

# ARE PRIVATE EQUITY INVESTMENTS FINANCING THE SDGS IN SUB-SAHARAN AFRICA?

LOUISE FOX, DAVID KRITZBERG, AND MICHAEL NICHOLSON



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Report

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# Authors

**Louise Fox** is a nonresident senior fellow at the Africa Growth Initiative, Brookings Institution and a Visiting fellow at Blum Center for Developing Economies at the University of California, Berkeley.

*Contact: Fox.louise@outlook.com*

**David Kritzberg** is the cofounder of Appian Data Services.

*Contact: Dave.Kritzberg@gmail.com*

**Michael Nicholson** is a Foreign Service Officer at U.S. Agency for International Development.

*Contact: Mnicholson@usaid.gov*

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# Abstract

This paper investigates the extent to which private and public actors' private equity (PE) investments contribute to accelerating economic development by financing the achievement of the Sustainable Development Goals (SDGs) targets in sub-Saharan Africa (SSA). Using a novel database constructed by the authors on private equity transactions from 2016 to 2022, we document which countries and which sectors are recipients of these flows. By mapping the sectors of investment to SDG targets, we calculate the share of investment which could be supporting achievement of SDG targets in recipient countries. We find that 90% of total flows to SSA went to sectors associated with SDGs and the most common SDGs financed were SDG 8 (decent work and economic growth), and SDG 9 (industry, innovation, and infrastructure). However, 83% of transactions by value went to enterprises in only four countries: Nigeria (27%), South Africa (26%), Kenya (16%), and Tanzania (14%), indicating that the majority of SSA economies are not benefitting from PE capital sitting offshore. Publicly financed investors such as development banks account for only 10% of total investments in SSA, and despite a development commitment, their investments do not appear to have more development focus than those made by private investors. In particular, the social sectors and agriculture received a low share of funding, with almost none of the funding coming from public investors. This result suggests that other resources will be needed to reach the SDG targets related to these activities.

**Key words:** Private Equity, Foreign Investment, Development Finance, Sustainable Development, Sub-Saharan Africa

**JEL Classification:** F23, F35, F53, I32

# Introduction

Sustainable development—resulting in sustained increases in welfare—is one of the main objectives of public policy in almost every country of the world. Yet it has been hard for the world to achieve, as reflected by the persistence of poverty, hunger, civil strife, and environmental damage. In an attempt to push development progress forward in measurable ways, the Sustainable Development Goals (SDGs), adopted at the UN General Assembly in September 2015, defined an integrated set of outcome targets countries should meet by 2030 to increase the economic, environmental, and social development of each member nation and the world as a whole. The agenda is ambitious—17 goals with nearly 200 specific outcome targets covering development issues in low-, middle-, and high-income countries.

It was clear during the formulation and articulation of these goals and the accompanying targets and indicators that developing countries (low-income countries and lower-middle income countries, LICs and LMICs respectively), would need significantly more funds than had been previously available from domestic and international sources to finance the investments required (UNCTAD 2014). It was also recognized that not all this additional funding could be raised from domestic sources in the countries themselves, nor would donor and concessional loan financing be adequate. The participation of external private sector actors as investors in developing country economies was determined to be necessary to achieve many targets. The World Bank coined the phrase “billions to trillions” to describe actions that had to be taken by all stakeholders to mobilize additional private finance to meet these investment needs, including actions to induce increased private investment from abroad (Kim, 2015). The biggest financing gap was estimated to be in sub-Saharan Africa (hereafter SSA), where poverty and deprivation were also the most severe.

Development finance<sup>1</sup> and private direct or portfolio investments do not usually target development objectives such as the SDGs. Instead, by financing the creation, expansion, or technological upgrading of enterprises, they target a rate of return on their investment. It is through the operation of these enterprises, which employ people, create value in the economy, and often have positive externalities for the country and the world (for example: producing green energy, recycling plastic bottles for manufacturing new items, or producing low cost, nutritious food), that this type of finance can contribute to sustainable development.

Questions have been raised for decades on whether either public or private investment from external sources contributes to the achievement of development outcomes (Te Velde & UNCTAD, 2006; Carter et al., 2021). Most research examining this question has focused on

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<sup>1</sup> Development finance is defined as “public sector resources [invested to] facilitate private sector investment in low- and middle-income countries where the commercial or political risks are too high to attract purely private capital, and where the investment is expected to have a positive developmental impact on the host country.” See: <https://www.brookings.edu/research/development-finance-filling-todays-funding-gap/>

foreign direct investment (FDI) and on portfolio debt financing by public sector development finance institutions (DFIs).<sup>2</sup> But there is very little analysis of the contribution of equity investments from external public or private investors to the achievement of development outcomes.

