident applies the arm's length principle to allocate profits, while the market jurisdiction applies a formulary apportionment approach based on factors such as sales or users, there may be a mismatch in the allocation of profits, leading to inefficient, or excess taxation.[62] Or, if the residence jurisdiction allows for the deduction of expenses related to the development of

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[59] OECD, Taxation and Electronic Commerce: Implementing the Ottawa Taxation Framework Conditions, OECD Publishing, 2001, updated by OECD/G20 BEPS Report on Digitalisation, 2018.
[60] Olbert M and Spengel C, 'International Taxation in the Digital Economy: Challenge Accepted?' 9(1) World Tax Journal, 2017, 3-46.
[61] Petruzzi R and Buriak S, 'Addressing the Tax Challenges of the Digitalization of the Economy – A Possible Answer in the Proper Application of the Transfer Pricing Rules?' 72(4a) Bulletin for International Taxation, 2018, 19-39.
[62] OECD, Programme of Work to Develop a Consensus Solution to the Tax Challenges of the Digitalisation of the Economy, 2019.

intangible assets used in the provision of cloud computing services, while the market jurisdiction does not recognize such expenses, there may be a risk of double non-taxation.[63]

Consider the case of a multinational cloud computing service provider that develops its software and algorithms in Country A, maintains its servers and infrastructure in Country B, and provides services to customers in Country C. Under the arm's length principle, the profits from the cloud computing services would be allocated among the entities in Countries A, B, and C based on their respective functions, assets, and risks. However, this approach may not adequately reflect the value created by the users and data in Country C, leading to an unfair allocation of profits and potential double taxation or non-taxation.[64]

Also consider the case of a cloud computing service provider that uses a complex network of subsidiaries and affiliates to provide services in multiple jurisdictions. The service provider may transfer its intellectual property to a low-tax jurisdiction and charge royalties to its operating entities in high-tax jurisdictions, effectively shifting profits to the low-tax jurisdiction. This profit shifting undermines the fairness of the international tax system and leads to a loss of tax revenue for the market jurisdictions where the value is created.[65]

To ensure fair taxation of cloud computing services, the study recommends:

An adoption of a unified approach to the allocation of profits from cloud computing services, based on a combination of the arm's length principle and formulary apportionment. This adoption would develop a formula that first identifies the key value drivers in the cloud computing business model, such as users, data, and intangible assets, and then allocates profits based on this.[66]

A development of clear and consistent rules for the attribution of profits to permanent establishments (PEs) in the context of cloud computing services.[67] This would be through updating the definition of a PE to include significant economic presence, as discussed in the previous section, and providing guidance on how to attribute profits to such PEs based on the functions performed, assets used, and risks assumed. However, the rules should also seek to

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[63] OECD, Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report.
[64] Hadzhieva E, Impact of Digitalisation on International Tax Matters: Challenges and Remedies, European Parliament, 2019.
[65] OECD, Action Plan on Base Erosion and Profit Shifting, OECD Publishing, 2013.
[66] Avi-Yonah RS and Xu H, 'Evaluating BEPS: A Reconsideration of the Benefits Principle and Proposal for UN Oversight' 8(2) Harvard Business Law Review, 2018, 229-279.
[67] Petruzzi R and Holzinger R, 'Profit Attribution to Dependent Agent Permanent Establishments in a Post-BEPS Era' 9(2) World Tax Journal, 2017, 263-297.

address the allocation of expenses related to the development of intangible assets used in the provision of cloud computing services.[68]

An establishment of a dispute resolution mechanism to address cases of double taxation or non-taxation arising from the application of different profit allocation methods.[69] This could be based on the existing mutual agreement procedure (MAP) under tax treaties, with slight adjustments catered to cloud computing. The dispute resolution mechanism could also consider Alternative Dispute Resolution Mechanisms such as arbitration or even negotiation.

Lastly, a creation of mechanisms that allow for exchange of information among tax authorities to ensure that profits from cloud computing services are allocated fairly and effectively.[70] This can be developed by involving the development of a standardized reporting framework for cloud computing service providers, including country-by-country reporting of revenue, profits, assets, and employees.

These can lead to a coordinated global tax framework ,which ensures that the profits from cloud computing services are allocated in a fair and equitable manner, while minimizing the risk of double taxation or non-taxation.

3.4 Analysis of Research Question 3: Minimizing Economic Distortions

Uncoordinated tax policies for cloud computing services have led and continue to threaten significant economic distortions, as they create incentives for businesses to structure their operations in ways that minimize their tax liabilities and at times sacrifice their economic efficiency. These distortions can take various forms, such as the shifting of profits to low-tax jurisdictions, the fragmentation of business operations across multiple jurisdictions, and the creation of artificial economic structures that lack substantive economic activity.[71]

One of the main economic distortions arising from uncoordinated tax policies is the erosion of the tax base in high-tax jurisdictions and the shifting of profits to low-tax jurisdictions. Cloud computing service providers can exploit differences in tax rates and rules across jurisdictions to minimize their overall tax burden, leading to a misalignment between the

[68] Hongler P and Pistone P, 'Blueprints for a New PE Nexus to Tax Business Income in the Era of the Digital Economy' SSRN Electronic Journal, 2015.
[69] OECD, Model Tax Convention on Income and on Capital: Condensed Version 2017, OECD Publishing, 2017.
[70] OECD, Tax Challenges Arising from Digitalisation – Report on Pillar One Blueprint: Inclusive Framework on BEPS, OECD Publishing, 2020.
[71] OECD, Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report, OECD/G20 Base Erosion and Profit Shifting Project, 2015.

location of economic activity and the allocation of taxing rights.[72] This can result in a race to the bottom, where jurisdictions compete to attract investment by offering lower tax rates or preferential tax regimes, eroding the tax base and creating an uneven playing field for businesses.[73]

Another distortion is the fragmentation of business operations across multiple jurisdictions to avoid establishing a taxable presence in high-tax jurisdictions. Cloud computing service providers can structure their operations in a way that separates the ownership of intangible assets, the performance of research and development activities, and the provision of services to customers, each in different jurisdictions,[74] leading to BEPS, and increased complexity and compliance costs for businesses.[75]

Additionally, the uncertainty and complexity of the international tax system can create barriers of entry for new businesses and discourage investment in research and development.[76] Given that such extensive and intricate tax planning requires a sense of financial power, that most businesses especially SMEs lack. This lack of a level playing field can also distort competition, as businesses that engage in such tax planning may gain an unfair advantage over those that comply with the spirit of the law.[77] In the long run, these distortions can lead to a suboptimal allocation of resources and slow down or reduce overall economic growth and welfare.[78]

Consider also a multinational cloud computing service provider that structures its operations to minimize its tax liabilities. The service provider may establish a subsidiary in a low-tax jurisdiction to own its intellectual property and charge royalties to its operating subsidiaries in high-tax jurisdictions, effectively shifting profits to the low-tax jurisdiction.[79] This

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[72] Devereux MP and Vella J, 'Taxing the Digitalised Economy: Targeted or System-Wide Reform?' British Tax Review, 2018(4), 2018, 387-406.
[73] Olbert M and Spengel C, 'International Taxation in the Digital Economy: Challenge Accepted?' 9(1) World Tax Journal, 2017, 3-46.
[74] Schön W, 'Ten Questions about Why and How to Tax the Digitalized Economy' 72(4/5) Bulletin for International Taxation, 2018, 278-292.
[75] OECD, Tax Challenges Arising from Digitalisation – Interim Report 2018: Inclusive Framework on BEPS, OECD/G20 Base Erosion and Profit Shifting Project, OECD Publishing, 2018.
[76] Hadzhieva E, Impact of Digitalisation on International Tax Matters: Challenges and Remedies, European Parliament, Luxembourg, 2019.
[77]OECD, Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report, OECD/G20 Base Erosion and Profit Shifting Project, 2015.
[78] Auerbach AJ, Devereux MP, Keen M and Vella J, 'International Tax Planning under the Destination-Based Cash Flow Tax' 70(4) National Tax Journal, 2017, 783-802.
[79] Devereux MP and Vella J, 'Are We Heading towards a Corporate Tax System Fit for the 21st Century?' 35(4) Fiscal Studies, 2014, 449-475.

structure may allow the service provider to reduce its overall tax burden, but it can also lead to a loss of tax revenue for the high-tax jurisdictions where the economic activity takes place, as well as a distortion of investment and innovation incentives.[80]

Or the case of a cloud computing service provider that fragments its business operations across multiple jurisdictions to avoid establishing a taxable presence in high-tax jurisdictions. The service provider may establish separate legal entities for the ownership of intangible assets, the performance of research and development activities, and the provision of services to customers, each in different jurisdictions.[81] This structure may allow the service provider to minimize its tax liabilities, but it can also lead to a lack of transparency and accountability, as well as increased complexity and compliance costs.[82]

To minimize economic distortions the study recommends:

An adoption of a unified approach to the taxation of cloud computing services, based on the principles of fairness, efficiency, and simplicity.[83] Which should aim to align the taxation of cloud computing services with the location of economic activity and value creation, while minimizing opportunities for tax avoidance and ensuring a level playing field for businesses.

A development of clear and consistent rules for the allocation of profits from cloud computing services, based on a combination of the arm's length principle and formulary apportionment.[84] These rules should take into account the unique characteristics of cloud computing business models (such as the importance of intangible assets, data, and user participation) and provide guidance on how to allocate profits based on these factors.

An establishment of a minimum level of effective taxation for cloud computing services, to prevent a race to the bottom and ensure that all businesses pay their fair share of taxes.[85] While this may be difficult, it could be achieved through the introduction of a global

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[80] OECD, Programme of Work to Develop a Consensus Solution to the Tax Challenges Arising from the Digitalisation of the Economy, OECD/G20 Inclusive Framework on BEPS, OECD Publishing, Paris, 2019.
[81] Petruzzi R and Koukoulioti V, 'The European Commission's Proposal on Corporate Taxation and Significant Digital Presence: A Preliminary Assessment' 58(9) European Taxation, 2018, 391-400.
[82] Becker J and Englisch J, 'A European Perspective on the US Plans for a Destination Based Cash Flow Tax' Oxford University Centre for Business Taxation Working Paper Series, WP 17/03, 2017.
[83] Schön W, 'One Answer to Why and How to Tax the Digitalized Economy' 46(12) Intertax, 2018, 1003-1022.
[84] Hongler P and Pistone P, 'Blueprints for a New PE Nexus to Tax Business Income in the Era of the Digital Economy' IBFD Working Paper, 2015.
[85] Avi-Yonah RS and Xu H, 'Evaluating BEPS: A Reconsideration of the Benefits Principle and Proposal for UN Oversight' 6(2) Harvard Business Law Review, 2017, 185-238.

minimum tax rate, or through the adoption of targeted measures such as controlled foreign company rules or limitations on interest deductions.

And, an exchange of information among tax authorities, to ensure that profits from cloud computing services are allocated fairly and effectively.[86] This could be through the development of a standardized reporting framework for cloud computing service providers, including country-by-country reporting of revenue, profits, assets, and employees, as well as the exchange of information on the beneficial ownership of legal entities and the structure of business operations.

These recommendations stand to create a more stable and predictable tax environment for cloud computing services, while minimizing economic distortions and promoting investment, innovation, and growth in the sector. While at the same time allowing relevant jurisdictions to benefit from revenue generated therein, through taxation.

3.5 Discussion of Key Findings

The analysis of the three research questions in this chapter highlight the need for a coordinated global tax framework that establishes clear nexus rules, ensures fair taxation, and minimizes economic distortions.

The first research question examined the challenges of determining tax nexus for cloud computing services under existing frameworks and the potential application of the Significant Economic Presence (SEP) concept. The analysis found that traditional nexus rules based on physical presence are inadequate for the digital economy, as cloud computing services can be provided remotely without a substantial physical presence in the market jurisdiction.[87] The SEP concept offers a potential solution by considering factors such as revenue, user base, and digital infrastructure in determining a taxable presence. Adopting the SEP concept, however difficult, and developing a multilateral agreement on its application could help establish clear nexus rules for cloud computing services.

The second research question found the importance of aligning taxation with value creation and the difficulties in applying the arm's length principle to highly integrated digital business

[86] Cobham A, Jansky P and Meinzer M, 'A Half-Century of Resistance to Corporate Disclosure' Transnational Corporations, 25(3), 2018, 1-26.
[87] Petruzzi R and Koukoulioti V, 'The European Commission's Proposal on Corporate Taxation and Significant Digital Presence: A Preliminary Assessment' 58(9) European Taxation, 2018, 391-400.

models. The main findings indicate that a combination of the arm's length principle and formulary apportionment, along with clear rules for attributing profits to permanent establishments, could help ensure fair taxation of cloud computing services.

The third research question found that uncoordinated tax policies can lead to base erosion, profit shifting, and the fragmentation of business operations, creating an uneven playing field and distorting investment and innovation incentives. The main findings suggest that a unified approach based on the principles of fairness, efficiency, and simplicity, combined with a minimum level of effective taxation and enhanced transparency, could help minimize economic distortions and promote sustainable growth in the cloud computing sector.

