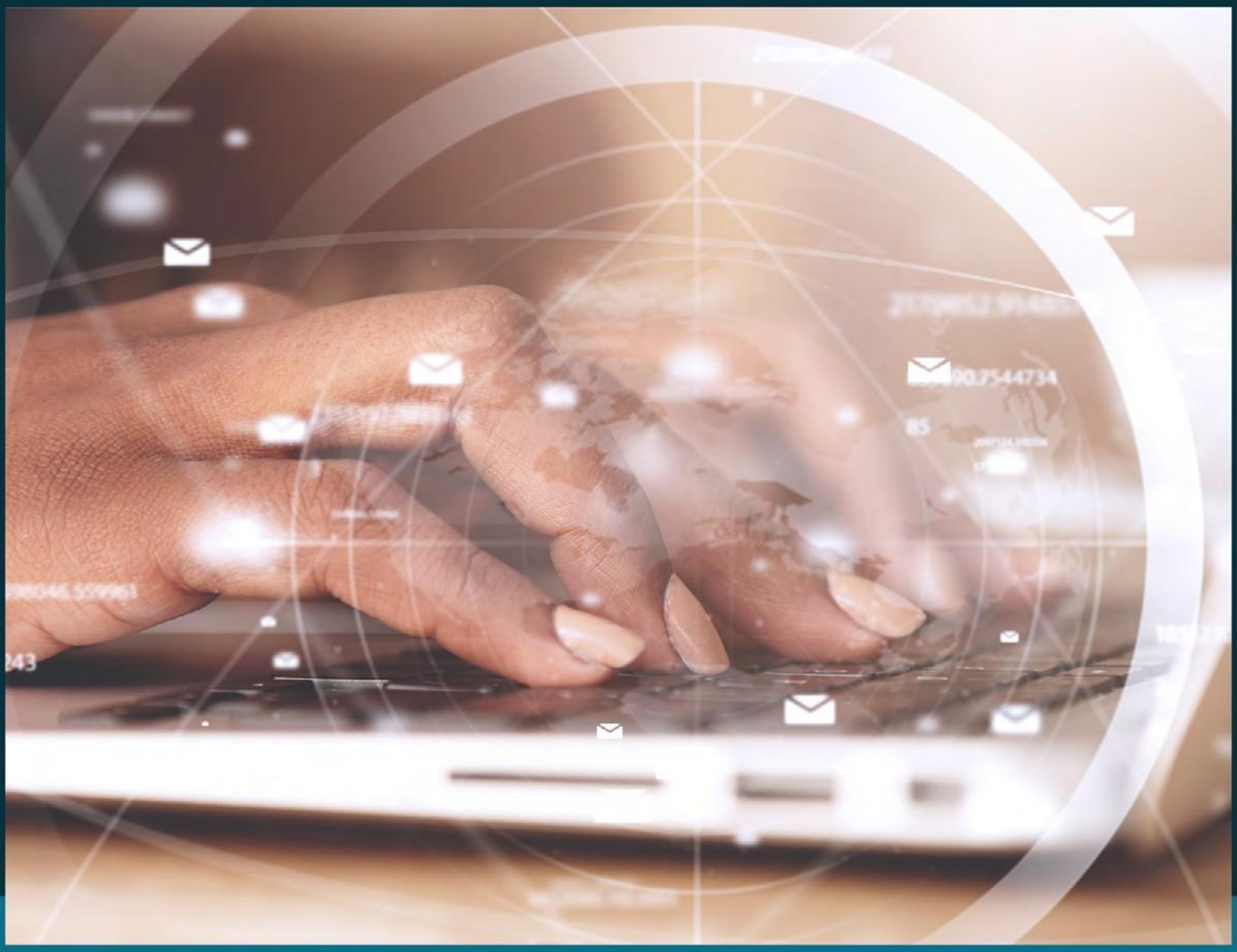

GOVERNANCE AND THE DIGITAL ECONOMY IN AFRICA
TECHNICAL BACKGROUND PAPER SERIES

State-Owned Enterprises in Digital Infrastructure and Downstream Digital Markets in Africa

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DIGITAL DEVELOPMENT PARTNERSHIP

GOVERNANCE AND THE DIGITAL ECONOMY IN AFRICA
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State-Owned Enterprises in Digital Infrastructure and Digital Markets in Africa

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The paper draws on a new dataset on state-owned enterprises (SOEs) in the digital infrastructure and mobile, wireless, international calling and data markets in Africa developed by Dennis Sanchez (Economist, Markets, Competition and Technology Unit) in collaboration with Tania Begazo (Senior Economist), Pascal Jaupart (Economist, Social Protection & Labor LAC), Andres Leonardo Sepulveda (Consultant, Infrastructure, LAC), and Clara Stinshoff (Junior Professional Officer, Digital Development). The data and analysis herein reflect the situation as of December 2021.

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1. Executive Summary

This Background Paper examines the role and relevance of state-owned enterprises (SOEs) in the digital economies in Africa and the potential risks to competition and market distortions. It builds on new data that was collected on the presence of SOEs and the competitive environment in digital infrastructure and mobile, wireless, international calling, and data markets. Detailed information was collected on 37 SOEs[1] from across 18 countries in the region to build an in-depth picture of the role and relevance of SOEs in the digital economies of those countries, and the potential risks to competition that may exist.

SOEs play a significant role in specific digital infrastructure sectors and downstream digital markets, but they benefit from various protections that may inhibit competition with and entry by private sector actors. While SOEs are not a problem per se for competition and dynamic markets, the benefits that SOEs may commonly receive as compared to private actors—and which are uncovered in this paper—risks distorting the functioning of markets and have significant implications for the viability and profitability of private companies. This is a phenomenon that exists across countries and regions, and the African countries studied for purposes of this paper are no exception.

Overall, the policy and regulatory environment has evolved towards providing a level playing field to SOEs and private sector operators; however, several aspects are worth highlighting for the policy agenda in Africa, in particular:

- **The degree of government ownership of SOEs in the digital infrastructure and mobile, wireless, international calling, and data markets varies across countries; where state ownership is higher, it appears that market outcomes may generally be lower.** A closer examination of the data revealed that 16 (around 43 percent) are wholly owned by the state, 6 (16 percent) are majority-owned, and 15 (41 percent) are minority owned (10-25 percent). Countries with more than one wholly state-owned SOE in the telecommunications sector also tend to exhibit the lowest scores on the GSMA Connectivity Index both in the aggregate and in terms of network performance and affordability (the level of mobile tariffs). For example, Comoros, Libera, and Sierra Leone all have at least two wholly owned SOEs in upstream digital infrastructure sectors (backbone, international landing stations, etc.)) and they are the weakest performers overall and exhibit the weakest scores amongst these countries for mobile tariffs, which is supported by findings on affordability, with each ranking 156th, 149th, and 129th out of 170 economies globally.
- **Of the 37 SOEs surveyed across 18 countries, only one of the host countries, Tanzania, systematically required SOEs in the digital sector to achieve a commercial rate of return in their operations**. SOEs operating in a commercial and competitive environment should be expected to earn rates of return similar to comparable private businesses over a reasonable period, otherwise, private actors can be undercut and crowded-out from the market. This may happen because the SOEs operating within soft budget constraints could factor their low-profit margins into their

[1] SOEs in this context includes all entities with 10 percent or more government ownership and operating in the digital infrastructure, as well as mobile, wireless, international calling and data services markets. It includes SOEs with state ownership as low as 10 percent (e.g., Ooredoo in Tunisia) as well as SOEs that are wholly owned by the relevant state (such as Angola Telecom, AirtelTigo in Ghana and Fibernet in Mauritius).

pricing. Further, SOEs could also exclude competitors by pursuing aggressive pricing policies financed by the low profit, if not below-cost pricing.

- **SOEs benefit from regulatory protections in many countries studied, which typically limits private sector participation and disincentivize investment.** For instance, SOEs in Angola, Benin, Comoros, Gabon, Morocco, South Africa, and Tunisia manage essential facilities infrastructure, even though they also operate in the commercial retail segments of the value chain—this creates risks of self-preferencing if governments do not also have in place *ex-ante* regulation mandating infrastructure sharing.
- **84 percent of the SOEs surveyed (in 72 percent of countries surveyed) are subject to full tax liability in their home countries (i.e., subject to the same rate as private sector actors in the same market segment).** Evidence suggests that 11 percent of SOEs are granted preferential treatment with respect to tax-credits or treatment when tax arrears exist, in Angola, Sierra Leone, and Tanzania.
- **Of the SOEs surveyed, it was reported that 19 percent of them benefit, either because of express legal permissions or in practice, from preferential access to finance from the government, such as through reduced interest rates, government-backed loans, debt guarantees, or capital injections.** At the country level, this amounts to 39 percent of the countries studied offering SOEs preferential access to finance from the government. Financial benefits can raise risks particularly when SOEs are vertically integrated across value chains, with downstream service providers potentially able to access networks at reduced rates or even free of charge. Such benefits that are not also available to private actors give SOEs a competitive advantage and allow them to price more aggressively and potentially undercut private competitors.
- **On the other hand, none of the countries studied maintain *de jure* asymmetric, preferential conditions with respect to procurement processes for SOEs.** Only Sierra Leone maintains a de jure preference in the law in favor of domestic entities generally, which would benefit both domestic SOEs and private entities over foreign bidders.

To the extent African governments wish to improve market outcomes, increasing competition can make a positive difference. Governments would be advised to review the policy and regulatory environments surrounding the operation of their SOEs and assess how best to create and uphold a level playing field for actual or potential private actors. Where the rationale for SOE participation in the market is weak and the services could be provided by the private sector, governments may wish to consider divestiture options from existing SOEs or to consider ways to increase efficiency-oriented decision-making and operations through private sector management contracts. Some high-level entry points for reforms are set out in **Table 1**.

Table 1. Entry points for actions to increase competition in digital sectors with SOE participation

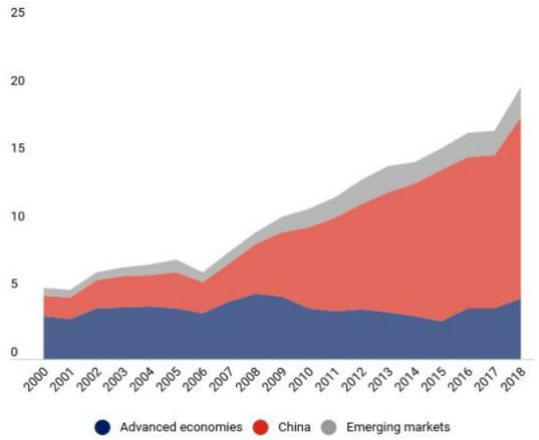
Topic	Entry points for reforms	Government agency
SOE oversight and accountability for public funding (if any), costs, and revenues to minimize to minimize market distortions	Require SOEs to separate commercial activities from the delivery of any universal and public service obligations (USOs and PSOs), and that they utilize appropriate accounting mechanisms to identify the costs (and revenues) associated with their various activities, including PSOs and minimize the risk of cross-subsidization of commercial activities with public funds.	SOE Oversight body/line ministry in charge of SOE agenda /Ministry of telecoms/telecom regulators

Topic	Entry points for reforms	Government agency
SOE incentives aligned with productive efficiency	Require digital sector SOEs to achieve commercial rates of return that are similar to comparable private businesses over a reasonable period.	SOE Oversight body/line ministry in charge of SOE agenda Ministry of Telecommunications
SOEs subject to competitive pressure by facilitating entry and investment by the private sector	Remove any de jure monopolies granted to SOEs over the ownership and operation of digital infrastructure and the provision of digital services. Remove other regulatory barriers to entry and investment by private actors in digital market segments, e.g., overly burdensome licensing requirements, spectrum caps, etc.	Sectoral regulators (telecommunications/digital) Ministry of Telecommunications
Non-discriminatory system of taxation	Remove preferential tax rates or other forms of preferential treatment for SOEs that exist under the law. Ensure that in practice tax arrears and penalties are enforced equally against SOEs as they would private actors in the same sector.	Ministry of Finance/Tax authority Ministry of Telecommunications
Equal access to finance for SOEs and private actors in digital market segments	Revise provisions in national budget laws that provide for direct on-lending to SOEs. Adjust state-backed loan guarantee programs and other forms of preferential financing that are only available to SOEs, or make them available to comparable private actors on the same terms. Make other direct subsidies for digital sector firms (both public and private) available on the same basis.	Ministry of Finance Ministry of Telecommunications State-owned banks
Non-discriminatory public procurement processes	Adopt and implement laws, regulations, and guidelines for public procurement that do not favor SOEs over private actors.	Government ministries and other public agencies (public procurement)

2. SOEs: their role in digital infrastructure and digital markets

State-owned enterprises[2] (SOEs) play a key role in the economies of many countries around the world. The International Monetary Fund (IMF) valued SOE assets at US$45 trillion in 2018, about half of global gross domestic product (GDP), up from around US$13 trillion in 2000.[3] In 2012, the share of the total SOE sector value in Organisation for Economic Cooperation and development (OECD) countries was equivalent to 32 percent of GDP, with 58 listed and 1617 non-listed SOEs, whose market value reached US$ 632 billion.[4] The role of SOEs globally has grown significantly over the last two decades—their share among the world's 2000 largest firms increased from 5 to 20 percent between 2000 and 2018, driven mainly by the growth of SOEs in emerging markets (Figure 1).

Figure 1. Emerging market economies account for the increasing importance of SOEs (% of assets of largest firm)



Source: S&P Capital IQ; UNCTAD; S&P Global UDI Global Electric Power Plant database; and IMF staff estimates, in IMF (2020). IMF Fiscal Monitor, at Chapter 3, available at: https://www.imf.org/en/Publications/FM/Issues/2020/04/06/fiscal-monitor-april-2020#Chapter%203.

Note: This figure shows the share of SOE assets among the world's 2000 largest firms.

SOEs are found predominantly in natural monopoly sectors such as utilities and transport, including water, gas, electricity, information and communication technologies, rail, and air travel, and with slightly greater frequency in emerging and developing economies (EMDEs) (Figure 2). This occurrence plays out in upstream digital fixed infrastructure and downstream digital communications and data services sectors across both advanced economies (AEs) and EMDEs.[5] According to OECD-World Bank Group (WBG) Product Market Regulation (PMR) data, *E-communications – fixed line networks (i.e., ownership and operation of backbone fixed infrastructure)*, SOEs were present in 58% of EMDEs and 55% of AEs. SOEs are also found downstream in more contestable digital communications services sectors including fixed-line and mobile retail services. SOEs are slightly more common in EMDEs as compared to AEs in retail fixed-line services (58% in EMDEs

[2] In this paper, SOEs includes entities with government participation of 10 percent or more. "State-linked enterprises" refers to those SOEs with minority government participation of 10-25%: see World Bank Group (2023), 'The Business of the State (Overview booklet)', available here: https://openknowledge.worldbank.org/handle/10986/40343

[3] IMF (2020), at Chapter 3.

[4] OECD (2016).

