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A Toss Up? Comparing Tax Revenues from the Amount A and Digital Service Tax Regimes for Developing Countries

Vladimir Starkov and Alexis Jin

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199

A TOSS UP?
COMPARING TAX REVENUES FROM THE AMOUNT A AND DIGITAL SERVICE TAX REGIMES FOR DEVELOPING COUNTRIES

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SOUTH CENTRE, AFRICAN TAX ADMINISTRATION FORUM,
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SOUTH CENTRE

In August 1995, the South Centre was established as a permanent intergovernmental organization. It is composed of and accountable to developing country Member States. It conducts policy-oriented research on key policy development issues and supports developing countries to effectively participate in international negotiating processes that are relevant to the achievement of the Sustainable Development Goals (SDGs). The Centre also provides technical assistance and capacity building in areas covered by its work program. On the understanding that achieving the SDGs, particularly poverty eradication, requires national policies and an international regime that supports and does not undermine development efforts, the Centre promotes the unity of the South while recognizing the diversity of national interests and priorities.

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The African Tax Administration Forum (ATAF) was formally established on 19 November 2009 during the 1st International Conference on Tax in Africa (ICTA) held in Kampala, Uganda, with the conviction that a key component of a capable State is the existence of efficient and effective tax administrations. Thus, ATAF vision is to promote efficient and effective tax systems and administration to improve the living standards of the people in Africa.

Since its inception in 2009, ATAF has been dedicated to enabling African countries to achieve financial autonomy and robust fiscal governance, thereby fostering poverty alleviation and the elevation of African citizens' daily lives. The spirit of our members, who have consistently demanded actionable results over promises, remains the cornerstone of ATAF's mission.

ATAF membership has over the years increased and current membership is 43 as at April 2024. ATAF's membership is open to all African tax and revenue administrations.

West African Tax Administration Forum

The West African Tax Administration Forum (WATAF) was established through the adoption of an Agreement by the General Assembly of Member States with the aim of enhancing the effectiveness of tax administration and advancing public service delivery to support the development efforts of countries in the West African region. The inaugural meeting of WATAF took place in Abuja, Nigeria on September 12, 2011, marking the official commencement of its operations.

Membership to WATAF is open to all countries within the Economic Community of West African States (ECOWAS), allowing for regional collaboration and cooperation in tax matters. WATAF comprises Tax Administrations from all 15 West African countries - Benin, Burkina-Faso, Cabo-Verde, Cote D'Ivoire, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, The Gambia, and Togo.

WATAF mission is to provide a platform to encourage strong collaboration amongst all ECOWAS Member States towards the improvement of the quality of tax administration in the respective States. Its vision is to promote effective and efficient tax administration in Member States in West Africa.

NOTE

The views contained in this paper are attributable to the author/s and do not represent the institutional views of the South Centre, the African Tax Administration Forum (ATAF) and the West African Tax Administration Forum (WATAF) or its Member States. Any mistake or omission in this study is the sole responsibility of the author/s.

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ABSTRACT

In this paper, we attempt to estimate the tax revenues to be gained by the Member States of ATAF, WATAF, AU and the South Centre under the Amount A and an alternative stylized DST taxation regime. Our research demonstrates that the comparative revenue effects of the Amount A and DST taxation regimes largely depend on (a) the mix of relevant domestic economic activities at market jurisdictions (i.e., revenues sourced to the country as a market jurisdiction under Amount A and the level of revenues from automated digital services generated in the country), (b) design details of the DST regime such as the DST tax rate and the nature of activities to be taxed and (c) the relief from double taxation, if any, countries will grant to domestic and foreign taxpayers under DST. This paper contains analysis relying on sources of information available to private sector researchers and it does not involve review of any information that individual taxpayers provided to tax authorities.

Le présent document vise à évaluer le montant des recettes fiscales qui pourrait être perçu par les États membres de l'ATAF, de la WATAF, de l'UA et du Centre Sud dans le cadre de l'application du Montant A ou de la mise en place d'une version modifiée de la taxe sur les services numériques. Une analyse comparative des résultats démontre que le montant des recettes perçues au titre du montant A et de la taxe sur les services numériques dépend en grande partie a) de la diversité des activités économiques exercées dans les juridictions de marché (c'est-à-dire le montant des recettes provenant du pays en tant que juridiction de marché dans le cadre de l'application du montant A et le montant des recettes provenant des services numériques produits dans le pays), b) des détails de conception du régime de taxation des services numériques, notamment le taux d'imposition et la nature des activités à taxer et c) de l'exonération de la double imposition, le cas échéant, que les pays accorderont aux contribuables nationaux et étrangers qui fournissent des services numériques. Il contient une analyse fondée sur les sources dont disposent les chercheurs du secteur privé et ne tient pas compte des informations que les contribuables ont fournies aux autorités fiscales.

En este documento, intentamos estimar los ingresos fiscales que obtendrían los Estados miembros del ATAF, el WATAF, la UA y el South Centre bajo el Monto A y un régimen alternativo estilizado del Impuesto a los Servicios Digitales (DST). Nuestra investigación demuestra que los efectos comparativos en los ingresos de los regímenes de tributación del Monto A y del DST dependen en gran medida de: (a) la combinación de actividades económicas nacionales pertinentes en las jurisdicciones de mercado (es decir, los ingresos obtenidos por el país como jurisdicción de mercado en virtud del Monto A y el nivel de ingresos procedentes de los servicios digitales automatizados generados en el país), (b) detalles del diseño del régimen de DST, como el tipo impositivo del DST y la naturaleza de las actividades que se gravarán, y (c) la exención de la doble imposición, , en su caso, que los países concederán a los contribuyentes nacionales y extranjeros en virtud del DST. Este documento contiene análisis basados en fuentes de información a disposición de los investigadores del sector privado y no implica la revisión de ninguna información que los contribuyentes individuales hayan proporcionado a las autoridades fiscales.

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APPENDIX I. ESTIMATED TAX REVENUES BY MEMBER COUNTRY IN 2022 (ALTERNATIVE APPROACH) **45**

I. EXECUTIVE SUMMARY

This study was commissioned by the African Tax Administration Forum (ATAF), the West African Tax Administration Forum (WATAF), African Union (AU), and the South Centre. ATAF, WATAF, and AU are intergovernmental organizations representing member countries located in the African continent. The South Centre is an intergovernmental organization comprising 55 member countries located in Africa, Asia, Latin America and the Caribbean. The countries represented by these organizations are collectively referred to here as "Member States."

In October 2023, the Organisation for Economic Co-operation and Development (OECD) Inclusive Framework ("IF") has released a draft of the *Multilateral Convention to Implement Amount A of Pillar One* ("MLC"). Along with specifics of the Amount A regime design, the MLC contains measures for "removal and standstill of digital services taxes and relevant similar measures." Given that the MLC posits that countries that continue to apply digital service taxes ("DSTs") and "relevant similar measures" will forfeit their allocation of the Amount A revenue unless such measure falls under Article 40 of the MLC, the Member States wish to make informed decisions on their positions regarding signing and ratification of the MLC.

To inform this decision-making process, the ATAF, WATAF, AU, and the South Centre have disseminated a request for proposals for a study that compares estimated revenue effects from the Amount A and DSTs for the Member States This paper describes such a study, which was undertaken by its authors during October and November 2023.

To arrive at the estimates of tax revenues to be gained by Member States under the Amount A regime, we started by selecting multinational enterprises ("MNEs") that would be in scope of Amount A using the definitions of the "covered group" found in Article 3 of the MLC. Our screening process identified 100 MNEs in scope of Amount A, based on the financial data for 2022 and preceding years. Next, we determined the residual profits that would be reallocated to Member States using estimates of the revenues from the FactSet GeoRev database after applying the nexus threshold and the marketing and distribution profit safe harbor ("MDSH") adjustment. The tax revenues to be raised for the Member States were obtained by applying the corporate income tax rate of the Member State to the profit allocated to that Member State under the Amount A profit allocation rules. In determining the tax relief for China and India, the two South Centre Member States that host MNEs in-scope of Amount A, we made an assessment of which jurisdictions will provide the tax relief by using data from the aggregate Country-by-Country Reports ("CBCR") published by OECD. The estimated tax relief amounts were then multiplied by the assumed effective tax rates and netted against the estimated inflows from Amount A.

Due to the lack of data on withholding taxes that may be applied by the Member States on cross border tax deductible payments, we did not model the effect of the "Withholding Tax Upward Adjustment" ("WHT Adjustment") in our study. One other consideration for omitting the WHT adjustment is that this adjustment will not be applicable immediately after the MLC enters into force.[2] Nonetheless, based on the design of this adjustment in the MLC the WHT Adjustment may reduce the estimates of income that would be collected by certain Member States from Amount A.

The ultimate scope and design of DSTs is subject to countries' discretion, and DSTs currently in existence vary from one country to another in significant ways. In this paper, we have constructed a stylized DST regime for the purposes of comparison of projected tax revenues

[2] According to Annex B, Section 6, the WHT adjustment is reduced by 100% (to 0%) in the first two years after the MLC enters into effect, and by 70% (to 30%) in the subsequent years until the revenue threshold for the MNEs covered by the MLC gets reduced to 10 billion euros.

from this DST regime with the Amount A revenue for each Member State. To model the revenue effect of DSTs for the Member States, we have selected two sets of MNEs that may be in scope of such tax: the first set comprises companies that engage in "pure" automated digital services or "ADS" as defined in Article 12B of the United Nations (UN) Model Double Taxation Convention (United Nations, 2021), and the second, broader, set that includes some additional companies that deliver at least some of their products and services digitally and in an automated manner. We called these companies "hybrid ADS" businesses. To keep the number of companies subject to DST manageable, we set a minimum sales threshold of 750 million euros and positive pretax income for each of the companies we selected, although design of a DST does not have to impose such limitations on the businesses subject to it. Our selection of the companies engaged in the ADS and hybrid ADS activities was performed using the revenues reported by companies for the fiscal year 2020. After determining the set of in-scope MNEs, we applied a tax rate of 3% and, separately, a tax rate of 5% to revenues sourced from Member States. Additionally, we made assumptions about the relief from double taxation that will be provided by the Member States that host companies subject to this model DST. We prepared a range of tax revenue estimates with the lower amount determined by taking only "pure" ADS companies into account, and the higher amount determined by adding the companies that engage in hybrid ADS functions to the "pure" ADS companies.

Our study discusses the key assumptions and limitations of each of the two estimation methods outlined above.

A comparison between tax revenues under the Amount A and our stylized DST taxation regime at a 3% DST tax rate indicates that for many Member States, the projected Amount A revenues will not be significantly greater than revenues under a DST regime, particularly when a DST regime covers not only "pure" ADS companies but also includes hybrid ADS businesses. With a "narrow" scope of DST design that includes only "pure" ADS businesses, projected revenues of some countries may be lower than revenues under Amount A, although, in general, the DST revenues would be comparable in magnitude to those from Amount A at a 3% DST tax rate. Selecting other parameters of the DST design may lead to a different conclusion, however. Such a combination of parameters may include, for example, a broader scope that covers companies that engage in both "pure" and hybrid ADS functions, a different tax rate on revenues such as a 5% DST tax rate, and a different mechanism of double tax relief.

We believe that calculation of MNEs tax liabilities would be simpler under the DST regime which is a revenue-based taxation system than under Amount A, and, because of this, the Member Countries should find it easier to forecast and audit the tax revenues that would be collected from DSTs compared to those from Amount A. Nevertheless, the DST regime still carries with it the burden of administration and compliance enforcement.

In addition, jurisdictions that consider signing and ratifying the MLC for Amount A should be mindful of the fact that, after implementing the Amount A, they will be obligated to withdraw the existing DSTs and commit to not adopting any new DSTs unless the DST or the relevant similar measure falls within Article 40 of the Amount A MLC.

The paper is organized into the following four sections: Section I provides an executive summary; Section II provides a brief review of the Amount A evolution; Section III discusses other published estimates of the Amount A revenue effects; Section IV explains our method of estimating the tax effects of Amount A for the Member States; Section V describes the estimates of the DST revenue effect obtained by us; Section VI provides comparison of the revenue effects from the Amount A and DST regimes for different countries and regions in scope of this study; and Section VII summarizes and concludes the analysis.

II. BRIEF HISTORY OF AMOUNT A EVOLUTION

Amount A of Pillar One has been developed by the OECD/Group of Twenty (G20) Inclusive Framework on BEPS ("IF") as part of the Two-Pillar Solution for addressing the tax challenges arising from the digitalization of the economy. The Amount A regime provides jurisdictions in which consumers and users are located ("market jurisdictions") a new taxing right over a portion of the residual profits of the largest and most profitable multinational enterprises (MNEs) in the world. The design of the Amount A regime had undergone several dramatic changes over time. The evolution of Amount A between 2013 and the end of 2021 is discussed in Starkov & Jin (2022). A significant milestone was reached in October 2021 when the 137 members of the IF reached a political agreement on the "Two-Pillar Solution" (OECD, 2021B). The Two-Pillar Solution framework described several key features of the Amount A design with specificity, while other design elements of Amount A were left to be revealed in the documents to follow. The October 2021 document also announced that Amount A will be implemented through a Multilateral Convention (MLC), with the goal to make the MLC available for signing in 2023.

In July 2022, the IF released the Progress Report (OECD, 2022), which discussed the design of many Amount A "building blocks" while leaving some other features to be developed on a later date. Before the end of 2022, the OECD Secretariat released additional public consultation documents addressing administration of tax certainty and removal of digital service taxes ("DSTs") and similar measures. In October 2023, three documents related to the MLC were released by the OECD Secretariat: a text of the convention (OECD, 2023A), an explanatory statement, and a document on administration of certainty for Amount A.

The estimates of the Amount A revenue effects presented in this paper take into account the design elements discussed on the MLC (OECD, 2023A) to the extent it is feasible with the consolidated MNE financial statements.

III. PRIOR ESTIMATES OF THE AMOUNT A REVENUE EFFECTS

The Economic Impact Assessment ("EIA") released by the OECD in October 2020 (OECD, 2020A) could be considered the earliest estimate of the Amount A revenue effects for different jurisdictions. The methodology of the EIA study was based on the Pillar One Blueprint of October 2020 (OECD, 2020B) which was substantially altered by the Two-Pillar Solution framework released in 2021 (OECD, 2021A and OECD, 2021B). The particularly significant changes involved the change of scope from the focus on a broad group of taxpayers of ADS and consumer-facing business (CFB) industries (taxpayers with revenues over 750 million euros per year) to a focus on the largest (with revenues greater than 20 B euros per year) and the most profitable (with pre-tax profit greater than 10%) taxpayers, with the exception of taxpayers in regulated financial services, extractives, and defense industries or businesses that mainly operate domestically.

The first study that provided the estimates of the Amount A revenue and its impact on developing countries for the taxpayers in scope of the 2021 Two-Pillar Solution framework was Starkov and Jin (2022). Besides estimating the tax revenue effects of Amount A, this study also calculated the revenue effects of a worldwide taxation regime based on the principles of Article 12B of the UN Model Double Taxation Convention and compared the revenue effects of these two alternative regimes for 84 countries, all of which fall into the categories of middle or low income countries (per World Bank classification).