3.6 Conclusion

The potential benefits of implementing a coordinated global tax framework for cloud computing services are significant and they outweigh the costs. A clear and consistent set of rules could reduce uncertainty and compliance costs for businesses, while ensuring a more equitable distribution of taxing rights among jurisdictions.[88] A coordinated approach could also help prevent harmful tax competition and the erosion of tax bases, providing a more stable and predictable revenue stream for governments.[89] And more importantly this will lead to the support of the development of new technologies and business models.[90]

However, the greatest challenge lies in reaching a consensus among jurisdictions with diverse economic interests and tax systems. This will require significant political will and compromise, especially given the rise of conservative governments (that seem to favour businesses over fair taxation) in the US, Netherlands, and Italy.[91] Additionally developing and enforcing clear and consistent rules across borders may also be complex, requiring enhanced international cooperation and information exchange. Also, a global framework that is too rigid or burdensome could stifle innovation and growth in the digital economy, necessitating a balance between fairness and flexibility.[92]

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[88] OECD, Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report, OECD/G20 Base Erosion and Profit Shifting Project, 2015.
[89] Greil S, 'The Dealing at Arm's Length Fallacy: A Way Forward to a Formula-Based Transactional Profit Split?' 45(10) Intertax, 2017, 624-630.
[90] Olbert M and Spengel C, 'Taxation in the Digital Economy – Recent Policy Developments and the Question of Value Creation' 2(3) International Tax Studies, 2019, 1-19.
[91] Christians A, 'BEPS and the New International Tax Order' Brigham Young University Law Review, 2016(6), 2017, 1603-1647.
[92] Schön W, 'Ten Questions about Why and How to Tax the Digitalized Economy' 72(4/5) Bulletin for International Taxation, 2018, 278-292.

The findings of this chapter provide a foundation for the development of such a framework, highlighting the key principles and mechanisms that could help align taxation with value creation and support the long-term growth of the cloud computing sector.

CHAPTER FOUR

4.1 Introduction

This chapter presents three in-depth case studies on the taxation of cloud computing services in the United States, European Union, and developing countries. Which will provide concrete examples of how different jurisdictions are grappling with the tax challenges of the digital economy and to draw out inconsistencies, lessons and insights for reforming international tax rules for cloud computing.

4.2 Methodology for Case Study Selection and Analysis

The selection of case study jurisdictions was based: 1) economic significance, 2) comparative nature and diversity of approaches, and 3) relevance to the research questions. The United States and European Union were chosen because they are home to many of the world's largest cloud computing service providers, such as Amazon, Microsoft, Google, and Apple, and because they have been at the forefront of debates on taxing the digital economy.[93] The U.S. and EU also represent two contrasting approaches to taxing digital services, with the U.S. traditionally favoring a more hands-off, business focused approach while the EU advocates for more aggressive unilateral measures such as the recent digital services tax.[94]

Developing countries were included as a third case study to provide a more comprehensive and relevant perspective on the tax challenges of cloud computing services. These countries face unique challenges in taxing the digital economy due to their limited administrative capacity, heavy reliance on corporate income taxes, and vulnerability to tax base erosion and profit shifting.[95] At the same time, developing countries, especially countries like Kenya, India and South Africa, have rapidly growing digital economies which positions them to benefit greatly from coordinated tax measures.[96] As such their perspectives and needs must be considered in the analysis and recommendations for reforming international tax rules in this area.

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[93] UNCTAD, Digital economy report 2019: Value creation and capture - Implications for developing countries, United Nations, 2019.
[94] Hadzhieva E, Impact of digitalisation on international tax matters: Challenges and remedies, European Parliament, 2019.
[95] OECD, Tax challenges arising from digitalisation – Interim report 2018, OECD Publishing, 2018.
[96] World Bank, World development report 2016: Digital dividends, World Bank Publications, 2016.

The data for the case studies were collected from a variety of primary and secondary sources, including cases, legal documents, policy reports and academic literature. For each jurisdiction, the relevant tax laws, regulations, and court decisions were reviewed to understand the current legal framework for taxing cloud computing services. Policy documents from governments, international organizations, and industry associations were also analyzed to identify the main issues, challenges, and reform proposals in each jurisdiction.

The case studies were analyzed and compared using a framework that draws on the theoretical principles and legal doctrines discussed in Chapters 2 and 3. Which majorly consist of 1) Nexus and Allocation rules, 2) Characterization and source of income, 3) Unilateral measures and multilateral initiatives and 4) Tax administration and compliance information, and the resolution of disputes. The study also evaluates the role of technology and international cooperation in addressing these challenges.

For each dimension, a set of specific evaluation criteria were developed based on the principles of neutrality, equity, efficiency, and administrability in taxation.[97] These criteria include:

- Neutrality between different business models and sectors,
- Equity in the distribution of tax rights and responsibilities,
- Efficiency in terms of minimizing distortions and compliance costs and,
- Administrability in terms of feasibility, simplicity, and transparency.

The case studies were evaluated against these criteria to assess the strengths and weaknesses of each jurisdiction's approach to taxing cloud computing services and to identify best practices and lessons learned.

4.3 Case Study 1: Taxing Cloud Computing Services in the United States

4.3.1 Overview of the U.S. Approach to Taxing Cloud Computing Services

The United States at the federal level, has the Internal Revenue Code (IRC) that governs the taxation of income earned by cloud service providers, regardless of their location or the

[97] Devereux MP and Vella J, 'Are we heading towards a corporate tax system fit for the 21st century?' 35(4) Fiscal Studies, 2014, 449.

location of their customers.[98] The IRC generally characterizes income from cloud computing services as either service income or rental income. This classification depends on the nature of the transaction and the level of control exercised by the service provider.[99]

At the state level, each of the 50 states has its own tax laws and regulations that apply to cloud computing services. These laws vary widely in terms of the characterization of income, the determination of nexus (i.e., the minimum connection required for a state to tax a business), and the apportionment of income among states.[100] Some states, such as Washington and Pennsylvania, have enacted specific taxes on digital services, while others rely on existing sales and use taxes or gross receipts taxes.[101]

In recent years, there has been growing debate in the U.S. on the need for tax reform to address the challenges of the digital economy. The Tax Cuts and Jobs Act of 2017 (TCJA) introduced several changes relevant to cloud computing services, such as the Base Erosion and Anti-Abuse Tax (BEAT) and the Global Intangible Low-Taxed Income (GILTI) regime.[102] These provisions aim to prevent the erosion of the U.S. tax base by imposing minimum taxes on certain foreign income earned by U.S. multinational corporations.

However, many commentators argue that the TCJA did not go far enough in addressing the fundamental challenges of taxing digital services, such as the difficulty of determining nexus and allocating profits among jurisdictions.[103]There have been arguments for a more radical approach, such as the introduction of a destination-based cash flow tax or a digital services tax, or the modification of the permanent establishment threshold.

4.3.2 Analysis of Key Tax Issues and Challenges

One of the main challenges in taxing cloud computing services under U.S. law is the characterization of income. The IRC distinguishes between service income, which is generally sourced to the location where the services are performed, and rental income, which is sourced to the location where the property is used.[104] However, cloud computing

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[98] Internal Revenue Code, 26 U.S.C. §§ 1-9834.
[99] Mazur O, 'Taxing the cloud' 103(1) California Law Review, 2015, 1-66.
[100] Hellerstein W, 'State taxation of cloud computing: A framework for analysis' 117(7) Journal of Taxation, 2012, 11-31.
[101] Washington Rev. Code § 82.04.29004; 72 Pa. Stat. Ann. § 7201(m).
[102] Tax Cuts and Jobs Act of 2017, Pub. L. No. 115-97, 131 Stat. 2054.
[103] Bunn D, 'A summary of criticisms of the EU digital tax' Tax Foundation, 2018.
[104] Internal Revenue Code, 26 U.S.C. §§ 861-865.

transactions often involve elements of both services and rental, making it difficult to characterize the income definitively.

For example, in the case of Infrastructure-as-a-Service (IaaS) transactions, where the provider offers access to computing resources such as servers and storage, the income could be characterized as rental income if the customer has exclusive control over the resources.[105]. If the provider retains control and provides ongoing support and maintenance, the income could be characterized as service income.[106] While it may seem as a small issue, the characterization of these incomes have significant implications for the source rules and the application of tax treaties.

Another challenge is the determination of nexus for state tax purposes. Under the U.S. Constitution, states may only tax businesses that have a "substantial nexus" with the state, which has traditionally been interpreted to require physical presence.[107] However, in the case of cloud computing services, as discussed in Chapter 3, the location of servers and other physical infrastructure may not necessarily correspond to the location of customers or the source of income.

In 2018, the U.S. Supreme Court decision in ***South Dakota v. Wayfair*** overturned the physical presence requirement for sales tax nexus, holding that states may tax remote sellers that have a "significant economic presence" in the state.[108] While this decision did not directly address income tax nexus, it sparked debate on whether states should adopt similar economic nexus standards for income taxes on digital services.

Additionally, the allocation of profits among jurisdictions presents another challenge. The IRC generally requires U.S. corporations to allocate income among related entities using the arm's length principle, which assumes that transactions between related parties should be priced as if they were between independent parties.[109] However, the application of the arm's length principle to cloud computing transactions is often difficult due to the lack of comparable transactions and the integrated nature of digital business models.[110]

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[105] Mazur O, 'Taxing the cloud' 103(1) California Law Review, 2015, 1-66.
[106] U.S. Department of the Treasury, Office of Tax Policy, Selected tax policy implications of global electronic commerce, 1996.
[107] U.S. Constitution, Article I, Section 8, Clause 3; Quill Corp. v. North Dakota, 504 U.S. 298 (1992).
[108] South Dakota v. Wayfair, Inc., 138 S. Ct. 2080 (2018).
[109] Internal Revenue Code, 26 U.S.C. § 482.
[110] Mazur O, 'Transfer pricing challenges in the cloud' 57(3) Boston College Law Review, 2016, 643-693.

Moreover, the BEAT and GILTI provisions introduced by the TCJA may create additional complexity and compliance burdens for U.S. cloud service providers with foreign operations, potentially leading to shifting of businesses away from the US, both in service provision and any nexus establishment.[111]

4.3.3 Evaluation of Reform Proposals and Initiatives

Several reform proposals and initiatives have been put forward in the U.S. to address the tax challenges of cloud computing services. One proposal is the introduction of a federal digital services tax, which would impose a tax on the gross revenues of large digital companies derived from the provision of digital services to U.S. customers.[112] This would help to level the playing field between digital and traditional businesses and ensure that digital companies pay their fair share of taxes in the U.S.

However, critics argue that a digital services tax would be difficult to administer, lead to double taxation and retaliatory measures by other countries, and may violate international trade agreements.[113] While a good proposal, this would not address the fundamental issues of nexus and profit allocation that arise in the taxation of cloud computing services.

Another proposal is the modification of the permanent establishment threshold under U.S. tax treaties. Currently, most U.S. tax treaties require a foreign company to have a fixed place of business or a dependent agent in the U.S. in order to be deemed to have nexus and subsequently be subject to U.S. income tax.[114] However, some have argued that this threshold is outdated in the digital age and should be replaced with a "significant economic presence" test that would allow the U.S. to tax foreign companies that have a substantial economic presence in the U.S., even if they do not have a physical presence.[115]

The adoption of a significant economic presence test would align the U.S. approach with the global trend towards a more expansive definition of nexus in the digital economy. It would also be consistent with the principles of neutrality and equity by ensuring that foreign cloud service providers are taxed in the same manner as domestic providers. However, the

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[111] Internal Revenue Code, 26 U.S.C. §§ 59A, 951A.
[112] U.S. Congress, Senate, S. 765, Digital Goods and Services Tax Fairness Act of 2019, 116th Cong., 1st sess., introduced in Senate March 13, 2019.
[113] Hufbauer GC and Lu Z, 'The European Union's proposed digital services tax: A de facto tariff' Peterson Institute for International Economics Policy Brief, 2018.
[114] U.S. Department of the Treasury, United States model income tax convention, 2016.
[115] OECD, Addressing the tax challenges of the digitalization of the economy, OECD/G20 Base Erosion and Profit Shifting Project, 2020.

implementation of a significant economic presence test would require renegotiation of existing tax treaties which under the current global political polarization (progressive vs conservative approach to markets), might not be easy coming.[116]

At the state level, some states have proposed or enacted reforms to their tax laws to address the challenges of taxing cloud computing services. For example, Washington State has imposed a business and occupation (B&O) tax on digital services, including cloud computing, since 2010.[117] (The B&O tax is a gross receipts tax that applies to the privilege of doing business in the state, regardless of whether the business has a physical presence in the state).

Similarly, Pennsylvania has imposed a sales and use tax on digital products, including cloud computing services, since 2016.[118] The tax applies to the sale or use of digital products, including electronically or digitally delivered software, applications, and services, by customers in the state. The tax is imposed on the vendor, but may be passed on to the customer.

While these state-level reforms have generated additional revenue for the states, they have also created complexity and compliance burdens for businesses operating in multiple states. Moreover, the patchwork of state tax laws may lead to double taxation and distort business decisions about where to locate servers and other infrastructure.

4.3.4 Implications for International Tax Reform

The U.S. being the home country of many of the world's largest cloud providers, has significant implications for the global debate on international tax reform in the digital age. It can strongly influence the development of international tax norms and practices.

The U.S. has traditionally favored a market-based approach to taxation, which emphasizes the role of arm's length pricing and the avoidance of double taxation through bilateral tax treaties.[119] However, this approach has come under strain in the digital economy, where the location of value creation and the attribution of profits are often difficult to determine.

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[116] Grinberg I, 'International taxation in the era of digital disruption: Analyzing the current debate' 45(3) International Tax Journal, 2019, 86-111.
[117] Washington State Department of Revenue, Digital products including digital goods and digital automated services, 2020.
[118] Pennsylvania Department of Revenue, Sales and use tax bulletin 2019-01, 2019.
[119] U.S. Department of the Treasury, The deferral of income earned through U.S. controlled foreign corporations: A policy study, 2000.

The U.S. has been a key participant in the OECD/G20 Base Erosion and Profit Shifting (BEPS) project, which has aimed to address the tax challenges of the digital economy through a multilateral approach.[120] However, its position seemingly shifts with change of regime, with the 2016-2020 Trump Administration expressing concerns about the potential impact of the BEPS project on U.S. companies and the risk of double taxation.[121]

The U.S., very protective of their companies, has particularly opposed the introduction of a global minimum tax on digital services, arguing that it would disproportionately affect its companies and undermine her tax sovereignty. Instead, it has advocated for a more incremental approach to reform, focused on the implementation of the BEPS action items and the strengthening of bilateral tax treaties.