[5] **"Upstream"** refers to the following: wholesale activities (maintenance and operation of mobile and fixed line communications infrastructure), international gateway/landing stations (e.g. submarine cable, terrestrial cable, satellite), passive infrastructure services (e.g. ducts, towers). **"Downstream"** refers to retail services (mobile and fixed line communications, including international); mobile payment services; cloud and hosting services (e.g. website/email, datacenter collocation, cloud storage); other data services (e.g. mobility analytics, cloud computing, IoT solutions); digital services on digital platforms (e.g. e-commerce, ride hailing, e-commerce for farmers); other communications services (e.g. videoconferencing, contact centers).

versus 48% in AEs) and retail mobile services (46% in EMDEs versus 42% in AEs).[6] A more detailed analysis of SOE presence in the digital infrastructure and services sectors is provided in Section 3.

Figure 2. Share of countries with at least one SOE present in the sector or subsector (advanced economies (AEs) and emerging and developing economies (EMDEs))

Source: WBG-OECD Product Market Regulation Data (2018).
Note: AEs: Advanced Economies. EMDEs: Emerging Markets and Developing Economies. The percentage reflects averages across 25 AEs and 33 EMDEs indicated in parentheses as being covered by the 2018 PMR database.

[6] Contestable sectors in EMDEs are marginally more likely to have an SOE, as is the case in financial services (~85% in EMDEs as compared to ~75% in AEs) and retail fixed line services (~60% in EMDEs compared to ~50% in AEs). However, EMDEs are much more likely to have SOEs in traditionally commercial sectors, such as accommodation, food and beverage (~60% for EMDEs, compared to ~30% for AEs), construction (~50% for EMDEs, and <20% for AEs), manufacture of refined petroleum products (>60% for EMDEs, compared to <20% for AEs), and wholesale trade, including motor vehicles (~45% for EMDEs, compared to ~15% for AEs).

According to the principle of the subsidiarity role of the State in the economy, the establishment and operation of SOEs are generally justified by the existence of market failures – specifically for addressing situations where the private sector would not provide the good or service in a competitive and efficient manner without some form of government intervention. However, in cases where the private sector could provide the service/good competitively and efficiently, the presence of an SOE is harder to justify from an economic perspective – and the potential negative effects on the market and development of the private sector could be more pronounced. In markets where private sector participation is more common or likely, it is typically more efficient and effective for the State to act as a regulator.

Natural monopolies are a market failure that is frequently invoked as a justification for SOEs. However, even though natural monopolies do not involve competition among different companies in the market, there is still the possibility to introduce competition *in* the market and create competitive pressure for publicly-owned incumbents.[7] In this regard, the Government could, for instance, award a concession for the exploitation of a natural monopoly activity through an open tender procedure. Concessions allow Governments to periodically introduce contestability in a natural monopoly segment and to receive revenues from the concessionaire without necessarily having to privatize a particular economic activity.[8] That said, the political economy challenges involved in reforming SOE-dominated sectors can be significant, due to inertia, vested interests and regulatory capture, and a general political attachment to state ownership.

Neither the number of SOEs nor their footprint in the economy is *per se* conducive to or harmful for competition or positive market outcomes. However, there is a wide variety of policies typically associated with SOEs that can potentially distort the functioning of markets and have significant implications for the viability and profitability of private companies. Policies that tilt the playing field in favor of specific market players, particularly SOEs over their private peers, can create undue competitive advantages and hinder competition. These policies can take different forms such as preferential access to financing, reduced fees for accessing State property, subsidies, or compensation mechanisms that are not available under similar conditions to the private sector. Distortions can also emerge from the regulatory framework (e.g., price regulation), from situations where SOEs are not subject to the same market discipline as the private operators, and when SOEs perform simultaneous functions as market providers and as regulators.

Digital markets are also characterized by certain bottleneck features, making ex-ante regulation important to ensure access to key infrastructures and resources irrespective of firm ownership. Due to their market characteristics – especially, high network effects and returns of scale – digital markets show a propensity towards increased consolidation and entrenched market power. Digital markets, particularly the upstream telecommunications sector, are characterized by a small number of operators due to the high upfront investment costs and economies of scale involved and are thus often described as “natural oligopolies”. For example, the deployment of fiber-optic cable can cost as much as US$70,000 per kilometer.[9] Because competition law is insufficient to effectively tackle high and non-transitory entry

[7] Kowalski et al. (2013).
[8] OECD (2019).
[9] GSMA (2019).

barriers, considering ex ante and ex post regulation for operators with significant market power[10] (SMP), especially in upstream digital infrastructure, can promote competition in the market.[11]

An effective ex-ante regulatory framework is especially important to ensure incumbents – historically with close links to the State – do not exclude rivals through anticompetitive conduct and are subject to the same market conditions as private actors (actual or potential) in the market. The principle of competitive neutrality requires that all enterprises, public or private, domestic or foreign, face the same set of rules, and where government's ownership or involvement in the marketplace, in fact or in law, does not confer an undue competitive advantage on any actual or potential market participant.[12] In practice, and as set out in the World Bank Integrated SOE Framework (iSOEF)[13] and the World Bank Finance, Competitiveness, and Innovation GP's SOE Knowledge and Methodology notes for Country Private Sector Diagnostics, this means that SOEs should be required to operate in accordance with commercial considerations and hard budget constraints (e.g., earn a commercial rate of return, not cross-subsidize commercial activities with public funds received for public service delivery, ensure transparency of accounts and separate costs/revenues for each activity) and should not receive preferential treatment as compared to non-SOEs (e.g., regarding access to state support and public contracts,[14] tax neutrality, regulatory neutrality, debt neutrality).[15] More detail on the contours of competitive neutrality (along with findings regarding its implementation in African digital infrastructure, mobile, wireless, international calling markets, and downstream data markets) is discussed in Section 4.

Without an effective ex-ante regulatory framework in line with the principle of competitive neutrality, SOEs present high risks of distorting markets, stifling competition, and crowding out the private sector. Formal government rules or implementation actions may exist to protect SOEs from competition: Whatever the sector, SOEs frequently receive exclusive preferential regulatory treatment and/or subsidies as compared to their private sector counterparts, reducing the possibility of new private sector investments. Ultimately, the disparate treatment creates an unlevel playing field between SOEs and private companies in the markets in which they operate. This can distort competition and crowd out the private sector not only in the market segment in which the SOE operates but across entire value chains if firms upstream or downstream benefit from subsidized production of goods and services (**Figure 3** and **Annex** 3: SOEs and weak competitive neutrality: impacts on markets and the implications for development). Vertical integration of SOEs across value chains is also problematic, for example, where SOEs in upstream market segments such as the operation of digital fixed and mobile infrastructure, also operate (or work directly with other SOEs) in downstream segments such as mobile, wireless and international retail

[10] In some countries, significant market power (SMP) is determined solely in accordance with formal market share criteria. However, good practice is to use a purely substantive test consisting in determining whether an operator has the capacity to act independently from consumers and competitors to a large extent. See, for example recent draft guidelines on SMP that have been developed by the European Commission.

[11] It is important that markets are reviewed periodically in order not to regulate outdated markets where SMP operators exist (e.g. Bénin sets forth a periodic review of telecoms markets every three years. See Pop & Coelho (2020). See also: https://www.itu.int/dms_pub/itu-d/opb/pref/D-PREF-TRH.1-2020-PDF-E.pdf

[12] OECD (2015).

[13] The World Bank's Competitive Neutrality Gap analysis, which forms part of the World Bank's Integrated SOE Framework (iSOEF), examines policy and regulatory frameworks in markets in which SOEs operate. See World Bank (2019a).

[14] State support measures include: direct transfers or grants, tax exemptions, capital injections, equity participation, soft loans, deferral of tax payments, subsidies, guarantees, land transfers or leases, free or below-market pricing, privileged access to infrastructure, free or subsidized fees, among others. State support measures should be based on transparent, non-selective, and non-discriminatory criteria.

[15] The World Bank's Competitive Neutrality Gap analysis, which forms part of the World Bank's Integrated SOE Framework (iSOEF), examines policy and regulatory frameworks in markets in which SOEs operate. See World Bank (2019a), Module 1.

services, as it creates opportunities for anticompetitive behavior, market foreclosure, and cross-subsidization.

Through ex ante regulation, regulators can impose remedies on operators with SMP[16] - be they SOEs or private firms - which operate in markets where the risks of anticompetitive conduct are high, notably in upstream digital infrastructure. For instance, subject to the imposition of competition safeguards, sector regulators can impose obligations regarding the sharing of passive and active infrastructure by operators with SMP, thus facilitating market entry and expansion by smaller operators. By the same token, regulators can mandate that operators with SMP host mobile virtual network operators (MVNOs) that would otherwise be unable to gain access to a mobile network. Other common remedies include providers with SMP engaging in cost-based pricing, engaging with buyers/suppliers in a non-discriminatory manner, and upholding transparency in their operations (e.g. publication of reference offers). The remedies should aim to correct the risks of anticompetitive behavior while minimizing intrusion into how the market would otherwise operate.

With the growth of digital platforms and rising competition from internet service providers, the development and scope of SMP regulation are changing. Traditionally, SMP regulation has been developed based on (i) defining the market to be regulated, (ii) a determination of what constitutes dominance or SMP in that context (usually considering revenue-based market shares due to ease of quantification and validation)[17] , and then (iii) selection of appropriate remedies for ex-ante imposition on SMP suppliers to discourage/prevent anticompetitive behavior.[18] This approach has had to change, however, with the advent of digital platforms and rising competition from service providers that operate independently from telecommunication network operators. By way of summary, markets can no longer be presumed to be national in scope and relevant data is difficult to obtain from global market participants, defining markets is complicated by the presence of two-sided digital platforms, "free" internet services make it difficult to assess market power and the power to act independently from others, and positive network effects mean that one dominant player in a market may no longer be undesirable (or avoidable). As a result, a broader range of indicators is needed to define and identify SMP suppliers that should be subject to ex-ante regulation, including, for example, access to data, innovation, barriers to entry, and barriers to expansion. Moreover, some of the behaviors that SMP regulation may previously have tried to discourage or prevent are now arguably legitimate business models. [19]

Further, competition in mobile communications depends upon the adoption of a market-based and pro-competitive regulatory framework governing spectrum management. Pursuant to such a framework, spectrum should be assigned through auctions and traded in secondary markets so that it is placed in the hands of the operators that value it the most. Secondly, to counter the risks of spectrum hoarding by operators with market power, it might be necessary to put in place pro-competitive regulation that fosters spectrum access by smaller players (e.g. spectrum caps, set-asides, or the creation of a wholesale open

[16] In some countries, significant market power (SMP) is determined solely in accordance with formal market share criteria. However, good practice is to use a purely substantive test consisting in determining whether an operator has the capacity to act independently from consumers and competitors. For more detail see International Telecommunication Union (ITU)-World Bank (2020).

[17] Regulators can consider other factors in determining dominance/SMP, such as market concentration, access to finance, economies of scope, technological advantage, and the prospect of countervailing buying power.

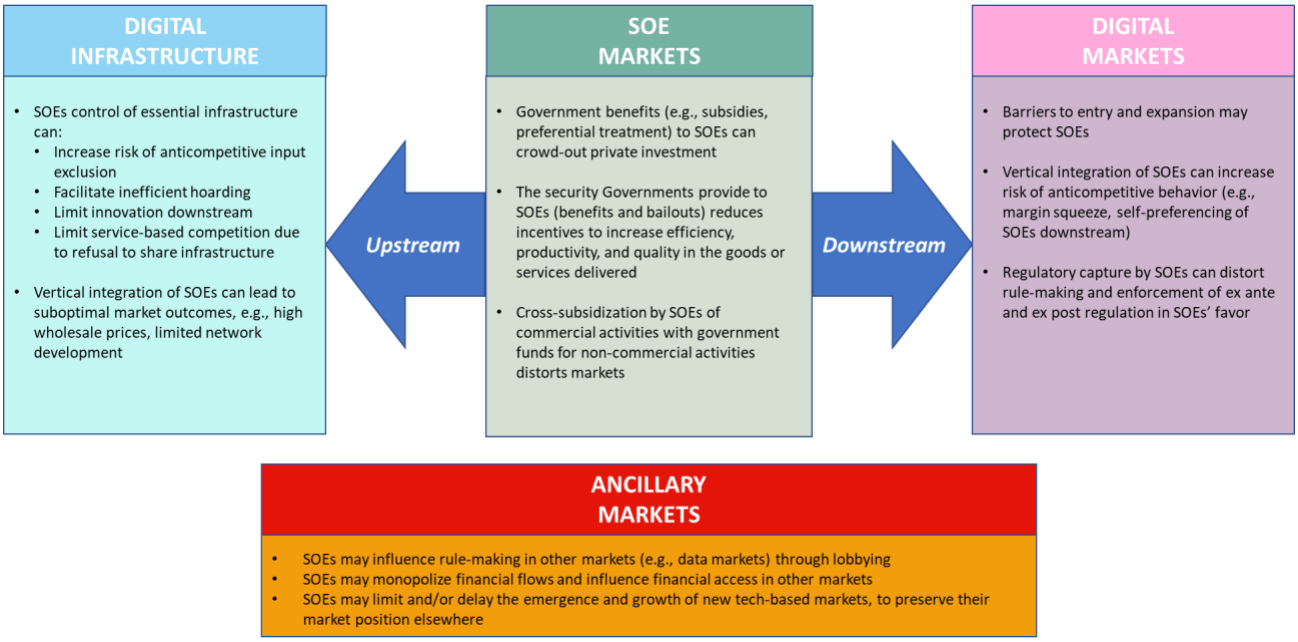
[18] Ex-post remedies (i.e., through the enforcement of the competition law) would also available where specific instances of anticompetitive behavior are identified, such as predatory pricing or exclusionary behavior.

[19] For a more detailed discussion see International Telecommunication Union (ITU)-World Bank (2020).

access network (WOAN)).[20] It is also important to have enough spectrum allocated for unlicensed use, as this creates opportunities for green field development and reduces entry barriers for downstream digital businesses that require spectrum to operate.[21]

Finally, a strong *ex-ante* regulatory framework facilitating data access may ensure markets do not tip into situations of entrenched market power. Some of the regulatory options available include facilitating multihoming (use of multiple platforms for the same service); the right to portability of personal data (in essence, the right to move personal data between different controllers); data interoperability (the ability for different systems to share and use data in a coordinated and timely manner); and encouraging data sharing or pooling schemes (where two or more firms agree to merge their data for access by themselves and possibly third parties).[22] [23]

Figure 3. Potential SOE impacts across digital markets where competitive neutrality is lacking



Source: World Bank Markets & Competition Policy team elaboration

Ensuring that public and private operators operate under the same rules and opening-up digital infrastructure and mobile, wireless, and international calling markets, as well as downstream data services, to potential private sector entry can have an important impact on growth and competitiveness. A 1 percent increase in telecommunications access in ECOWAS countries has been

[20] **Set-asides**: remove the incumbent from the bidding process and one or more blocks of spectrum are reserved for a specific type of bidder, such as a new entrant, a smaller operator or a designated entity or group (e.g. minorities, SMMEs, etc.); Spectrum caps: limit the maximum quantity of spectrum that can be held in a specific geographic area. **Caps** can be applied either to an individual auction or, in more general terms, to a category of radio frequencies. Spectrum caps allow entrants to bid for larger quantities of newly available spectrum, and limit "excessive" concentration of spectrum by incumbents; A **WOAN** consists of a network that provides wholesale services, in accordance with open access principles, such as transparency and non-discrimination, either on a voluntary basis or under a mandated access regime. See Pop, G. & Coelho, G. (2020).