The study Starkov and Jin (2023) presented an update of the Amount A and DST revenue estimates for middle income countries using 2021 as the most recent period for financial data and provided some insights on what factors may drive the preference of the countries for one or the other taxation regime.

Another study that presents the Amount A revenues for all IF countries using the Two-Pillar Solution framework of 2021 is Barake & Le Pouhaer (2023). Barake & Le Pouhaer identify 69 Covered Groups in scope of Amount A using financial data for 2020, so this study results are most comparable to Starkov and Jin (2022), which is based on the same financial data cutoff. Although Barake & Le Pouhaer (2023) used different data sources and a different methodology and focused on different groups of countries than Starkov and Jin (2022), the estimates of net gains from the Amount A regimes presented in both studies are quite close for the overlapping countries. The same could be said about the Tandon & Rao (2022) study.

In addition, in October 2023 the OECD released its new economic impact assessment ("EIA") that takes into account the features of the MLC and is based on 2021 financial data cutoff (OECD, 2023B). The 2023 EIA estimates that, for 2021, the total amount of allocable residual profit under Amount A will exceed USD 200 billion and will come from 106 MNEs. The 2023 EIA also shows a significant increase in estimated revenue gains from Amount A by all jurisdictions in total. The 2023 EIA, however, publishes the results only for broad groupings of countries and not for individual jurisdictions.

IV. ESTIMATES OF THE TAX EFFECTS FOR THE MEMBER STATES UNDER AMOUNT A REGIME

Sections IV and V present the methods we designed to assess the revenue implications of Amount A and DST taxation regimes for the Member States. The results of our analysis have to be interpreted with caution because the information for the analysis was obtained from public and private sector databases (instead of financial and tax filings of taxpayers). The databases provide limited information for some critical inputs used in our analysis (e.g., revenues sourced and profits allocated in each geographical jurisdiction by companies) and, to overcome these limitations, we employed certain assumptions and simplifications that may significantly affect our results. We present the key simplifying assumptions and their known impact in Sections IV.3 and V.3.

1. Multinational Enterprises in Scope of Amount A (in-scope MNEs)

For this study, we selected the MNEs in scope of Amount A in line with the definitions of the "covered group" found in Article 3 of the MLC (OECD, 2023A). Our search process is illustrated in Figure 1. As a first step, we identified in the FactSet database[3] a total of 589 companies that have revenues above 20 billion euros in 2022.[4] Among these companies, 218 companies[5] have greater than 10% profit before tax ("PBT") margin in 2022 and 55 companies have PBT margin above 10% in 2022 but lower than 10% PBT margin in the prior two years. For this group of MNEs, we applied the "prior period test" and the "average test"[6] and a total of 28 companies have passed both tests. As a final step, we reviewed the list of companies manually to exclude companies that operate in the regulated financial services, extractives, and defense industries or those operating primarily in the domestic market.[7] In total, 100 MNEs were identified in the scope of Amount A in 2022.

[3] The Universal Screening function in the FactSet database allows us to identify the list of public companies with revenues above 20 billion in Euros. Different databases such as the Orbis BvD database or the proprietary data accessible by tax authorities may result in a different set of companies in scope of Amount A.
[4] Companies that generate revenues 100% domestically were eliminated.
[5] In certain cases, FactSet database shows different stock tickers for the same company. We have reviewed the list of companies to ensure that there are no duplicate companies in the sample used for the analysis.
[6] The "prior period test" is the condition that pre-tax profit margin of the Group in two or more of the four periods immediately preceding the period in question has to be greater than 10 percent for the Group to be a Covered Group; the "average test" is the condition is that the average pre-tax profit margin for the period in question and the immediately preceding four periods has to exceed 10 percent for the Group to be a Covered Group.
[7] As per conditions specified in the Annex C of the MLC.

Figure 1: Screening Process for Amount A In-Scope MNEs in 2022

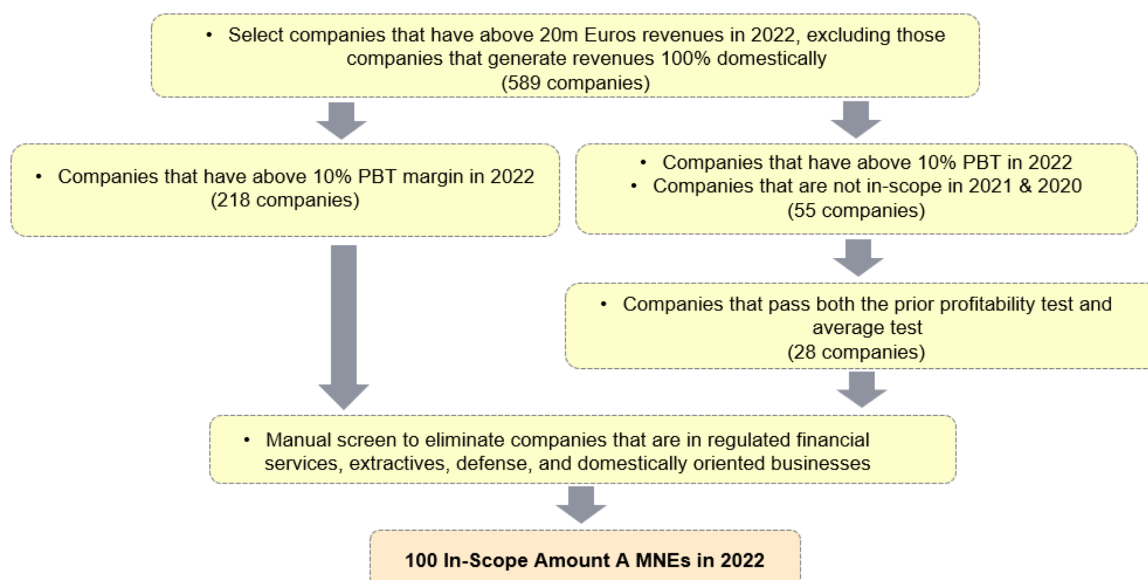


Table 1 provides the aggregate sales, PBT and re-allocable residual profit ("RRP")[8] (in billions of euros) in 2022 by country for the selected in-scope MNEs, ranked by total RRP. The in-scope MNEs are headquartered in 20 different countries. The US headquartered MNEs, however, represent half of the total number of in-scope MNEs in 2022 and approximately 63% of worldwide RRP for profit redistribution. China ranked second, hosting three in-scope MNEs which account for 6% of the worldwide RRP. China and India are South Centre Member States that host the parent companies of in-scope MNEs in 2022. In total, the worldwide aggregate RRP of the 100 in-scope MNEs amounts to 165 billion euros in 2022.

[8] RRP is defined as 25% of the profit in excess of 10% of PBT margin. See Section IV.2.

Table 1: Amount A In-Scope MNEs' 2022 Sales, PBT and RRP by Country in EUR Billions[9]

(Billions of Euros)

#	Country	In-Scope MNEs	2022 Total Sales	2022 Total PBT	2022 Total RRP	Average PBT Margin	2022 Total Sales	2022 Total PBT	2022 Total RRP
1	United States	50	2,995	714	104	24%	54%	59%	63%
2	China, PRC*	3	180	60	11	33%	3%	5%	6%
3	Taiwan, RoC	2	92	49	10	53%	2%	4%	6%
4	Germany	8	512	86	9	17%	9%	7%	5%
5	Denmark	2	101	38	7	37%	2%	3%	4%
6	France	6	245	52	7	21%	4%	4%	4%
7	Switzerland	5	262	43	4	16%	5%	4%	3%
8	United Kingdom	4	152	31	4	20%	3%	3%	2%
9	South Korea	1	223	33	3	15%	4%	3%	2%
10	Netherlands	2	50	10	1	21%	1%	1%	1%
11	Ireland	3	117	17	1	14%	2%	1%	1%
12	Japan	5	254	30	1	12%	5%	2%	1%
13	India*	1	27	7	1	25%	0%	1%	1%
14	Belgium	1	55	9	1	16%	1%	1%	0%
15	Spain	2	87	11	1	13%	2%	1%	0%
16	Mexico	1	40	6	1	16%	1%	1%	0%
17	Luxembourg	1	76	9	0	12%	1%	1%	0%
18	Hong Kong, PRC	1	32	4	0	12%	1%	0%	0%
19	Singapore	1	21	3	0	12%	0%	0%	0%
20	Saudi Arabia	1	50	5	0	11%	1%	0%	0%
	Total	**100**	**5,570**	**1,218**	**165**		**100.0%**	**100.0%**	**100.0%**

* South Centre Member States

Table 2 provides the total sales, PBT and RRP in 2022 (in billions of euros) by industry for the list of 100 in-scope MNEs.[10] Companies operating in the technology, pharmaceuticals, industrials, consumer non-cyclicals, and consumer cyclicals industries account for approximately 81% of the total number of in-scope MNEs. In particular, the technology industry, as represented by 22 in-scope MNEs, accounts for the largest share of worldwide RRP (77 billion euros or 47%) in 2022.

Table 2: Amount A In-Scope MNEs' 2022 Sales, PBT and RRP by Industry in EUR Billions

(Billions of Euros)

	Industries	Number of In-Scope MNEs	2022 Total Sales	2022 Total PBT	2022 Total RRP	Average PBT Margin	2022 Total Sales	2022 Total PBT	2022 Total RRP
1	Technology	22	1,868	497	77	27%	34%	41%	47%
2	Pharmaceuticals	20	876	203	29	23%	16%	17%	17%
3	Industrials	16	706	159	22	22%	13%	13%	13%
4	Consumer Non-Cyclicals	12	595	107	12	18%	11%	9%	7%
5	Consumer Cyclicals	11	790	126	12	16%	14%	10%	7%
6	Finance	4	127	40	7	32%	2%	3%	4%
7	Non-Energy Materials	9	345	45	3	13%	6%	4%	2%
8	Consumer Services	2	52	11	2	22%	1%	1%	1%
9	Telecommunications	2	133	19	1	14%	2%	2%	1%
10	Utilities	2	79	10	1	13%	1%	1%	0%
	Total	**100**	**5,570**	**1,218**	**165**		**100.0%**	**100.0%**	**100.0%**

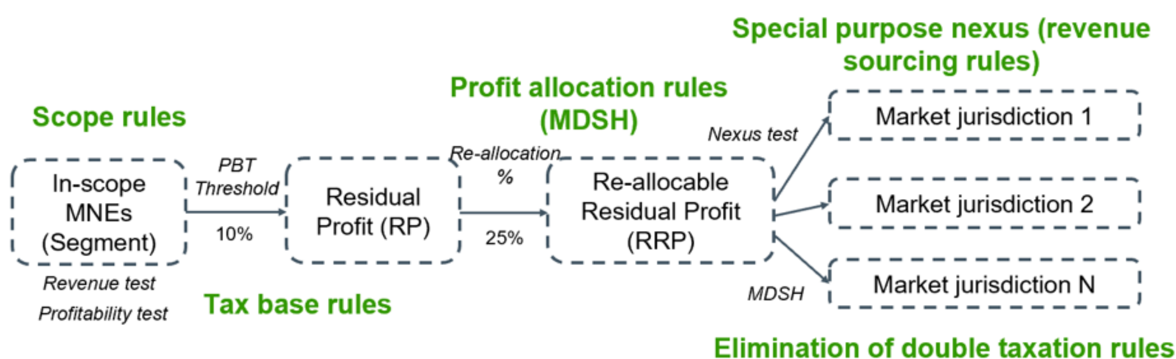
[9] The average PBT margin = 2022 Total PBT / 2022 Total Sales

[10] We have used the FactSet's default industry classification (i.e., the Revere Business Industry Classification System (RBICS) economy indicators) to categorize the list of in-scope MNEs.

2. Method for Estimating Tax Revenues of Member States under Amount A

Calculation of profits subject to re-allocation under Amount A begins with a determination of re-allocable residual profit ("RRP") for each in-scope MNE to be allocated among market jurisdictions that meet the sales threshold for a nexus. The RRP is defined as 25 percent of the profit in excess of 10 percent PBT for the MNEs in scope (OECD, 2023A). The revenue threshold for nexus is 1 million euros for countries with gross domestic product (GDP) above 40 billion euros and 250 thousand euros for countries with lower GDP (OECD, 2023A). Next, the marketing and distribution profit safe harbor (MDSH) works to reduce the Amount A profit allocated to a jurisdiction that already has taxable profits in certain specific circumstances. Finally, the elimination of double taxation is provided to in-scope MNEs by identifying the relieving jurisdictions and the relief amounts. Figure 2 provides a conceptual overview of profit allocation under Amount A for in-scope MNEs.

Figure 2: Overview of Amount A Profit Allocation



Step 1: Re-allocable Residual Profit ("RRP") of In-scope MNEs

The re-allocable residual profit ("RRP") or the portion of residual profit of an in-scope MNE that is subject to re-allocation under Amount A is defined as the in-scope MNE's residual profit times the re-allocation percentage of 25 percent (formula [1]). For an in-scope MNE, its residual profit is defined as profit over 10 percent of its PBT margin. As discussed in Section IV.1, the worldwide RRP subject to profit re-allocation in 2022 is 165 billion euros. The US headquartered MNEs and the technology industry account for the largest share of worldwide RRP for profit re-distribution.

$$RRP_i = 25\% * (PBT_i - Sales_i * 10\%) \quad [1]$$

Where:

RRP_i = Re-allocable residual profit of in-scope MNE i
PBT_i = Profit before tax of in-scope MNE i
$Sales_i$ = Sales of in-scope MNE i

Step 2: Tax Revenue Under Amount A for a Member State

Due to lack of primary data to apply the revenue sourcing rules to each of in-scope MNEs, we relied on FactSet GeoRev database[11] to obtain the sales percentage by jurisdiction for each

[11] According to FactSet, the FactSet Revere Geographic Revenue ("GeoRev") Exposure data provides a highly structured and normalized display of companies' revenues by geography. The data for primary revenue by geography are sourced from company annual reports and regulatory filings including geographic segments tables, information from footnotes, ancillary tables, and in-text disclosures to capture the granular and precise geographic

of the in-scope MNEs. We used these data as proxy to obtain revenues sourced from each Member State as if the revenue sourcing rules were applied. A nexus revenue threshold test was then applied to the revenues sourced from each Member State for the in-scope MNEs. The Member State would receive a portion of the MNE's RRP only if revenues sourced from that Member State exceed the revenue threshold for the nexus. If revenues sourced from a Member State pass the nexus threshold, the taxable income under Amount A was then computed as the in-scope MNE's RRP times the sales percentage. The total tax base is the aggregate RRP allocated to the Member State across the in-scope MNEs.