The U.S. experience with taxing cloud computing services offers several insights for the development of international tax rules. First, it highlights the importance of clear and consistent characterization rules for digital transactions, to ensure that income is properly sourced and taxed in line with the nature of the activity. Second, it highlights the need for a clear and principled approach to nexus and profit allocation, based on the location of value creation and the contribution of user participation. Third, it suggests that unilateral measures, such as digital services taxes, are likely to be ineffective and counterproductive in the long run, and that a multilateral approach based on consensus and cooperation is better and necessary to address the tax challenges of the digital economy.

At the same time, the U.S. experience also reveals the political and economic challenges of reforming the international tax system in the face of competing national interests and the rapid pace of technological change. As the global economy becomes increasingly digitalized, it will be crucial for the U.S. to perhaps yield to a global fair taxation framework as opposed to an aggressive stance and protection of its companies.

[120] OECD, Action plan on base erosion and profit shifting, 2013.
[121] U.S. Department of the Treasury, Secretary Mnuchin statement on digital economy taxation report, 2018.

4.4 Case Study 2: Taxing Cloud Computing Services in the European Union

4.4.1 Overview of the EU Approach to Taxing Cloud Computing Services

At the EU level, the main relevant tax, in the digital economy, is the Value Added Tax (VAT), a consumption tax levied on the value added at each stage of production and distribution.[122] The EU VAT Directive sets out the general rules for VAT, including the place of supply rules for digital services, which determine where VAT is due.[123]

Under the EU VAT Directive, cloud computing services are generally considered to be electronically supplied services (ESS), which are taxed at the place of consumption, which for cloud computing would be where the customer is located.[124] This means that EU cloud service providers must charge VAT at the rate applicable in the customer's country, regardless of where the provider is. To answer some of the concerns of fragmentation and compliance with these rules, the EU has implemented a creative and novel Mini One Stop Shop (MOSS) system, which allows providers to register in one EU member state and pay VAT on all their EU sales through a single electronic portal.[125]

At the national level, each EU member state has its own corporate income tax (CIT) system, which applies to the profits earned by cloud service providers operating in that country. The CIT systems of EU member states are not harmonized, and there are significant variations in tax rates, tax bases, and tax incentives across members.[126] However, most member states follow the OECD Transfer Pricing Guidelines and the arm's length principle in determining the allocation of profits between related entities.[127]

In recent years, there has been growing concern in the EU about the tax challenges posed by the digital economy, including cloud computing services. The European Commission has

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[122] Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax, OJ L 347, 11.12.2006, p. 1–118.
[123] Council Implementing Regulation (EU) No 282/2011 of 15 March 2011 laying down implementing measures for Directive 2006/112/EC on the common system of value added tax, OJ L 77, 23.3.2011, p. 1–22.
[124] European Commission, Explanatory Notes on the EU VAT Changes to the Place of Supply of Telecommunications, Broadcasting and Electronic Services That Enter into Force in 2015, 2014.
[125] European Commission, Guide to the VAT Mini One Stop Shop, 2013.
[126] European Commission, Taxation Trends in the European Union, 2020.
[127] OECD, OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations 2017, OECD Publishing, 2017.

identified issues, such as the difficulty of establishing nexus, the attribution of value creation to user participation, and the characterization of income from digital transactions.[128]

To address these challenges, the European Commission has proposed several reforms to the EU tax system, including the introduction of a Digital Services Tax (DST) and the concept of Significant Digital Presence (SDP). The DST would be a 3% tax on the gross revenues derived from certain digital services, such as online advertising, digital intermediation, and data transmission.[129] The SDP concept would create a new taxable presence for digital businesses based on factors such as revenue, number of users, and number of contracts concluded in a country, regardless of physical presence.[130]

However, these proposals have faced significant opposition from some EU member states, who argue that they would lead to double taxation, discourage investment, and undermine the competitiveness of the EU digital sector. As a result, the EU has been unable to reach consensus on a common approach to taxing digital services, and several member states have introduced their own unilateral measures, such as the French Digital Services Tax and the Italian Web Tax.[131]

4.4.2 Analysis of Key Tax Issues and Challenges

One of the main challenges in taxing cloud computing services in the EU is the determination of the place of supply for VAT purposes. Under the current EU VAT rules, the place of supply for ESS is generally the place where the customer is located, based on the customer's VAT identification number or other information provided by the customer.[132] However, this approach can be difficult to apply in practice, especially when dealing with private consumers or businesses that are not registered for VAT.

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[128] European Commission, Communication from the Commission to the European Parliament and the Council: A Fair and Efficient Tax System in the European Union for the Digital Single Market, COM(2017) 547 final.
[129] European Commission, Proposal for a Council Directive on the Common System of a Digital Services Tax on Revenues Resulting from the Provision of Certain Digital Services, COM(2018) 148 final.
[130] European Commission, Proposal for a Council Directive Laying down Rules Relating to the Corporate Taxation of a Significant Digital Presence, COM(2018) 147 final.
[131] KPMG, Taxation of the Digitalized Economy: Developments Summary, 2020.
[132] Council Implementing Regulation (EU) No 1042/2013 of 7 October 2013 Amending Implementing Regulation (EU) No 282/2011 as Regards the Place of Supply of Services, OJ L 284, 26.10.2013, p. 1–9.

The place of supply rules for ESS also create compliance burdens for cloud service providers, who must identify the location of their customers and apply the correct VAT rate for each transaction. The MOSS system however, has alleviated some of these burdens by allowing providers to register and pay VAT in a single EU member state, but it still requires providers to keep detailed records of their sales and customers.

Another challenge is the characterization of income from cloud computing services for CIT purposes. Most EU member states treat income from cloud computing services as business profits, which are taxable in the country where the provider has a permanent establishment (PE).[133] However, the definition of a PE in the digital economy remains unclear and controversial, as it typically requires a fixed place of business or a dependent agent in the country, which for this case would at most times be absent.[134]

Some have argued that the traditional PE concept is outdated and should be replaced by a virtual PE or significant economic presence test, which would allow countries to tax digital businesses based on their economic activity in the country, regardless of physical presence.[135] However, these arguments have seemed to be difficult to apply in practice and could lead to double taxation and disputes between countries.[136]

The attribution of profits to a PE is another key challenge in taxing cloud computing services in the EU. Under the OECD Transfer Pricing Guidelines, profits should be attributed to a PE based on the functions performed, assets used, and risks assumed by the PE.[137] However, in the case of cloud computing services, it can be difficult to determine the relative contribution of the PE to the overall value creation of the business, especially when the PE is not physically involved in the provision of the services.

Moreover, the arm's length principle, which is the cornerstone of transfer pricing, may not be suitable for the digital economy, where transactions often involve intangible assets, user participation, and network effects. Some have arguedthat formulary apportionment, which

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[133] OECD, Model Tax Convention on Income and on Capital: Condensed Version 2017, OECD Publishing, 2017.
[134] Hongler P and Pistone P, 'Blueprints for a New PE Nexus to Tax Business Income in the Era of the Digital Economy' SSRN Electronic Journal, 2015.
[135] Olbert M and Spengel C, 'International Taxation in the Digital Economy: Challenge Accepted?' 9(1) World Tax Journal, 2017, 3-46.
[136] Brauner Y and Pistone P, 'Some Comments on the Attribution of Profits to the Digital Permanent Establishment' 72(4a) Bulletin for International Taxation, 2018, 1-12.
[137] OECD, Additional Guidance on the Attribution of Profits to a Permanent Establishment under BEPS Action 7, 2018.

allocates profits based on a predetermined formula, could be a more appropriate method for attributing profits in the digital economy.[138]

4.4.3 Evaluation of Reform Proposals and Initiatives

The European Commission's proposals for a Digital Services Tax (DST) and Significant Digital Presence (SDP) have been the subject of much debate and controversy in the EU and its trading partners, such as the U.S. The DST proposal, which was first put forward in 2018, would impose a 3% tax on the gross revenues derived from certain digital services, such as online advertising, digital intermediation, and data transmission, by companies with global revenues exceeding €750 million and EU revenues exceeding €50 million.[139]

Proponents of the DST argue that it would help to level the playing field between digital and traditional businesses, ensure that digital companies pay their fair share of taxes, and generate much-needed revenue for EU member states.[140] They also argue that the DST would be a temporary measure until a more comprehensive solution can be found at the international level.[141]

However, critics of the DST argue that it would be a distortive and discriminatory tax that would target mainly US-based digital companies, such as Google, Facebook, and Amazon. They also argue that the DST would be passed on to consumers, discourage investment and innovation in the EU digital sector, and undermine the EU's commitment to free trade and the digital single market.

Moreover, the DST proposal has faced legal challenges from the US government, which has argued that it would be a breach of international trade rules and double taxation treaties.[142] In response to the EU DST proposal, the US even threatened to impose retaliatory tariffs on EU

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[138] Avi-Yonah R and Benshalom I, 'Formulary Apportionment - Myths and Prospects: Promoting Better International Tax Policies by Utilizing the Misunderstood and Under-Theorized Formulary Alternative' 3(3) World Tax Journal, 2011, 371-398.
[139] European Commission, Proposal for a Council Directive on the Common System of a Digital Services Tax on Revenues Resulting from the Provision of Certain Digital Services, COM(2018) 148 final.
[140] European Commission, Proposal for a Council Directive on the Common System of a Digital Services Tax on Revenues Resulting from the Provision of Certain Digital Services, COM(2018) 148 final.
[141] European Commission, A Digital Single Market Strategy for Europe, COM(2015) 192 final.
[142] U.S. Trade Representative, Report on France's Digital Services Tax Prepared in the Investigation under Section 301 of the Trade Act of 1974, 2019.

exports and to withdraw from the OECD-led negotiations on a global solution to the tax challenges of the digital economy.[143]

The SDP proposal, which was also put forward in 2018, would create a new taxable nexus for digital businesses based on their significant digital presence in an EU member state. Under the proposal, a company would be considered to have a significant digital presence in an EU member state if it meets one of the following thresholds in that country: (i) annual revenues exceeding €7 million; (ii) more than 100,000 users; or (iii) more than 3,000 business contracts for digital services.[144]

Proponents of the SDP argue that it would provide a more stable and fair framework for taxing digital businesses in the EU, by aligning the tax rules with the economic reality of the ever growing digital economy and ensuring that profits are taxed where value is created.[145] They also argue that the SDP would be consistent with the principles of the EU single market and the OECD BEPS project.[146]

However, critics of the SDP argue that it would create additional complexity and uncertainty for businesses operating in the EU, as they would have to comply with different nexus rules in each member state.[147] They also argue that the SDP thresholds are arbitrary and could lead to double taxation and disputes between member states.[148]

Moreover, the SDP proposal has faced political opposition from some EU member states, who argue that it would infringe on their national sovereignty and their ability to set their own tax policies. As a result, the EU has been unable to reach consensus on the SDP proposal, and it remains stalled at the EU level.

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[143] See - https://www.internationaltaxreview.com/article/2a6a60xlxd60v3ap32f40/the-us-pulls-out-of-digital-tax-talks

[144] European Commission, Proposal for a Council Directive Laying down Rules Relating to the Corporate Taxation of a Significant Digital Presence, COM(2018) 147 final.

[145] European Commission, Impact Assessment Accompanying the Document Proposal for a Council Directive Laying down Rules Relating to the Corporate Taxation of a Significant Digital Presence, SWD(2018) 82 final.

[146] OECD, Addressing the Tax Challenges of the Digital Economy, Action 1 - 2015 Final Report, OECD/G20 Base Erosion and Profit Shifting Project, 2015.

[147] Bal A, 'The Sky's the Limit - Cloud-Based Services in an International Perspective' 68(9) Bulletin for International Taxation, 2014, 515-521.

[148] CFE Fiscal Committee, Opinion Statement FC 1/2018 on the European Commission Proposal of 21 March 2018 for a Council Directive on the Common System of a Digital Services Tax on Revenues Resulting from the Provision of Certain Digital Services, 2018.

4.4.4 Implications for International Tax Reform

The EU approach to taxing cloud computing services has significant implications for the global debate on international tax reform in the digital age. As one of the largest and most advanced digital markets in the world, the EU has a strong influence on the development of international tax norms and practices.

The EU's efforts to address the tax challenges of the digital economy through the DST and SDP proposals have put pressure on other countries and international organizations to take action on this issue. In particular, the OECD has launched a two-pillar project to develop a global solution to the tax challenges of the digital economy, which includes a new nexus rule based on significant economic presence (Pillar 1) and a global minimum tax (Pillar 2).

However, the EU's experience with the DST and SDP proposals also highlights the political and technical challenges of reforming the international tax system in the digital age. The lack of consensus among EU member states on these proposals reflects the divergent interests, geopolitics and priorities of countries with different levels of digital development and different tax systems.

Moreover, the opposition from the US and other countries to the EU proposals highlights the importance of developing a multilateral solution that is acceptable to all parties and that avoids unilateral measures that could lead to trade disputes and economic distortions. Additionally, any reform of the international tax system in the digital age will need to balance the principles of fairness, efficiency, and simplicity. On the one hand, there is a need to ensure that digital businesses pay their fair share of taxes and that profits are taxed where value is created. On the other hand, there is a need to avoid creating excessive compliance burdens for businesses and discouraging innovation and investment.

In this regard, the EU's experience with the VAT system and the MOSS can provide valuable lessons for the design of a global solution to the tax challenges of the digital economy. The VAT system, which is based on the destination principle and the place of consumption, has proven to be relatively effective in capturing the value of digital services and ensuring that they are taxed in the jurisdiction where they are consumed.

Similarly, the MOSS, which allows businesses to register and pay VAT in a single EU member state, has reduced the compliance burdens for businesses operating in multiple EU

countries and has facilitated the collection of VAT on cross-border digital services. These experiences suggest that a global solution to the tax challenges of the digital economy should be based on a simplified and harmonized system of registration, reporting, and payment, rather than a fragmented unilateral measures and bilateral agreements.