[21] African countries with guidelines for the unlicensed use of spectrum include Mali, Nigeria, The Gambia and Togo. See Pop & Coelho (2020).

[22] World Bank (2021).

[23] For a more detailed explanation the role ex ante regulation to promote competition in digital infrastructure and downstream digital markets, see Coelho, G. and Pop, G. (2021).

shown to lead to an increase in relative real GDP of 0.0003 percent;[24] similarly, mobile phone ownership and use have been found to significantly improve agricultural productivity.[25] Furthermore, increasing competition in digital infrastructure by incentivizing market entry and deterring anticompetitive behavior was indicated to have potentially sizeable welfare impacts through reduced prices.[26] Meanwhile, opening up international calling services to competition was found to reduce prices by 90% and increase call volumes by anywhere from 32 to 104%.[27] Moreover, greater spectrum harmonization across the African region could yield substantial gains. For instance, recent analysis on the impact of spectrum harmonization of mmWave (between 24 GHz and 86 GHz) for 5G technologies shows a potential impact of around US$5.2 billion, with tax revenues of nearly US$1 billion for Sub-Saharan Africa.[28]

3. Data Collection

For purposes of this paper, new data was collected on SOEs in the digital infrastructure and mobile, wireless, international calling, and data markets in Africa. Detailed information was collected on 37 SOEs[29] from across 18 countries in the region in order to build an in-depth picture of their role and relevance in the digital economies of those countries (**Table 2**). For the data collection, a questionnaire (see Annex 1:) on SOEs was prepared based on the World Bank's Corporate Governance Toolkit (2014), the World Bank Integrated SOE Framework (Module 1 on SOEs and the Market: Considerations for Policymakers), and FCI's Knowledge and Methodology notes on SOEs in Country Private Sector Diagnostics

The questionnaire included eight sections to capture information at the sectoral (e.g., regulations) and firm-level (e.g., financial and operational data). The eight sections included several components to understand the role of the SOE in the markets, regulatory environment surrounding the SOE operations, the control and oversight settings, as well as market characteristics and outcomes, among others, which are important to reduce market distortions and corruption and integrity risks associated with SOEs.

Table 2. Country and number of SOEs analyzed for this paper

Country	Number of SOEs studied
Angola	3
Benin	1
Comoros	2
Egypt	2
Eswatini	1
Ethiopia	1
Gabon	2
Ghana	3
Kenya	1
Liberia	2
Mauritania	1
Mauritius	3
Morocco	2
Mozambique	1
Sierra Leone	2
South Africa	4
Tanzania	2
Tunisia	4

The data collection was led by the WBG and conducted by two law firms across the region. Information was ultimately collected on 37 SOEs across 18 countries (Table 2). Several consultations and data verification procedures were implemented to ensure the quality and veracity of the information

[24] Ossadzifo (2018). See also: Alam, Sultana and Rayhan (2019).
[25] Issahaku, Musah Abu and Kwame Nkegbe (2017).
[26] Decoster et al. (2019).
[27] GSMA (2015).
[28] GSMA (2018).
[29] In this paper, SOEs includes entities with government participation of 10 percent or more.

provided. Finally, the team systematized the responses for the assessment in a single database.

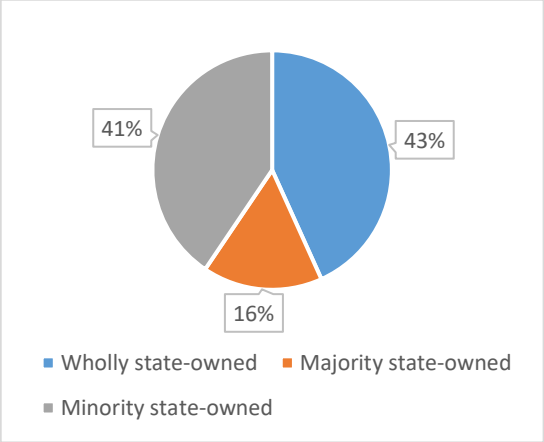
4. SOE presence in digital sectors in Africa

As discussed in Section 2, state ownership is not problematic per se, but SOEs are often associated with a variety of preferential, market-distorting policies that can compromise private sector viability and profitability. The countries with the most SOEs in the digital infrastructure and downstream mobile, wireless, and international communications, as well as data services include South Africa, Angola, Libya, and Tanzania. A subset of 37 of these SOEs in 18 countries were studied in detail for this paper.

In terms of the degree of government ownership, just under half of the 37 SOEs are wholly owned by the state, and the degree of state ownership appears to be associated with digital market outcomes. Specifically, 17 (around 46 percent) are wholly owned by the state, 6 (16 percent) are majority owned, 14 (38 percent) are minority owned (less than 50 percent), and 4 of those (11 percent overall) and so-called SLEs, with state ownership under 25 percent. (**Figure 4)**. Where state ownership is higher, it appears that market outcomes may generally be lower overall. For example, the 12 countries with wholly owned SOEs score 43.5 on the GSMA Connectivity Index[30] overall, which is slightly below the average for all 18 countries studied for purposes of this paper (45.2). By comparison, the 11 countries hosting SOEs with minority state ownership (below 50 percent) have an average GSMA Connectivity score of 51.6. The score is higher still considering those countries hosting SLEs (where the state owns 25 percent or less of the entity)—in those cases, the average GSMA Connectivity score is 54.85 percent. Network performance is also relatively stronger in countries with SLEs (48.96), as compared to the average score for the 18 countries studied (38.04), and the score for those countries with wholly SOEs (37.41). The picture is similar with mobile tariffs: countries with wholly SOEs score on average considerably lower (36) as compared to the 18 countries studied overall (41), the 11 countries hosting SOEs with minority state ownership (below 50 percent) (54.4), and the 3 countries with SLEs (62.7). This may indicate that where there is greater private sector participation in digital sector SOEs, incentives may be better aligned to deliver higher-quality services.

[30] The GSMA Connectivity Index measures the performance of 170 countries, representing 99% of the global population, against the key enablers of mobile internet adoption: infrastructure; affordability; consumer readiness; and content and services. For more information, see: https://www.gsma.com/r/somic/. Full details of the methodology and data sources is provided in GSMA (2020). A higher score always means "better" performance with respect to the underlying indicators: i.e., higher quality infrastructure, faster download speeds, lower prices, higher mobile penetration, etc

Figure 4. Degree of state participation in SOEs in the 13 digital market segments studied



Source: World Bank Markets, Competition and Technology Unit, Database of SOEs in Digital Sectors across Africa.

Countries with more than one wholly state-owned SOE in the telecommunications sector also tend to exhibit the lowest scores both in the aggregate and in terms of network performance and the level of mobile tariffs. For example, Comoros, Libera, and Sierra Leone (each of which has at least two wholly owned SOEs in upstream digital infrastructure sectors (backbone, international landing stations, etc.)) are the weakest performers overall and exhibit the weakest scores amongst these 11 countries for mobile tariffs, which is supported by findings on affordability, with each ranking 156th, 149th, and 129th out of 170 economies globally (**Table 3**).[31]

Table 3. Select market outcomes according to the GSMA Connectivity Index in countries with wholly owned SOEs in the digital market segments studied

		GSMA Connectivity Index			
COUNTRY	**SOE**	**Overall Score**	**Network Performance (sub-score)**	**Mobile Tariffs (sub-score)**	**Affordability (sub-score)**
Angola	Angola Telecom	43.53	47.79	45.07	47.65
Benin	Benin Telecom	39.07	30.39	24.71	33.63
Comoros	Comores Telecom, Comores Cables	23.98	16.29	13.05	10.74
Eswatini	Eswatini Posts and Telecommunications Corporation	39.20	42.29	41.15	39.79
Gabon	Société de Patrimoine des Infrastructures Numériques (SPIN)	48.71	35.10	57.09	42.49
Ghana	AirtelTigo, National IT Agency	52.01	35.22	61.44	48.40
Liberia	Cable Consortium of Liberia, Liberia Telecommunications Corporation	34.43	39.47	7.46	22.92
Mauritius	National Computer Board	65.75	44.80	57.37	63.91

[31] Comoros, Liberia and Sierra Leone scored 10.74, 22.92, and 38.96 out of 100 respectively.

Mauritius	Fibernet	65.75	44.80	57.37	63.91
Sierra Leone	Sierra Leone Cable Limited, Sierra Leone Telecommunications Company	38.57	45.56	14.35	38.96
South Africa	Broadband Infraco	60.14	51.54	58.28	51.72
Tanzania	Tanzania Telecommunications Corporation (TTC)	40.11	36.24	32.37	34.21

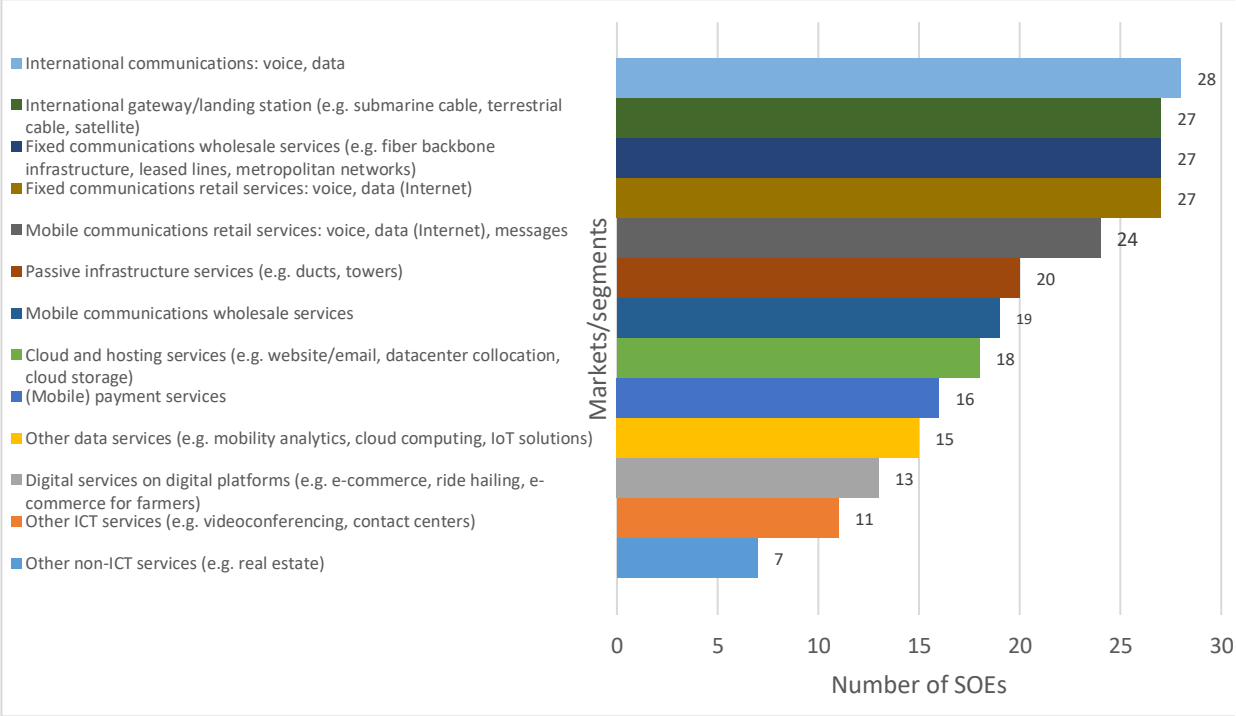
Source: GSMA (2020)

In terms of their activities and across the 13 market segments that were studied,[32] the majority of SOEs surveyed were active predominantly in the following market segments: international communications infrastructure, fixed infrastructure, such as backbone, and the provision of fixed communications services to end users (Figure 5). These SOEs are typically active in more than one market segment (i.e., they are vertically integrated to some degree along the value chain – discussed in more detail below). Around 73 percent (27) of the 37 SOEs analyzed own and provide access to fixed backbone infrastructure. Approximately 65 percent (24) are mobile network providers in the African region. SOEs are also quite active downstream in data infrastructure and services markets, such as cloud and hosting services (49 percent of the SOEs studied have activities in this market segment), mobile payment services (43 percent), and digital platform services, such as e-commerce, ride-hailing, or e-commerce for farmers (35 percent). Especially when SOEs operate in traditionally commercial or contestable sectors (see again Figure 2 above) that are more conducive to private sector participation, there is a need to ensure a level playing field between all operators, to ensure that SOEs or private firms are not benefiting from preferential treatment, that they are subjected to competitive pressure, and that they are properly incentivized towards greater productivity and higher quality service delivery.

Across the 37 SOEs and the 13 market segments that were studied, some 41 percent of SOEs (15) were the sole operator in at least one of the market segments in which they operate—predominantly in fixed communications retail services (including voice and data), and fixed infrastructure and related wholesale services (backbone infrastructure, leased lines, metropolitan networks). SOEs faced private sector competition predominantly in retail and wholesale services for mobile communications (voice and data), with 23 SOEs (62 percent) facing private competition in this sector, and the second most significant segment for private competition was fixed communications retail services, though only 12 of the SOEs studied faced private competition in that segment. Countries with SOEs that face competition in the market segments in which they operate (i.e., the SOEs are not sole operators) tend to exhibit better market outcomes as measured by the GSMA Connectivity Index overall and the GSMA Affordability Index—in other words, the higher the average proportion of market segments with SOE participation where the SOE is the sole operator, the poorer the market outcomes (**Figure 6** and **Figure 7**).

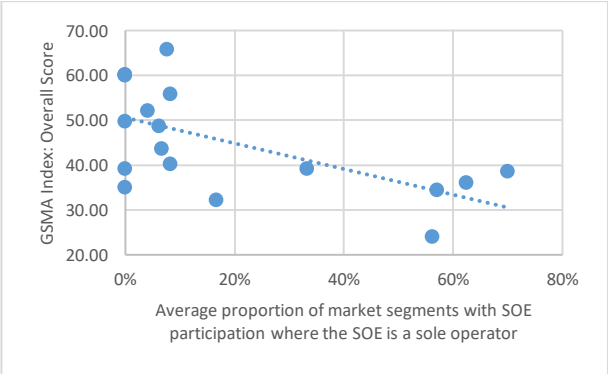
[32] Market segments studied for purposes of this paper were: a. Mobile communications retail services: voice, data (Internet), messages; b. Mobile communications wholesale services; c. Fixed communications retail services: voice, data (Internet); d. Fixed communications wholesale services (e.g. fiber backbone infrastructure, leased lines, metropolitan networks); e. International communications: voice, data; f. International gateway/landing station (e.g. submarine cable, terrestrial cable, satellite); g. Passive infrastructure services (e.g. ducts, towers); h. (Mobile) payment services; i. Cloud and hosting services (e.g. website/email, datacenter collocation, cloud storage); j. Other data services (e.g. mobility analytics, cloud computing, IoT solutions); k. Digital services on digital platforms (e.g. e-commerce, ride hailing, e-commerce for farmers); l. Other ICT services (e.g. videoconferencing, contact centers); m. Other non-ICT services (e.g. real estate).