The marketing and distribution profit safe harbor (MDSH) reduces MNE's Amount A profit allocation to Member States that already have taxable profits in the jurisdiction. Due to lack of jurisdictional profit data for each MNE, we made a broad assumption that profits of in-scope MNEs in each market jurisdiction can be estimated as 5% of return on sales.[12] A de minimis threshold of 50 million euros was then applied to determine the applicability of MDSH by jurisdiction. If a jurisdiction passed the de minimis threshold, the jurisdictional offsetting profit for MDSH was computed as the adjusted profit times the offset percentage. The adjusted profit was assumed to be equal to the jurisdictional profit minus 3% of revenues sourced to that jurisdiction. The offset percentage was assumed to be 25% for "lower income" jurisdictions and 35% for "higher income" jurisdictions.[13] For China and India, we also calculated the results using 90% as the offset percentage. Finally, the MDSH offset amount is equal to the lower of the Amount A profit allocated to the jurisdiction and the jurisdictional offsetting profit. This amount is to be subtracted from the Amount A profit allocation. It was observed that the MDSH applies to 17 countries in our sample, which include only three African countries, namely South Africa, Nigeria, and Egypt.

The tax revenues under Amount A of a Member State were estimated by multiplying the statutory corporate tax rate of the Member State by the total Amount A profit allocated to that Member State across the in-scope MNEs after applying the nexus threshold test and the MDSH adjustment.

Step 3: Tax Relief Under Amount A for China and India

China and India are the two Member States that host MNEs in scope of Amount A. The MLC describes the identification of specified jurisdictions for tax relief and a tiered system for allocation of the obligation to eliminate double taxation. Due to lack of company-level data, we relied on the Country-by-Country reports (CBCRs) on a country level published by the OECD to identify and estimate the tax relief to be granted by China and India.

For companies with China as the ultimate parent jurisdiction, the CBC reports suggest that China and Hong Kong constitute the smallest number of jurisdictions that account for more than 95% of the worldwide total profits. After computing the Return on Depreciation and Payroll ("RODP") for China and Hong Kong, we determined that Hong Kong will be the primary jurisdiction for relieving double taxation for Chinese in-scope MNEs because it has a higher RODP than China.[14] Since the total amount of profits to be relieved by Hong Kong until its RODP is equal to China's is more than the total RRP to be redistributed by the Chinese MNEs

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revenues information possible. For non-explicit disclosures, an estimation algorithm based on GDP weighting and accounting logic is then applied. The result is a consistent, accurate, and flexible dataset that can take a company's revenues and break them down into any geographic country or region categories.

[12] We believe a 5% return on sales represents a reasonable assumption for median profitability of typical activities with low added value, such as routine distribution or manufacturing activities.

[13] We considered the "low income" and "lower middle income" countries as defined by the World Bank as "lower income jurisdictions."

[14] We computed RODP as profit before income tax divided by the total of payroll and depreciation expenses. We obtained wage assumptions from the wage data released by the International Labor Organization and assumed that depreciation as a percentage of total tangible assets is 50%.

in scope of Amount A, Hong Kong, in our estimation, is the only jurisdiction to provide the tax relief for Chinese MNEs.

For companies with India as the ultimate parent jurisdiction, the CBC reports indicate that India accounts, in aggregate, for approximately 97% of their worldwide profits, and thus it was assumed that India will be the only country to provide the tax relief for Indian in-scope MNEs.

The total tax relief was obtained as the sum of the RRPs of the Chinese or Indian in-scope MNEs multiplied by the effective tax rate (“ETR”).[15] Finally, the tax revenue estimated under Amount A (formula [2]) was obtained as the difference between the tax revenue estimate from Step 2 and the tax relief from Step 3.

$$\underset{(Z\ Jurisdiction)}{\text{Tax Revenue Under Amount }A_Z} = \text{Tax Rate}_Z * [\text{SUM}(\text{MDSH}\{\text{NEXUS}[RRP_i * \text{Sales\%}_{i,Z}]\})] - \{\text{Tax Relief Amt}_Z * \text{ETR}\} \quad [2]$$

Where:
RRP_i = Re-allocable residual profit of in-scope MNE i
$\text{Sales\%}_{i,Z}$ = Company i’s revenues sourced in jurisdiction Z as a percentage of total Company i’s global revenues
Tax Rate_Z = Statutory corporate tax rate in jurisdiction Z
NEXUS[…] = Revenue threshold test for Amount A nexus (i.e., for large countries with GDP above EUR 40 billion is EUR 1 million and for small countries with GDP below EUR 40 billion is EUR 0.25 million)
MDSH{…} = Sales and Marketing Profit Safe Harbor
Tax Relief Amt_Z = Tax relief amount identified if Z is the relieving jurisdiction (only for China and India)
ETR = Effective tax rate (assume to be 15%)

3. Assumptions and Limitations of the Method

Our method for calculating Amount A tax revenues by Member States is subject to the assumptions and limitations listed below:

- The Amount A regime will be implemented globally.
- The selected 100 in-scope MNEs identified using the FactSet database represent the complete universe of companies that will be subject to Amount A taxation in 2022. This assumption is likely to result in an underestimation of the Amount A tax revenues because we do not include private companies that may be subject to Amount A or consider segmented groups.
- The unadjusted revenues and PBT of the in-scope MNEs do not differ materially from the adjusted revenues and PBT including loss carryforwards and other adjustments defined in the MLC. Including those effects would, likely, lower our current estimates of Amount A tax revenues.
- Due to lack of detailed business and financial information provided by the in-scope MNEs, we assumed that the estimation of percentage of revenues earned by each MNE in every jurisdiction listed in FactSet GeoRev database provides a reasonable approximation of revenue to be sourced to a market jurisdiction by applying the revenue sourcing rule.
- Since we could not apply the revenue sourcing rules precisely as they are specified in the MLC, we could not apply the tail-end revenue sourcing rules reliably in this study.

[15] We believe 15% is a reasonable assumption for the effective tax rate as it represents the minimum tax rate specified in Pillar Two.

- In applying the MDSH adjustment, a 5% return on sales was assumed to arrive at the jurisdictional profit due to lack of jurisdictional profit data of the in-scope MNEs. In addition, the excess profit for every jurisdiction was calculated as the jurisdictional profit minus 3% times the revenues sourced to the jurisdiction. The offset percentage was assumed to be the same for each jurisdiction.

- In identifying relieving jurisdictions to eliminate double taxation and determining the tax relief under Amount A, we assumed that the use of country level aggregate CBCR data will lead to similar results as company-specific CBCR data. This, implicitly, assumes that MNEs headquartered in the same country behave homogeneously, which is unlikely in practice. In addition, we assume that none of the Member States will be providing the tax relief under Amount A, other than China and India that host MNEs in-scope of Amount A. This assumption may overstate the tax revenue collected by Member States under Amount A, although we anticipate that only in rare cases the Member States would be part of the group of jurisdictions that account for more than 95% of worldwide profits for the MNEs in scope of Amount A and have RODP high enough to be identified as a relieving jurisdiction.

- We did not model the effect of the Withholding Tax Upward Adjustment (WHT Adjustment) in our study due to the lack of data on withholding taxes that may be applied by the Member States in respect of cross border tax deductible payments, consequently affecting Amount A revenue to a Member State. However, based on the design of this adjustment in the MLC, WHT Adjustment may reduce the estimates of income that would be collected by certain Member States from Amount A, although not in the early years of the MLC where the MDSH rule contains no WHT Adjustment (for the first two years after the MLC enters into effect) or a WHT adjustment reduced to 30% (for the next few years). In addition, the necessary condition for the application of full WHT Adjustment is the adoption of the revenue threshold of €10 billion for the MNEs to be in scope of the Amount A. This revision will make a significant difference to the revenue estimates for Amount A, and it is too far in the future to estimate with any accuracy.

V. ESTIMATES OF THE TAX EFFECTS OF DSTS FOR THE MEMBER STATES

1. ADS Companies Subject to DSTs

We started our tax revenue estimation under the DST regime by identifying multinational companies whose business is to provide Automated Digital Services (ADS) or "hybrid" ADS. We define "pure" ADS companies as those that meet the criteria for ADS activities listed in paragraph 6 of Article 12B of the Model UN Convention. According to Article 12B, ADS refers to "any service provided on the Internet or another electronic network, in either case requiring minimal human involvement from the service provider." In particular, paragraph 6 of Article 12B gives the following (non-exhaustive) list of ADS activities:

- Online advertising services;
- Supply of user data;
- Online search engines;
- Online intermediation platform services;
- Social media platforms;
- Digital content services;
- Online gaming;
- Cloud computing services; and
- Standardized online teaching services

In addition to the ADS activities listed above, we have considered a more expansive list of "hybrid" ADS companies for purposes of estimating the tax revenues under DSTs. We began identification of companies performing ADS activities by starting with a set of industry codes (prepared according to 2017 North American Industry Classification System (NAICS) methodology) that, we believe, apply best to ADS and hybrid ADS activities. The screening for potential public and private companies was performed in both the FactSet database and the Orbis database produced by Bureau van Dijk.

- 4541 - Electronic Shopping and Mail-Order Houses,
- 5112 - Software Publishers,
- 5152 - Cable and Other Subscription Programming,
- 5179 - Other Telecommunications,
- 5182 - Data Processing, Hosting, and Related Services,
- 51913 - Internet Publishing and Broadcasting and Web Search Portals,
- 51919 - All Other Information Services,
- 541511 - Custom Computer Programming Services,
- 541519 - Other Computer Related Services,
- 541613 - Marketing Consulting Services,
- 54181 - Advertising Agencies,
- 54189 - Other Services Related to Advertising,
- 52 – Financial and Insurance[16]

Although a typical DST does not impose a minimum threshold on revenue of companies in its scope, we used a minimum sales criterion of 750 million euros and positive pretax income as screening criteria to limit the number of companies returned by the databases while, at the same time, capturing a significant portion of the potential DST income. We excluded duplicate

[16] While financial services companies were not in the list of ADS examples under Article 12B, we classified them in hybrid ADS companies to assess their potential impact on DST considering that financial services companies rely heavily on technology and are becoming increasingly digitalized. The search for financial services companies was performed only in the FactSet database. We have also manually reviewed the list of financial services companies to exclude those that operate in the regulated financial services industry.

companies and those that do not have revenues to be sourced from the Member States. Appendix F describes the search process for the ADS and hybrid ADS companies.

As the next step, we reviewed business descriptions[17] of the companies and classified them into three categories. The first category includes “pure-play” ADS companies, which are companies that meet the criteria for ADS activities listed in paragraph 6 of Article 12B. The second is a “hybrid ADS” category in which we included companies that provide services over the internet with minimal human involvement but the types of activities of such companies are not among those listed in paragraph 6 of Article 12B. These hybrid ADS companies include businesses engaged in Business-to-Business (B2B) services, companies that sell software in connection with hardware, products, or services, e-commerce companies that have traditional retail activities, companies offering telecommunication services, finance companies that provide payment services, etc.[18] The third category of companies was considered not to perform ADS activities. Among these companies were “traditional” manufacturers and distributors, Business Process Outsourcing (BPO) services providers, providers of consulting services, etc. As a result, we accepted a total of 198 companies[19] as either ADS or hybrid ADS companies.

Table 3 provides the composition of the ADS and hybrid ADS companies that are subject to the stylized DST developed for this study. Most of these companies are publicly traded (156 out of the 198 companies), and the hybrid ADS category with 117 companies is much larger than the “pure” ADS category with 81 companies.

Table 3: Number of ADS Companies Subject to DST

Number of Companies	ADS	Hybrid ADS*	Total
Public	69	87	**156**
Private	12	30	**42**
Total	**81**	**117**	**198**

* Regulated financial services were eliminated

Table 4 provides the aggregate 2022 sales (in billions of euros) by category for selected ADS and hybrid ADS companies subject to the stylized DST. The publicly traded ADS and hybrid ADS companies account for 95% (2,533 billion euros out of 2,658 billion euros) of the worldwide total sales in 2022. These results indicate that lack of detailed information on private companies is not a significant limiting factor for our study. In addition, the “pure” ADS companies account for 63% of sales (1,667 billion euros out of 2,658 billion euros) in 2022.

Table 4: Sales of ADS Companies Subject to DST

2022 Sales (in EUR billions)	ADS	Hybrid ADS*	Total
Public	1,644	889	**2,533**
Private	23	102	**125**
Total	**1,667**	**992**	**2,658**

* Regulated financial services were eliminated

[17] For public companies, business descriptions were obtained from the *FactSet* database and for private companies, trade descriptions were obtained from the *Orbis* database.

[18] We believe financial services provided electronically may be considered hybrid ADS services since, in certain instances, they may require minimum human involvement.

[19] The original search was performed in 2022 using 2020 data and a total of 305 companies were accepted. During the update performed in 2023, companies operating in the regulated financial services industry were eliminated.

Table 5 shows the list of 16 countries that host the 81 ADS companies and their aggregate sales (in EUR billions) in 2022, ranked by total sales. The US alone hosts more than half of the ADS companies subject to this stylized DST, accounting for 81.1% of total worldwide sales of the ADS companies. China ranked second, hosting 10 ADS companies that account for 13.7% of the worldwide total sales. China and South Africa are the two South Centre Member States that host pure ADS companies subject to our stylized DST.

Table 5: ADS Companies by Country (in EUR billions)

#	Country	Number of ADS Companies	2022 Total Sales	2022 Total Sales %
1	United States	43	1,352	81.1%
2	China*	10	228	13.7%
3	Canada	3	15	0.9%
4	South Korea	4	11	0.7%
5	France	4	11	0.7%
6	Uruguay	1	10	0.6%
7	Israel	4	9	0.6%
8	Netherlands	2	8	0.5%
9	South Africa*	1	7	0.4%
10	Japan	3	5	0.3%
11	Sweden	1	3	0.2%
12	Singapore	1	2	0.1%
13	Italy	1	2	0.1%
14	Poland	1	1	0.1%
15	United Kingdom	1	1	0.1%
16	Ireland	1	1	0.0%
		81	**1,667**	**100%**

* South Centre Member States

Table 6 provides the list of countries and their aggregate sales (in EUR billions) in 2022 if hybrid ADS companies were also considered for the DST. As indicated in Table 6, the list of countries where these companies have headquarters expands from 16 to 39, which include a total of 8 South Centre Member States (i.e., China, South Africa, Brazil, India, Malaysia, Morocco, Senegal, and Iran). Nevertheless, the US-headquartered and China-headquartered ADS and hybrid ADS companies account for 68% and 10%, respectively, of the total worldwide sales.

Table 6: ADS and hybrid ADS Companies by Country (in EUR billions)

#	Country	Number of ADS and hybrid ADS Companies	2022 Total Sales	2022 Total Sales %
1	United States	78	1,808	68%
2	China*	13	253	10%
3	Japan	14	96	4%
4	United Kingdom	11	90	3%
5	France	12	48	2%
6	Netherlands	5	39	1%
7	South Korea	9	32	1%
8	Germany	3	29	1%
9	South Africa*	3	25	1%
10	Canada	5	23	1%
11	Italy	4	22	1%
12	India*	4	20	1%
13	Russia	3	20	1%
14	Sweden	2	16	1%
15	Australia	2	15	1%
16	Switzerland	1	11	0%
17	Brazil*	2	10	0%
18	Uruguay	1	10	0%
19	Norway	1	10	0%
20	Israel	4	9	0%
21	Malaysia*	2	7	0%
22	Taiwan	1	7	0%
23	Iran*	1	7	0%
24	Oman	1	7	0%
25	Qatar	1	6	0%
26	Belgium	1	6	0%
27	Kuwait	1	5	0%
28	Hong Kong	1	4	0%
29	Poland	2	4	0%
30	Morocco*	1	3	0%
31	Turkey	1	3	0%
32	Singapore	1	2	0%
33	Senegal*	1	2	0%
34	Columbia	1	2	0%
35	Finland	1	2	0%
36	Bahrain	1	1	0%
37	New Zealand	1	1	0%
38	Luxembourg	1	1	0%
39	Ireland	1	1	0%
		198	**2,658**	**100%**

* South Centre Member States

Table 7 provides the 2022 aggregate sales (in EUR billions) for pure ADS companies segregated by business functions. The top 3 business functions that account for 82.4% of the worldwide aggregate sales are online intermediation platform services (40.3%), software (24.3%), and online search engines (17.8%).