Overall, the EU specifically through the DST and SDP proposals has helped to advance the global debate and to lay the groundwork for a multilateral solution that can benefit all countries and stakeholders.

4.5 Case Study 3: Taxing Cloud Computing Services in Developing Countries

4.5.1 Overview of the Approach to Taxing Cloud Computing Services in Developing Countries

Developing countries face unique challenges and opportunities in taxing cloud computing services. Many developing countries have tax systems characterized by a narrow tax base, heavy reliance on indirect taxes, and limited administrative capacity.[149] These can make it difficult for developing countries to effectively tax the digital economy, including cloud computing services.

Moreover, developing countries often have a large informal sector, which can be difficult to tax and can create an uneven playing field for formal businesses.[150] This can be particularly problematic in the context of cloud computing services, which can be easily provided by informal or foreign suppliers without a physical presence in the country.

At the same time, developing countries have the most to gain from the growth of the digital economy, including cloud computing services, given the untapped potential both in the digital economy and taxing of the same. The digital economy can provide new opportunities for economic growth, job creation, and social development, particularly in areas such as e-commerce, online education, and digital financial services.[151] Cloud computing services can also help to reduce the cost and improve the quality of IT infrastructure and services.[152]

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[149] Gupta S, Keen M, Shah A and Verdier G (eds), Digital revolutions in public finance, International Monetary Fund, 2017, 1-20.
[150] Durst MC, 'Taxing multinational business in lower-income countries: Economics, politics and social responsibility' Institute of Development Studies, 2018, 1-82.
[151] OECD, Tax and digitalisation, OECD Going Digital Integrated Policy Framework, 2020, 1-67.
[152] World Bank Group, World development report 2016: Digital dividends, World Bank Publications, 2016, 1-41.

To address these challenges and opportunities, developing countries have taken a variety of approaches to taxing cloud computing services. Some countries have applied existing tax rules, such as withholding taxes on payments to foreign suppliers or tariffs on imported digital services. Other countries have introduced new taxes or tax incentives specifically targeted at the digital economy, such as digital services taxes or tax holidays for tech startups.[153]

However, there is no one-size-fits-all approach to taxing cloud computing services in developing countries, and many countries are still challenged with designing and implementing effective tax policies in this area. There is a need for greater international cooperation and capacity building to help developing countries address these challenges and ensure that they can benefit from the opportunities of the digital economy.[154]

4.5.2 Analysis of Key Tax Issues and Challenges

One of the main challenges for developing countries in taxing cloud computing services is the difficulty of establishing taxable presence or nexus. Many cloud computing service providers do not have a physical presence in the countries where they provide services, which can make it difficult for those countries to assert taxing rights under traditional international tax rules.[155]

To address this challenge, some developing countries have sought to apply withholding taxes on payments made by residents to foreign cloud service providers. For example, India imposes a 6% equalization levy on payments made by Indian residents to foreign companies for online advertising services, including cloud computing services used for online advertising.[156] Similarly, Mexico imposes a 16% value-added tax on digital services provided by foreign suppliers to Mexican customers, including cloud computing services.[157]

However, the application of withholding taxes to cloud computing services can be complex and burdensome for both tax authorities and taxpayers. It can be difficult to determine the appropriate tax rate and tax base, particularly for bundled or complex services. Moreover, withholding taxes can create cash flow problems for foreign suppliers and can discourage

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[153] Hadzhieva E, 'Impact of digitalisation on international tax matters: Challenges and remedies' European Parliament, 2019, 1-80.
[154] African Tax Administration Forum, 'Domestic resource mobilisation: Digital economy and digital taxation' ATAF Secretariat, 2020, 1-28.
[155] Bal A, '(Mis) guided by the value creation principle: Can new concepts solve old problems?' 72(11) Bulletin for International Taxation, 2018, 1-19.
[156] Government of India, 'Finance Act 2016', 2016.
[157] https://digitalpolicyalert.org/change/6444

them from providing services in the country. Additionally, retaliatory measures and geopolitics threaten to burden these attempts.

Another challenge for developing countries is the characterization of income from cloud computing services. Different types of income, such as royalties, technical service fees, or business profits, may be subject to different tax treatment under domestic law and tax treaties.[158] This can create uncertainty and disputes between taxpayers and tax authorities, particularly in the absence of clear guidance or international consensus.

For example, some developing countries may seek to characterize payments for cloud computing services as royalties subject to withholding tax, even if the services do not involve the transfer of intellectual property rights.[159] This can be particularly problematic for standardized or low-margin cloud computing services, where the application of withholding taxes can result in excessive or double taxation.[160]

In addition to the challenges of nexus and characterization, developing countries also face challenges in enforcing and administering taxes on cloud computing services. Many developing countries have limited capacity to monitor and audit digital transactions, particularly those involving foreign suppliers.[161] This can create opportunities for tax avoidance and evasion and can undermine the fairness and effectiveness of the tax system.

To address these challenges, some developing countries have sought to simplify and streamline the registration and compliance process for foreign suppliers of digital services and cloud providers. For example, South Africa has introduced a simplified registration system for foreign suppliers of electronic services, which allows them to register and pay value-added tax on a quarterly basis.[162] Similarly, Kenya has introduced a simplified

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[158] Hongler P and Pistone P, 'Blueprints for a new PE nexus to tax business income in the era of the digital economy' IBFD Working Paper, 2015, 1-60.
[159] Báez Moreno A, 'Taxation of technical services under the UN Model:Double Taxation Convention: A Rushed - Yet Appropriate - Proposal for (Developing Countries?' 74(4/5) Bulletin for International Taxation, 2022, 267-328.
[160] Wagh S, 'The taxation of digital transactions in India: The new equalization levy' 70(9) Bulletin for International Taxation, 2016, 538-552.
[161] Hearson M, 'The challenges for developing countries in international tax justice' 54(10) Journal of Development Studies, 2018, 1932-1938.
[162]See- https://taxnews.ey.com/news/2018-2209-south-africa-releases-final-e-services-vat-regulations-effective-1-april-2019

registration system for foreign suppliers of digital services, which allows them to register and pay a digital services tax on a monthly basis.[163]

However, these simplified registration systems can also create challenges, particularly for small or occasional suppliers who may not have the resources or expertise to comply with the requirements.[164] Moreover, the proliferation of different registration and compliance requirements in different countries can create a rather complex and fragmented landscape for foreign suppliers, which can discourage them from providing services in those countries.[165]

4.5.3 Evaluation of Reform Proposals and Initiatives

To address the challenges of taxing cloud computing services in developing countries, various reform proposals and initiatives have been put forward by international organizations, regional bodies, and individual countries. These proposals and initiatives aim to provide guidance and support to developing countries in designing and implementing effective tax policies for the digital economy, including cloud computing services.

One notable initiative is the OECD/G20 Inclusive Framework on BEPS, which has developed a two-pillar approach to addressing the tax challenges of the digital economy.[166] Pillar One seeks to allocate a portion of the profits of large multinational enterprises to market jurisdictions, based on a formula that takes into account factors such as sales, assets, and employees.[167] Pillar Two seeks to introduce a global minimum tax to ensure that all multinational enterprises pay a minimum level of tax on their global profits.

The OECD/G20 Inclusive Framework has also developed guidance on the application of existing tax rules to cloud computing services, including the characterization of income and the establishment of taxable presence.[168] This guidance aims to provide greater certainty and consistency in the tax treatment of cloud computing services across different countries and to reduce the risk of double taxation or non-taxation.

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[163] Government of Kenya, 'The Finance Act 2020'', 2020.
[164] Ndajiwo M, 'The taxation of the digitalised economy: An African study' ICTD Working Paper 107, Institute of Development Studies, 2020.
[165] Rukundo S, 'Addressing the challenges of taxation of the digital economy: Lessons for African countries' ICTD Working Paper 105, Institute of Development Studies, 2020.
[166] OECD, 'Tax challenges arising from digitalisation: Report on Pillar One blueprint' OECD/G20 Inclusive Framework on BEPS, 2020.
[167] OECD, 'Tax challenges arising from digitalisation: Report on Pillar Two blueprint' OECD/G20 Inclusive Framework on BEPS, 2020.
[168] OECD, 'Addressing the tax challenges of the digitalisation of the economy' OECD/G20 Inclusive Framework on BEPS, 2019.

However, the OECD/G20 Inclusive Framework has been criticized by some developing countries for not adequately reflecting their interests and concerns. Some developing countries have argued that the proposed allocation of profits under Pillar One is too modest and does not go far enough in reallocating taxing rights to market jurisdictions. Others have argued that the proposed global minimum tax under Pillar Two is too low and does not do enough to address tax avoidance by multinational enterprises.

Another notable initiative is the African Tax Administration Forum (ATAF), which has developed a Model Double Taxation Agreement for African countries.[169] The ATAF Model Agreement seeks to provide a template for African countries to negotiate bilateral tax treaties that are more favorable to their interests, particularly with respect to the taxation of digital services, including cloud computing services.

The ATAF Model Agreement includes provisions that expand the definition of permanent establishment to include digital presence and that allocate taxing rights to market jurisdictions based on factors such as sales, users, and data. The Model Agreement also includes provisions that limit the application of withholding taxes on payments for digital services and that provide for dispute resolution and exchange of information between tax authorities.

However, the ATAF Model Agreement has not yet been widely adopted by African countries, and there are concerns about its compatibility with existing international tax norms and agreements. Moreover, the Model Agreement does not address all of the challenges of taxing cloud computing services in developing countries, such as the characterization of income and the enforcement of tax rules.

In addition to these international and regional initiatives, some developing countries have introduced their own reforms and initiatives to address the tax challenges of cloud computing services. For example, Nigeria has introduced a significant economic presence test for establishing the taxable presence of foreign digital service providers, based on factors such as revenue, number of users, and domain name.[170] Nigeria has also introduced a digital services tax of 6% on the gross revenue of foreign digital service providers, including cloud computing service providers.[171]

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[169] African Tax Administration Forum, 'Model Double Taxation Agreement', 2019.
[170] Federal Inland Revenue Service, 'Companies Income Tax (Significant Economic Presence) Order 2020', Federal Republic of Nigeria Official Gazette, 2020.
[171] Government of Nigeria, 'Finance Act 2019', 2019.

Similarly, Indonesia has introduced a permanent establishment threshold for foreign digital service providers based on gross revenue and has imposed a 10% value-added tax on digital services provided by foreign suppliers, including cloud computing services.[172] Indonesia has also introduced a registration system for foreign digital service providers, which requires them to appoint a local representative and to comply with local tax laws and regulations.

These country-specific reforms and initiatives have the potential to provide a more targeted and effective approach to taxing cloud computing services in developing countries, based on their specific needs and circumstances. However, they also raise concerns about the consistency and compatibility of these measures with international tax norms and agreement, the risk of fragmentation, and the potential for double taxation or non-taxation of cross-border digital services.

To assess the strengths and weaknesses of these reform proposals and initiatives, it is important to consider them in light of the theoretical framework and evaluation criteria developed in this dissertation. From these perspectives, these proposals and initiatives seek to align the taxation of cloud computing services with the location of value creation and the jurisdiction where the benefits of these services are consumed.

However, the application of these principles to the complex and dynamic nature of cloud computing services is not straightforward and may require a more nuanced and flexible approach that takes into account the different types of cloud computing services and the different roles of service providers, users, and intermediaries in creating value.[173] Moreover, the allocation of taxing rights based on factors such as sales, users, or data may not always reflect the true location of value creation and may also create distortions or inefficiencies in the provision of cloud computing services.[174]

From the perspective of the principles of neutrality and equity, these proposals and initiatives seek to level the playing field between foreign and domestic providers of cloud computing services and to ensure that all providers pay their fair share of taxes in the jurisdictions where they operate. However, the application of different tax rates or thresholds to foreign and

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[172] Government of Indonesia, 'Law on the Harmonization of Tax Regulations (UU HPP)', 2021.
[173] Olbert M and Spengel C, 'Taxation in the digital economy: Recent policy developments and the question of value creation' 2(3) International Tax Studies, 2019, 1-19.
[174] Burgers IJ and Mosquera Valderrama IJ, 'Fairness: A dire international tax standard with no meaning?' 45(12) Intertax, 2017, 767-783.

domestic providers may create distortions or discrimination and may discourage foreign investment and competition in the domestic market.

Moreover, the imposition of withholding taxes or turnover taxes on cloud computing services may result in excessive or double taxation, particularly for low-margin or standardized services, and may create cash flow problems for foreign providers. The use of simplified registration or compliance systems may help to reduce these distortions and burdens but may also create challenges for small or occasional providers and may not be sufficient to address the underlying issues of nexus and characterization.

From the perspective of the principles of certainty and administrability, these proposals and initiatives seek to provide greater clarity and consistency in the tax treatment of cloud computing services across different countries and to reduce the compliance costs and risks for service providers and users. However, the proliferation of different tax rates, thresholds, and requirements in different countries may create a complex and fragmented landscape for cloud computing service providers and may increase the compliance costs and risks of operating in multiple jurisdictions.

Moreover, the enforcement and administration of taxes on cloud computing services may be difficult and costly for tax authorities in developing countries, particularly in the absence of effective mechanisms for the exchange of information and dispute resolution. The use of intermediaries or withholding agents may help to improve the administrability of these taxes but may also create additional costs and complexities for service providers and users.

4.5.4 Implications for International Tax Reform

The case study of taxing cloud computing services in developing countries has important implications for the broader debate on international tax reform in the digital age. It highlights the urgent need for a more inclusive and sustainable approach to taxing the digital economy, which takes into account the needs and perspectives of developing countries and considers fair taxation principles.

One key insight is the importance of balancing the legitimate interests of source and residence countries in the taxation of cloud computing services. While there is a strong case for allocating more taxing rights to market jurisdictions, particularly in the case of standardized or automated services, there is also a need to ensure that residence countries are

able to tax the profits of their resident cloud service providers and to prevent double taxation or non-taxation of cross-border services.