Figure 5. Number of SOEs that have activities in the various digital market segments studied, from upstream digital infrastructure to downstream digital and data services



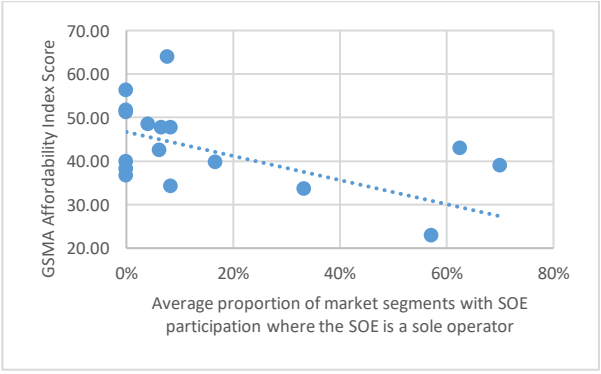
Source: World Bank Markets, Competition and Technology Unit, Database of SOEs in Digital Sectors across Africa.
Note: The SOEs studied and presented in this graph are typically active in more than one market segment (i.e., they are vertically integrated to some degree along the value chain – discussed in more detail below). As such, the presence of an SOE in one category is not necessarily exclusive of it being present in another category.

Figure 6. Countries have higher overall scores on the GSMA Connectivity Index when SOEs face competition in the markets in which they operate



Source: World Bank Markets, Competition and Technology Unit, Database of SOEs in Digital Sectors across Africa, and GSMA Intelligence GSMA Connectivity Index 2019

Figure 7. Mobile services and devices are more affordable in countries where SOEs face competition in the markets in which they operate

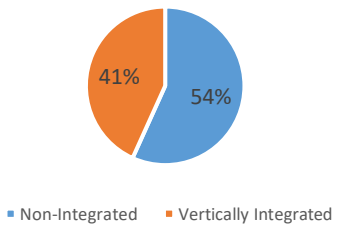


Source: World Bank Markets, Competition and Technology Unit, Database of SOEs in Digital Sectors across Africa, and GSMA Intelligence 2019

Vertical integration across the various market segments in the digital infrastructure and digital value chain is relatively common amongst SOEs operating in Africa. Approximately 40 percent of the SOEs studied for this paper (16 of 37) are vertically integrated,[33] involved both upstream, in natural monopoly segments such as the operation of backbone infrastructure, as well as downstream in more contestable segments such as the provision of retail mobile services to consumers (**Figure 8**). For example, Kenya's Safaricom, Mauritius Telecom, MTN South Africa, Telkom South Africa, and Maroc Telecom participate in all digital market segments studied for purposes of this paper, as well as other non-ICT services (e.g. real estate).[34] These SOEs exhibit minority state ownership, ranging between 25 and 39 percent. Overall, of the 16 SOEs classified as vertically integrated, 2 are wholly state-owned, 3 are majority state-owned (50 percent or more), in 10 SOEs the government ownership ranges from 25 to 49 percent, and 1 has state ownership below 25 percent.

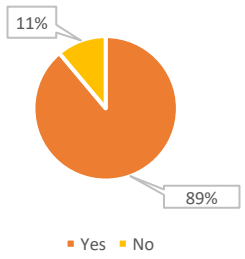
Vertical integration can increase efficiencies but also increase the risk of anticompetitive behavior and market foreclosure. Whenever operators have the incentive and the ability to discriminate in favor of their vertically integrated subsidiaries through control of non-replicable assets, further regulatory intervention may be necessary—to require a transparent separation or "unbundling" between the parts of the incumbent controlling the bottleneck assets and the other divisions. However, in the absence of adequate regulatory intervention, vertical integration can lead to suboptimal market outcomes such as high wholesale prices and limited network development.[35] Alternative approaches involve governments taking on a coordinating role and opening the backbone market to private investment, enforcing open access and cost-based pricing, and offering incentives to existing or new operators to invest in less lucrative areas to complete the infrastructure backbone.[36] Adding to the risks associated with vertical integration, in almost 9 of every 10 countries surveyed, SOEs are the largest or the second-largest company in the relevant market segment in which they are active **(Figure 9**) and, as noted above, 41 percent (15) are sole operators in at least one of the market segments in which they operate, with no presence of private firms.

Figure 8. Share of SOEs that are vertically integrated across more than one segment



Source: World Bank Markets, Competition and Technology Unit, Database of SOEs in Digital Sectors across Africa.

Figure 9. Percentage of SOEs that are either the largest or second largest company in the relevant market segment



Source: World Bank Markets, Competition and Technology Unit, Database of SOEs in Digital Sectors across Africa.
Note: Market share is based on the number of subscribers according to GSMA data as of Q4 2019.

[33] An SOE is defined for purposes of this study as vertically integrated if it is participating in at least 40% of the market segments analyzed, such that is operates simultaneously in sectors such as Infrastructure (international gateway, landing stations), fixed communication retail (voice, data) services, fixed communications wholesale services (e.g., fiber backbone infrastructure, leased lines, metropolitan networks), and more commercial segments such as mobile communications retail services.

[34] See above at fn 33 for market segments studied for purposes of this paper.

[35] World Bank (2018a).

[36] World Bank (2021).

5. SOEs and competitive neutrality in digital infrastructure and digital markets: policy considerations in Africa

5.1. Overview

State ownership in digital sectors is not problematic *per se*, but SOEs are often associated with a variety of preferential, market-distorting policies that can compromise private sector viability and profitability. Inefficient and poorly exercised state ownership can have significant negative effects on economies by creating additional risks for public finances, risks to the financial sector through state-owned banks, and risks to productivity and economic growth through spillovers from inefficient SOEs to private firms.[37] The presence of SOEs in the market can unintentionally lead to adverse effects and market distortions, which can be broadly categorized into three groups: (1) effects of SOEs on market functioning and private sector participation; (2) effects of SOE performance on development outcomes; and (3) effects of domestic SOEs on global markets.[38]

Adverse effects on the private sector and market distortions are often a result of formal government rules or implementation actions that may protect SOEs from entry and competition—a failure to implement or uphold competitive neutrality in a given market. Where direct or indirect benefits are provided to SOEs by the government and not offered to private firms, this creates an unlevel playing field—skewing firm incentives and distorting competition (see also Annex 3).[39] Benefits may include subsidization, preferential tax treatment or exemptions, in-kind benefits, and concessionary financing and guarantees. As a result, SOEs often operate within soft budget constraints, secure in the knowledge that they will continue to receive government support regardless of their level of return on investment, losses suffered, or low-quality outputs.[40] This reduces incentives to increase efficiency, productivity, and quality in the goods or services delivered, and reduces the potential for new private sector investments.[41] Soft budget constraints also reduce the SOE incentives to reduce jobs, which can be politically controversial (and indeed SOEs may be subject to significant political pressure to maintain or even increase employment, particularly around elections), or pay off loans, thereby increasing the debt risks for sovereigns. Moreover, although concentrated market structures may emerge naturally and efficiently, especially in small markets or in sectors with large economies of scale such as telecommunications and digital more generally, markets with fewer participants are even more vulnerable to anti-competitive behavior such as collusion.

To understand the competition dynamics in the markets in which SOEs operate, regulatory frameworks can be analyzed to determine whether they include important safeguards to minimize potential market distortions that can result from SOE participation in markets. These safeguards can be categorized using the World Bank's Competitive Neutrality Gap Analysis, across two pillars—firm-level principles and cross-cutting policy—each with four sub-components (**Table 4**).

[37] Böwer (2017); Shapiro and Globerman (2012).
[38] World Bank (2019a).
[39] OECD, (2011).
[40] Kornai, Maskin, and Roland (2003).
[41] Kowalski et al. (2013).

Table 4. Competitive neutrality principles in digital markets

PRINCIPLE	APPLICATION TO DIGITAL SECTORS
Firm-level principles	
Streamlining the operational form of government business	Where SOEs engage in both commercial and noncommercial activities there should be a mandatory unbundling of such activities: this is the case of operators entrusted with the provision of universal and public service obligations (USOs and PSOs), such as the development of broadband infrastructure and access across the country, in addition to commercial activities.
Identifying the costs of any given function	Where an SOE combines the provision of commercial and non-commercial activities (e.g., it provides fixed line retail communication services and operates backbone infrastructure for the same), it should adopt cost allocation mechanisms to ensure public funds that are granted to finance PSOs do not finance commercial activities in the market.
Achieving commercial rates of return	SOEs should be required to achieve commercial rates of return in their commercial operations, such as the provision of digital mobile services, particularly in markets where private actors also operate.
Accounting for Universal and Public Service Obligations (PSOs)	Compensation to SOEs for the provision of public services, such as the maintenance and operation of submarine cables or international landing stations, should be market-based and transparent for purposes of accountability.
Cross-cutting principles	
Regulatory neutrality	All firms, including SOEs, should receive equal treatment in the law. For example, SOEs that deliver PSOs in the operation of fixed line telecommunications networks should not be exempted from the obligations contained in the competition law, or excluded from antitrust enforcement.
Tax neutrality[42]	Within the broader tax system for corporate commercial activities, SOEs should not benefit from any exemptions or preferential treatment, e.g., reduced rates, rights of deferral. For example, an over-the-top (OTT) service provider, which provides similar audio, video, or other media via the internet primarily, should not be subject to different taxation levels (de jure or de facto) as compared to traditional mobile network operators (MNOs).
Debt neutrality	SOEs should have access to credit on the same terms as private sector operators, and should not receive public funds, for example, to invest in backbone infrastructure or mobile services activities that compete with private operators without a clear economic justification or policy objective.
Preferential treatment in procurement	The rules and processes that apply to public procurement should be transparent and non-discriminatory. For example, the allocation of spectrum rights should not favor SOEs over private providers.

Source: Authors' elaboration; adapted from OECD (2012).

Analyzing each of these issues to assess the conditions of competition for SOEs versus private actors in the relevant market involves an in-depth analysis of applicable laws, regulations, and policies against a

[42] For a more detailed discussion of taxation in the digital sectors see Background Paper 5: Taxes and parafiscal fees on digital infrastructure services in Africa.

benchmark of best practices. The following section provides a high-level assessment of the countries and digital market segments in which the 37 SOEs surveyed operate in Africa.

5.2. Competitive neutrality in Africa's digital sector

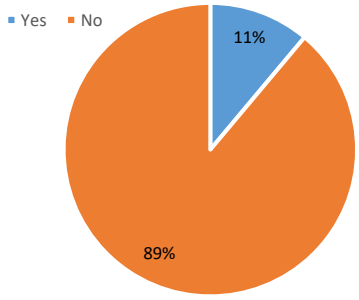
Important limitations were identified regarding the implementation of competitive neutrality in digital sectors across Africa.

5.2.1 Streamlining the operational form of government business – separating commercial from non-commercial activities of SOEs

In order to ensure the credibility of investment, international practice recommends structurally separating commercial from non-commercial activities where feasible and efficient, particularly if the SOE has significant market power. Such a separation ensures that the allocation of public funds does not distort the level playing field by financing the provision of a commercial activity in the market. The distinction between commercial and non-commercial activities is important because it may well be appropriate for money to flow from a government to an SOE in return for the performance of a *PSO*, but government funds flowing to an SOE to support *commercial activities* are likely to give SOEs undue advantages over (potentially more efficient) private-sector firms performing the same commercial activity.

Ideally, applicable legal frameworks should both (i) define commercial activities;[43] and (ii) require separation of commercial from non-commercial activities in SOE operations. Business separation can encompass varying degrees, ranging from account unbundling to structural bundling. Also, ownership rights should be separated from regulatory functions, to prevent situations of self-preferencing where an SOE can block market entry or access to infrastructure or hinder expansion by its competitors. Separation may ultimately facilitate the arrival of new competitors to the relevant market segment.

Figure 10. Share of countries that require SOE to separate commercial from noncommercial functions



[43] For example, the Trans-Pacific Partnership (TPP) defines commercial activities *"as activities which an enterprise undertakes with an orientation toward profit-making and which result in production of a good or supply of a service that will be sold to a consumer in the relevant market in quantities and at prices determined by the enterprise." (*TPP, Chapter 17.1) In the EU, any activity consisting in offering goods and services on a market is an "economic activity". (Case 118/85 Commission v Italy [1987] ECR 2599, paragraph 7)

Source: World Bank Markets, Competition and Technology Unit, Database of SOEs in Digital Sectors across Africa.

Of the 37 SOEs analyzed in detail across 18 countries, 8 (approximately 20 percent) perform both commercial and non-commercial functions. However, in almost 90 percent of the countries analyzed, there are no requirements for the SOEs to separate commercial and non-commercial (i.e., universal and public service obligations) functions (**Figure 10**). Morocco and Tunisia are the only two countries that legally oblige SOEs to separate commercial from non-commercial activities in their financial accounting, **which otherwise fosters the identification of costs associated with universal and public service obligations (USOs and PSOs), and monitoring of revenues (or losses) associated with other activities** (**Box 1**). If the legal framework fails to define commercial versus non-commercial activities and subsequently also fails to impose an obligation on SOEs to separate such activities to some degree, this can facilitate cross-subsidization, create a lack of transparency regarding financial flows, and potentially compromise market-based decision-making by telecom operators, including SOEs.

Box 1. Morocco and Tunisia require SOEs to separate accounts, which promotes a level playing field

Morocco: The *Décret n° 2-97-1025 du 27 chaoual 1418 (25 février 1998) relatif à l'interconnexion des réseaux de télécommunications tel qu'il a été modifié et complété par le décret n°2-05-770 du 6 joumada II 1426 (13 juillet 2005)* requires SOEs operating in the telecommunications sector to maintain separate accounts (account unbundling) for their activities in order to identify the following categories of costs: (i) general network costs, i.e. the costs relating to the network elements used at both by the operator for services intended for its own users and for interconnection services; (ii) costs specific to interconnection services; (iii) costs specific to other services provided by the operator; (iii) all other costs.

Tunisia: The *Code des Télécommunications* at Article 26bis (Ajouté par art. 2 de la loi n°2008-1 du 8 janvier 2008) requires that Operators of public telecommunications networks and access networks keep separate accounts so as to distinguish between each network and each service, and to avoid any cross-subsidization between their operations.

Source: World Bank Markets, Competition and Technology Unit, Database of SOEs in Digital Sectors across Africa.