Table 7: ADS Companies by Business Functions (in EUR billions)

#	Business Functions	Number of ADS Companies	2022 Total Sales	2022 Total Sales %
1	Online intermediation platform services	16	672	40.3%
2	Software	38	405	24.3%
3	Online search engines	4	297	17.8%
4	Social media platforms	4	118	7.1%
5	Online gaming	9	105	6.3%
6	Digital content services	1	32	1.9%
7	Cloud computing services	5	28	1.7%
8	Other E-commerce (non-intermediation platform)	1	7	0.4%
9	Online advertising services	1	2	0.1%
10	Supply of user data	1	1	0.1%
11	B2B Service	1	1	0.1%
		81	**1,667**	**100%**

If hybrid ADS companies were also considered in scope of the DST, the list of business functions would expand to include telecommunication services, financial payment services, data processing services and miscellaneous commercial services. Table 8 provides the aggregate sales (in EUR billions) in 2022 by business functions if hybrid ADS companies were also included. The top 4 business functions that account for 65.9% of the worldwide total sales are online intermediation platform services (25.9%), software (16.1%), telecommunication services (12.8%) and online search engines (11.2%).

Table 8: ADS and hybrid ADS Companies by Business Functions (in EUR billions)

#	Business Functions	Number of ADS and hybrid ADS Companies	2022 Total Sales	2022 Total Sales %
1	Online intermediation platform services	18	688	25.9%
2	Software	42	428	16.1%
3	Telecom Service	38	339	12.8%
4	Online search engines	4	297	11.2%
5	Digital content services	8	176	6.6%
6	B2B Service	29	162	6.1%
7	Social media platforms	4	118	4.4%
8	Online gaming	11	112	4.2%
9	Finance/Rental/Leasing	4	105	4.0%
10	Cloud computing services	8	89	3.4%
11	Other E-commerce (non-intermediation platform)	17	73	2.8%
12	Online advertising services	11	64	2.4%
13	Data Processing Services	2	6	0.2%
14	Supply of user data	1	1	0.1%
15	Miscellaneous Commercial Services	1	1	0.0%
		198	**2,658**	**100%**

2. *Method for Estimating Tax Revenues of Member States under the Stylized DST*

The tax revenues under the stylized DST for Member States were estimated by applying a 3% DST tax and, separately, a 5% DST tax to the revenues sourced to each Member State. For Member States that host ADS or hybrid ADS companies subject to this DST, assumptions for tax base transfer and domestic tax relief were also applied.

For each of the 156 publicly traded companies in our sample, we obtained the distribution of companies' revenues by geographical jurisdiction from the *FactSet GeoRev* database. For the 42 private companies, the geographical breakout of revenue was not available, and to overcome this limitation, we assumed that a specific percentage of the company's revenue was sourced domestically.[20] We then sourced the portion of revenues assumed to be non-domestic to other countries using the GDP weights (i.e., the country's GDP as a percentage of total worldwide GDP).

For Member States that do not host ADS or hybrid ADS companies subject to the stylized DST, the tax base was computed as the aggregate sales of the ADS or hybrid ADS companies sourced to that Member State (formula [3]).

$$\text{Tax Base (DST)}_X = \text{SUM}(\text{Sales}_i * \text{Sales\%}_{X,i}) \qquad [3]$$

Where:
Tax Base (DST)_X = Tax base under DST for Country X
Sales_i = Total sales of ADS or hybrid ADS company i
$\text{Sales\%}_{X,i}$ = company i's sales in Country X as a percentage of total company i's global sales

For Member States in which ADS or hybrid ADS companies are headquartered, we calculated both the transfer of tax base to foreign jurisdictions and domestic double tax relief that may be

[20] In general, the proportions of domestically sourced revenues were assumed to be between 85% and 95%. We believe this range represents a reasonable estimate consistent with the proportion of domestic sales disclosed by the publicly traded companies of similar size.

granted to domestic companies subject to the DST. Specifically, we estimated the tax base transfer to foreign jurisdictions as the sum of the foreign sales generated by the domestic ADS or hybrid ADS companies (formula [4]) and the base for the domestic double tax relief as the sum of the domestic sales generated by domestic ADS or hybrid ADS companies (formula [5]). Due to uncertainty around the amount of the tax relief to be granted by Member States, we applied a ratio of 100% to the tax base transfer and a ratio of 50% to the domestic tax relief when estimating tax revenues for the Member States.

$$\text{Tax Base Transfer (DST)}_X = \alpha * \text{SUM} (\text{Sales}_{X,i} * \text{Sales\%}_{\text{non-}X,i}) \quad [4]$$

$$\text{Domestic Tax Relief (DST)}_X = \beta * \text{SUM} (\text{Sales}_{X,i} * \text{Sales\%}_{X,i}) \quad [5]$$

Where:

$\text{Tax Base Transfer (DST)}_X$ = Tax base transfer to foreign jurisdictions under DST for Country X

$\text{Domestic Tax Relief (DST)}_X$ = Domestic tax base relief under DST for Country X

$\text{Sales\%}_{X,i}$ = Company i's domestic sales in Country X as a percentage of total company i's global sales

$\text{Sales\%}_{\text{non-}X,i}$ = Company i's foreign sales in Country X as a percentage of total company i's global sales

$\alpha = 100\%$

$\beta = 50\%$

The net tax base under the stylized DST for countries that host ADS or hybrid ADS companies was computed as the total tax base minus the tax base transfer and domestic tax base relief (formula [6]).

$$\text{Net Tax Base (DST)}_X = \text{Tax Base (DST)}_X - \text{Tax Base Transfer (DST)}_X - \text{Domestic Tax Relief (DST)}_X \quad [6]$$

Finally, the tax revenues to be gained by Member State under the DST for countries that do not host ADS or hybrid ADS companies were obtained as the product of the DST tax rate and the tax base (formula [7a]) or, for countries that host ADS or hybrid ADS companies, as the product of the DST tax rate and the net tax base (formula [7b]).

$$\text{Tax Revenue (DST)}_X = \text{Tax Rate (DST)} * \text{Tax Base (DST)}_X \quad [7a]$$

$$\text{Tax Revenue (DST)}_X = \text{Tax Rate (DST)} * \text{Net Tax Base (DST)}_X \quad [7b]$$

Where:

$\text{Tax Revenue (DST)}_X$ = Tax revenue of Country X under DST

Tax Rate (DST) = 3% or 5%

3. Assumptions and Limitations of the Method

The method of computing tax revenues by Member States under the stylized DST used in this study is subject to the assumptions and limitations listed below:

- The DST regime will be implemented globally.
- It is assumed that the set of 2017 NAICS codes selected for this study allows us to correctly identify the universe of ADS and hybrid ADS companies that the DST aims to tax. With the ongoing digitalization of the economy, however, ADS services are likely to permeate into other industries that were not captured by the NAICS codes selected for this study. Therefore, the tax revenues calculated in this study may be underestimated.

- For expediency reasons, this study did not include ADS companies with consolidated revenues lower than 750 million euros and those with negative pretax income. While DSTs, generally, do not impose thresholds on sales or profitability, this restriction, most likely, results in under-estimation of tax revenues that may be collected by Member States.

- This study did not attempt to segment hybrid ADS companies to obtain their revenues associated with ADS activities only. As such, revenues that may be subject to a DST could be overestimated.

- For publicly traded ADS or hybrid ADS companies, we assumed that the estimates of sales percentages by jurisdiction found in the *FactSet GeoRev* database provide a reliable representation of revenues generated in the Member States. For private ADS or hybrid ADS companies, for which *FactSet* does not report the geographical breakout of revenue, we assumed that a specific portion of each company's revenue is sourced domestically, and the remainder of revenue that would be foreign-sourced is sourced from Member Countries in proportion of countries' GDP.

- The search for ADS or hybrid ADS companies was conducted using companies' revenues for 2020 when the search was performed. This implicitly assumes that the composition of companies performing ADS activities does not change over time. In practice, however, companies often change their functions as they acquire or divest businesses and open or close business lines. As the result, the set of companies subject to DSTs may be changing over time in significant ways.

- It is uncertain how countries may grant the tax relief to companies subject to DSTs. Our estimation of the double tax relief may not be representative of what will be ultimately implemented.

VI. Comparison of Estimated Tax Revenues Under Amount A and DST

This section discusses the estimated tax revenues under Amount A and the stylized DST regimes for the Member States and provides diagrammatic representations of these revenues. Appendix H provides the estimated tax revenues by Member States in a tabular format.

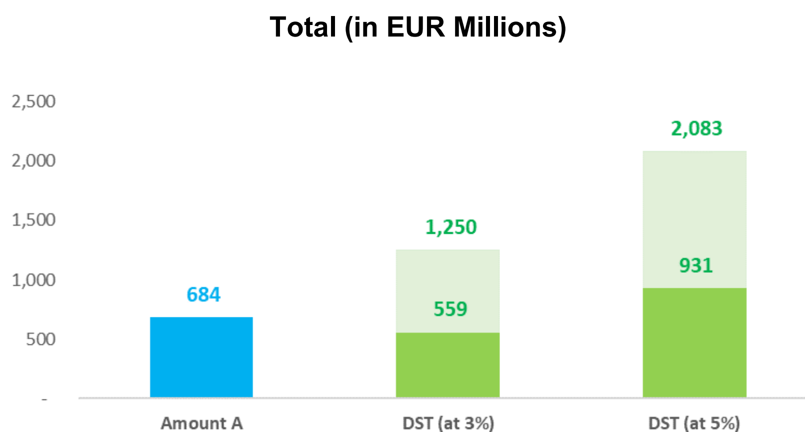
1. Aggregate Tax Revenues for ATAF Member States

Figure 3 provides the aggregate estimated tax revenues under Amount A and DST for 38 ATAF Member States based on the 2022 financial data. Appendix C provides the list of ATAF Member States.

As indicated in Figure 3, Amount A could generate a total of approximately 684 million euros in tax revenues in 2022 for ATAF Member States. As a comparison, DSTs, at a 3% tax rate, would generate tax revenues of between 559 million euros if only "pure" ADS companies were subject to DSTs and 1.2 billion euros if hybrid ADS companies were also in scope of DSTs. At a 5% DST tax rate, the aggregate tax revenues range between 931 million euros and 2 billion euros. Appendix H provides the tax revenue estimates by individual Member State.

Figure 3: 2022 Tax Revenue Estimation under Amount A vs. DST Regimes for ATAF Members

Total (in EUR Millions)



The ATAF is comprised of 38 Member States from Central Africa, Eastern Africa, Northern Africa, Southern Africa, and Western Africa, representing the majority of countries on the African Continent.[21] Figure 4 provides a comparison of revenue estimates between Amount A and DSTs for ATAF Member States by region.

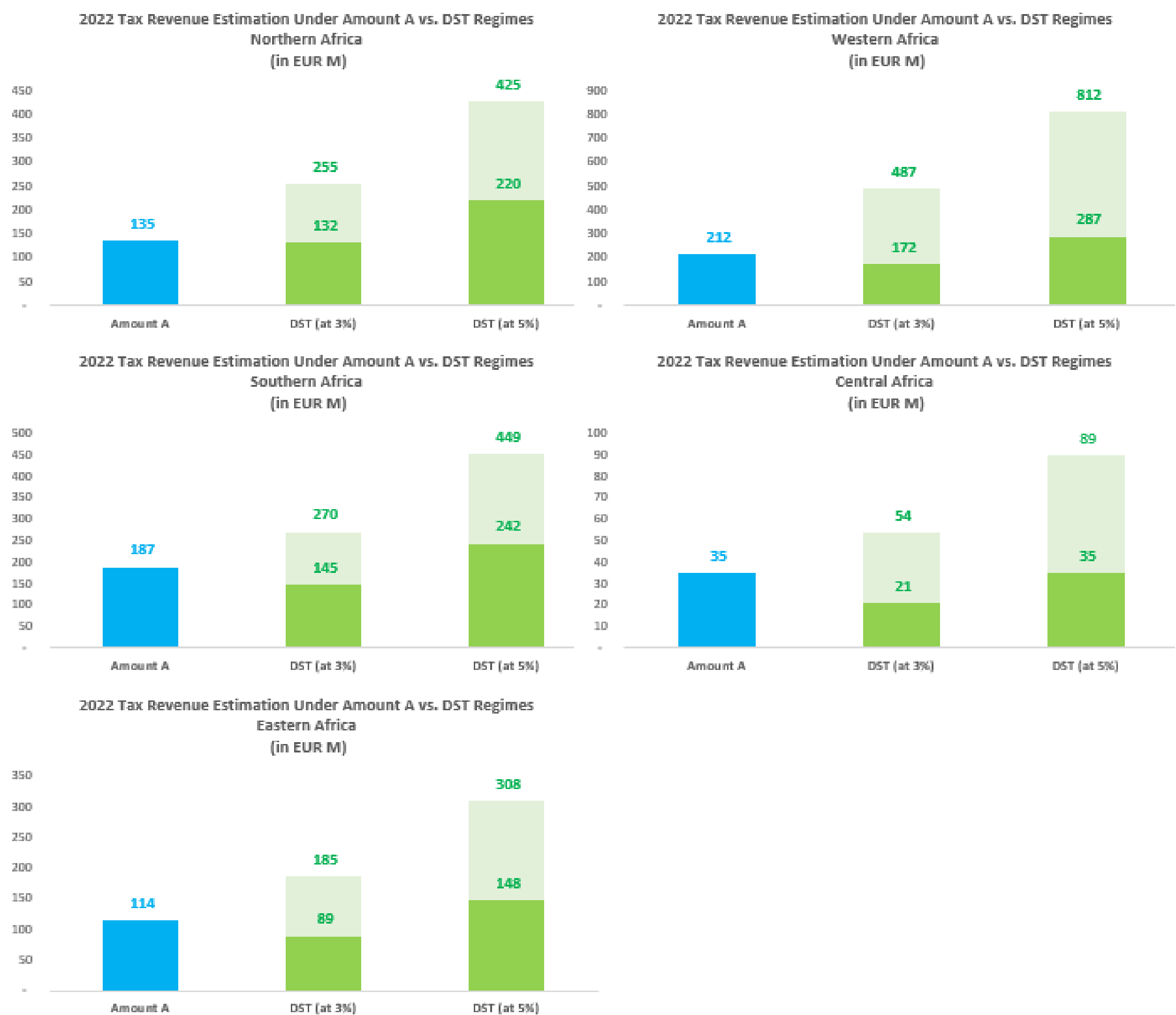
The ATAF Member States located in *Central Africa* region include Burundi, Cameroon, Chad, and Gabon; the *Eastern Africa* region includes Comoros, Eritrea, Kenya, Madagascar, Mauritius, Rwanda, Seychelles, Sudan, Tanzania, and Uganda; the *Northern Africa* region include Egypt, Mauritania, and Morocco; the *Southern Africa* region includes Angola, Botswana, Eswatini, Lesotho, Malawi, Mozambique, Namibia, South Africa, Zambia, and Zimbabwe; and the *Western Africa* region includes Benin, Burkina Faso, Côte d'Ivoire, Gambia, Ghana, Liberia, Niger, Nigeria, Senegal, Sierra Leone, and Togo.[22]

[21] ATAF currently has 43 members. The new members were not included in the analysis due to the timing of the study.
[22] Cabo Verde, Guinea, Guinea Bissau and Mali are WATAF members but not ATAF members.