This requires a more coordinated and multilateral approach to the taxation of cloud computing services, which goes beyond unilateral measures or bilateral agreements and which involves a broader range of stakeholders, including developing countries, international organizations, and the private sector. The OECD/G20 Inclusive Framework and the ATAF Model Agreement provide a good starting point for such a multilateral approach but need to be further developed and refined to address the specific challenges of cloud computing services.

Another key insight is the importance of building capacity and promoting cooperation in the taxation of cloud computing services. Many developing countries lack the technical expertise, administrative resources, and legal frameworks to effectively tax the digital economy and require capacity building.[175]

Finally, the study of developing nations, highlights the importance of promoting a more inclusive and participatory approach to international tax reform, which involves a broader range of stakeholders, including developing countries, civil society organizations, and the private sector. This includes the need for greater transparency and accountability in the development of international tax rules and standards and for more effective mechanisms for public consultation and participation.

It also includes the need for a more equitable and sustainable approach to the allocation of taxing rights and the sharing of tax revenues, which takes into account the different capacities and needs of different countries and which promotes economic development and social welfare. The use of tax incentives or preferential tax regimes for cloud computing services in developing countries may help to attract foreign investment and promote digital adoption but should be carefully designed and monitored to ensure that they do not create distortions or revenue losses.

The taxation of cloud computing services in developing countries is a complex and challenging issue that requires a multi-faceted and collaborative approach. While there is no

[175] Okanga O, 'Testing for consistency: Certain digital tax measures and WTO non-discrimination provisions' 12(4) World Trade Review, 2021, 1-28.

one-size-fits-all solution, the experience of developing countries provides valuable lessons and insights for the broader debate on international tax reform in the digital age.

4.6 Comparative Analysis of Case Studies

The case studies of the United States, European Union, and developing countries reveal both similarities and differences in their approaches to taxing cloud computing services. While each jurisdiction faces unique challenges and opportunities based on its economic, political, and legal context, there are several common themes and lessons that emerge from the comparative analysis.

One common challenge across all three case studies is the difficulty of establishing nexus and allocating profits in the context of cloud computing services. The traditional permanent establishment concept, which relies on physical presence, is poorly suited to the digital economy, where businesses can operate remotely and generate significant revenues without a fixed place of business in the market jurisdiction. All three case studies have grappled with this issue and have considered various reforms to address it, such as the significant economic presence test, the digital services tax, and the concept of user participation.

However, the specific approaches and outcomes have varied across the jurisdictions. The United States has generally been more cautious and resistant to major changes to the international tax framework, preferring to rely on existing rules and bilateral treaties to address the challenges of the digital economy.[176] The European Union, on the other hand, has been more proactive in pursuing unilateral measures such as the digital services tax, despite opposition from the United States and other countries. Developing countries, meanwhile, have sought to balance the need for greater taxing rights with the desire to attract foreign investment and promote digital innovation.[177]

Another common theme across the case studies is the importance of international cooperation and coordination in addressing the tax challenges of the digital economy. All three jurisdictions have recognized the need for a multilateral solution to prevent double taxation, reduce compliance costs, and ensure a level playing field for businesses. The OECD/G20 Inclusive Framework on BEPS has emerged as the primary forum for developing such a

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[176] US Department of the Treasury, Press release: Secretary Mnuchin statement on digital economy taxation report, 2018.
[177] https://www.ataftax.org/my-post

solution, with its two-pillar approach aimed at reallocating taxing rights to market jurisdictions and introducing a global minimum tax.[178]

However, the case studies also reveal the challenges and limitations of achieving international consensus on these issues. The United States has expressed reservations about the OECD/G20 proposals, particularly with respect to Pillar One, which it views as a departure from traditional arm's length principles and a potential threat to its own tax base.[179] The European Union has also faced internal divisions and challenges in implementing its own digital tax reforms, with some member states opposing the digital services tax and others seeking to protect their own digital comapnies.[180] Developing countries, meanwhile, have argued that the OECD/G20 proposals do not go far enough in reallocating taxing rights and have called for a more inclusive and equitable approach to international tax reform.[181]

A third common theme across the case studies is the need to balance the goals of fairness, efficiency, and administrability in the design and implementation of digital tax reforms. All three jurisdictions have recognized the importance of ensuring that digital businesses pay their fair share of taxes and that the tax burden is distributed equitably across different types of businesses and activities.[182] However, they have also acknowledged the potential trade-offs between these goals and the need to minimize distortions, compliance costs, and promote innovation.[183]

The case studies illustrate these trade-offs in various ways. For example, the U.S. case study highlights the potential impact of digital taxes on investment, innovation, and competitiveness, as well as the risk of double taxation and retaliation from other countries.[184] The EU case study, meanwhile, shows the challenges of designing a digital services tax that is both effective and compatible with international trade rules and tax treaties.[185] The

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[178] OECD, Tax challenges arising from digitalisation: Report on Pillar One blueprint, OECD/G20 Inclusive Framework on BEPS, 2020.
[179] US Department of the Treasury, Letter from Secretary Yellen to G20 finance ministers on digital services taxes and the OECD/G20 inclusive framework, 2021.
[180] Council of the European Union, Report on the state of play of the EU-US trade relations, 2021.
[181] G-24 Working Group on Tax Policy and International Tax Cooperation, Proposal for addressing tax challenges arising from digitalisation, 2019.
[182] Kofler G and Sinnig J, 'Equalization taxes and the EU's digital services tax' 47(2) Intertax, 2019, 176-200.
[183] Schön W, 'One answer to why and how to tax the digitalized economy' 47(12) Intertax, 2019, 1003-1022.
[184] Hufbauer GC and Lu Z, 'The European Union's proposed digital services tax: A de facto tariff' Policy Brief, 2018.
[185] Hadzhieva E, 'Impact of digitalisation on international tax matters' European Parliament, 2019.

developing country case study underscores the importance of capacity building and technical assistance in implementing digital tax reforms, as well as the need to consider the unique characteristics and needs of developing economies.[186]

Looking at the benefit principle, which holds that taxes should be based on the benefits received from government services, supports the idea of allocating taxing rights to market jurisdictions where users and customers are located. This principle underlies the significant economic presence test and the user participation concept, which seek to recognize the value created by users in the digital economy.[187]However, this has raised questions about the appropriate measure of value creation and the relative contributions of different factors of production, such as capital, labor, and data.[188] The case studies highlight the challenges of determining the appropriate allocation of profits between source and residence countries, as well as the potential for double taxation or non-taxation if different jurisdictions adopt inconsistent approaches.

The neutrality principle, which holds that taxes should not distort economic decisions or favor certain types of activities over others, is also relevant to the design of digital tax reforms. The U.S. case study, for example, highlights the potential distortions created by the digital services tax, which targets specific types of digital activities and may lead to cascading or double taxation.[189] The EU case study, meanwhile, shows the challenges of ensuring a level playing field between digital and non-digital businesses, as well as between EU and non-EU companies. The developing country case study highlights the importance of considering the distributional impact of digital tax reforms, as well as their potential effects on digital inclusion and development.

The efficiency principle, which holds that taxes should be simple, transparent, and easy to administer, is also relevant to the design of digital tax reforms. The case studies highlight the challenges of defining and identifying digital transactions, as well as the potential for double taxation or disputes if different jurisdictions adopt inconsistent or overlapping rules. They also underscore the importance of international cooperation and exchange of information in

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[186] Rukundo S, 'Addressing the challenges of taxation of the digital economy: Lessons for African countries' 105 ICTD Working Paper, 2020.
[187] Becker J and Englisch J, 'Taxing where value is created: What's "user involvement" got to do with it?' 47(2) Intertax, 2019, 161-171.
[188] Devereux MP and Vella J, 'Taxing the digitalised economy: Targeted or system-wide reform?' 4 British Tax Review, 2018, 387-406.
[189] Cui W, 'The digital services tax on the verge of implementation' 67(4) Canadian Tax Journal, 2019, 1135-1152.

ensuring the effective administration of digital taxes, particularly in the context of cross-border transactions and remote sellers.

Finally, the equity principle, which holds that taxes should be fair and proportionate to the ability to pay, is relevant to the distribution of the tax burden in the digital economy.[190] The case studies highlight the potential for digital taxes to fall disproportionately on certain types of businesses or activities, such as online advertising or intermediation services, which may have different profit margins or value chains than other types of businesses. They also raise questions about the appropriate balance between source-based and residence-based taxation, as well as the role of user participation in value creation.

The comparative analysis of the case studies suggests that there is no one-size-fits-all approach to taxing cloud computing services or other digital activities. Each jurisdiction must take into account its own economic, political, and legal context, as well as its strategic objectives and priorities. However, the analysis also highlights the importance of international dialogue, cooperation, and coordination in addressing the challenges of the digital economy. The OECD/G20 Inclusive Framework provides a useful platform for this dialogue, but it must also be accompanied by efforts to build trust, transparency, and accountability among all stakeholders, especially among bigger economies.

The comparative analysis also suggests that the theoretical principles of taxation, while important, cannot be applied mechanistically or in isolation from other considerations. The design of digital tax reforms must balance competing objectives and take into account the practical challenges of implementation and administration. This requires a rather flexible approach that is sensitive to the needs and capacities of different jurisdictions, as well as the evolving nature of the digital economy.

4.7 Conclusion

The case studies and comparative analysis present valuable insights into the challenges and opportunities of taxing cloud computing services in different jurisdictions. By examining the approaches of the United States, the European Union, and developing countries, the chapter has highlighted the complex legal, economic, and political factors that shape the taxation of the digital economy.

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[190] Grinberg I, 'International taxation in the era of digital disruption: Analyzing the current debate' 45(3) International Tax Journal, 2019, 39-97.

The findings from the case studies and comparative analysis will inform the development of reform recommendations in the next chapter. The lessons learned will help to identify best practices, potential pitfalls, and areas for improvement in the design and implementation of digital tax reforms which will seek to balance the interests of different stakeholders and jurisdictions, while also ensuring the coherence, consistency, and sustainability of the international tax framework. They will draw on the theoretical principles and practical insights learned from the case studies and comparative analysis, as well as the broader literature on the taxation of the digital economy.

Some potential areas for reform that emerge from the case studies and comparative analysis include:

1. Establishing a new nexus rule based on significant economic presence or virtual permanent establishment.
2. Adopting a formulary apportionment or residual profit split method for allocating profits, to ensure a fair and principled distribution of taxing rights between source and residence countries.
3. Streamlining and harmonizing the registration, reporting, and payment requirements for digital businesses, to reduce compliance costs.
4. Strengthening international cooperation and dispute resolution mechanisms, to prevent double taxation, minimize conflicts, and ensure effective implementation.
5. Providing technical assistance and capacity building to developing countries, to help them address the challenges of taxing the digital economy and benefit from the opportunities of digitalization.

The next chapter will elaborate on these and other reform recommendations, drawing on the insights and lessons learned from the case studies and comparative analysis. It will also consider the potential challenges and limitations of these recommendations, as well as the need for further research and dialogue on the taxation of the digital economy.

CHAPTER FIVE

5.1 Introduction

The rapid growth of cloud computing services has posed significant challenges to the existing international tax framework, which is based on physical presence and arm's length pricing. The case studies of the United States, the European Union, and developing countries have revealed the diversity and complexity of the issues involved in taxing cloud computing services. While each jurisdiction has taken a different approach, reflecting its unique economic, political, and legal context, there are several common themes and challenges that emerge from the comparative analysis. Building on these findings, the purpose of this chapter is to develop specific reform recommendations and implementation strategies for a multilateral approach to taxing cloud computing services. These recommendations aim to address the key challenges identified in the case studies, while also taking into account the guiding principles of the theoretical framework and the practical considerations of implementation.

The significance of these reform recommendations lies in their potential to provide a more effective, equitable, and sustainable framework for taxing the digital economy. By establishing a new nexus rule based on significant economic presence, adopting a formulary apportionment or residual profit split method for profit allocation, simplifying compliance and dispute resolution mechanisms, and promoting international cooperation and exchange of information, the proposed approach seeks to balance the interests of different stakeholders and ensure a level playing field for all businesses.

However, implementing these recommendations is not without challenges. It requires building consensus and political will among states, addressing the concerns and needs of developing countries, managing the transition from existing rules to the new framework, and monitoring the impact and unintended consequences of the reforms. The chapter will discuss these implementation challenges and propose strategies for overcoming them, drawing on the lessons learned from the case studies and the broader literature on international tax reform.