5.2.2 Identifying the costs of any given function

Since commercial activities may be carried out by public entities, which often share assets and costs with other parts of the government or public sector, it is important to develop cost-allocation mechanisms that guarantee that the allocation of public funds is not distorting the level playing field by financing the provision of a commercial activity in the market. The separation of commercial and non-commercial activities is crucial to ensure that SOEs are adequately compensated for PSOs while not receiving implicit subsidies for commercial activities, which could unlevel the playing field at the expense of (potential) private competitors. Typically, the law should set out a methodology to keep separate financial records of commercial and noncommercial activities and conduct oversight of SOEs through audits/annual reporting to ensure implementation. In this regard: (i) compensation for PSOs must be clearly defined; (ii) parameters for compensation must be established in advance in an objective and transparent manner; (iii) compensation provided should not exceed costs of PSOs; and (iv) where the

undertaking with PSOs is not chosen according to a public procurement procedure, the level of compensation needed must be determined based on an analysis of the costs of a typical, well run and adequately equipped undertaking.[44]

If a country does not require the formal separation of SOE operations and/or accounts between commercial and non-commercial activities, it is generally not possible to require entities to identify the costs of any given function. This is the case of most African countries surveyed, except for Morocco and Tunisia**.** For example, in Morocco, Article 17 of the Décret n° 2-97-1025 requires telecommunications operators to keep separate accounts for commercial and non-commercial activities, and the same provision goes on to stipulate that the sector regulator sets the rules for separate accounting systems as well as the costs that can be taken into account for the calculation of the tariffs of the various telecom services, in particular those relating to interconnection.

5.2.3 Achieving commercial rates of return

SOEs operating in a commercial and competitive environment should be expected to earn rates of return similar to comparable private businesses over a reasonable period of time, otherwise, private actors can be undercut and crowded-out from the market. This may happen because the SOEs could factor their low-profit margins into their pricing. SOE could also exclude competitors by pursuing aggressive pricing policies financed by the low profit if not below-cost pricing. Furthermore, SOEs should also pay an adequate rate of return on the assets they use for providing the relevant activities to avoid benefiting from undue advantages.

The Internal Rate of Return (IRR) or the net present value are typical measures used to determine the rate of return on investment.[45] When an SOE is entrusted with PSOs, the rate of return on capital is based on the IRR that the undertaking makes on its invested capital throughout the period it was entrusted to perform certain PSOs. For PSOs rendered by the SOEs, the European Commission, for example, regards a rate of return on capital that does not exceed the relevant swap rate plus a premium of 100 basis points as reasonable (**Box 1**).[46] On the other hand, the conformity of a public investment in digital infrastructure (e.g., broadband roll-out) with market terms should be demonstrated either by means o;f a significant participation of private investors or the existence of a sound business plan showing an adequate return on investment. Where private investors take part in the project, it generally must be shown that they

[44] See Case C-280/00, Altmark; Commission Decision (EU) 2016/2084 of 10 June 2016 on State aid SA.38132 (2015/C) (ex 2014/NN).

[45] The Internal Rate of Return (IRR) is defined as the discount rate that zeroes out the net present value of flows of costs and benefits of an investment, that is to say the discount rate of the equation below: NPV (S) = ∑ [St / (1+ IRRt)] = 0. The Internal Rate of Return is an indicator of the relative efficiency of an investment, and should be used with caution. The Net Present Value of a project is the sum of the discounted net flows of a project. The Net Present Value (NPV) is a very concise performance indicator of an investment project: it represents the present amount of the t benefits (i.e. benefits less costs) flow generated by the investment expressed in one single value with the same unit of measurement used in the accounting tables. NPV indicates whether the income from a given project exceeds the (opportunity) costs of capital. The project is considered as an economically profitable investment when it generates a positive NPV. Investments producing lower income as the (opportunity) costs of capital are not economically profitable. The (opportunity) costs of capital are reflected in the discount rate. For a detailed explanation of both concepts, see the EU Commission: Guide to cost-benefit analysis of investment projects, Structural Funds, Cohesion Fund and Instrument for Pre-Accession, 2008.

[46] Commission decision State aid SA.38788(2015/N)–United Kingdom Compensation to Post Office Limited for costs incurred to provide SGEIs 2015-2018, para. 110 and paragraph 25 of the SGEI Framework. For the details of the application of the net avoided cost methodology see paras. 111-114.

would have to assume the commercial risk linked to the investment under the same terms and conditions as the public investor.[47]

Box 2. The European approach to defining a commercial rate of return

The European Commission has examined the use of the IRR in the broadband field in a decision related to a broadband venture in Amsterdam, in order to assess the conformity of a public investment with market terms. According to the Commission, the conformity of private investment with market terms has to be demonstrated thoroughly and comprehensively, either by means of a significant participation of private investors or the existence of a sound business plan. In this context, the IRR ratio is typically the most appropriate parameter for an analysis of the business plan, since it is used to make decisions on long-term investments and to compare different investment projects.

However, given the novelty of the project, the dynamic nature of the broadband telecommunication markets, and limited IRR data, the Commission decided to use the weighted average cost of capital (WACC) of other companies in the same industry. WACC data can be a useful benchmark because a project is considered worth undertaking if the IRR exceeds the WACC. The Commission also assessed the alternative financial indicators used in the business plan, such as the positive cash flow generation and the return on equity. Notwithstanding, it could not carry out a thorough benchmarking exercise for these indicators due to the lack of publicly available data, and therefore had to assess them from the point of view of the adequacy and internal consistence within the business plan.[48]

On the other hand, where an SOE provides PSOs, the Commission regards as "reasonable" a rate of return on capital that does not exceed the relevant swap rate plus a premium of 100 basis points.[49]

Source: Authors' elaboration based on various sources.

Of the 37 SOEs surveyed across 18 countries, only one of the host countries, Tanzania, systematically required SOEs in the telecommunications sector to achieve a commercial rate of return in their operations. In Ghana and South Africa, 2 SOEs were ultimately expected to achieve a commercial rate of return, not due to an overarching legal obligation but rather because the government held only a minority stake (**Box 3**). When SOEs are not required to achieve a commercial rate of return, they operate within soft budget constraints, which reduces the incentives to increase efficiency, productivity, and quality of the services delivered, and can consequently lead to poor market outcomes (**Box 4**).

Box 3. SOEs in the digital infrastructure sector in Africa rarely are obliged to achieve a commercial rate of return

Ghana: Vodafone Ghana, in which the Ghanaian government has a 30 percent stake, is not legally obliged to achieve a commercial rate of return. However, since the government is only a minority shareholder, the company will be subject to the commercial demands and expectations of its private

[47] European Commission, *Communication from the Commission – EU Guidelines for the application of State aid rules in relation to the rapid deployment of broadband networks* (2013/C 25/01), para. 17.

[48] Commission Decision of 11 December 2007 in Case C 53/06 — The Netherlands, Citynet Amsterdam — Investment by the city of Amsterdam in a fibre-to-the home (FttH) network (OJ L 247, 16.9.2008, p. 27).

[49] See also Commission decision State aid SA.38788(2015/N)–United Kingdom Compensation to Post Office Limited for costs incurred to provide SGEIs 2015-2018, para. 110 and paragraph 25 of the SGEI Framework. For the details of the application of the net avoided cost methodology see paras. 111-114. It can be consulted online at http://ec.europa.eu/competition/state_aid/cases/256622/256622_1651530_118_2.pdf

shareholders—as a result, the SOE may be more likely to strive towards efficiency-enhancing modes of operation and greater productivity, to maximize its return.

South Africa: The South African government has a 25 percent stake in MTN South Africa, which is a publicly traded company. As a result, and similar to the situation with Vodafone Ghana, it would be incentivized to turn a profit to maintain (and potentially grow) its market share price.

Tanzania: According to Section 5(1) of the Tanzanian Telecommunications Corporation Limited (TTCL) Act No. 12 of 2017, read together with Section 14(2)(d) of the Public Corporations Act, TTCL as an SOE is required to "*operate its business in accordance with sound commercial principles*."

Source: World Bank Markets, Competition and Technology Unit, Database of SOEs in Digital Sectors across Africa.

Box 4. Digital SOEs in Sierra Leone: soft budget constraints and poor market outcomes

Across the board in Sierra Leone, SOEs operate within soft budget constraints. There is no SOE or public sector law that requires SOEs to achieve a commercial rate of return, they benefit from favorable financial treatment in terms of deferred tax payments (even though they are subject to full tax liability) and in the digital sector, they benefit from reduced annual fees for spectrum access. As domestic firms, SOEs also receive preferential treatment over foreign bidders in public procurement. Furthermore, as there is no regulatory framework to facilitate and structure infrastructure sharing, private investment and access are not promoted with respect to the submarine and terrestrial fiber network.

Notwithstanding the government support and advantages provided to SOEs operating in the digital infrastructure and digital communications sectors, Sierra Leone exhibits poor market outcomes in terms of quality of infrastructure, coverage, and cost. This may be due at least in part to the absence of competition upstream and, in particular, the absence of private firms in the submarine and terrestrial fiber network. Sierra Leone ranks 143rd out of 170 economies worldwide regarding the quality of digital infrastructure and network coverage is 50 percent (8 points below the regional average), placing Sierra Leone 137th out of 170 economies on this metric. Mobile ownership is approximately 54 percent in-country and high services costs cannot help: despite price reductions in recent years, the country ranks 129th of 170 countries on the mobile affordability index. Two SOEs, Sierra Leone Cable Limited and Sierra Leone Telecommunications Company, are the sole operators in certain of their market segments: they hold de facto monopolies over the submarine and terrestrial fiber network as well as fixed-communication wholesale (fiber backbone infrastructure, leased lines, metropolitan networks) and retail (voice, data) services, respectively. The Sierra Leone Telecommunications Company does operate and compete with private firms in the provision of retail mobile services (voice, data), however, but holds only 3 percent of the market. Given this market structure, and relatively high market shares upstream in fixed infrastructure combined with low market shares downstream, it is likely the lack of competition upstream that is raising costs for mobile services providers, which pass this on to consumers through higher prices.

Source: World Bank Markets, Competition and Technology Unit, Database of SOEs in Digital Sectors across Africa.

5.2.4 Accounting for Universal and Public Service Obligations (USOs and PSOs)

Compensation is often given to public entities and SOEs for the provision of public services (e.g. ambulance services, universal postal service, urban transportation etc.). However, if the public entity or SOE also operates in the marketplace there is a risk that the compensation be used to cross-subsidize the commercial activities of the provider. For example, an SOE involved in the maintenance and operation of fixed infrastructure such as backbone or submarine cables, a public mission for which is compensated by the government, could use part of the compensation received for an activity falling outside the scope of the PSO if they are in fact overcompensated for the provision of that PSO, e.g. to reduce its prices of fixed or mobile network services to end users, a commercial activity that is also carried out by the SOE. Conversely, if the compensation is not sufficient to cover the costs of the provision of the PSO, the SOE may be put at a disadvantage vis-à-vis its competitors in the marketplace.

Regulators should not attach specific PSOs to services that are already provided or can be provided satisfactorily by undertakings operating under normal market conditions such as price, objective quality characteristics, continuity and access to the service, and consistent with the public interest, as defined by the State. Considering the broadband sector as an example, the European Commission considers that in geographic areas where private investors have already invested in a broadband network infrastructure (or are further expanding the network) and are already providing competitive broadband services with adequate broadband coverage, setting up a parallel competitive and publicly funded broadband infrastructure cannot be considered as justifying a PSO. However, where it can be demonstrated that private investors are not in a position to provide adequate broadband coverage to all citizens or users in the near future, thus leaving a significant part of the population unconnected, a PSO may be necessary.[50]

If a country does not require the formal separation of SOE operations and/or accounts between commercial and non-commercial activities (Section 3.2.1) nor the identification of the costs of a given function (Section 3.2.2), it is generally not possible to require entities to account for PSOs. As noted above, in almost 90 percent of the countries analyzed, there are no requirements for the SOEs to separate commercial and non-commercial functions. Morocco and Tunisia are the only two countries that legally oblige SOEs to separate commercial from non-commercial activities in their financial accounting (see above in **Box 1**), which allows SOEs to then identify the respective costs of each function and account for PSOs discretely. Notably, Morocco and Tunisia scored significantly higher than the average GSMA Connectivity Index score for the countries studied (45.21), as well as the African region more broadly (39.03), with 59.89 and 60.03 respectively.

5.2.5 Regulatory neutrality

To the extent possible, public and private businesses should conduct their activities under the same regulatory conditions in order to avoid SOEs receiving advantages that distort competition in the marketplace. Where this is not feasible, appropriate adjustments should be made to neutralize the remaining advantages or disadvantages. The word "regulatory" is interpreted broadly as referring to both the legal and regulatory frameworks in which businesses operate (e.g., the general business environment dealing with business laws, licensing and regulations, bankruptcy, antitrust) as well as the enforcement of product market regulations in their relevant sector. At a general level, regulation should be non-

[50] European Commission, *Communication from the Commission* – EU Guidelines for the application of State aid rules in relation to the rapid deployment of broadband networks (2013/C 25/01), para. 20.

discriminatory – i.e., it should apply equally to companies involved in the management of digital infrastructure, fixed and mobile communications services providers, and downstream data services providers, with or without state ownership, and to different legal classes of businesses, with no differences in coverage, applicability, transparency or implementation.

Regulatory neutrality is paramount to ensure a level playing field in digital markets, particularly where there is vertical integration in the market or ownership of essential infrastructure, and a higher risk of self-preferencing. This risk is especially acute in Africa where there is a lack of sufficient public funding to ensure full network coverage and accessibility. And there is a growing risk of an inadequate enforcement of sector-specific regulation vis-à-vis digital platforms that have invested in upstream digital infrastructure. For instance, Facebook has been actively investing in network infrastructure, at various times, in the African continent, especially in the following (e.g., fiber, edge network infrastructure including points of presence (PoP), caches in telecom operators' networks) and entering into partnerships with telecom operators and ISPs to improve network coverage and accessibility.[51] If sector regulation (e.g. net neutrality and SMP) rules are not effectively enforced, there is a greater risk of big tech firms limiting access to essential infrastructure and/or self-preferencing their digital platforms with potentially anticompetitive effects. For example, Facebook's investments in network infrastructure in Africa (e.g., the "2Africa" submarine cable) have been cited as a risk to net neutrality if not combined with appropriate regulatory protections.[52]

To ensure a level playing field between SOEs and private firms with respect to the regulatory framework, it is also important that the State requires SOEs to meet reasonable requests for access to their physical infrastructure. Indeed, international best practice recommends that regulators impose an obligation for access to infrastructure built on State property (i.e., rights of way). For instance, SOEs in Angola, Benin, Comoros, Gabon, Morocco, South Africa, and Tunisia manage essential facilities infrastructure, even though they also operate in the retail segments of the value chain. This creates risks of self-preferencing if governments do not also have in place ex-ante regulation mandating infrastructure sharing. In addition, non-strategic markets should generally be open to potential private sector entrants and investment, even if the segment exhibits natural monopoly characteristics. Another important aspect of regulatory neutrality requires that government agencies or SOEs charged with oversight and regulation of SOEs or sectors in which SOEs are active should be separate and should not be involved in the day-to-day management of SOEs' commercial activities.[53]

Box 5. Digital SOEs in Angola: state monopolies, weak network coverage and low affordability

Angola exhibits poor performance in its telecommunications sector overall. It ranks 130th out of 170 economies in the overall GSMA Connectivity Index. Network coverage is approximately 57 percent, which is just below the Continental average, and places it 128th out of 170 economies globally. Affordability is marginally better, as Angola ranks 96th on the GSMA affordability ranking (as compared to 129th for Sierra Leone, see above in **Box 4**), but mobile penetration is lower at 46 percent. Angola is

[51] Analysis Mason (2020).
[52] See here for discussion: https://www.theafricareport.com/34906/how-facebook-spun-its-web-across-african-internet/ and https://www.theguardian.com/world/2016/aug/01/facebook-free-basics-internet-africa-mark-zuckerberg.
[53] OECD (2012), p. 65.

identified as having highly concentrated markets, with a Telecom HHI score of >6100 (one of the 10 least competitive in the Africa region).