At a 3% DST tax rate and if only “pure” ADS companies were subject to DSTs, Amount A would generate similar amount of tax revenues as DSTs for Northern Africa but Amount A revenue would be higher for the rest of the regions. Once hybrid ADS companies are included in the DST scope, the DST would be the preferred regime as it would generate higher tax revenues for all African regions. At a 5% tax rate, DST appears to provide higher tax revenues for the regions, even if only “pure” ADS companies were subject to DST, except for Central Africa whose estimated revenues under Amount A would be similar to DST revenues if the latter was restricted to “pure” ADS companies.

The results by country are provided in Appendix H and may vary from these broad region-wide summaries.

Figure 4: 2022 Tax Revenue Estimation for ATAF Member States by Region



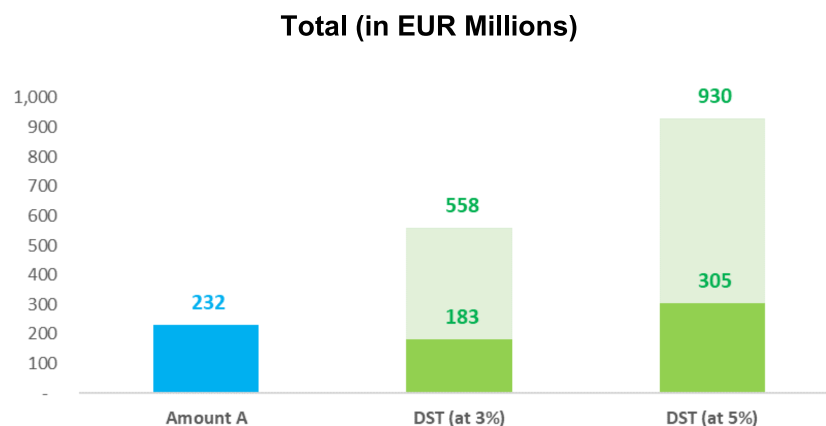
2. Aggregate Tax Revenues for WATAF Member States

Figure 5 provides the aggregate estimated tax revenues under Amount A and DSTs for 15 WATAF Member States based on the 2022 financial data. All ATAF Member States located in Western Africa are part of WATAF, and four additional countries (i.e., Cabo Verde, Guinea, Guinea Bissau, and Mali) are members of WATAF but not ATAF. Appendix D provides the list of WATAF Member States.

As indicated in Figure 5, DSTs, at a 3% tax rate, could generate a total of 183 million euros for WATAF members or 558 million euros if hybrid ADS companies were also considered. At a 5% DST tax, the revenue estimate ranges between 305 millions and 930 million euros. This is to be compared with a total of 232 million euros revenues estimated under the Amount A regime. Appendix H provides the tax revenue estimates by individual Member State.

Figure 5: 2022 Tax Revenue Estimation under Amount A vs. DST Regimes for WATAF Members

Total (in EUR Millions)



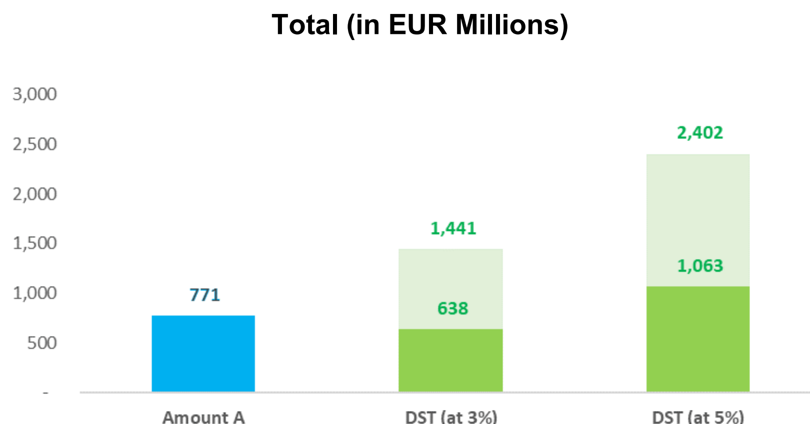
3. Aggregate Tax Revenues for African Union Member States

The African Union is comprised of 55 Member States from Central Africa, Eastern Africa, Northern Africa, Southern Africa, and Western Africa, representing all the countries on the African Continent. Figure 6 provides the aggregate estimated tax revenues under Amount A and DST for all 55 African Union Member States in 2022. Appendix E provides the list of African Union Member Countries.

As indicated in Figure 6, Amount A could generate a total of approximately 771 million euros in tax revenues in 2022 for African Union Member States. As a comparison, DST, at a 3% tax rate, would generate tax revenues of between 638 million if only "pure" ADS companies were subject to DST and 1.4 billion Euros if hybrid ADS companies were also considered for DST. At a 5% tax rate, DST would provide a range of aggregate revenues of between 1 billion euros and 2.4 billion euros.

Appendix H provides the tax revenue estimates under Amount A and DSTs by individual Member State.

Figure 6: 2022 Tax Revenue Estimation under Amount A vs. DST Regimes for AU Members



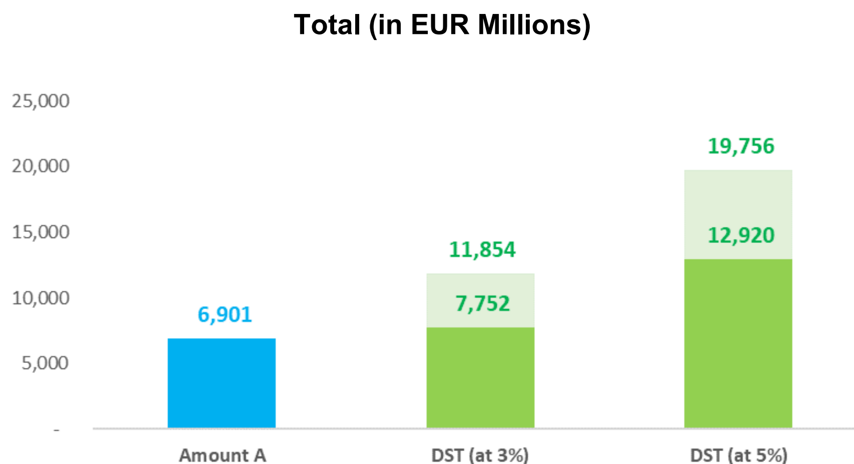
4. Aggregate Tax Revenues for South Centre Member States

Figure 7 provides the estimates of aggregate tax revenues for all 55 South Centre Member States[23] under Amount A and the stylized DST using the 2022 financial data. The Amount A tax revenues were estimated by assuming a 90% offset percentage for China and India when determining the profit offset amount for the MDSH adjustment. The low estimate of the tax revenue for the DST was obtained when only "pure" ADS companies are included. The high estimate of DST revenues shows the amount that includes hybrid ADS companies in scope of the DST.

On aggregate, Amount A could generate approximately 6.9 billion euros in total tax revenues for the South Centre Member States. In contrast, DSTs, at a 3% tax rate, would generate tax revenues with a range of between 7.7 billion euros and 11.8 billion euros depending on whether hybrid ADS companies were subject to the DST. At a 5% DST tax, the revenues were estimated to range between 12.9 billion and 19.7 billion euros. However, this result is significantly impacted by the results of China and India, which, being the largest economies of this group, represent a large portion of the aggregate tax revenues. For this reason, we show the estimates for those two countries separately. Appendix H provides the tax revenue estimates by individual Member State.

[23] Appendix B provides the list of Member States.

Figure 7: 2022 Tax Revenue Estimation under Amount A vs. DST Regimes for South Centre Members



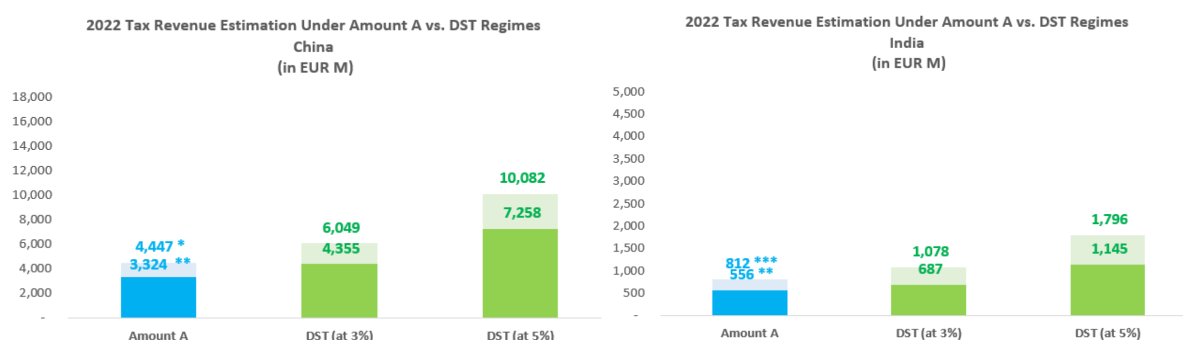
A. China and India

Among the South Centre Member States, China and India are Member States that host both MNEs in scope of Amount A and companies that may be subject to DSTs. [24]

Figure 8 provides the revenue estimates under Amount A and the DST for China and India based on the 2022 data. The lower end of the Amount A revenue estimates is obtained when 90% jurisdictional offset percentage is used for determining the offset profit for MDSH adjustment. The higher end of the Amount A estimates is reached when 35% jurisdictional offset percentage is used for China and 25% for India.

Based on the assumptions of our stylized DST design, the DST, at a 3% tax rate, would generate comparable, if not higher, tax revenues for China and India compared to Amount A, even if DST was lived only on "pure" ADS companies. With hybrid ADS companies in scope of the DST, revenues under the DST regime would appear to exceed the revenues from Amount A for both countries. At a 5% tax rate, DST would provide higher tax revenues than Amount A for these two countries regardless of the scope.

Figure 8: 2022 Tax Revenue Estimation for China and India



* At 35% jurisdictional offset percentage for China when determining the MDSH adjustment
** At 90% jurisdictional offset percentage when determining the MDSH adjustment
*** At 25% jurisdictional offset percentage for India when determining the MDSH adjustment

[24] India hosts only hybrid ADS companies subject to our stylized DST.

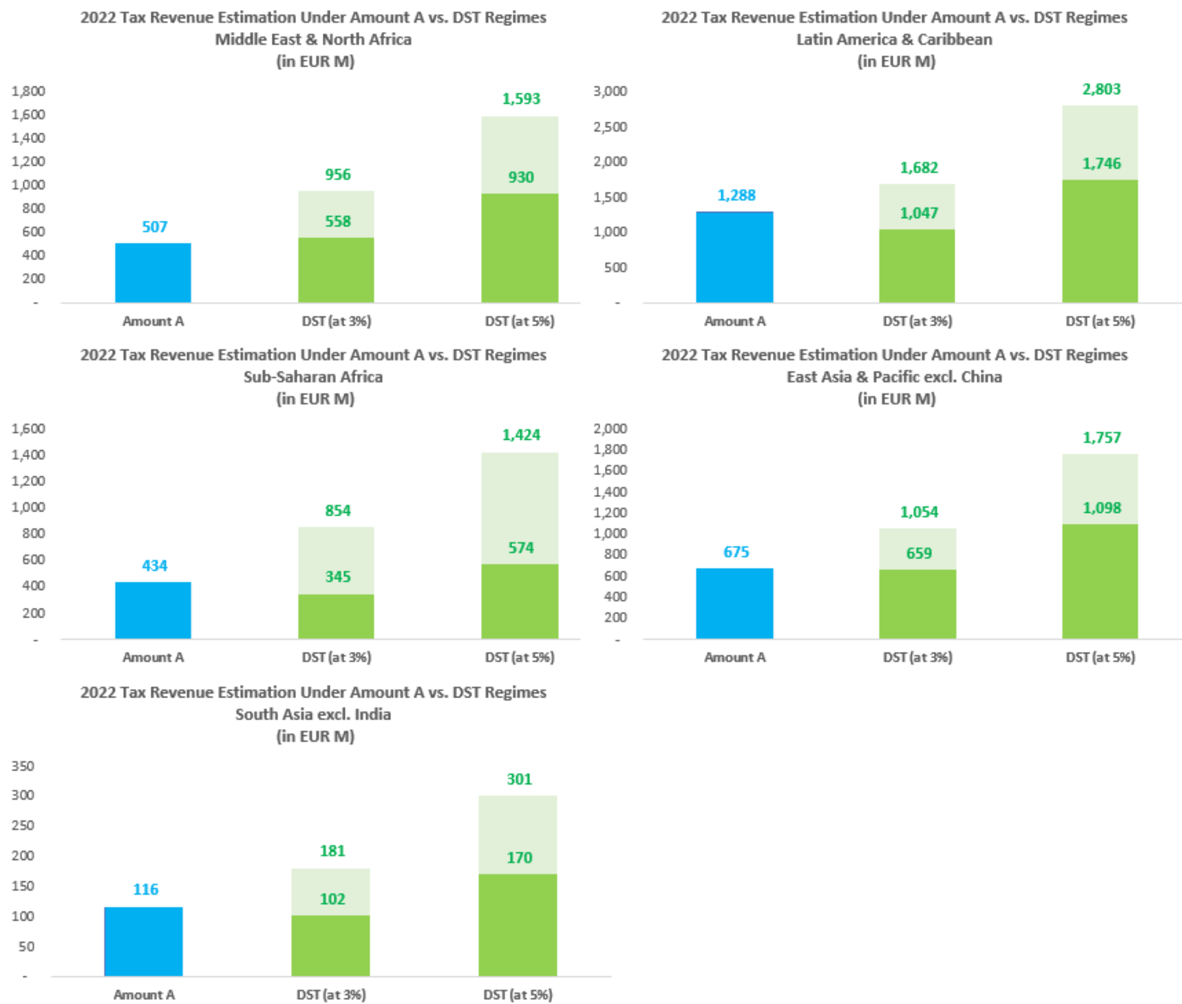
B. South Centre Member States by Region excluding China and India

The South Centre is comprised of 55 Member States from Africa, Asia, Latin America, and the Caribbean. The South Centre Member States located in each region are listed in Appendix B. We have categorized the South Centre Member States into five regions as defined by the World Bank (i.e., East Asia & Pacific, Latin America & Caribbean, Middle East & North Africa, South Asia, and Sub-Saharan Africa) and provided a comparison of tax revenue estimates between Amount A and the DST for these regions using 2022 financial data, as shown in Figure 9. Appendix H provides the tax revenue estimates by individual Member State.