5.2 Guiding Principles for Reforming International Tax Rules

The development of reform recommendations for taxing cloud computing services will be guided by a set of principles that reflect the theoretical framework and the findings of the

case studies. These principles provide a normative foundation for evaluating the desirability and feasibility of different reform options, and for ensuring that the proposed approach aligns with the broader objectives of international tax policy.[191]

The first guiding principle is fairness, which encompasses both inter-nation equity and inter-taxpayer equity. Inter-nation equity requires that the international tax framework allocate taxing rights and revenues in a way that is perceived as fair by all countries, taking into account their level of economic development, their contribution to value creation, and their needs for public revenues.[192] Inter-taxpayer equity requires that the tax burden be distributed fairly among different types of taxpayers, based on their ability to pay and the benefits they derive from public goods and services.[193]

In the context of cloud computing services, the principle of fairness suggests that market jurisdictions should have the right to tax the profits generated from the use of their infrastructure, data, and customer base, even if the service provider does not have a physical presence in the country.[194] It also suggests that the allocation of profits should reflect the relative contributions of different factors of production, such as technology, capital, and user participation, rather than being based solely on the location of legal ownership or contractual risk assumption.[195]

The second guiding principle is efficiency, which requires that the international tax framework minimize distortions to economic activity and promote the efficient allocation of resources across countries and sectors. In the context of cloud computing services, the principle of efficiency suggests that the tax system should not create barriers to the cross-border provision of digital services or discourage the adoption of new technologies and business models.[196] It also suggests that the compliance and administrative costs of the tax

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[191] Christians A, 'Taxing according to value creation' 90(13) Tax Notes International, 2018, 1379-1383.
[192] Burgers I and Mosquera I, 'Corporate taxation and BEPS: A fair slice for developing countries?' 10(1) Erasmus Law Review, 2017, 29-47.
[193] Gadžo S, 'The principle of 'nexus' or 'genuine link' as a keystone of international income tax law: A reappraisal' 46(3) Intertax, 2018, 194-209.
[194] Pinto D, 'The need to reconceptualize the permanent establishment threshold' 60(7) Bulletin for International Taxation, 2006, 266-279.
[195] Petruzzi R and Buriak S, 'Addressing the tax challenges of the digitalization of the economy – A possible answer in the proper application of the transfer pricing rules?' 72(4a) Bulletin for International Taxation, 2018, 1-18.
[196] Devereux MP and Vella J, 'Digitalization: The end of the corporate income tax as we know it?' in Haslehner W and Lamensch M (eds) Taxation and the digital economy, Kluwer Law International, 2019, 91-111.

system should be minimized, both for taxpayers and tax authorities, through the use of simplified and harmonized rules and procedures.[197]

The third guiding principle is administrability, which requires that the international tax framework be practical, enforceable, and adaptable to changing circumstances. In the context of cloud computing services, the principle of administrability suggests that the nexus rule and profit allocation method should be based on objective and verifiable criteria, such as revenue thresholds or user metrics, rather than subjective and disputed concepts, such as value creation or significant people functions.[198] It also suggests that the tax system should leverage digital technologies, such as blockchain and artificial intelligence, to enhance the transparency, security, and efficiency of compliance and enforcement processes.

The fourth guiding principle is neutrality, which requires that the international tax framework treat similar economic activities in a similar manner, regardless of their form or location. In the context of cloud computing services, the principle of neutrality suggests that the tax system should not discriminate between digital and non-digital businesses, or between foreign and domestic service providers.[199] It also suggests that the tax system should avoid double taxation or non-taxation of cross-border transactions, through the use of consistent and coordinated rules and mechanisms.

The fifth guiding principle is international cooperation, which requires that countries work together to address the challenges of taxing the digital economy in a coherent and collaborative manner. In the context of cloud computing services, the principle of international cooperation suggests that unilateral measures, such as digital services taxes or diverted profits taxes, are likely to be ineffective and counterproductive in the long run.[200] Instead, it calls for the development of a multilateral approach that is based on consensus, compromise, and mutual recognition of taxing rights and obligations.

These chosen guiding principles will help the attempt to address the key challenges identified in the case studies. They seek to provide a more effective and equitable framework for taxing cloud computing services, while also minimizing distortions, compliance costs, and disputes.

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[197] Bal A, 'Halfway towards consensus or chaos? Taxation of the digital economy at the crossroads' 47(12) Intertax, 2019, 1089-1103.
[198] Brauner Y, 'Taxing the digital economy post-BEPS, seriously' 46(6/7) Intertax, 2018, 462-465.
[199] Schön W, 'Ten questions about why and how to tax the digitalized economy' 72(4/5) Bulletin for International Taxation, 2018, 278-292.
[200] Hadzhieva E, Impact of digitalisation on international tax matters: Challenges and remedies, European Parliament, 2019.

The principles also reflect the broader goals of the international tax system, such as preventing base erosion and profit shifting, promoting sustainable development, and supporting the digital transformation of the global economy.

However, applying these principles in practice is not always straightforward, as they may involve trade-offs and conflicts. For example, the principle of fairness may suggest allocating more taxing rights to market jurisdictions, while the principle of neutrality may suggest avoiding ring-fencing or discriminatory treatment of digital businesses. Similarly, the principle of administrability may suggest using simplified and standardized rules, while the principle of efficiency may suggest allowing for more flexibility and customization to reflect the specific characteristics of different business models.

Balancing these competing considerations requires a careful and nuanced approach that takes into account the perspectives of different stakeholders and the practical realities of implementation. The following sections will elaborate on how these principles can be operationalized in the specific reform recommendations and implementation strategies for taxing cloud computing services.

5.3 Recommendations for a Multilateral Approach to Taxing Cloud Computing Services

5.3.1 Establishing a New Nexus Rule Based on Significant Economic Presence

The current international tax framework, which is based on the concept of permanent establishment (PE), is ill-suited to the realities of the digital economy and has led to misalignment between the location of value creation and the allocation of taxing rights, resulting in base erosion and profit shifting (BEPS) and a loss of revenue for market jurisdictions.[201]

To address this challenge, it is recommended that a new nexus rule be established based on the concept of significant economic presence (SEP). The SEP threshold would go beyond physical presence and consider factors such as revenue, user base, and digital infrastructure in determining whether a cloud computing service provider has a taxable presence in a country.[202] This approach would align the taxation of cloud computing services with the

[201] Brauner Y, 'Taxing the digital economy post-BEPS, seriously' 46(6/7) Intertax, 2018, 462-465.
[202] Hongler P and Pistone P, 'Blueprints for a new PE nexus to tax business income in the era of the digital economy' IBFD Working Paper, 2015.

location of value creation, taking into account the contributions of users, data, and network effects to the profitability of these services.[203]

The SEP threshold could be designed as a standalone rule or as a complement to the existing PE threshold. Under a standalone approach, a cloud computing service provider would be deemed to have a taxable presence in a country if it meets one or more of the following criteria:

1. Revenue threshold: The provider derives a significant amount of revenue from the provision of cloud computing services to users in the country, either in absolute terms or as a percentage of its global revenue. The revenue threshold could be set at a level that ensures a genuine and sustained engagement with the market, while also being simple and predictable for businesses to apply.[204]
2. User threshold: The provider has a significant number of users or customers in the country, either in absolute terms or as a percentage of its global user base. The user threshold could be based on the number of registered users, active users, or paying customers, depending on the nature of the cloud computing service and the availability of data.[205]
3. Digital infrastructure: The provider has a significant amount of digital infrastructure in the country, such as servers, data centers, or content delivery networks, that are used to provide cloud computing services to users in the country. The digital infrastructure threshold could be based on the number, size, or capacity of the infrastructure, or on the volume of data processed or stored in the country.[206]

Under a complementary approach, the SEP threshold could be used to expand the definition of a PE to include cases where a cloud computing service provider has a significant economic presence in a country, even if it does not meet the traditional physical presence requirements. This could be achieved by adding a new paragraph to Article 5 of the OECD Model Tax

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[203] Olbert M and Spengel C, 'International taxation in the digital economy: Challenge accepted?' 9(1) World Tax Journal, 2017, 3-46.
[204] OECD, Tax challenges arising from digitalisation – Report on Pillar One blueprint, OECD/G20 Base Erosion and Profit Shifting Project, OECD Publishing, Paris, 2020.
[205] Becker J and Englisch J, 'Taxing where value is created: What's "user involvement" got to do with it?' 47(2) Intertax, 2019, 161-171.
[206] Szczepański M, 'Corporate taxation of a significant digital presence' European Parliamentary Research Service, PE 623.571, 2018.

Convention, which would deem a PE to exist in a country if the provider meets one or more of the SEP criteria.[207]

Nevertheless, the SEP threshold would need to be carefully designed and implemented to ensure its effectiveness, fairness, and administrability. Some of the key considerations and challenges include:

- Defining the scope of cloud computing services: The SEP threshold would need to clearly define the types of services that are covered, based on their technical and economic characteristics. This could include Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS), and Software-as-a-Service (SaaS), as well as related services such as data processing, storage, and analytics.
- Setting the thresholds: The revenue, user, and digital infrastructure thresholds would need to be set at a level that captures the most significant cases of economic presence, while also being simple and predictable for businesses to apply. The thresholds could be based on absolute amounts, ratios, or a combination of both, and could be adjusted over time to reflect changes in technology and business models.
- Determining the tax base: The SEP threshold would need to be accompanied by clear and consistent rules for determining the tax base of cloud computing service providers, taking into account the challenges of attributing profits to digital activities. This could involve the use of formulary apportionment or residual profit split methods, as discussed in the next section.
- Ensuring compliance and administration: The SEP threshold would need to be supported by effective mechanisms for ensuring compliance and administration, such as registration requirements, information reporting, and exchange of information between tax authorities. This could involve the use of digital technologies, such as blockchain and artificial intelligence, to enhance the transparency and efficiency of tax processes.
- Coordinating with existing rules: The SEP threshold would need to be coordinated with existing rules, such as transfer pricing and controlled foreign company (CFC) rules, to avoid double taxation or non-taxation of cloud computing services. This could involve the development of new guidelines or the modification of existing ones to ensure consistency and coherence in the international tax framework.

[207] Requena JÁG, 'Tax treaty characterization of income derived from cloud computing and 3D printing' 45(5) Intertax, 2017, 408-421.

Despite these challenges, the SEP threshold has several advantages over the current PE threshold. First, it would align the taxation of cloud computing services with the location of value creation, ensuring a fairer and more equitable distribution of taxing rights between source and residence countries.[208] Second, it would reduce the incentives for BEPS and the distortions to investment and competition that arise from the current system.[209] Third, it would provide a more stable and predictable framework for the taxation of the digital economy, reducing the risk of unilateral measures and disputes between countries.[210]

To implement the SEP threshold, it is recommended that countries work together through the OECD/G20 Inclusive Framework on BEPS to develop a multilateral instrument that would modify existing tax treaties to include the new nexus rule. The instrument could be based on the Multilateral Convention to Implement Tax Treaty Related Measures to Prevent BEPS (MLI), which has already been signed by over 90 countries.[211] The instrument would need to be ratified by more countries to ensure its widespread adoption and effectiveness.

In addition to the multilateral instrument, countries could also consider implementing the SEP threshold through domestic legislation, either as a standalone rule or as a complement to existing PE rules. This could provide a faster and more flexible way to address the challenges of the digital economy, while also ensuring consistency with international standards.[212]

5.3.2 Adopting a Formulary Apportionment or Residual Profit Split Method for Profit Allocation

Once a taxable presence has been established through the SEP threshold, the next challenge is to determine how much profit should be allocated to that presence for tax purposes. The current international tax framework, which is based on the arm's length principle (ALP), relies on transfer pricing methods to allocate profits between related entities based on the functions performed, assets used, and risks assumed by each entity.[213] However, the ALP has several limitations and challenges when applied to cloud computing services, due to the

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[208] BEPS Monitoring Group, 'Tax challenges of the digital economy' submission in response to the OECD's Request for Input on Work Regarding the Tax Challenges of the Digitalised Economy, 2017.
[209] OECD, Addressing base erosion and profit shifting, OECD Publishing, Paris, 2013.
[210] Greil S, 'The dealing at arm's length fallacy: A way forward to a formula-based transactional profit split?' 45(10) Intertax, 2017, 624-630.
[211] OECD, Multilateral Convention to Implement Tax Treaty Related Measures to Prevent BEPS, 2017.
[212] Dourado AP, 'The role of CFC rules in the OECD/G20 base erosion and profit shifting project and the EU anti-tax avoidance directive' 45(5) Intertax, 2017, 340-352.
[213] OECD, OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations 2017, OECD Publishing, Paris, 2017.

highly integrated and intangible nature of these services and the difficulty of finding comparable transactions.[214]

To address these challenges, it is recommended that countries adopt a formulary apportionment (FA) or residual profit split (RPS) method for allocating the profits of cloud computing service providers. These methods would allocate profits based on a formula that takes into account the key factors that contribute to value creation in the cloud computing industry, such as users, data, and digital infrastructure, rather than trying to identify and price individual transactions between related entities.[215]

Under an FA method, the global profits of a cloud computing service provider would be apportioned among the countries where it has a taxable presence based on a formula that includes one or more allocation keys, such as sales, assets, payroll, or users. The formula could be weighted to reflect the relative importance of each factor in the value creation process, and could be customized to the specific characteristics of different types of cloud computing services.[216]

For example, a simple FA formula for a SaaS provider could be based on the following allocation keys and weights:[217]

- Sales: 50% of the global profits would be apportioned based on the proportion of sales to customers in each country, as measured by the amount of subscription fees or usage charges.
- Users: 30% of the global profits would be apportioned based on the proportion of active users or registered users in each country, as measured by the number of unique user accounts or log-ins.
- Digital infrastructure: 20% of the global profits would be apportioned based on the proportion of digital infrastructure in each country, as measured by the number of servers, data centers, or content delivery networks.

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[214] Bal AM, 'The sky's the limit: Cloud-based services in an international perspective' 68(9) Bulletin for International Taxation, 2014, 515-521.
[215] Hellerstein W, 'Jurisdiction to tax in the digital economy: Permanent and other establishments' 68(6/7) Bulletin for International Taxation, 2014, 346-351.
[216] Avi-Yonah RS, Clausing KA and Durst MC, 'Allocating business profits for tax purposes: A proposal to adopt a formulary profit split' 9(5) Florida Tax Review, 2009, 497-553.
[217] Pellefigue J, 'Transfer pricing economics for the digital economy' 49(2) International Transfer Pricing Journal, 2022, 1-15.