Market structure and regulatory protections for state-owned incumbents may at least in part be to blame for these conditions. Three of the SOEs studied for this paper are the largest market players with respect to ownership of backbone infrastructure, and the provision of fixed and mobile communication services. Angola Telecom, which provides wholesale and retail fixed communications services is the sole operator with respect to wholesale but competes with private sector operators with respect to retail mobile and fixed communications services. Indeed, by law, the ownership and operation of digital infrastructure in Angola is reserved to the State, and although activities that are not part of the basic network can be provided by companies with no government participation, it is only possible through concession contracts. Additional institutional structures and preferential treatment may also be a problem, however, compounding the perceived risks and low returns associated with private investment. Various SOEs sit as members of the Technical Council of the telecommunications sector regulator, which suggests prices and fees for the sector and consequently creates a conflict of interest for SOEs in terms of the commercial and non-commercial activities of SOEs in the sector. Furthermore, in downstream segments where Angola Telecom competes with private operators in the provision of retail mobile and fixed line services, Angola Telecom has preferential access to finance through capital injections and other operating subsidies from the government, priority loans through state-owned banks, and government guarantees. More generally, SOEs are exempt from bankruptcy law and are not required to achieve a commercial rate of return.

Source: World Bank Markets, Competition and Technology Unit, Database of SOEs in Digital Sectors across Africa.

Box 6. SOEs' de facto monopolies regarding the ownership of digital infrastructure

Ethiopia**:** Until recently, policy direction with regards to passive infrastructure established that private developers are not allowed to own or lease towers. As a result, private operators have had to rely on passive infrastructure owned by the state-owned operator, Ethio Telecom. This placed private operators at a competitive disadvantage in terms of cost of accessing infrastructure vis-à-vis SOEs, and increased the risk of anticompetitive behavior by the latter since it can limit entry and/or expansion by competitors in downstream markets. In mid-2021 the Ethiopian government initiated the sale of a 40 percent stake in the national network operator, Ethio Telecom, to an international operator, as well as a 5% stake to local investors.[54] Through 2021 and into 2022, the Government also engaged in a tender to select a third licensed operator, to operate alongside Ethio Telecom and a Safaricom-led consortium, which received a license effective July 2021. The Safaricom-led consortium (the consortium is called the "Global Partnership for Ethiopia", comprising Safaricom, Vodacom, Vodafone, Sumitomo Corporation, and CDC Group) can now provide any telecommunications service including voice, text, data, and video using any technology whether fixed or wireless anywhere within Ethiopia.

Source: World Bank Markets, Competition and Technology Unit, Database of SOEs in Digital Sectors across Africa.

[54] For more information, see: https://www.reuters.com/business/media-telecom/ethiopia-launches-tender-process-sell-40-stake-ethio-telecom-2021-06-14/ and https://www.businesswire.com/news/home/20211207005853/en/Ethiopia-Telecoms-Mobile-and-Broadband-Markets-Statistics-and-Analyses-Report-2021---ResearchAndMarkets.com.

5.2.6 Tax neutrality

To maintain a level playing field, public and private business activities should be treated equally under tax law. This means, first and foremost, that the State should not award tax derogations to private firms or SOEs that may amount to a selective advantage in relation to firms which, considering the objectives intrinsic to the system, are in a comparable factual and legal situation. In principle, SOEs should be treated as any other undertaking for the purposes of corporate and other business-related taxes to avoid market distortions.[55] This comparability analysis is made in relation to the tax reference system and does not require a relevant market definition or the determination of whether there is an actual advantage.[56] The concept of a tax reference system[57] is of key importance under a competitive neutrality analysis since it provides a basis for assessing whether a given tax derogation is selective or not, irrespective of ownership. If a derogation cannot be justified by the logic of the reference system, then it is selective in nature. A detailed analysis of tax treatment across market players is required to determine the actual preferential treatment of the market players.

An example of lack of tax neutrality can be found when States impose higher levels of taxation upon OTT service providers that use the internet to deliver streaming audio or video services, or other media, as compared to traditional MNOs that may be in the business of delivering similar services. Some examples include: the Zambian government's announcement of a flat daily tax of 30 ngwees (US $0.03) on IP-based voice calls in August 2018; Uganda's social media tax of 200 Ugandan shillings ($0.05) for using platforms like WhatsApp, Viber, Twitter, and Skype; Morocco's tax on all of the P2P voice applications.[58] Radio spectrum is another area where governments may seek to impose discriminatory taxation measures with SOEs being awarded radio spectrum pursuant to bilateral negotiations instead of auctions like private operators (e.g. direct negotiation between the Government of Senegal and Sonatel to assign a 17-year 4G license (1.5GHz and 800Mhz) for CFA 32bn (US$XXm)). By the same token, imposing taxes on incoming international calls (e.g. Ghana, Guinea, Liberia, Niger, Tanzania) limits call volume and connectivity within a country and may contribute to strengthening the position of incumbent firms. [59]

Across all 37 SOEs in 18 countries, some 84 percent of the SOEs surveyed (in 72 percent of countries surveyed) are subject to full tax liability in their home countries (i.e., subject to the same rate as private sector actors in the same market segment). Only 11 percent of SOEs are granted preferential treatment with respect to tax credits or treatment when tax arrears exist, in Angola, Sierra Leone, and Tanzania. Put differently, 16 percent of the countries analyzed allow SOEs preferential access to tax credits or grant them preferential treatment when in tax arrears. As a consequence of preferential tax treatment, SOEs receive an economic benefit that they could not have obtained under normal market conditions. This gives SOEs a cost advantage over their private competitors and, in certain circumstances, contributes to strengthening the market position of SOE incumbents to the detriment of consumers (e.g. special taxes for OTTs and incoming international calls).

[55] The risk of market distortion is exacerbated when public businesses are not incorporated because the possible discrimination vis-à-vis private undertakings is more difficult to identify.
[56] For the assessment of an actual advantage, firm-level data to allow determining the effective tax treatment is required, but it was not available during the writing of the report.
[57] The tax reference system provides a clear set of rules that can objectively determine the applicability of a derogation.
[58] World Bank, Regulatory Watch Initiative (RWI) Phase 2. For more information, see: https://blogs.worldbank.org/digital-development/promoting-digital-development-through-best-practice-and-data-driven-regulation.
[59] Ibid.

5.2.7 Debt neutrality and outright subsidies

SOEs often enjoy preferential access to finance through state-owned banks, government guarantees, or outright subsidies that are not also available to private operators on the same terms. Financial benefits are a special risk when SOEs are vertically integrated across value chains, with downstream service providers potentially able to access networks at reduced rates or even free of charge. Such benefits that are not also available to private actors give SOEs a competitive advantage and allow them to price more aggressively and potentially undercut private competitors, distorting competition dynamics and discouraging participation or even entry by private actors. In addition to such market effects, SOE borrowing may lack transparency for central government agencies such as the Ministry of Finance, particularly in lower capacity contexts where SOEs may not be subject to sufficient oversight—this increases the financial exposure of sovereigns if debts are ultimately guaranteed by the state, with potentially serious implications for sovereigns' fiscal sustainability and risk ratings.

Subsidies and unsustainable borrowing can also affect market dynamics when they support digital infrastructure projects in the absence of a market failure. For instance, in situations where there is already one broadband network operator, subsidies for the construction of an alternative network could distort market dynamics unless it can be clearly demonstrated that a market failure persists. For example, the European Commission declared that funding granted for the development of additional broadband infrastructure in Appingedam in the Netherlands was incompatible with the EC Treaty because private firms had adequate incentives to invest in broadband in that area (a private operator was already present) and that the best approach was to rely on market forces. The Commission concluded that there was no market failure in the broadband market in Appingedam which would otherwise justify financial state support.[60] Other subsidies include the assignment of a spectrum holding for free or below market price or through subsidies aimed at network deployment in non-commercial areas (e.g. rural areas) that would not be attractive for private firms.

Of the SOEs surveyed, it was reported that 19 percent of them benefit, either as a result of express legal permissions or in practice, from preferential access to finance from the government, such as through reduced interest rates, government-backed loans, debt guarantees, or capital injections (Figure 11). At the country level, this amounts to 39 percent of the countries studied offering SOEs preferential access to finance from the government (**Figure 12, Box 7**). At the same time, it is important to note that government ministries and agencies also often have large unpaid debts to SOEs, which could in some cases account, at least in part, for direct on-lending to SOEs to help cover the associated costs.

[60] Commission Decision of 19 July 2006 on the measure No C 35/2005 (ex N 59/2005, which the Netherlands are planning to implement concerning a broadband infrastructure in Appingedam (notified under document number C(2006) 3226) (Text with EEA relevance) (2007/175/EC).

Figure 11. Share of SOEs receiving preferential access to finance from the government

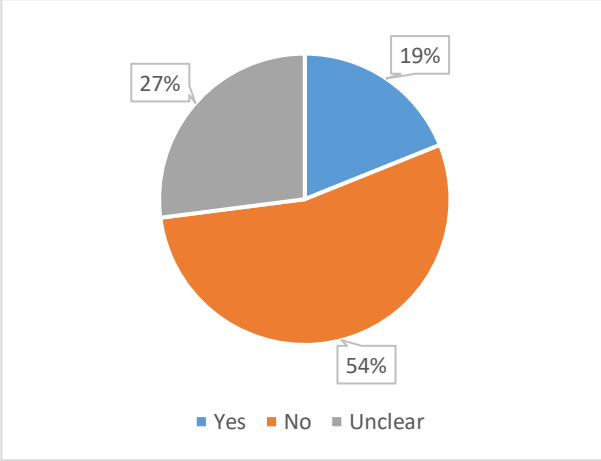
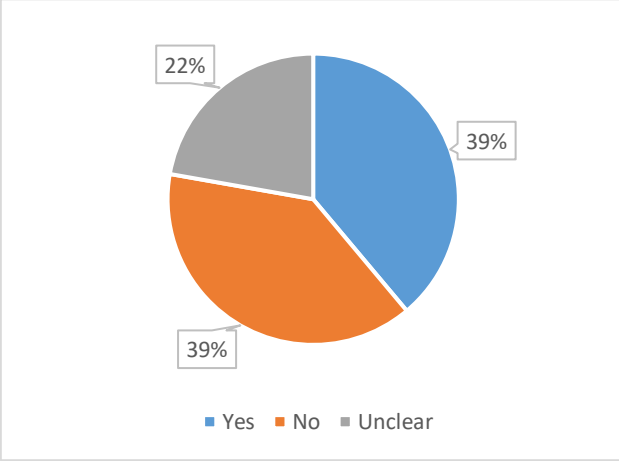


Figure 12. Share of countries granting SOEs preferential access to finance



Source: World Bank Markets, Competition and Technology Unit, Database of SOEs in Digital Sectors across Africa

Box 7. Countries where SOEs benefit from preferential access to capital from the government

Angola: Angola Telecom, which is wholly state-owned, receives operating subsidies and capital injections from the government, as well as priority loans through state-owned banks, and government-backed loans.

Ghana: The government can provide reduced interest rates for SOEs and according to the Public Corporations Act, the president can waive payment of interests.

Liberia: Sources indicate that, in practice, the government frequently covers Liberia Telecom's liabilities.

Mauritius: The National Computer Board, which engages in various downstream data services including mobility analytics, cloud computing, digital platform services and is wholly state-owned, is legally entitled to receive financial contributions from the consolidated funds of the Government.

Mozambique: Moçambique Telecom, which is 90 percent state-owned and active in all upstream aspects of digital infrastructure ownership and management, including international landing stations and communications, and passive infrastructure services, as well as downstream aspects including mobile and fixed retail services, receives preferential access to government-backed loans as a form of financing.

South Africa: Broadband Infraco, another wholly-owned SOE that is engaged in the ownership and management of fixed communications infrastructure, international gateways, and cloud and hosting services, has preferential access to government-backed loans, and receives capital injections and grants directly from the government. In addition, the governing law provides that Broadband Infraco may borrow money, issue a guarantee, indemnity or security, or enter into any transaction necessary in order to achieve its objectives.

Tanzania: The Tanzania Telecommunications Corporation, also wholly state-owned, and active in fixed and mobile communications retail services, international landing infrastructure and communications services, passive infrastructure services (ducts, towers), and mobile payment services, has access to government-backed loans and reduced interest rates through the operation of various provisions of the Tanzania Telecommunications Corporation Act, 2017.

Source: World Bank Markets, Competition and Technology Unit, Database of SOEs in Digital Sectors across Africa

5.2.8 Preferential treatment in public procurement

In order to ensure a level playing field and also to facilitate the entry of competitors in the public contract market, procurement policies and procedures should be transparent, competitive, and non-discriminatory. This concerns particularly the access of SOEs to public contracts and their treatment during public procurement. SOEs should in principle be allowed to participate in bids on equal footing with private enterprises but not enjoy any preferential treatment.

In the digital infrastructure context, preferential treatment in procurement may occur when governments fail to ensure a transparent, objective, and non-discriminatory assignment of radio spectrum. SOEs and private firms should bid on an equal footing for spectrum, meaning Governments should avoid engaging in bilateral negotiations with SOEs that may result in a below-market price for spectrum and in a competitive time advantage in relation to private players - e.g. direct negotiation between the Government of Senegal and Sonatel to assign a 17-year 4G license (1.5GHz and 800Mhz). The risk of a discriminatory assignment is especially high whenever spectrum management is not entrusted to an independent authority that can prevent the State from favoring an SOE through the preferential award of spectrum rights.

Asymmetric spectrum holdings can play a role in hindering the deployment of competitive mobile networks by smaller operators. Namely, spectrum asymmetry may give larger operators an unmatchable advantage over competitors that are unable to pool together the necessary spectrum holdings within the same time frame. The risk of a discriminatory assignment is especially high whenever spectrum management is not entrusted to an independent authority that can prevent the State from favoring an SOE through the preferential award of spectrum rights. Transparency in public procurement is also paramount whenever public authorities select a third-party operator to deploy and operate subsidized digital infrastructure.

In addition, instruments such as public-private partnerships (PPPs) should be employed in a way that does not distort the level playing field, in particular by preventing the granting of undue advantages to the private or the public entity involved in the PPPs. This ensures transparency for all investors wishing to bid for the implementation and/or management of the subsidized project. A competitive tender is the best method to reduce budgetary costs, minimize the potential State aid involved, and reduce bias in the selection of the private entity.