For purposes of discussing the revenue estimates in Figure 9, the *Middle East & North Africa* region includes Algeria, Egypt, Iran, Iraq, Jordan, Libya, Morocco, and Palestine; the *Latin America & Caribbean* region includes Argentina, Barbados, Brazil, Bolivia, Cuba, Colombia, Dominican Republic, Ecuador, Guyana, Honduras, Jamaica, Nicaragua, Panama, Suriname, and Venezuela; the *Sub-Saharan Africa* includes 21 South Centre Member Countries consisting of Angola, Benin, Burundi, Cabo Verde, Côte d'Ivoire, Gabon, Ghana, Liberia, Malawi, Mali, Mauritius, Mozambique, Namibia, Nigeria, Seychelles, Sierra Leone, South Africa, Sudan, Tanzania, Uganda, and Zimbabwe; the *East Asia & Pacific* includes Cambodia, North Korea, Indonesia, Malaysia, Micronesia, Philippines, and Vietnam; and *South Asia* includes Pakistan and Sri Lanka.

As indicated in Figure 9, at a 3% DST tax, for most South Centre regions, except for Middle East & North Africa, Amount A would generate higher tax revenues in 2022 if only "pure" ADS companies were considered for the DST. However, the DST would result in higher tax revenues than Amount A if hybrid ADS companies were also subject to the DST. At a 5% tax, DST appears to provide higher tax revenues than Amount A for all regions in aggregate regardless of the scope. This conclusion may vary at the country level, and the country-level results are provided in Appendix H.

Figure 9: 2022 Tax Revenue Estimation for South Centre Member States by Region excluding China and India



VII. USE OF CONSUMPTION EXPENDITURE DATA FOR REVENUE ESTIMATION

In this section, we explored an alternative scenario in which we relied on country level consumption expenditure data published by the World Bank instead of the FactSet GeoRev database to source revenues under Amount A and to obtain ADS revenues by jurisdiction under the stylized DST regime. In other words, we applied the same methodology and formulas described in Sections IV and V, except that companies' jurisdictional revenue was allocated on the basis of a percentage of the given country's consumption expenditure in the total worldwide consumption expenditure (instead of jurisdictional revenue data provided by the FactSet GeoRev database).

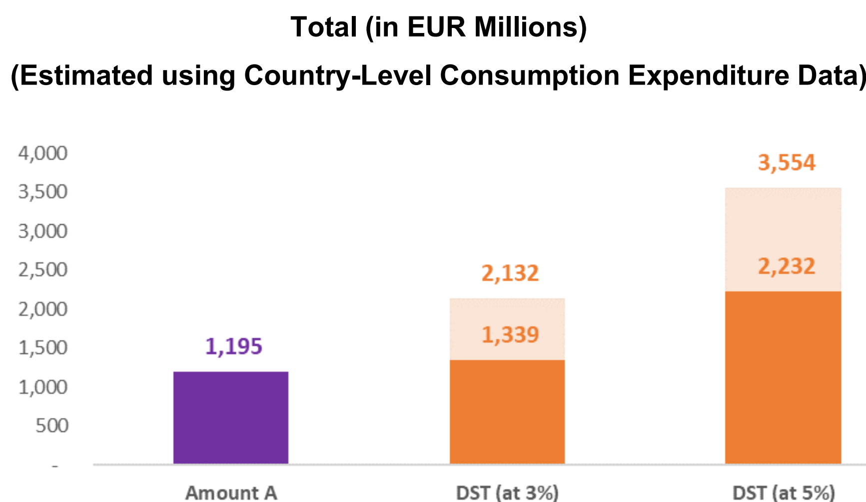
We present the results of the tax revenue estimation using the country-level consumption expenditure data in Figures 10 to 16.[25] The revenues estimated using country-level consumption expenditure data shown in Figures 10 to 16 tend to be higher than those estimated using the FactSet GeoRev database as shown in Section VI. This conclusion, likely, stems from the fact that the country-level consumption expenditures data ignore the individual firm behavior and effectively assume that each MNE allocates identical percentage of its revenue to a given country, and that percentage is proportional to the share of the given country's consumption expenditure in the total worldwide consumption expenditure. This assumption, likely, overestimates the revenue sourced to developing countries as many multinationals generate the disproportionate majority of their revenues in developed countries.

Appendix I provides the tax revenue estimates under Amount A and DSTs by individual Member State using this alternative approach.

Figure 10: 2022 Tax Revenue Estimation under Amount A vs. DST Regimes for ATAF Members

Total (in EUR Millions)

(Estimated using Country-Level Consumption Expenditure Data)



[25] Nigeria's consumption expenditure for 2022 are not reported by the World Bank. In our study, we estimated Nigeria's consumption expenditures by reference to the ratio of aggregate consumption expenditures to GDP exhibited by a group of countries that have the level of GDP comparable to Nigeria (i.e., Argentina, Egypt, Malaysia, Philippines, South Africa, and Vietnam).

Figure 11: 2022 Tax Revenue Estimation for ATAF Member States by Region (Estimated using Country-Level Consumption Expenditure Data)

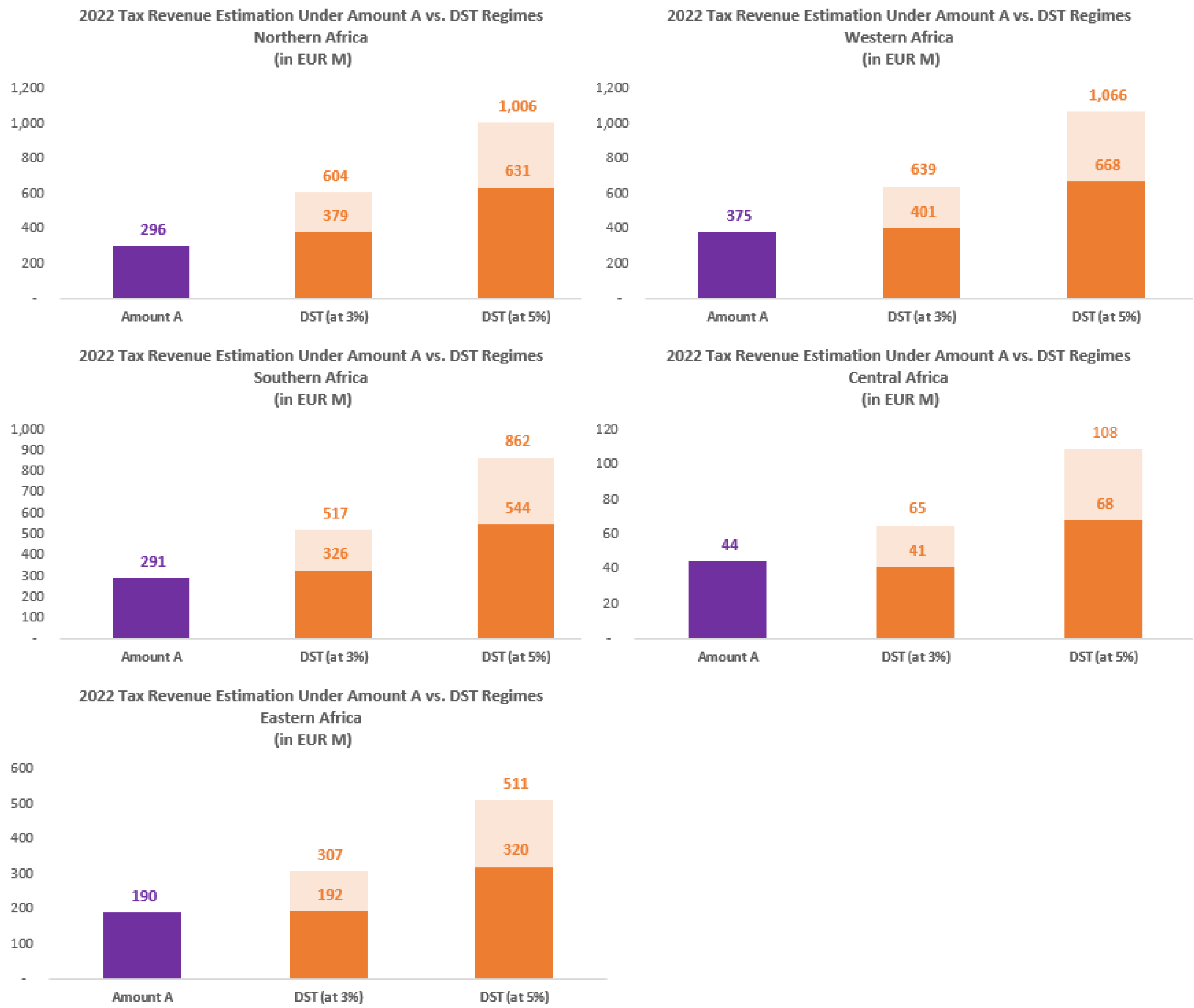


Figure 12: 2022 Tax Revenue Estimation under Amount A vs. DST Regimes for WATAF Members

Total (in EUR Millions)

(Estimated using Country-Level Consumption Expenditure Data)

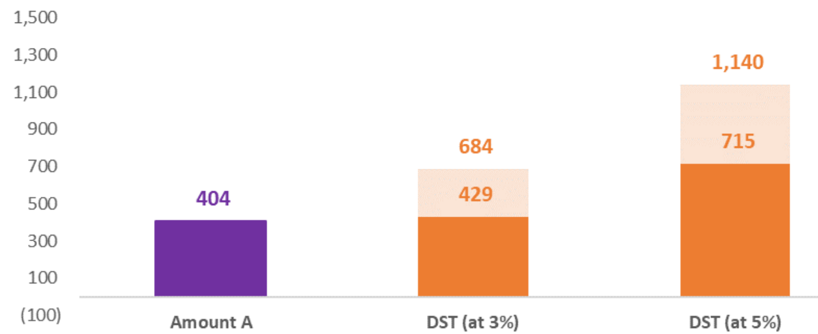


Figure 13: 2022 Tax Revenue Estimation under Amount A vs. DST Regimes for AU Members

Total (in EUR Millions)

(Estimated using Country-Level Consumption Expenditure Data)

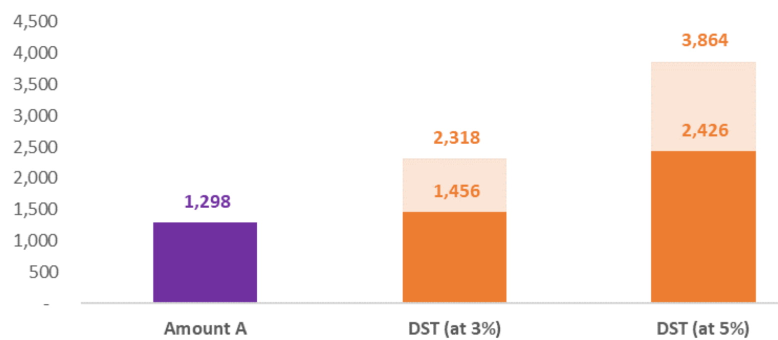
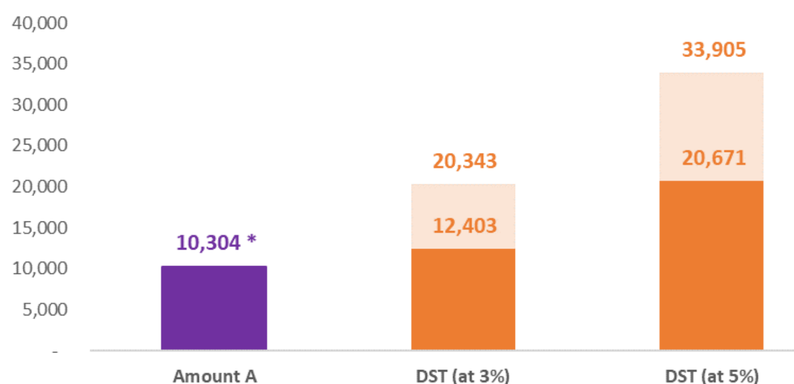


Figure 14: 2022 Tax Revenue Estimation under Amount A vs. DST Regimes for South Centre Members

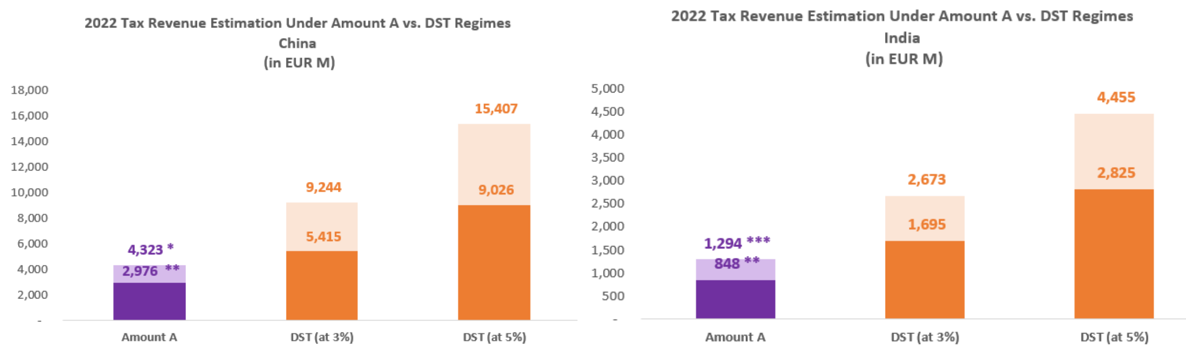
Total (in EUR Millions)

(Estimated using Country-Level Consumption Expenditure Data)



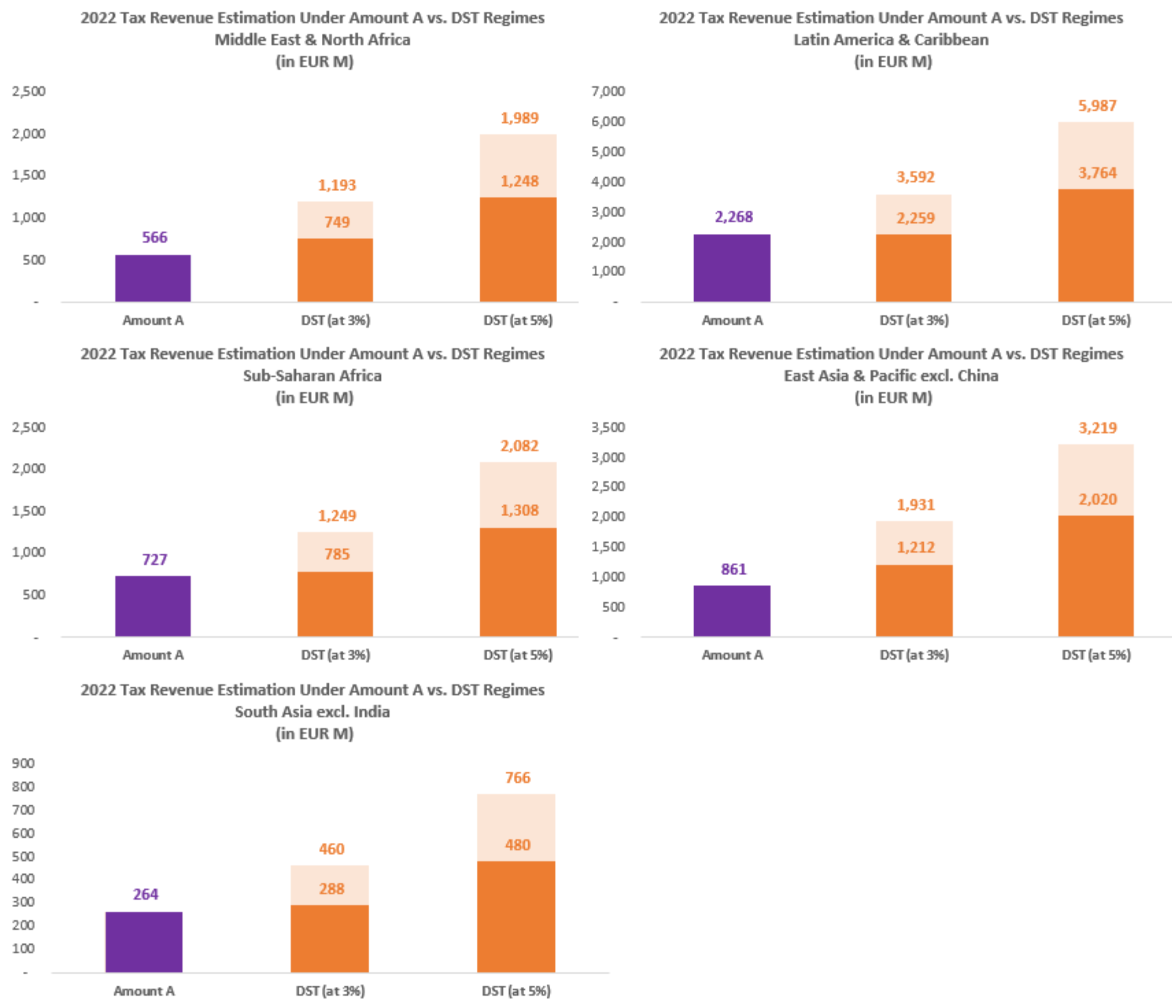
* Assumes 35% offset percentage for China and 25% offset percentage for India when determining MDSH.