The FA formula could be applied on a global basis, meaning that all of the profits of the cloud computing service provider would be subject to apportionment, regardless of whether they are attributable to the SEP in a particular country. Alternatively, the FA formula could be applied on a residual basis, meaning that only the profits that remain after allocating a routine return to the entities that perform the core functions of the business would be subject to apportionment.[218]

Under an RPS method, the global profits of a cloud computing service provider would be split into two or more parts: a routine return, which would be allocated to the entities that perform the core functions of the business based on the ALP, and a residual return, which would be allocated to the countries where the provider has a taxable presence based on a formula that includes one or more allocation keys, such as users, data, or digital infrastructure.[219]

The RPS method would have the advantage of preserving the ALP for the routine functions of the business, while also recognizing the contribution of market jurisdictions to the residual profits. It would also be more compatible with the existing transfer pricing framework, as it would not require a complete overhaul of the current rules and methods.[220]

Regardless of whether an FA or RPS method is adopted, there are several key considerations and challenges that would need to be addressed, including:

- Defining the scope of the apportionment: The FA or RPS method would need to clearly define the profits that are subject to apportionment, based on the nature and source of the income. This could include all profits from cloud computing services, or only certain types of profits, such as those derived from user data or digital advertising.
- Determining the allocation keys and weights: The FA or RPS method would need to specify the allocation keys and weights that are used to apportion the profits, based on the factors that contribute to value creation in the cloud computing industry. The

[218] Greil S, 'Transfer pricing for digital business models: Early evidence of challenges and options for reform' 27(8) International Transfer Pricing Journal, 2020, 410-415.
[219] Andrus JL and Collier R, 'Transfer pricing and the arm's length principle after BEPS' Oxford University Press, Oxford, 2017.
[220] Petruzzi R and Buriak S, 'Addressing the tax challenges of the digitalization of the economy: A possible answer in the proper application of the transfer pricing rules?' 72(4a) Bulletin for International Taxation, 2018, 1-18.

allocation keys and weights could be standardized across all types of cloud computing services, or customized to the specific characteristics of different business models.[221]

- Measuring and verifying the allocation factors: The FA or RPS method would need to establish clear and consistent rules for measuring and verifying the allocation factors, such as sales, users, or digital infrastructure. This could involve the use of objective and reliable data sources, such as financial statements, user records, or technical specifications, as well as the development of audit and dispute resolution procedures.
- Coordinating with existing rules: The FA or RPS method would need to be coordinated with existing rules, such as transfer pricing and CFC rules, to avoid double taxation or non-taxation of cloud computing services. This could involve the development of new guidelines or the modification of existing ones to ensure consistency and coherence in the international tax framework.[222]

Despite these challenges, the FA or RPS method has several advantages over the current ALP-based system. First, it would provide a more direct and transparent way to allocate profits to the countries where value is created, reducing the incentives for BEPS and the distortions to investment and competition that arise from the current system.[223] Second, it would reduce the compliance and administrative costs of the current system, which relies on complex and subjective transfer pricing analyses and documentation requirements.[224] Third, it would provide a more stable and predictable framework for the taxation of the digital economy, reducing the risk of unilateral measures and disputes between countries.[225]

To implement the FA or RPS method, it is recommended that countries work together through the OECD/G20 Inclusive Framework on BEPS to develop a multilateral instrument that would modify existing tax treaties to include the new profit allocation rules. The instrument could also be based on the MLI, and could be implemented alongside the SEP threshold.[226]

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[221] Schreiber U and Fell LM, 'International profit allocation, intangibles and sales-based transactional profit split' 9(1) World Tax Journal, 2017, 1-18.
[222] Devereux MP and Vella J, 'Taxing the digitalised economy: Targeted or system-wide reform?' 4 British Tax Review, 2018, 387-406.
[223] Avi-Yonah RS and Benshalom I, 'Formulary apportionment: Myths and prospects' 3(3) World Tax Journal, 2011, 371-398.
[224] Picciotto S, 'Taxing multinational enterprises as unitary firms' International Centre for Tax and Development, ICTD Working Paper 53, 2016.
[225] Faccio T and Fitzgerald V, 'Sharing the corporate tax base: Equitable taxing of multinationals and the choice of formulary apportionment' 25(2) Transnational Corporations, 2018, 67-89.
[226] OECD, Action 15: A mandate for the development of a multilateral instrument on tax treaty measures to tackle BEPS, OECD/G20 Base Erosion and Profit Shifting Project, OECD Publishing, Paris, 2015.

In addition to the multilateral instrument, countries could also consider implementing the FA or RPS method through domestic legislation, either as a standalone rule or as a complement to existing transfer pricing rules. This could provide a faster and more flexible way to address the challenges of the digital economy, while also ensuring consistency with international standards.[227]

5.3.3 Simplifying Registration, Compliance, and Dispute Resolution Mechanisms

The current international tax framework imposes significant compliance burdens on cloud computing service providers, due to the complexity and diversity of tax laws and regulations across different countries. These burdens are particularly acute for small and medium-sized enterprises (SMEs), which may lack the resources and expertise to navigate the international tax system.[228] To address these challenges, it is recommended that countries adopt measures to streamline and harmonize the registration, reporting, and payment requirements for cloud computing service providers.

One such measure could be the introduction of a simplified registration system for foreign cloud computing service providers, similar to the Mini One-Stop Shop (MOSS) system for value-added tax (VAT) in the European Union.[229] Under this system, cloud computing service providers would be able to register in a single country and fulfill their tax obligations for all participating countries through a single portal. This would reduce the administrative costs and risks of non-compliance associated with multiple registrations and filings.[230]

Another measure could be the development of standardized reporting and payment requirements for cloud computing service providers, based on a common set of principles and guidelines. These requirements could cover issues such as the format and content of tax returns, the timing and method of tax payments, and the documentation and record-keeping obligations of taxpayers. The standardization of these requirements would facilitate the

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[227] Chand V and Malek B, 'The relevant economic activity test and its impact on the current tax challenges' in Pistone P and Weber D (eds) Taxing the digital economy: The EU proposals and other insights, IBFD, Amsterdam, 2019, 121-142.
[228] OECD, Tax administration 2021: Comparative information on OECD and other advanced and emerging economies, OECD Publishing, Paris, 2021.
[229] European Commission, Guide to the VAT mini one stop shop, 2021.
[230] OECD, The sharing and gig economy: Effective taxation of platform sellers, OECD Publishing, Paris, 2019.

automation and digitalization of tax compliance processes, reducing the time and costs associated with manual interventions and errors.[231]

A third measure could be the establishment of a dispute resolution mechanism for cloud computing service providers, based on the principles of transparency, fairness, and efficiency. This mechanism could include a range of tools and procedures, such as advance pricing agreements (APAs), mutual agreement procedures (MAPs), and binding arbitration, to prevent and resolve disputes between taxpayers and tax authorities.[232] The dispute resolution mechanism could also be supported by a network of tax treaties and international agreements, such as the MLI, to ensure the consistent and effective application of the agreed rules and standards.[233]

The rationale for these measures is to reduce the compliance costs and risks for cloud computing service providers, while also improving the efficiency and effectiveness of tax administration for governments. By simplifying and harmonizing the registration, reporting, and payment requirements, these measures would promote voluntary compliance and reduce the scope for tax avoidance and evasion. Moreover, by establishing a dispute resolution mechanism, these measures would provide a forum for the resolution of conflicts and the prevention of double taxation, promoting cross-border investment and trade.[234]

However, the implementation of these measures also faces several challenges and potential drawbacks. One challenge is the need for international coordination and consensus, as the effectiveness of these measures depends on the participation and cooperation of a critical mass of countries.[235] Another challenge is the potential for these measures to create new opportunities for tax avoidance and evasion, such as through the manipulation of the simplified registration system or the abuse of the dispute resolution mechanism.[236] A third challenge is the need to balance the benefits of simplification and harmonization with the specific needs and circumstances of different countries and taxpayers, such as the level of

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[231] World Bank, Tax compliance cost burden and tax perceptions survey, World Bank Group, Washington, D.C., 2016.
[232] OECD, Making dispute resolution more effective: MAP peer review report, OECD/G20 Base Erosion and Profit Shifting Project, OECD Publishing, Paris, 2021.
[233] OECD, Multilateral Convention to Implement Tax Treaty Related Measures to Prevent BEPS, 2017.
[234] United Nations, Dispute avoidance and resolution handbook, 2021.
[235] OECD, Tax co-operation for development: Progress report, OECD Publishing, Paris, 2021.
[236] Hearson M, 'The challenges for developing countries in international tax justice' 54(10) Journal of Development Studies, 2018, 1932-1938.

economic development, the size and complexity of the tax system, and the nature and scale of the cloud computing services provided.[237]

To address these challenges, it may be wise that countries adopt a phased and flexible approach to the implementation of these measures, which could be based on the following guidelines:

1. Conduct a comprehensive assessment of the current registration, reporting, and payment requirements for cloud computing service providers, identifying the main pain points and areas for improvement.
2. Engage in a multi-stakeholder dialogue with businesses, tax professionals, and civil society organizations, to gather input and feedback on the design and implementation of the simplified compliance mechanisms and dispute resolution procedures.
3. Pilot the simplified registration system and standardized reporting requirements with a small group of countries and taxpayers, to test their feasibility and effectiveness, and to identify any unintended consequences or areas for improvement.
4. Provide capacity building and technical assistance to developing countries, to help them adopt and implement the simplified compliance mechanisms and dispute resolution procedures, taking into account their specific needs and circumstances.
5. Monitor and evaluate the performance of the simplified compliance mechanisms and dispute resolution procedures, using a set of agreed indicators and benchmarks, and make any necessary adjustments or revisions based on the feedback and evidence collected.
6. Promote the adoption and use of digital technologies, such as blockchain and artificial intelligence, to automate and streamline the registration, reporting, and payment processes, while also ensuring the security and privacy of taxpayer data.
7. Establish a peer review and monitoring mechanism, similar to the OECD's Global Forum on Transparency and Exchange of Information for Tax Purposes, to ensure the consistent and effective implementation of the simplified compliance mechanisms and dispute resolution procedures across participating countries.

[237] Rukundo S, 'Addressing the challenges of taxation of the digital economy: Lessons for African countries' ICTD Working Paper 105, Institute of Development Studies, 2020.

By following these guidelines, countries can work towards a more streamlined and harmonized system for the taxation of cloud computing services, while also promoting international cooperation and dispute resolution.

5.3.4 Promoting Cooperation and Exchange of Information Among Tax Authorities

The effectiveness of any international tax framework depends on the ability of tax authorities to cooperate and exchange information with each other, in order to prevent and detect tax avoidance and evasion, and to ensure the proper application of tax laws and treaties. In the context of cloud computing services, the need for international cooperation and exchange of information is particularly acute, due to the borderless and intangible nature of these services, and the complex and opaque structures used by some service providers to minimize their tax liabilities.[238]

To address these challenges, it is recommended that countries adopt measures to enhance international cooperation and exchange of information among tax authorities, in line with the international standards and best practices developed by the OECD and other international organizations. These measures could include:

1. Expanding the network of bilateral and multilateral tax treaties and tax information exchange agreements (TIEAs), to provide a legal basis for the exchange of information and the resolution of disputes between tax authorities.
2. Implementing the Common Reporting Standard (CRS) for the automatic exchange of financial account information, to improve the transparency and accountability of cross-border financial flows and transactions.
3. Participating in the OECD's Base Erosion and Profit Shifting (BEPS) project, and implementing the minimum standards and best practices developed under the project, such as the country-by-country reporting (CbCR) requirements for multinational enterprises.
4. Establishing joint audit and investigation teams, to conduct coordinated and targeted examinations of cloud computing service providers, based on a common set of risk assessment and case selection criteria.

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[238] OECD, Tax challenges arising from the digitalisation of the economy, OECD/G20 Base Erosion and Profit Shifting Project, OECD Publishing, Paris, 2018.

5. Developing a common framework for the collection and analysis of data on the tax affairs of cloud computing service providers, including the use of advanced analytics and machine learning tools to identify patterns and trends of non-compliance.
6. Promoting the use of online platforms and digital tools for the exchange of information and the coordination of compliance activities, such as the OECD's Tax Administration Diagnostic Assessment Tool (TADAT).

The rationale for these measures is to enhance the capacity and effectiveness of tax authorities in monitoring and enforcing the tax obligations of cloud computing service providers, while also reducing the compliance costs and risks for taxpayers. By cooperating and exchanging information with each other, tax authorities can leverage their collective knowledge and resources, and ensure a more consistent and coordinated approach to the taxation of cloud computing services. Moreover, by using digital technologies and platforms, tax authorities can improve the efficiency and security of the information exchange process, and reduce the scope for errors and delays.

However, the implementation of these measures also faces several challenges and potential drawbacks. One challenge is the need to ensure the confidentiality and proper use of the exchanged information, in line with the applicable data protection and privacy laws and regulations. Another challenge is the potential for these measures to create new administrative burdens and costs for tax authorities, particularly in developing countries with limited resources and capacities. A third challenge is the need to balance the benefits of cooperation and information exchange with the sovereignty and autonomy of individual

This stands to lead towards a more cooperative and transparent system for the taxation of cloud computing services, while also promoting trust and fairness in the international tax framework.

5.4 Building Consensus and Political Will Among States

The successful implementation of the reform recommendations for taxing cloud computing services depends on the ability to build consensus and political will among states. This is a challenging task, given the diversity of interests and perspectives among countries, and the complexity and sensitivity of the issues involved.[239] However, it is also an essential task, as

[239] OECD, 'Tax challenges arising from digitalisation: Report on Pillar One blueprint', OECD Publishing, Paris, 2020.

the effectiveness and legitimacy of any international tax framework relies on the voluntary cooperation and compliance of sovereign states.

One of the main obstacles to building consensus and political will is the perception among some states that the proposed reforms may not be in their best interests, or may not reflect their specific needs and circumstances. For example, some developing countries may fear that the new nexus and profit allocation rules could reduce their tax revenues or limit their ability to attract foreign investment.[240] Similarly, some developed countries may worry that the proposed measures could create new opportunities for tax avoidance or undermine their competitive position in the global economy.

To overcome these obstacles, it is important to engage in a transparent and inclusive dialogue with all relevant stakeholders, including governments, businesses, civil society organizations, and international bodies. This dialogue should aim to build trust and understanding among the different parties, and to identify common ground and shared objectives. It should also involve a clear and compelling communication of the benefits and costs of the proposed reforms, and a willingness to listen to and address the concerns and suggestions of all stakeholders.