Across Africa, none of the countries studied maintain *de jure* asymmetric, preferential conditions with respect to procurement processes for SOEs. Only Sierra Leone maintains a de jure preference in the law in favor of domestic entities generally, which would benefit both domestic SOEs and private entities over foreign bidders. Indeed, SOEs may in fact be subject to stringent rules in their own procurement. For example, in Kenya wholly owned SOEs are regarded as public bodies and subject therefore to the

application of the Public Procurement and Asset Disposal Act (2015) (PPAD), which sets more stringent conditions on procurement by public bodies as compared to private procurement processes.

6. Conclusion

In examining the prevalence of SOEs and adherence to competitive neutrality across a sample of African countries digital infrastructure and downstream digital markets sectors, this paper reveals not only that SOEs play a significant role but that they benefit from various protections that serve to inhibit competition with, and entry by, private sector actors. As mentioned, prevalence is not a problem per se for competition and dynamic markets, but as this paper explains, they frequently benefit from preferential treatment by the government – through regulatory privileges and cheaper access to finance, for example – that distorts the functioning of the markets and has significant implications for the viability and profitability of private companies. This is a phenomenon that exists across countries and regions, and the African countries studied for the purposes of this paper are no exception in this regard.

To the extent African governments wish to improve market outcomes with respect to downstream digital services, increasing competition has been demonstrated to make a positive difference. Governments would be advised to review the policy and regulatory environments surrounding the operation of their SOEs and assess whether a level playing field exists for actual or potential private actors as compared to SOEs—to better understand SOE incentives. Through appropriate, related reforms, the inclusion of the private sector in infrastructure operations and service provision through management contracts or public-private partnerships, and, in some cases, SOE restructuring and/or divestiture initiatives, Governments can reshape those incentives and promote more efficient operations, ultimately to deliver better quality, affordable communications, and data services to consumers in their markets.

Annex 1: Questionnaire

Questionnaire - Digital Sector State-linked enterprises	
A1	**Name of SLE/SOE**
A2	**Country of operation**
A3	**Under which legal form is the SOE/SLE set up?** a. Corporatized SOE incorporated under the companies law b. Statutory corporation established by an act of parliament/statute c. Non-corporatized SOE set up as a parastatal or government department d. Corporatized company under the company's law e. Other (please specify)
A4	**Does the SOE/SLE operate under any or all the following legal frameworks?** (multiple response) a. Companies law b. General public enterprise law or SOE law c. Other public-sector laws (e.g., public sector employment rules, investment and budgeting regulations, procurement laws, public financial management laws, public audit requirements) d. Capital Markets Law or Listing Rules (for listed SOEs)
A5	**Main industry/sector of operation of the SOE** Economic activity defined following ISIC rev.3 classification at least 4-digits of operation of the SOE: https://unstats.un.org/unsd/classifications/Family/Detail/2
A6	**Services offered by the SOE/SLE** (multiple response) a. Mobile communications retail services: voice, data (Internet), messages b. Mobile communications wholesale services c. Fixed communications retail services: voice, data (Internet) d. Fixed communications wholesale services (e.g. fiber backbone infrastructure, leased lines, metropolitan networks) e. International communications: voice, data f. International gateway/landing station (e.g. submarine cable, terrestrial cable, satellite) g. Passive infrastructure services (e.g. ducts, towers) h. (Mobile) payment services i. Cloud and hosting services (e.g. website/email, datacenter collocation, cloud storage) j. Other data services (e.g. mobility analytics, cloud computing, IoT solutions) k. Digital services on digital platforms (e.g. e-commerce, ride hailing, e-commerce for farmers) l. Other ICT services (e.g. videoconferencing, contact centers) m. Other non-ICT services (e.g. real estate)
A7	**% of shares directly owned by the state**
A8	**% of shares indirectly owned by the state (for example, through other SOEs or holding companies)**
B1	**Please provide annual financial statements for the last 3 years. If not available, please provide information on (and corresponding fiscal year):**

Total annual turnover

Net profit or loss

EBITDA

Total assets, fixed assets, non-current assets, current assets

Total liabilities, short-term liabilities, long-term liabilities

Equity

Market capitalization if SOE/SLE is listed

B2 **Number of employees for the last 3 years**

C1 **Do the founding law/articles of association/performance contract and/or SOE strategy set the following mandates and objectives?** (multiple response)

a. Commercial objectives

b. Social or non-commercial objectives

c. Regulatory functions

d. No clear objectives

C2 **What ministry, government agency or institution formally owns the SOE/SLE?**

C3 **What ministry, government agency or institution executes the ownership rights**

a. Line ministry

b. Treasury/Ministry of Finance

c. Specialized agency at arm's length from government (not subject to direct ministerial intervention other than for general guidelines and performance criteria), for example a sovereign wealth fund, holding company

d. Other type of specialized agency

e. Other (please explain)

C4 **Does the State or government agency monitor SOE performance through any of the following?** (multiple response)

a. Performance contract, agreement or MOU

b. Key performance indicators approved by the board

c. Key performance indicators approved by the State/agency

d. Annual performance reviews of employees

e. No performance indicators

C5 **What formal corporate governance (CG) documents does the company have (in addition to its Articles of Association) that address overall CG policies and practices of the company, and which cover, at a minimum (i) the rights and treatment of shareholders, (ii) the role of the board of directors, (iii) transparency/disclosure, and/or (iv) business ethics?** (multiple response)

a. CG Code

b. Code of Ethics/Conduct

c. Shareholder Agreement (for mixed ownership SOE)

d. Other (please specify)

C6 **Key performance indicators (KPIs), if any, are reported upon at what frequency?**

a. Monthly

b. Quarterly

c. Annually

d. Other (please specify)

e. Not available information

C7 **Who does the Code of Ethics/Code of Conduct apply to?** (multiple response)

a. Board members

b. Senior Management

c. All employees

d. Employees of all companies in the group

e. Suppliers, contractors and other partners

C8 **Does the SOE adhere, mandatorily or not, to a national corporate governance code?**

a. Yes, a general corporate governance code

b. Yes, an SOE specific code

c. No

d. Not available information

D1 **Is there a formal and transparent process to appoint/nominate board members?**

a. Yes

b. No

c. Not available information

D2 **Is the government represented on the board through any of the following?** Please specify the number of board members in each category

a. Ministers

b. High level government officials (e.g. directors, head of agencies)

c. Other civil Servants

d. Independent representatives (e.g. academia, civil society, private sector)

e. Politically affiliated individuals

f. Other (please specify)

D3 **Are the Chairman of the Board and CEO positions held by different individuals?**

a. Yes

b. No

D4 **Can the SOE board members of the Board of Directors be removed before the completion of their terms at the sole discretion of the appointing authority?**

a. Yes

b. No

D5 **Are members of the Board of Directors required to declare any conflicts of interest?**

a. Yes

b. No

D6 **Does the legal and the regulatory framework assign the following functions as an explicit responsibility of the Board of Directors without reference to any higher authority?** (multiple response)

a. Define corporate strategy (Setting strategy and vision of the SOE)

b. Select/appoint/overseeing/firing of CEO

c. Hiring/firing of other members of senior management

d. Oversight of internal controls

e. Oversight of external audit

f. Oversight of risk management

g. Approve and implement the strategy and business plan

h. Preparation of financial statements
i. Approval of major capital expenditures and large value transactions
j. Approving human resources policy
k. Approving financial statements
l. Managing operations of the SOE
m. Oversight of internal audit
n. Oversight of Related Party Transactions
o. Oversight of environment and social issues
p. Approve and oversee decisions to raise capital (e.g. debt, equity)
q. Decide and implement tariff adjustments
r. Other (please specify)

D7 **Are there minimum qualifications for SOE board members (by law, regulation, official guidance, or recommended practice)?**

a. Yes
b. No

D8 **Does the SOE indemnify its board members?**

a. Yes
b. No

D9 **Is there a requirement to establish board-level committees (audit, compensation and appointment, risk, investment, etc.)?**

a. Yes
b. No

D10 **Is there an audit committee for the board?**

a. Yes
b. No

E1 **Is the SOE/SLE externally audited? (accounting practices, financial statements)**

a. Yes
b. No

E2 **By whom is the SOE/SLE externally audited?**

a. State Auditor
b. Private audit firm

E3 **For SOEs with social or non-commercial objectives, are the cost of achieving those objectives measured and is the SOE compensated accordingly?** (multiple response)

a. Social objectives clearly defined
b. Cost of achieving social objectives quantified
c. SOE fully compensated for cost of social objectives
d. SOE partially compensated for cost of social objectives
e. SOE not compensated for cost of social objectives
f. SOE cross-subsidizes to compensate for cost of social objectives

F1 **What type of shareholding does the State (national of subnational government) hold in the SOE/SLE?**

a. The State has a majority stake (50% or more)

b. The State holds the largest single share of equity
c. The State does not have a controlling interest and the stake is below 50%, but is a significant shareholder capable of influencing the SOE/SLE by other means (e.g. golden shares, board nomination, capital decisions, etc.)
d. The State is not a significant shareholder capable of influencing the SOE/SLE

F2 **Does the company have regulations in place to protect the rights of minority shareholders?**

a. Yes
b. No

F3 **What mechanisms of shareholder rights protection does the company have?** (multiple response)

a. The right to inspect the company's accounts
b. The right to request special audit
c. The right to call Extraordinary General Meeting
d. The right to bring a lawsuit against the company (derivative suits)
e. Other (please specify)

G1 **Do antibribery laws for public officials apply to SOEs?**

a. Yes
b. No
c. Not available information

G2 **Is financial support by the state to the SOE disclosed in a consistent and transparent manner?**

a. Yes, in most cases
b. Yes, for certain type of support
c. No
d. Not available information

G3 **Does access to information law apply to SOEs?**

a. Yes
b. No
c. Not available information

H1 **What is the SOEs analyzed?** (Name of the company / (optional) state-participation)

H2 **What are the market/segments in which the SOE/SLE participate?** (multiple response)

a. Mobile communications retail services: voice, data (Internet), messages
b. Mobile communications wholesale services
c. Fixed communications retail services: voice, data (Internet)
d. Fixed communications wholesale services (e.g. fiber backbone infrastructure, leased lines, metropolitan networks)
e. International communications: voice, data
f. International gateway/landing station (e.g. submarine cable, terrestrial cable, satellite)
g. Passive infrastructure services (e.g. ducts, towers)
h. (Mobile) payment services
i. Cloud and hosting services (e.g. website/email, datacenter collocation, cloud storage)
j. Other data services (e.g. mobility analytics, cloud computing, IoT solutions)
k. Digital services on digital platforms (e.g. e-commerce, ride hailing, e-commerce for farmers)
l. Other ICT services (e.g. videoconferencing, contact centers)

m. Other non-ICT services (e.g. real estate)

H3 **Are there markets/segments where the SOE/SLE is the sole operator? (Please refer to question H2 to validate for each relevant segment indicated before)**

a. Yes, in which markets/segments (please specify service/product and geographic area)

b. No

H4 **How many private companies operate vis-à-vis the SOEs in each relevant market segment? (Please refer to question H2 for each relevant segment indicated before)** Indicate company name/commercial name, market segment, and market share (%)

e.g. Total private firms: n
Firm 1 (Name) -> Market share (30% measured by number of subscribers)
Firm 2 (Name) -> Market share (20% measured by number of subscribers)
...
Firm n (Name) -> Market share (10% measured by number of subscribers)

H5 **What is the market share of the SOE/SLEs for each relevant market they serve? (Please refer to question H2 for each relevant segment indicated before)** Indicate company name/commercial name, market segment, and market share (%)

e.g. Total relevant markets: n
Market 1 (Name) -> Market share (50% measured by number of subscribers)
Market 2 (Name) -> Market share (70% measured by number of subscribers)
...
Market n (Name) -> Market share (10% measured by number of subscribers)

H6 **Is the SOE among the top 2 largest companies in any of the market/segment(s) it operates? (Please refer to question H2 for each relevant segment indicated before)**

a. Yes, please indicate the specific market of reference

b. No

c. Not available information

H7 **For each market/segment identified previously, has the share of the SOE/SLE(s) increased, decreased or been stable over the last 3 years? Please indicate the specific market of reference**

a. Increased (10 percentage points or more)

b. Decreased (10 percentage points of more)

c. Stable (Between -10/+10 percentage points)

d. Not available information

H8 **Has the SOE/SLE recently entered (in the last 2 years) or is planning to enter new markets?**

a. Yes, it has started operations - Please indicate year and market (service/product and geographic area)
b. Yes, it has received a license/authorization - Please indicate year and market (service/product and geographic area)
c. Yes, it has applied for a license/authorization or announced publicly intentions to enter a new market – please indicate year/month of the announcement

d. No

e. Not available information

H9 **Over the last 3 years, has a new company entered to compete in the main markets where the SOE/SLE operates?**

a. Yes, it has started operations - Please indicate year and market (service/product and geographic area)
b. Yes, it has received a license/authorization - Please indicate year and market (service/product and geographic area)
c. Yes, it has applied for a license/authorization or announced publicly intentions to enter a new market – please indicate year/month of the announcement

d. No

	e. Not available information
H10	**Over the last 3 years, has any private competitor of the SOE/SLE exited one of the main markets where the SOE operates?** a. Yes, exit of an operating firm has happened. Please indicate which company and which market b. No, but license has been revoked or license revocation process has started c. No d. Not available information – please provide complementary information on any other cases of license withdrawal or previous exit/history of loss-making operation
H11	**Has the SOE entered into partnerships, joint ventures or PPPs with private firms to expand infrastructure or enter into new markets?** a. Yes. With which company and for which purpose (e.g. provision of mobile payments, provision of cloud computing services, expansion into rural areas)? b. No
I1	**Does the SOE act as the sectoral regulator or intervene in regulatory decisions in the market for key variables (e.g. prices, licenses)?** (Please select all that apply and refer to the legal framework - law, decree, etc.- that allowed the identification) a. Yes, it has regulatory functions b. Yes, it provides opinion in process to grant licenses/authorizations, determine prices/charges, allocate/assign spectrum, among others. Please indicate other regulatory areas c. Yes, it belongs to advisory or technical committee to the regulator or ministry d. Yes, it is represented at the board of the regulator and/or participates in the process of appointing the head of the regulator e. Yes, through other means. Please indicate in which policy areas and how f. No
I2	**Does the SOE perform simultaneously in commercial and non-commercial activities?** *Definitions retrieved from TPP and iSOEF definitions.* ***Commercial activities:*** *activities where the SOE undertakes an orientation towards profit-making that turns out into providing a good or service to a consumer in relevant market quantities and prices determined by the company.* ***Non-commercial activities:*** *activities carried out to fulfil a public mission and which consider public (e.g. redistributive, protection vulnerable population or regions, etc.)* a. Yes. Which ones? b. No
I3	**Does the constitution or any high-level law reserve any specific sectors related to digital services (including fixed-line services, backbone infrastructure, passive infrastructure, international gateway, etc.) to be provided only by SOE?** (Please refer to the legal framework - law, decree, etc.- that allowed the identification) a. Yes. Which ones? b. No
I4	**Does the constitution or any high-level law restricts the private sector participation (e.g. FDI caps, FDI restrictions) in digital-related SOE or markets with presence of an SOE?** (Please refer to the legal framework - law, decree, etc.- that allowed the identification) a. Yes. Which ones? b. No
I5	**Does the constitution or any other high-level law establish any exemptions or asymmetric conditions for SOEs with regard to the application of the legal framework?** (Please indicate the respective legal act or regulation analyzed) a. Yes Antitrust Law