By analyzing recent private equity transactions in SSA, this paper aims to fill this gap, contributing to the literature on development finance, private portfolio investments, and development outcomes. Using data from the Crunchbase database, a commercial service providing financial data on investments in businesses by public and private entities (transactions, or deals), we analyze the flows of external equity investments to enterprises located in SSA countries according to country destination, type of investor (public or private), and sector of investment. Our analysis seeks to shed light on whether these investments are contributing to development outcomes in the recipient countries. We can't link the investments in our data directly to development outcomes such as economic growth or employment, so instead we link the sectors in which the recipient enterprise operates to the SDG targets, one measure of development. This allows us to address the following specific questions:

1. Which SSA countries have been most successful in attracting private equity investments?
2. What is the distribution of private equity investments by sector of activity of the receiving entity and by country in SSA?
3. What percent of these investments can be linked to SDG targets?
4. How do these results differ for public versus private investors in private equity?

Our analysis finds that private equity is doing its part, in terms of quality of investments, in financing the SDGs. Overall, our data show that 88% of transactions by value can be tied to an SDG target. The most attractive countries for all external SSA private equity investments are Nigeria, South Africa, Kenya, and Tanzania. Together, these four countries account for 83% of all transactions by value, suggesting that private equity financing is not reaching the majority of SSA countries. Controlling for size of the economy puts Tanzania, Kenya, Sierra Leone, and Liberia at the top, revealing that some small, poor countries can effectively compete for funds. The fact that the four leading countries using either criterion are all English-speaking suggests that the non-Anglophone countries may be at a disadvantage. In terms of SDG targets, unsurprisingly, most investments contributed to those targets directly linked to economic growth and private sector development. The social and agricultural sectors received a low share of funding, with almost none of the funding coming from public investors. This result suggests that other resources will be needed to reach the SDG targets related to these activities. Finally, we found few differences between the investment pattern of public sector DFIs compared with private sector investors at the country and sectoral level, raising questions regarding whether these entities truly do fulfill the development purpose to which they aspire.

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<sup>2</sup> See for example, Te Velde and UNCTAD, 2006 for a review of research on FDI and development and Te Velde, 2011, for a review of research of DFIs and development.

# Background

Productivity increases, necessary for sustained economic growth and development, require investment. The question of how to secure the savings needed for this investment, as well as how to ensure that it is effective for development, forms the basis of the initial theory and practice of economic development (for example, Rostow, 1960). It has long been recognized that poorer, less developed countries could grow faster if savings and technology from richer countries could be imported and deployed in the private sector of developing countries (Chenery and Bruno, 1962; Aghion & Howitt, 2005). As a result, developing countries have sought foreign capital inflows.

Foreign capital flows enter developing countries through a variety of channels. One key distinction in foreign capital must be established between foreign direct investment and foreign portfolio investment.

- **Foreign Direct Investment (FDI)** occurs when a foreign investor “*establishes a lasting interest in and a significant degree of influence over an enterprise resident in another country*” (OECD, ND). This could occur through buying a share of an existing business (a joint venture) or by a foreign firm establishing a new business or a subsidiary in another country. In all cases the investor has a business interest in an enterprise in another country.
- **Foreign Portfolio Investment (FPI)** occurs when a foreign investor buys *financial securities* (debt, shares, etc.) issued in another country (Picardo, 2022). As these securities can more easily be bought and sold than a direct business interest, FPI is considered a time-limited investment that is more volatile than FDI.

Foreign portfolio investment includes *debt financing*, which is the purchase of securities issued with a fixed rate of interest for a period of more than one year, usually secured through the pledge of assets (collateral). It also includes *equity financing*, which involves the purchase of ownership shares. Ownership shares can be publicly traded on stock exchanges (at known buy/sell prices), or only available for purchase directly from the firm or another investor through negotiation to set terms. This latter approach is called “private equity investing” (PE)<sup>3</sup> and usually divided up into three categories (Michelitsch, et al., 2017):

- **Seed funding** (or angel investing), which is financing at very early stages of enterprise development (start-up stage).
- **Venture capital (VC)**, which follows seed funding, is more likely to involve a firm or multiple individuals, and is accompanied by management, technical, or marketing support.

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<sup>3</sup> Following convention, it is called private equity because the shares are not traded on a public exchange: They can only be acquired through a private sale. The marketing and sale of these shares is not subject to the strict regulation that usually covers the marketing and sale of public equity (publicly traded stocks).

- **Growth Equity (GE)**, which involves more investors normally investing through a PE firm. GE also includes technical assistance provided by the PE firm or consultants they contract.