Figure 15: 2022 Tax Revenue Estimation for China and India (Estimated using Country-Level Consumption Expenditure Data)



* At 35% jurisdictional offset percentage when determining the MDSH adjustment.
** At 90% jurisdictional offset percentage when determining the MDSH adjustment.
*** At 25% jurisdictional offset percentage when determining the MDSH adjustment.

Figure 16: 2022 Tax Revenue Estimation for South Centre Member States by Region excluding China and India (Estimated using Country-Level Consumption Expenditure Data).



VIII. SUMMARY AND CONCLUSIONS

This study attempts to estimate the tax revenues to be raised by the group of countries that are members of ATAF, WATAF, AU, and the South Centre under Amount A and a stylized DST regime assuming worldwide implementation of each of these regimes and using the 2022 financial data. We started by identifying a group of 100 MNEs in scope of Amount A in 2022 as well as a group of 198 ADS and hybrid ADS companies that could potentially be subject to the stylized DST regime by applying a revenue threshold of 750 million euros and positive pretax income criterion. Our selection of the companies engaged in the ADS and hybrid ADS activities was performed using the revenues reported by companies for the fiscal year 2020. Although the DST regime does not impose any restrictions on revenues or profitability of the companies, we included revenue and profitability thresholds in selecting companies subject to the DST regime to ensure that the number of companies remained manageable in our study while the majority of revenues could be captured. We then described our methodologies for obtaining the country-level estimation of tax revenues, followed by our discussion of the estimated tax revenues by country and region. One important difference between Amount A and a DST relates to which MNEs will be subject to these tax regimes. While Amount A targets the largest and the most profitable enterprises in the world operating in most industries,[26] a DST focuses on specific activities of digital services provision and, in principle, does not impose any restrictions on revenue or profitability of the businesses. Additionally, a DST is a sales-based tax that employs tax rates linked to revenues in market jurisdictions while the Amount A regime is a profit-based tax that involves rather complex calculations.

Our results suggest that the choice between the Amount A and the DST regimes depends on the mix of relevant economic activities (i.e., revenues sourced to the country as a market jurisdiction under Amount A and the level of ADS revenues generated in the country), design details for the DST regime (e.g., the DST tax rate and whether the hybrid ADS activities are taxed), and the extent to which relief for double taxation will be granted under DSTs.

Generally, our analysis demonstrates that for many Member States, the projected Amount A revenues will not be significantly greater than revenues under a DST regime at a 3% tax rate, particularly when a DST regime covers not only “pure” ADS companies but also includes hybrid ADS businesses. With a “narrow” scope of DST design that covers only “pure” ADS businesses, projected revenues from DST at a 3% tax rate may be lower for some countries than revenues under Amount A, although, in general, the DST revenues at a 3% tax rate would be comparable in magnitude to those from Amount A. Selecting other parameters of the DST design may lead to a different conclusion, however. Such a combination of parameters may include, for example, a broader scope that covers companies that engage in both “pure” and hybrid ADS functions, a different tax rate on revenues such as a 5% DST tax, and a different mechanism of double tax relief.

In our view, calculation of MNEs’ tax liabilities could be simpler under the DST regime, which is a revenue-based taxation system, than under Amount A, and, because of this, the Member Countries should find it easier to model and audit the tax revenues that would be collected from DSTs compared to revenues from Amount A.

Also, jurisdictions that consider signing and ratifying the Amount A MLC should be mindful of the fact that, after implementing the Amount A, they will be obligated to withdraw the existing DSTs and commit to not adopting any new DSTs unless the DST or the relevant similar measure falls within Article 40 of Amount A MLC.

[26] With the exception of regulated financial institutions, groups in extractive industries, autonomous domestic groups, defense businesses, and a few other types of activities.

Our analysis is subject to several key assumptions and limitations. One important limitation is the reliance of our analysis on the *FactSet GeoRev* database for estimates of the revenues sourced from Member States both by MNEs in scope of Amount A and by MNEs in scope of a DST. We also had to rely on consolidated financial data of MNEs rather than data for individual MNEs segmented by taxing jurisdiction for our estimates of tax revenues. Because individual MNE CBC reports were not available to us, we used country-level CBC reports for determining double tax relief under Amount A. The lack of access to actual taxpayers' financial data and company-specific information could make our estimates materially different from estimates that rely on taxpayer-specific data.

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APPENDIX A: DATA SOURCES

The data sources used in the study include the following:

- **FactSet Database ("FactSet"):** FactSet provides computer-based financial data and analysis. We used FactSet's Universal Screening function to identify MNEs in scope of Amount A and to identify ADS companies subject to DST. We used FactSet's GeoRev function to obtain the revenue percentage estimation by jurisdiction for in-scope MNEs under Amount A and ADS or hybrid ADS companies subject to DST. We obtained the financial data for the public companies included in the study from FactSet. The FactSet Database requires a subscription in order to access the content.

- **Orbis BvD Database ("Orbis"):** Orbis database, published by Bureau van Dijk, provides financial and market data on approximately 420 million public and private companies. We used Orbis database in conjunction with the FactSet's Universal Screening function to identify private companies in scope of DST. The Orbis database requires a subscription in order to access the content.

- **TP Catalyst:** TP Catalyst, developed by Bureau van Dijk, provides financial and market data on public and private companies. We obtained the financial data for the private companies included in the study from TP Catalyst. The TP Catalyst requires a subscription in order to access the content.

- **World Bank:** We used statistics from the World Bank (i.e., GDP) to apply the nexus test under Amount A and to estimate revenue percentage by jurisdiction for private companies that lack direct reporting under FactSet's GeoRev function. We used World Bank's classification to identify lower income jurisdictions for the MDSH adjustment. We used the World Bank's classification in categorizing South Centre Member Countries into different regions. We obtained the country-level consumption expenditure data from the World Bank to derive the alternative tax revenues estimation as discussed in Section VII. The data from the Word Bank are publicly available.

- **2017 NAICS Codes:** The North American Industry Classification System (NAICS) was developed by statistical agencies of Canada, Mexico, and the US for the collection, analysis and publication of statistical data related to the economy. We used 2017 NAICS codes as the industry classification standard to select ADS companies in industries relevant to DST. This information is publicly available.

- **Tax Foundation:** We obtained the corporate income tax rate by country for 2022 from the Tax Foundation to compute the tax revenues under Amount A. The data are publicly available.

- **International Labor Organization:** We obtained wage data from the International Labor Organization to arrive at the payroll expenses for computation of the return on payroll and depreciation (RODP) at country level. The data are publicly available.

- **CBC Reports:** We obtained the statistics about the Country-by-Country reports (CBCRs) from the OECD database to identify the tax relief jurisdictions and tax relief amounts. The CBC reports are publicly available.

APPENDIX B: SOUTH CENTRE MEMBER STATES

The South Centre is consisted of 55 developing country Members from Africa, Asia, and Latin America and the Caribbean. Table B.1 provides the list of South Centre Members by region as defined by the World Bank classification (i.e., East Asia & Pacific, Latin America & Caribbean, Middle East & North Africa, South Asia, and Sub-Saharan Africa). The South Centre Members include large developing countries such as China, India, Brazil, and Indonesia that have GDP above $1 trillion as well as small countries that have GDP below $10 billion.

Table B.1: South Centre Developing Members (55) by Region

East Asia & Pacific (8)	Latin America & Caribbean (15)	Middle East & North Africa (8)	South Asia (3)	Sub-Saharan Africa (21)
Cambodia	Argentina	Algeria	India	Angola
China	Barbados	Egypt	Pakistan	Benin
North Korea	Bolivia	Iran	Sri Lanka	Burundi
Indonesia	Brazil	Iraq		Cabo Verde
Malaysia	Cuba	Jordan		Côte d'Ivoire
Micronesia	Colombia	State of Libya		Gabon
Philippines	Dominican Republic	Morocco		Ghana
Viet Nam	Ecuador	State of Palestine		Liberia
	Guyana			Malawi
	Honduras			Mali
	Jamaica			Mauritius
	Nicaragua			Mozambique
	Panama			Namibia
	Suriname			Nigeria
	Venezuela			Seychelles
				Sierra Leone
				South Africa
				Sudan
				Tanzania
				Uganda
				Zimbabwe

Appendix C: African Tax Administration Forum ("ATAF") Member States

The ATAF is comprised of 38 Member States. Table C.1 provides the ATAF Member States by region (i.e., Central Africa, Eastern Africa, Northern Africa, Southern Africa, and Western Africa).

Table C.1: ATAF Member States (38) by Region

Central Africa (4)	Eastern Africa (10)	Northern Africa (3)	Southern Africa (10)	Western Africa (11)
Burundi*	Comoros	Egypt*	Angola*	Benin*
Cameroon	Eritrea	Mauritania	Botswana	Burkina Faso
Chad	Kenya	Morocco*	Eswatini	Côte d'Ivoire*
Gabon*	Madagascar		Lesotho	Gambia
	Mauritius*		Malawi*	Ghana*
	Rwanda		Mozambique*	Liberia*
	Seychelles*		Namibia*	Niger
	Sudan*		South Africa*	Nigeria*
	Tanzania*		Zambia	Senegal
	Uganda*		Zimbabwe*	Sierra Leone*
				Togo

*South Centre Member Countries

APPENDIX D: WEST AFRICAN TAX ADMINISTRATION FORUM ("WATAF") MEMBER STATES

The WATAF is comprised of 15 Member States located in West Africa. Table D.1 provides the list of ATAF Member States.

Table D.1: WATAF Member States (15)

WATAF Member States
Benin*
Burkina Faso
Cabo Verde*
Côte d'Ivoire*
Gambia
Ghana*
Guinea
Guinea-Bissau
Liberia*
Mali*
Niger
Nigeria*
Senegal
Sierra Leone*
Togo

*South Centre Member Countries

APPENDIX E: AFRICAN UNION MEMBER COUNTRIES

The African Union is comprised of 55 Member States representing all the countries on the African Continent. Table E.1 provides the African Union Member States by region (i.e., Central Africa, Eastern Africa, Northern Africa, Southern Africa, and Western Africa).

Table E.1: African Union Member States (55) by Region

Central Africa (9)	Eastern Africa (14)	Northern Africa (7)	Southern Africa (10)	Western Africa (15)
Burundi*	Comoros	Algeria*	Angola*	Benin*
Cameroon	Djibouti	Egypt*	Botswana	Burkina Faso
Central African Republic	Eritrea	Libya*	Eswatini	Cabo Verde*
Chad	Ethiopia	Mauritania	Lesotho	Côte d'Ivoire*
Congo Republic	Kenya	Morocco*	Malawi*	Gambia
DR Congo	Madagascar	Sahrawi Republic	Mozambique*	Ghana*
Equatorial Guinea	Mauritius*	Tunisia	Namibia*	Guinea
Gabon*	Rwanda		South Africa*	Guinea-Bissau
São Tomé and Príncipe	Seychelles*		Zambia	Liberia*
	Somalia		Zimbabwe*	Mali*
	South Sudan			Niger
	Sudan*			Nigeria*
	Tanzania*			Senegal
	Uganda*			Sierra Leone*
				Togo

*South Centre Member Countries

APPENDIX F: ADS AND HYBRID ADS COMPANIES SEARCH PROCESS

Table F.1 and Table F.2 summarize the search steps performed to identify the initial list of companies that may be subject to DSTs in the *FactSet* database and the *Orbis* database, respectively.