Tax Law
Quality standards
Requirements to provide financial information
Bankruptcy Law
Procurement law
Labor provisions
Safety measures
Environmental law
Other (please specify)
b. No

I6 Are the SOEs systematically required to achieve a commercial rate of return?

a. Yes
b. No
c. No information available

I7 Are the SOEs subject to full tax liability (e.g. same tax rate) as the private sector?

a. Yes
b. No, what is the main difference?
c. Not available information

I8 Do the SOEs have preferential access to tax-credits, tax arrears (e.g. priority access, extended-time exemptions)?

a. Yes, according to the tax code and related rules
b. Yes, based on practice
c. Yes, but only in specific situations
d. No
e. Not available information

I9 Does the government actively encourage or mandate government agencies to contract ICT services (telecommunications, data services, mobile payment services) from the SOE?

a. Yes, as explicitly stated in published national policies or government statements
b. Yes, as explicitly stated in internal rules or guidelines
c. Yes, informally
d. No
e. Not available information

I10 Does the SOE benefit from preferential access to capital from the government (national, regional or local) such as reduced interest rates, government-backed loan, debt guarantees, capital-injection?

a. Yes
Reduced-interest rates
Government-backed loans
Capital injections
Grants
Acceleration depreciation allowance
Direct transfers
Priority loans through state-owned banks
Other (specify)

b. No

c. Not available information

I11 **Does the SOE have preferential access to infrastructure (e.g. undersea cables, roaming services, etc.)?**

a. Yes

As subsidiary of an SOE

Free or below-market pricing access to infrastructure facilities

As manager of the infrastructure facility

As regulator of the essential facility

Other, Please specify

b. No

c. Not available information

I12 **Can SOEs benefit from other favorable treatments that are not available to private firms such as direct subsidies or land usage, rights of way, numbering or spectrum rights at lower prices or using preferential procedures?**

a. Yes, as explicitly stated in laws and regulations

b. Yes, as per practice

c. Yes, but only in specific situations

d. No

e. Not available information

I13 **Is there an independent competition authority with power and jurisdiction to investigate potential anticompetitive practices of the SOE (e.g. exclusionary practices, collusion, abuse of dominance)?**

a. Yes, but no SOE in the telecom/ICT/digital sector has been investigated so far

b. Yes, a SOE in the telecom/ICT/digital sector has been investigated. Please explain the case

c. Yes, a SOE in the telecom/ICT/digital sector has been sanctioned. Please explain the case

d. Yes, but SOE in the telecom/ICT/digital sector are exempted from certain practices. Please explain which practices

e. No, SOE are excluded from the application of competition law

f. No, there is no competition law or no functioning competition authority

I14 **Is there an independent sector regulator with power and jurisdiction to regulate and sanction SOEs operating in the telecom/ICT/digital sector?**

a. No, the line ministry (a department within the ministry) is in charge of regulating the SOE

b. Yes, there is a sector regulator

If "Yes", has the regulator taken any of the following decisions on the SOE in the last five years?

a.1. Declared it as dominant operator (operator with significant market power - SMP) in any market. In which market(s)? Please explain if the process was initiated but not completed

a.2. Determined charges for interconnection (call/SMS termination rates)? For which services?

a.3. Determined charges and/or conditions to provide access to SOE infrastructure? For which services?

a.4. Imposed conditions to address SMP by SOE. Which conditions? Please explain if the process was initiated but not completed.

a.5. Intervened to solve a dispute between SOE and other operators. In which case?

a.6. Imposed a fine to a SOE for incompliance with sectoral regulations or obligations. For which infringement?

I15 **Does the SOEs in the sector determine the conditions or participate in the decisions for allowing private sector competitors to enter in the market?**

a. Yes

	If yes, please select all that apply (how?) Granting the licenses for private competitors Assigning spectrum to private competitors Providing proposal/opinion to the regulator who provides the access to private competitors Providing key documentation or explicit endorsement to private competitors Determining conditions and prices to access essential infrastructure needed by private competitors Other, please specify. b. No
I16	**If an SOE performs one or more non-competitive ICT activities and one or more potentially competitive activities, is there a requirement for this firm to separate the non-competitive activities from the potentially competitive ones?** a. Yes, which type of separation (e.g. accounting, legal, operational)? b. No

Annex 2: SOEs covered by the questionnaires (by country)

SOEs and countries upon which this paper is based are as follows:

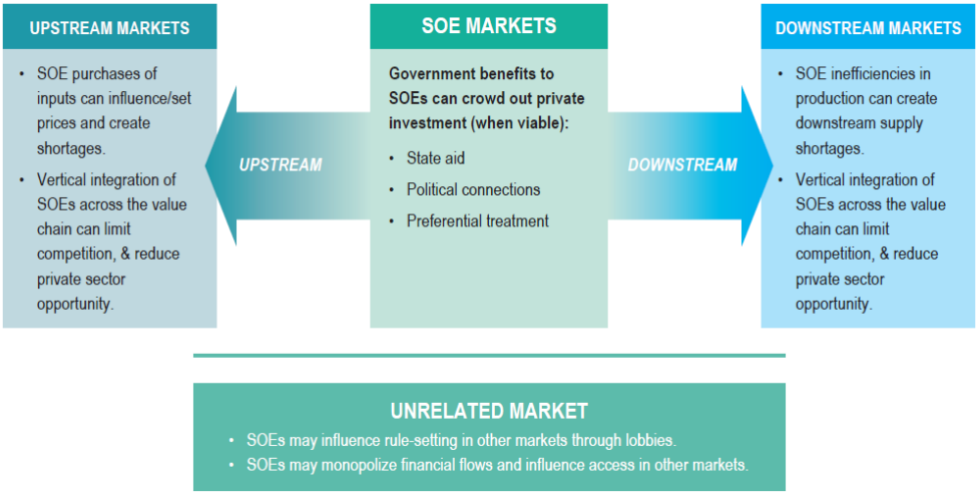
Country	Number of SOEs studied	SOEs studied
Angola	3	• Angola Cables • Angola Telecom • Movicel
Benin	1	• Benin Telecom
Comoros	2	• Comores Telecom • Comores Cables
Egypt	2	• Orange Egypt • Egyptian Company for Telecommunication
Eswatini	1	• Eswatini Posts and Telecommunications Corporation
Ethiopia	1	• Ethio Telecom
Gabon	2	• Gabon Telecom • Société de Patrimoine des Infrastructures Numériques (SPIN)
Ghana	3	• Vodafone Ghana • AirtelTigo • National IT Agency
Kenya	1	• Safaricom
Liberia	2	• Cable Consortium of Liberia • Liberia Telecommunications Corporation
Mauritania	1	• Mauritel
Mauritius	3	• Mauritius Telecom • National Computer Board • Fibernet
Morocco	2	• Maroc Telecom • Orange Maroc
Mozambique	1	• Moçambique Telecom

Sierra Leone	2	• Sierra Leone Cable Limited • Sierra Leone Telecommunications Company
South Africa	4	• Broadband Infraco • Gyro Group • MTN South Africa • Telkom
Tanzania	2	• Tanzania Telecommunications Corporation (TTC) • Airtel TZ
Tunisia	4	• Tunisie Telecom • Orange Tunisie • Ooredoo • Topnet

Annex 3: SOEs and weak competitive neutrality: impacts on markets and the implications for development

The presence of SOEs in the market can unintentionally lead to adverse effects and market distortions not only in the markets in which they operate, but also those markets upstream and downstream, as well as in adjacent or unrelated markets in some cases (Figure 2.1). Market effects can be broadly categorized into three groups: (1) effects of SOEs on market functioning and private sector participation; (2) effects of SOE performance on development outcomes; and (3) effects of domestic SOEs on global markets (World Bank 2019). SOEs frequently receive exclusive preferential regulatory treatment and/ or state support as compared to their private sector counterparts. Common measures include direct subsidies, tax preferences or exemptions, in-kind benefits such as subsidized or fixed price inputs, and concessionary financing and guarantees. Exclusive benefits create an unlevel playing field between SOEs and private companies and can influence competition across entire value chains Research shows that state ownership is rarely associated with productive efficiency.[61] Evidence also suggests that preferential treatment to SOEs may facilitate anti-competitive conduct.[62]

Figure 2.1. SOE impacts across markets



The implications of inefficient SOEs for development are significant: studies have shown that if SOEs were just 5% more efficient, GDP could be 1–5% higher.[63] The International Monetary Fund (IMF), drawing from

[61] The International Monetary Fund (IMF), drawing from a sample of about 1 million firms in 109 countries, finds that SOEs are less productive than private firms by one-third on average, in part because of poor governance. See IMF (International Monetary Fund). 2020. *Fiscal Monitor*. Washington, DC: IMF.

[62] Recent studies in South Africa, Ukraine, Philippines and Romania confirm that the lack of competitive neutrality, the absence of fully-fledged procompetitive provisions in regulation, and a combination of vertical integration and dominance act as incentives for SOEs to engage in anti-competitive practices. See: World Bank, *The Role of SOEs in South African Markets and their Impact on Competition*, (2017); World Bank, *Reducing Market Distortions for A Prosperous Ukraine: Proposals for Market Regulation, Competition and Institutions*, (2018); World Bank, *The Philippines: Embedding Competitive Neutrality Principles in State Owned Enterprises*, (2018); World Bank, *Romania- Country Economic Memorandum 2.0, Markets and People*, (2019).

[63] For example, in one study a 5% increase in SOE efficiency could have increased GDP by 2% in Turkey, 1.5% in Tanzania, 1.4% in Bolivia and 2.2% in Mali. See World Bank. 1982. *World Development Report 1983: World Economic Recession and Prospects for*

a sample of about 1 million firms in 109 countries, finds that SOEs are less productive than private firms by one-third on average, in part because of poor governance. In countries with perceived lower corruption, SOE productivity is more than three times higher than that in countries where corruption is seen as severe (IMF 2020). Similarly, a global study of very large SOEs from 2001 highlighted that they are significantly less profitable, more highly leveraged, and more labor-intensive than private sector comparators.[64]

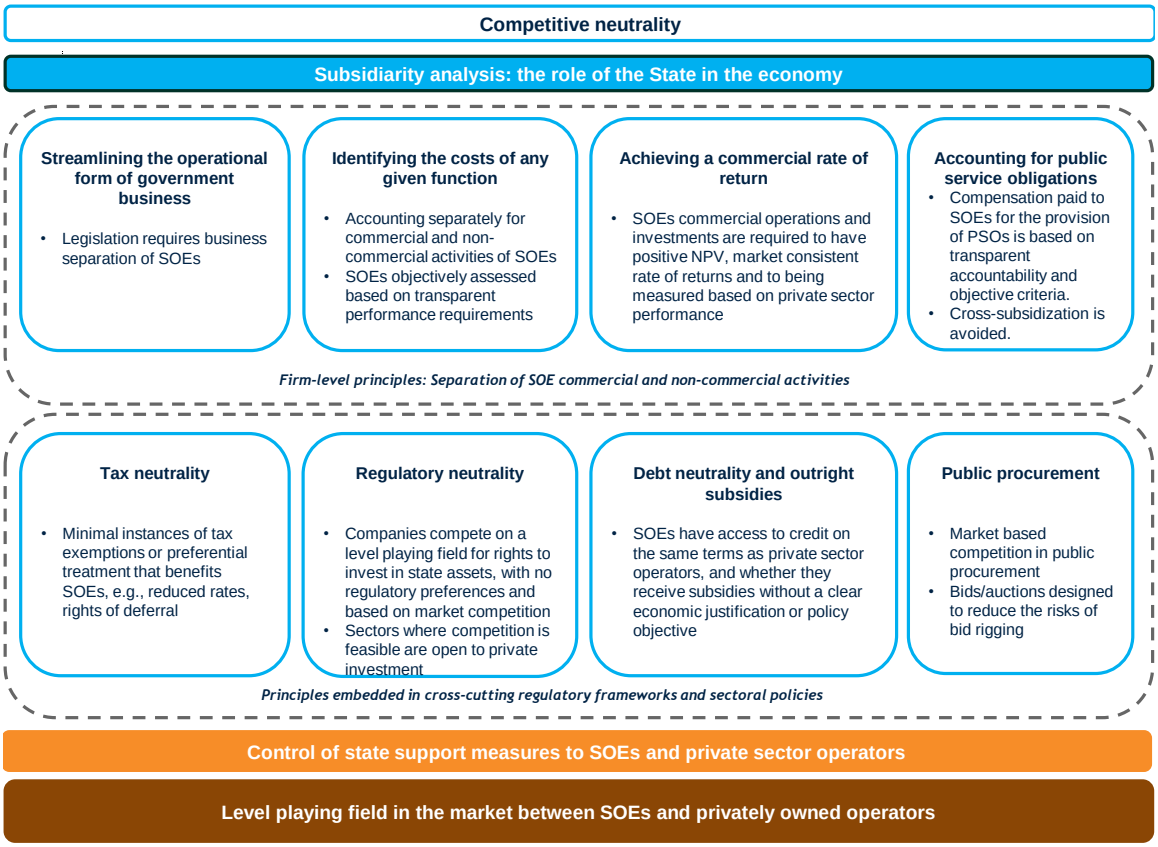
There is also growing evidence that competition in network and services sectors is particularly important to productivity and export gains in other sectors.[65] SOEs are likely to have the most distortive effects in developing country markets because they generally are smaller and private sector activity is already constrained by other factors, such as a poor business environment and limited human capital. Weak regulation, monitoring, and oversight—together with the absence of a well-developed competition framework—reinforce distorted markets and fail to deter anticompetitive behavior. Further, when government-backed SOEs in receipt of extensive support are active in foreign markets they face a higher risk of international disputes and higher tariffs. Regulatory frameworks should be designed to encourage competitive outcomes even in markets where SOEs are present. Efficient regulation must guarantee market contestability—even in sectors where SOEs operator and/or there is a natural monopoly. SOEs and incumbent operators should be exposed to competitive pressure from new or smaller operators to ensure they operate in an efficient manner and maximize productivity for the benefit of consumer welfare. A competitive neutrality gap analysis for SOEs in relevant markets can identify obstacles to such competitive pressure, involving an in-depth analysis of applicable laws, regulations, and policies against a benchmark of best practices (Figure 2.2).

Recovery (New York: Oxford University Press, 1983) at 75. Another slightly more recent study produced similar results: a 5% increase in SOE inefficiency could increase GDP by 1% in Pakistan, 5% in Egypt, and 1.7% in South Korea. See Jones (1991) at 179; Jones (1981).

[64] Dewenter, K., and P. Malatesta (2001).

[65] See, for example: Hoekman, B., and Shepherd, B., (2015).

Figure 2.2. World Bank's Competitive Neutrality Framework



Source: World Bank Group's Markets & Competition Policy team elaboration.

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