Private equity investing normally has a longer time horizon and a higher risk than debt financing, as it is less liquid. It also involves a significantly larger time commitment from the investor (or firm) in the form of entrepreneurial support when compared with debt financing. However, PE generally yields a higher risk-adjusted return (Michelitsch, et al., 2017). Debt and equity can be combined in a package; this is known as mezzanine debt.<sup>4</sup>

Foreign PE investment involves several benefits for investors, whether the investor is a private entity or a publicly owned DFI.<sup>5</sup>

- Private PE firms are financial intermediaries. They raise money from investors, pool the investments into a fund, and use the proceeds to buy an equity share in a foreign enterprise. This structure allows their investors to have a “hands-off” relationship with the recipient company.<sup>6</sup>
- For public DFIs, whose mandate includes both realizing a return on invested capital and achieving a development objective (such as higher employment, social benefits in terms of making a needed product affordable for low-income consumers, developing a new market, or the transfer of technology), equity investments provide the flexibility needed in risky, underdeveloped markets.

For the recipient firms, equity investment reduces their business risk by sharing it with an investor. This is a particular advantage when the time profile of profits is uncertain, making debt financing less attractive. Equity investment also combines needed capital with the provision of technical expertise that supports recipient company growth (aligned incentives). Equity capital normally does not come cheaply to the firm, however, as in return for higher risk and entrepreneurial support, equity investors seek a higher rate of return. DFIs claim that their equity investments, through their signaling function, help develop PE markets in client countries and thus crowd in much more new private capital than debt financing (Michelitsch, et al., 2017).

Private equity as a means to finance young, rapidly growing companies became popular in the United States in the 1950s, and soon spread to Europe. In the United States, it has been primarily associated with the technology sector, although it is prominent in other sectors as well. In the last three decades, it has increasingly been used to finance young, growing companies in developing regions (Michelitsch, et al., 2017). The translation of the private equity model to developing regions and countries, especially poorer ones, involves challenges, including fragmented regulation, political uncertainty, underdeveloped capital markets, and low levels of

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<sup>4</sup> Mezzanine debt often takes the form of subordinated debt or unsecured senior debt. It can also include convertible instruments, warrants, and payment-in-kind notes.

<sup>5</sup> Public DFIs sometimes invest in private PE funds operated by private firms for the purposes of building up the private PE sector (Michelitsch, et al., 2017).

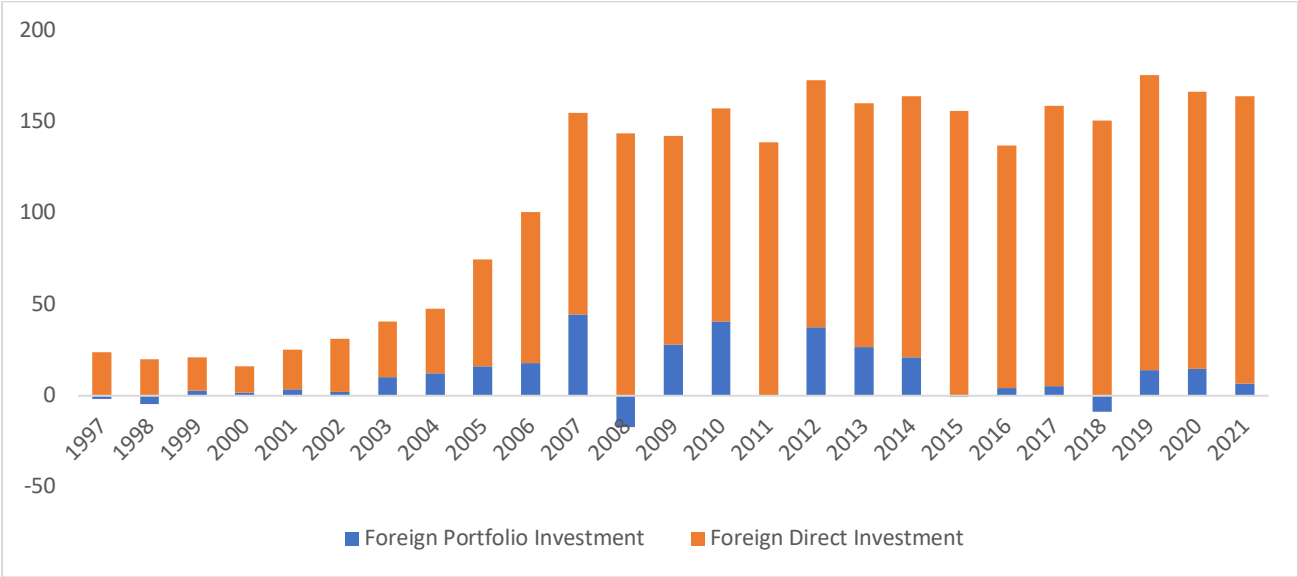
<sup>6</sup> This is known as an “off balance sheet” investment. Unlike a direct investor, the equity investor has no liability for the actions of the recipient firm.



market capitalization compared to the developed world. All these factors complicate exit, a key objective of a PE firm. The small size and conservative nature of many SSA banks has resulted in SSA private equity deals being significantly less leveraged than equivalent deals in the developed world.