Table F.1: FactSet Database ADS and hybrid ADS Companies Search Process (Based on 2020 Data)

FactSet Database Search Steps	# of Companies Passing the Screen
NACIS 2017 codes	8,393
Exclude 100% domestic	684 out of 8,393
Positive pretax income	335 out of 684
Sales above EUR 750M	255 out of 684
Sales above EUR 750M + Positive Pretax Income	189 out of 1,691

Table F.2: Orbis BvD Database ADS and hybrid ADS Companies Search Process (Based on 2020 Data)

Orbis BvD Database Search Steps	# of Companies Passing the Screen
NACIS 2017 codes, active companies	7,609,716
Sales minimum of $0 in 2020	427,717
Standardized legal form: Public limited company and private limited company	344,018
Entity type: corporate	340,988
Positive pretax income	229,491 out of 340,988
Sales above EUR 750M	541 out of 340,988
Sales above EUR 750M + Positive Pretax Income	387 out of 229,491

APPENDIX G: CORPORATE INCOME TAX RATE (2022)[27]

#	Country	2022 Tax Rate (%)
1	Algeria	26
2	Angola	25
3	Argentina	35
4	Barbados	5.5
5	Benin	30
6	Bolivia	25
7	Botswana	22
8	Brazil	34
9	Burkina Faso	27.5
10	Burundi	30
11	Cabo Verde	22
12	Cambodia	20
13	Cameroon	33
14	Central African Republic	30
15	Chad	35
16	China	25
17	Colombia	35
18	Comoros	50
19	Democratic Republic of the Congo	30
20	Cote d'Ivoire	25
21	Cuba	35
22	Democratic People's Republic of Korea (North Korea)	n.a
23	Djibouti	25
24	Dominican Republic	27
25	Congo	28
26	Ecuador	25
27	Egypt	22.5
28	Equatorial Guinea	35
29	Eritrea	30
30	Swaziland	27.5
31	Ethiopia	30
32	Gabon	30
33	Gambia	27
34	Ghana	25
35	Guinea	35
36	Guinea-Bissau	25
37	Guyana	25
38	Honduras	25
39	India	30
40	Indonesia	22

[27] Data obtained from Tax Foundation

#	Country	2022 Tax Rate (%)
41	Iran	25
42	Iraq	15
43	Jamaica	25
44	Jordan	20
45	Kenya	30
46	Lesotho	25
47	Liberia	25
48	Libya	20
49	Madagascar	20
50	Malawi	30
51	Malaysia	24
52	Mali	30
53	Mauritania	25
54	Mauritius	15
55	Micronesia	30
56	Morocco	31
57	Mozambique	32
58	Namibia	32
59	Nicaragua	30
60	Niger	30
61	Nigeria	30
62	Pakistan	29
63	Panama	25
64	Philippines	25
65	Rwanda	30
66	Sahrawi	n.a
67	Sao Tome and Principe	25
68	Senegal	30
69	Seychelles	25
70	Sierra Leone	25
71	Somalia	n.a
72	South Africa	28
73	South Sudan	30
74	Sri Lanka	24
75	Palestine	15
76	Sudan	35
77	Suriname	36
78	Tanzania	30
79	Togo	27
80	Tunisia	15
81	Uganda	30
82	Venezuela	34
83	Vietnam	20

#	Country	2022 Tax Rate (%)
84	Zambia	35
85	Zimbabwe	24.72

Appendix H: Estimated Tax Revenues by Member Country in 2022

Table H.1: Estimated Tax Revenues by Country in 2022 (in EUR Millions)

#	Country	Amount A	DST (ADS Only)	DST (incl. hybrid ADS)	DST (ADS Only)	DST (incl. hybrid ADS)
			At 3% DST		At 5% DST	
1	Algeria	54.9	55.8	101.8	93.1	169.6
2	Angola	35.7	37.4	55.7	62.3	92.8
3	Argentina	208.3	199.2	273.0	332.0	455.0
4	Barbados	0.5	0.2	0.6	0.3	1.0
5	Benin	8.0	4.8	18.6	8.1	31.1
6	Bolivia	19.5	8.7	14.6	14.5	24.4
7	Botswana	5.9	4.9	10.5	8.2	17.6
8	Brazil	632.4	621.7	1,050.5	1,036.1	1,750.9
9	Burkina Faso	7.8	5.2	12.4	8.7	20.7
10	Burundi	0.5	0.0	0.2	0.0	0.3
11	Cabo Verde	0.2	0.0	0.1	0.0	0.2
12	Cambodia	11.0	9.1	21.9	15.2	36.5
13	Cameroon	19.6	12.2	31.9	20.4	53.1
14	Central African Republic	0.4	0.0	0.8	0.0	1.3
15	Chad	5.0	2.7	7.2	4.6	12.0
16	China	3,324.3	4,354.7	6,049.3	7,257.9	10,082.1
17	Colombia	157.8	87.4	134.1	145.6	223.5
18	Comoros	0.3	0.0	0.0	0.0	0.1
19	Democratic Republic of the Congo	24.1	19.3	42.2	32.2	70.4
20	Cote d'Ivoire	22.3	21.7	64.5	36.2	107.4
21	Cuba	59.1	26.3	42.1	43.8	70.2
22	Democratic People's Republic of Korea (North Korea)	n.a	0.2	1.1	0.3	1.9
23	Djibouti	0.5	0.0	0.2	0.0	0.4
24	Dominican Republic	50.6	27.2	43.5	45.3	72.5
25	Congo	5.8	3.4	10.6	5.7	17.6
26	Ecuador	50.6	29.9	47.3	49.9	78.8
27	Egypt	78.2	89.2	187.0	148.6	311.7
28	Equatorial Guinea	7.6	3.7	5.6	6.1	9.3
29	Eritrea	0.4	0.0	0.3	0.1	0.5
30	Swaziland	0.8	0.1	1.1	0.1	1.9
31	Ethiopia	39.3	34.0	50.8	56.7	84.7
32	Gabon	9.9	5.9	14.2	9.8	23.7
33	Gambia	0.3	0.0	0.1	0.0	0.2
34	Ghana	22.3	21.7	67.8	36.1	113.0
35	Guinea	10.9	5.7	35.2	9.4	58.7
36	Guinea-Bissau	0.2	0.0	2.4	0.0	4.0
37	Guyana	6.7	2.7	4.2	4.5	7.1
38	Honduras	16.7	6.4	10.4	10.6	17.4

#	Country	Amount A	DST (ADS Only)	DST (incl. hybrid ADS)	DST (ADS Only)	DST (incl. hybrid ADS)
			At 3% DST		At 5% DST	
39	India	556.4	687.0	1,077.6	1,145.0	1,796.0
40	Indonesia	254.2	302.2	490.5	503.7	817.4
41	Iran	254.3	282.4	403.2	470.6	672.0
42	Iraq	36.9	60.0	143.2	100.1	238.7
43	Jamaica	8.3	3.2	5.3	5.3	8.8
44	Jordan	12.4	12.8	33.3	21.4	55.6
45	Kenya	40.1	34.9	52.3	58.2	87.1
46	Lesotho	0.3	0.0	3.7	0.0	6.2
47	Liberia	0.5	0.0	1.9	0.0	3.2
48	Libya	12.4	12.7	18.9	21.2	31.5
49	Madagascar	3.7	3.8	5.6	6.3	9.4
50	Malawi	4.0	2.5	4.0	4.2	6.6
51	Malaysia	109.6	119.7	166.9	199.6	278.2
52	Mali	8.4	5.1	33.2	8.5	55.4
53	Mauritania	2.4	1.9	5.2	3.2	8.7
54	Mauritius	1.9	2.4	3.7	4.0	6.2
55	Micronesia	-	0.0	0.0	0.0	0.0
56	Morocco	54.7	40.6	62.6	67.7	104.3
57	Mozambique	8.4	4.8	20.7	8.0	34.5
58	Namibia	4.7	2.7	4.2	4.6	7.0
59	Nicaragua	10.8	3.2	5.2	5.3	8.7
60	Niger	6.6	4.1	9.6	6.8	16.0
61	Nigeria	129.2	104.7	296.2	174.6	493.6
62	Pakistan	85.4	73.3	127.5	122.1	212.4
63	Panama	31.2	17.0	27.2	28.4	45.3
64	Philippines	106.8	113.3	210.7	188.8	351.1
65	Rwanda	4.0	2.6	4.0	4.3	6.6
66	Sahrawi	n.a	n.a	n.a	n.a	n.a
67	Sao Tome and Principe	-	0.0	0.0	0.0	0.0
68	Senegal	12.2	7.8	8.4	13.0	13.9
69	Seychelles	0.2	0.0	0.1	0.0	0.2
70	Sierra Leone	0.7	0.1	3.0	0.1	5.0
71	Somalia	n.a	1.8	2.7	2.9	4.5
72	South Africa	102.1	76.3	133.9	127.2	223.2
73	South Sudan	1.2	0.1	1.7	0.1	2.9
74	Sri Lanka	30.9	28.9	53.1	48.1	88.5
75	Palestine	3.3	4.1	5.8	6.9	9.7
76	Sudan	16.2	9.2	34.1	15.4	56.9
77	Suriname	1.6	0.1	0.3	0.1	0.5
78	Tanzania	28.5	23.2	48.2	38.7	80.3
79	Togo	2.4	1.8	4.8	3.0	8.0
80	Tunisia	8.9	12.3	18.9	20.5	31.5

#	Country	Amount A	DST (ADS Only)	DST (incl. hybrid ADS)	DST (ADS Only)	DST (incl. hybrid ADS)
			At 3% DST		At 5% DST	
81	Uganda	18.2	12.5	36.2	20.8	60.3
82	Venezuela	34.0	14.3	23.6	23.8	39.3
83	Vietnam	193.6	114.0	163.1	190.1	271.8
84	Zambia	13.7	7.4	21.9	12.3	36.5
85	Zimbabwe	11.9	9.3	13.9	15.5	23.2

APPENDIX I. ESTIMATED TAX REVENUES BY MEMBER COUNTRY IN 2022 (ALTERNATIVE APPROACH)

Table I.1: Estimated Tax Revenues by Country in 2022 (in EUR Millions)

(Based on Country Level Consumption Expenditure Data)

#	Country	Amount A	DST (ADS Only)	DST (incl. hybrid ADS)	DST (ADS Only)	DST (incl. hybrid ADS)
			At 3% DST		At 5% DST	
1	Algeria	64.5	75.1	119.8	125.2	199.6
2	Angola	34.3	41.6	66.3	69.3	110.5
3	Argentina	387.8	357.3	569.9	595.5	949.8
4	Barbados	0.6	3.5	5.6	5.9	9.4
5	Benin	8.6	8.7	13.8	14.4	23.0
6	Bolivia	21.8	26.5	42.2	44.1	70.3
7	Botswana	7.2	9.9	15.8	16.5	26.3
8	Brazil	1,038.5	1,089.5	1,727.6	1,815.9	2,879.4
9	Burkina Faso	10.0	11.0	17.6	18.4	29.3
10	Burundi	2.4	2.5	3.9	4.1	6.5
11	Cabo Verde	1.1	1.5	2.4	2.6	4.1
12	Cambodia	9.4	14.2	22.7	23.7	37.8
13	Cameroon	28.3	25.9	41.4	43.2	68.9
14	Central African Republic	1.7	1.8	2.8	2.9	4.7
15	Chad	7.6	6.6	10.5	10.9	17.4
16	China*	4,323.3	5,415.4	9,244.5	9,025.7	15,407.5
17	Colombia	232.2	206.3	329.0	343.8	548.4
18	Comoros	1.6	1.0	1.5	1.6	2.5
19	Democratic Republic of the Congo	39.1	39.4	62.9	65.7	104.8
20	Cote d'Ivoire	31.3	37.9	60.5	63.2	100.8
21	Cuba	443.4	408.5	651.6	680.9	1,086.0
22	Democratic People's Republic of Korea (North Korea)	n.a	-	-	-	-
23	Djibouti	0.2	0.4	0.6	0.6	1.0
24	Dominican Republic	54.4	61.0	97.3	101.7	162.2
25	Congo	5.1	5.5	8.7	9.1	14.6
26	Ecuador	51.3	62.1	99.0	103.4	165.0
27	Egypt	215.7	299.5	477.7	499.2	796.1
28	Equatorial Guinea	7.4	6.4	10.2	10.7	17.1
29	Eritrea	-	-	-	-	-
30	Swaziland	2.4	2.7	4.2	4.4	7.1
31	Ethiopia	74.5	75.2	119.9	125.3	199.8
32	Gabon	5.8	5.8	9.3	9.7	15.5
33	Gambia	1.2	1.4	2.2	2.3	3.7
34	Ghana	36.0	43.6	69.6	72.7	116.0
35	Guinea	15.3	13.3	21.2	22.1	35.3

#	Country	Amount A	DST (ADS Only)	DST (incl. hybrid ADS)	DST (ADS Only)	DST (incl. hybrid ADS)
			At 3% DST		At 5% DST	
36	Guinea-Bissau	0.9	1.1	1.8	1.9	3.0
37	Guyana	-	-	-	-	-
38	Honduras	18.6	22.5	35.9	37.5	59.8
39	India**	1,294.2	1,694.8	2,672.8	2,824.7	4,454.6
40	Indonesia	372.6	560.2	893.5	933.6	1,489.1
41	Iran	137.1	167.8	266.7	279.7	444.4
42	Iraq	42.9	86.6	138.2	144.4	230.3
43	Jamaica	9.2	11.1	17.7	18.5	29.5
44	Jordan	20.9	31.6	50.5	52.7	84.1
45	Kenya	69.7	70.3	112.2	117.2	187.0
46	Lesotho	1.6	2.0	3.1	3.3	5.2
47	Liberia	-	-	-	-	-
48	Libya	9.2	13.9	22.1	23.1	36.9
49	Madagascar	6.2	9.4	15.1	15.7	25.1
50	Malawi	-	-	-	-	-
51	Malaysia	152.2	197.2	313.3	328.7	522.1
52	Mali	11.8	11.9	19.0	19.8	31.7
53	Mauritania	4.0	4.9	7.8	8.1	12.9
54	Mauritius	3.9	7.8	12.4	13.0	20.7
55	Micronesia	-	-	-	-	-
56	Morocco	76.2	74.4	118.4	123.9	197.3
57	Mozambique	-	-	-	-	-
58	Namibia	9.5	8.9	14.3	14.9	23.8
59	Nicaragua	10.2	10.3	16.4	17.1	27.3
60	Niger	8.5	8.6	13.6	14.3	22.7
61	Nigeria	256.2	265.4	423.3	442.3	705.5
62	Pakistan	235.5	252.3	402.4	420.5	670.6
63	Panama	-	-	-	-	-
64	Philippines	207.0	257.2	410.3	428.7	683.8
65	Rwanda	8.4	8.5	13.5	14.1	22.6
66	Sahrawi	n.a	-	-	-	-
67	Sao Tome and Principe	-	-	-	-	-
68	Senegal	15.8	16.0	25.5	26.6	42.4
69	Seychelles	0.6	0.7	1.1	1.2	1.9
70	Sierra Leone	2.7	3.2	5.1	5.4	8.6
71	Somalia	n.a	9.9	15.7	16.4	26.2
72	South Africa	209.0	233.0	368.5	388.3	614.1
73	South Sudan	-	-	-	-	-
74	Sri Lanka	28.5	36.0	57.4	60.0	95.7
75	Palestine	-	-	-	-	-
76	Sudan	40.7	35.2	56.1	58.7	93.6
77	Suriname	-	-	-	-	-
78	Tanzania	33.2	33.5	53.5	55.9	89.2
79	Togo	4.6	5.2	8.2	8.6	13.7

#	Country	Amount A	DST (ADS Only)	DST (incl. hybrid ADS)	DST (ADS Only)	DST (incl. hybrid ADS)
			At 3% DST		At 5% DST	
80	Tunisia	15.1	30.5	48.6	50.8	81.0
81	Uganda	25.5	25.7	41.0	42.9	68.4
82	Venezuela	-	-	-	-	-
83	Vietnam	119.5	182.8	291.6	304.7	486.0
84	Zambia	11.8	10.2	16.2	17.0	27.1
85	Zimbabwe	14.8	18.1	28.8	30.1	48.0

* At 35% jurisdictional offset percentage for China when determining the MDSH adjustment.

** At 25% jurisdictional offset percentage for India when determining the MDSH adjustment.

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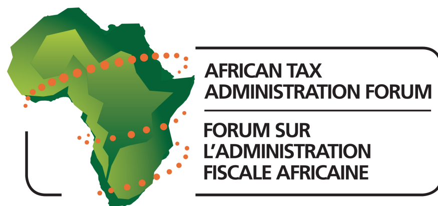

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