Some specific strategies for building consensus and political will among states can be:

1. Conducting a comprehensive and evidence-based assessment of the economic, social, and political implications of the proposed reforms, and sharing the results with all stakeholders.
2. Organizing regional and global forums and conferences to discuss the reform proposals and to exchange views and experiences among countries and experts.
3. Establishing a multi-stakeholder advisory group or task force to provide input and guidance on the design and implementation of the reforms, and to monitor and evaluate their progress and impact.
4. Leveraging the influence and resources of international organizations, such as the OECD, the UN, and the IMF, to promote the adoption and implementation of the reforms, and to provide technical assistance and capacity building to countries.

[240] Ndajiwo M, 'The taxation of the digitalised economy: An African study', ICTD Working Paper 107, Institute of Development Studies, 2020.

5. Building coalitions and partnerships among like-minded countries and stakeholders, to advocate for the reforms and to mobilize support and resources for their implementation.
6. Engaging with national parliaments, media, and the general public, to raise awareness and understanding of the reforms, and to build public support and pressure for their adoption.

In addition to these strategies, it is also important to provide clear and practical guidelines for the implementation of the reforms, to ensure their consistency and effectiveness across countries. These guidelines should cover issues such as the definition and measurement of significant economic presence, the determination and allocation of profits, the registration and reporting requirements for taxpayers, the exchange of information and dispute resolution procedures, and the transitional arrangements and timelines

By following these strategies and guidelines, it is possible to build a broad and sustainable consensus and political will among states for the taxation of cloud computing services, based on the principles of fairness, efficiency, and administrability.

5.5 Addressing Concerns of Developing Countries and Ensuring Inclusive Participation

The reform of the international tax framework for cloud computing services must take into account the specific concerns and needs of developing countries, and ensure their inclusive participation in the reform process. Developing countries face unique challenges in taxing the digital economy, due to their limited administrative capacity, their reliance on foreign investment and aid, and their vulnerability to tax avoidance and evasion.

Some of the main challenges developing countries may face in relation to taxing cloud computing services include:

1. The potential loss of tax revenues, due to the difficulty of establishing nexus and allocating profits under the current rules, and the risk of base erosion and profit shifting by multinational enterprises.
2. The lack of technical expertise and resources to administer and enforce complex tax rules, especially in the areas of transfer pricing, dispute resolution, and exchange of information.

3. The need to balance the objectives of revenue mobilization, economic growth, and social development, in the context of competing demands and priorities for public spending and investment.
4. The risk of double taxation or unintended consequences, due to the interaction of domestic and international tax rules, and the potential for unilateral measures or disputes with other countries.
5. The limited voice and influence of developing countries in the international tax policy-making process, and the perceived unfairness or bias of the current rules and institutions.

To address these concerns and ensure the inclusive participation of developing countries in the reform process, it is necessary to adopt a differentiated and collaborative approach, which can be based on the following guidelines:

1. Conduct a comprehensive assessment of the specific needs, capacities, and priorities of developing countries, in relation to taxing cloud computing services, and tailor the reform proposals and implementation strategies accordingly.[241]
2. Provide technical assistance and capacity building to developing countries, to strengthen their tax administration and policy-making capabilities, and to enable them to participate effectively in the reform process and benefit from the new rules and mechanisms.
3. Establish a dedicated platform or forum for developing countries to voice their concerns and perspectives, and to engage in dialogue and negotiation with other countries and stakeholders on the design and implementation of the reforms.[242]
4. Ensure that the reform proposals and guidelines are flexible and adaptable to the diverse circumstances and needs of developing countries, and allow for appropriate transitional arrangements and support measures.
5. Promote the use of simplified and standardized approaches for the registration, reporting, and collection of taxes from cloud computing service providers, to reduce the compliance and administrative costs for developing countries.

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[241] Valderrama IJM, 'Output legitimacy deficits and the inclusive framework of the OECD/G20 base erosion and profit shifting initiative' 72(3) Bulletin for International Taxation, 2018, 160-170.
[242] Christensen RC and Hearson M, 'The new politics of global tax governance: Taking stock a decade after the financial crisis' 26(5) Review of International Political Economy, 2019, 1068-1088.

6. Strengthen the cooperation and exchange of information between tax authorities in developed and developing countries, to prevent and detect tax avoidance and evasion, and to ensure a fair and effective allocation of taxing rights and revenues.
7. Mobilize additional resources and support for developing countries, through bilateral and multilateral aid, technical assistance, and capacity building programs, to enable them to implement the reforms and achieve their development objectives.

By following these guidelines, it is possible to ensure that the reform of the international tax framework for cloud computing services is inclusive, equitable, and responsive to the needs and concerns of developing countries, and contributes to their sustainable development and fiscal stability.

5.6 Managing Transition and Ensuring Compatibility with Existing Tax Treaties

The implementation of the proposed reforms for taxing cloud computing services will require a careful management of the transition from the existing rules and mechanisms to the new framework. This transition process may involve significant changes and challenges for tax authorities, taxpayers, and other stakeholders, and may have implications for the compatibility and coherence of the international tax system.

One of the main challenges of managing the transition is the potential for conflicts or inconsistencies between the proposed reforms and the existing network of bilateral and multilateral tax treaties. The proposed reforms, such as the new nexus and profit allocation rules, may require changes or amendments to the existing tax treaties, or the negotiation of new treaties, to ensure their compatibility and effectiveness.[243]

Another challenge is the need to ensure a smooth and orderly transition from the old to the new rules, without creating uncertainty, disruption, or unintended consequences for taxpayers and tax authorities. This may require the adoption of transitional arrangements and measures, such as grandfathering provisions, phase-in periods, safe harbors, or special rules for certain sectors or activities.[244]

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[243] Blum DW, 'Permanent establishments and action 1 on the digital economy of the OECD base erosion and profit shifting initiative: The nexus criterion redefined?' 69(6/7) Bulletin for International Taxation, 2015, 314-325.
[244] Sapirie M, 'Permanent establishment and the digital economy' 72(4a) Bulletin for International Taxation, 2018, 199-204.

To address these challenges and ensure a successful transition and compatibility with existing tax treaties, it is necessary to adopt a coordinated and flexible approach, which can be based on the following guidelines:

1. Conduct a comprehensive review of the existing tax treaty network, to identify the potential conflicts or inconsistencies with the proposed reforms, and to assess the need for changes or amendments to the treaties.
2. Engage in bilateral and multilateral negotiations with treaty partners, to discuss and agree on the necessary changes or amendments to the treaties, or the conclusion of new treaties, to ensure their compatibility with the new rules and mechanisms.
3. Develop clear and detailed guidance on the interpretation and application of the new rules and mechanisms, in relation to the existing tax treaties, to provide certainty and consistency for taxpayers and tax authorities.
4. Establish a dispute prevention and resolution mechanism, to address any conflicts or disputes that may arise between countries or taxpayers, in the application of the new rules and mechanisms, or in the interpretation of the tax treaties.
5. Adopt appropriate transitional arrangements and measures, such as grandfathering provisions, phase-in periods, safe harbors, or special rules, to ensure a smooth and orderly transition from the old to the new rules, and to mitigate any adverse effects or unintended consequences.[245]
6. Monitor and evaluate the implementation and impact of the reforms, in relation to the existing tax treaties, and make any necessary adjustments or revisions, based on the feedback and evidence gathered from stakeholders and experts.
7. Promote the use of multilateral instruments, such as the MLI, to facilitate the implementation of the reforms and the compatibility with existing tax treaties, and to reduce the complexity and fragmentation of the international tax system.[246]

By following these guidelines, it is possible to manage the transition to the new international tax framework for cloud computing services in a coordinated, transparent, and effective manner, and to ensure its compatibility and coherence with the existing tax treaty network. This will require a sustained effort and cooperation among countries, taxpayers, and other

[245] Sapirie M, 'Permanent establishment and the digital economy' 72(4a) Bulletin for International Taxation, 2018, 199-204.
[246] Avi-Yonah RS and Xu H, 'Evaluating BEPS: A reconsideration of the benefits principle and proposal for UN oversight' 6(2) Harvard Business Law Review, 2016, 185-238.

stakeholders, based on the principles of fairness, efficiency, and administrability, and guided by the shared goal of a better international tax system.

5.7 Monitoring Impact and Addressing Unintended Consequences

The implementation of the proposed reforms for taxing cloud computing services must be accompanied by a robust monitoring and evaluation framework, to assess their impact and effectiveness, and to identify and address any unintended consequences or risks. Monitoring and evaluation are essential for ensuring the accountability, transparency, and legitimacy of the reforms, and for enabling evidence-based policy-making and continuous improvement.[247]

Some of the potential risks and unintended consequences of the reforms include:

1. The risk of double taxation or non-taxation, due to the inconsistent or conflicting application of the new nexus and profit allocation rules by different countries, or the gaps and overlaps in the existing tax treaty network.
2. The risk of tax avoidance or evasion, through the use of artificial arrangements or transactions to circumvent the new rules, or the exploitation of loopholes or ambiguities in the guidance and regulations.
3. The risk of increased compliance costs and administrative burdens, for both taxpayers and tax authorities, due to the complexity and novelty of the reforms, or the lack of harmonization and simplification of the requirements and procedures.
4. The risk of reduced investment and growth in the cloud computing sector, due to the uncertainty and unpredictability of the tax environment, or the perception of unfairness or discrimination against digital businesses.
5. The risk of political backlash or unilateral measures, by countries that feel disadvantaged or excluded from the reform process, or that seek to protect their national interests or sovereignty.

To mitigate these risks and address any unintended consequences, it is necessary to establish a comprehensive and participatory monitoring and evaluation mechanism, which can be based on the following guidelines:

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[247] OECD, 'Tax administration 2021: Comparative information on OECD and other advanced and emerging economies', OECD Publishing, Paris, 2021.

1. Define clear and measurable indicators and targets, for assessing the performance and impact of the reforms, in terms of their objectives and principles, such as fairness, efficiency, administrability, and inclusiveness.
2. Collect and analyze relevant and reliable data, from a variety of sources and stakeholders, including tax authorities, taxpayers, academics, and civil society organizations, to inform the monitoring and evaluation process.
3. Engage in regular and transparent reporting and communication, on the progress and challenges of the reforms, and the actions taken to address any issues or concerns raised by stakeholders.
4. Establish a feedback and complaint mechanism, for taxpayers and other stakeholders to provide input and suggestions on the implementation and impact of the reforms, and to seek redress for any grievances or disputes.
5. Conduct periodic and independent reviews and evaluations, by external experts or bodies, to assess the overall effectiveness and coherence of the reforms, and to identify areas for improvement or revision.
6. Develop a flexible and adaptive approach, to enable timely and responsive adjustments or corrections to the reforms, based on the monitoring and evaluation findings, and the changing circumstances and needs of the international tax system.
7. Foster international cooperation and exchange of experiences, on the monitoring and evaluation of the reforms, and the sharing of best practices and lessons learned, to promote mutual learning and accountability.

If implemented well, it is possible to establish a robust and inclusive monitoring and evaluation framework for the international tax reforms for cloud computing services, which can help to ensure their effectiveness, legitimacy, and sustainability, and to address any unintended consequences or risks in a timely and responsive manner.

5.8 Conclusion

This chapter has presented a comprehensive set of reform recommendations and implementation strategies for taxing cloud computing services under a multilateral approach. The proposed reforms aim to address the key challenges and opportunities identified in the previous chapters, and to provide a more effective, equitable, and administrable framework for taxing the digital economy.

The key reform recommendations include:

1. Establishing a new nexus rule based on significant economic presence, which goes beyond physical presence and considers factors such as revenue, user participation, and digital infrastructure.
2. Adopting a formulary apportionment or residual profit split method for allocating profits, which is better suited to the digital economy than the arm's length principle and ensures a fairer distribution of taxing rights.
3. Simplifying the registration, compliance, and dispute resolution mechanisms, through the use of standardized and harmonized requirements and procedures, and the promotion of international cooperation and exchange of information.
4. Promoting capacity building and technical assistance for developing countries, to enable them to participate effectively in the reform process and benefit from the new rules and mechanisms.

The implementation of these recommendations requires a coordinated and inclusive approach, which involves:

1. Building consensus and political will among states, through transparent and evidence-based dialogue and communication, and the mobilization of international support and resources.
2. Ensuring compatibility and coherence with the existing international tax framework, including tax treaties and transfer pricing rules, through a flexible and adaptive transition process.
3. Monitoring and evaluating the impact and effectiveness of the reforms, through a participatory and accountable framework that collects and analyzes relevant data and feedback, and enables timely and responsive adjustments and improvements.

The proposed reform recommendations and implementation strategies have several potential benefits and limitations. On the one hand, they can provide a more stable, predictable, and equitable framework for taxing cloud computing services, which can promote growth, innovation, and digital inclusion. On the other hand, they may involve significant political, technical, and administrative challenges and costs, and may require a long-term and gradual process of negotiation, adaptation, and learning.

Despite these challenges and limitations, the reform of the international tax system for the digital economy is an urgent and important task, which requires the active engagement and cooperation of all stakeholders, including governments, businesses, civil society, and international organizations. The proposed multilateral approach, based on the principles of fairness, efficiency, and administrability, can provide a useful starting point and framework for this reform process, and can help to build a more inclusive and sustainable international tax system for the digital age.

However, the reform of the international tax system for cloud computing services is not a one-time or static endeavor, but a dynamic and ongoing process that requires continuous research, dialogue, and adaptation. As the digital economy continues to evolve and transform, new challenges and opportunities for taxation will emerge, which will require new solutions and approaches.

Therefore, it is essential to maintain an open and inclusive dialogue on the taxation of the digital economy, and to foster a culture of innovation, experimentation, and mutual learning among all stakeholders. This dialogue should be informed by sound theoretical and empirical research, and should be guided by the principles of fairness, efficiency, and administrability, as well as the broader goals of sustainable development and digital inclusion.

By working together towards a shared vision and framework for taxing cloud computing services and the digital economy, it is possible to create a more stable, equitable, and prosperous international tax system, which can support the growth and well-being of all countries and stakeholders in the digital age.

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