Despite these challenges, purchases of publicly- or privately-traded equities have been growing as a share of total foreign capital flows to developing and emerging market countries, although foreign direct investment still accounts for a greater share of total flows (Figure 1). Although the value in dollars per year of FDI and FPI flows into developing countries have decreased worldwide since 2019, they remain significant. But in SSA, these flows peaked in 2012 and have been declining ever since (Figure 2). Flows of equity capital appear to have gone negative in 2019 and stayed negative since, even though an Africa Venture Capital Association (AVCA) survey from 2018 found that 53% of limited partners in PE firms reported that they planned to increase investments in Africa over a three-year horizon (AVCA, 2018). SSA still accounts for a miniscule amount of total global capital flows. In 2020, SSA received only 3% of estimated total FDI flows, while developing Asia accounted for over half of total flows, indicating how far behind Africa is in attracting foreign capital compared to other developing regions (UNCTAD, 2021).

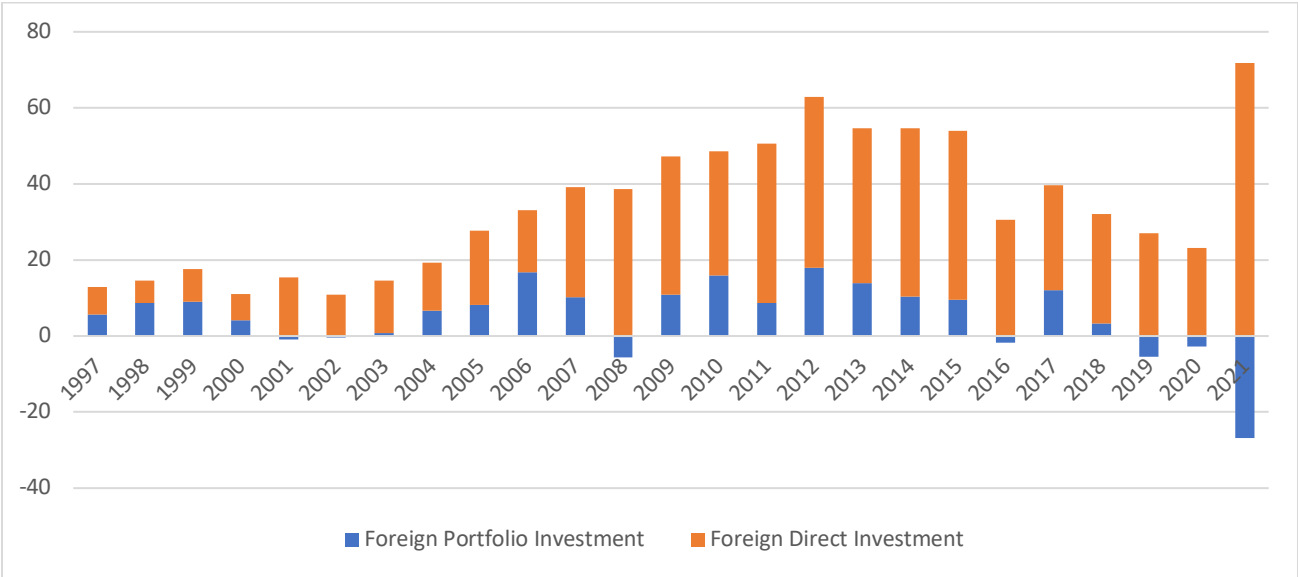
**Figure 1.** Foreign capital flows into developing countries by year (Billions US\$)<sup>7</sup>



Source: World Development Indicators

<sup>7</sup> In these data, FDI refers to direct investment equity flows in the reporting economy. FPI includes net inflows to equity securities other than those recorded as direct investment. It includes shares, stocks, depository receipts (American or global), and direct purchases of shares in local stock markets by foreign investors. Debt financing (the purchase of bonds) is excluded.

**Figure 2.** Foreign capital flows into SSA countries by year (Billions US\$)<sup>8</sup>



Source: World Development Indicators

Although the correlation between external capital inflows to the domestic private sector and economic growth and development in developing countries has been observed for several decades (Te Velde, 2006; Andriansyaha & Messinis, 2014), the development impact of foreign direct and portfolio investments in developing countries has long been a source of debate. Most of the research on this question has been conducted for FDI, in part because FDI accounts for most foreign capital inflows to the domestic private sector, and in part because data on these flows have been more widely available.

Initial studies on the contribution of FDI to development outcomes were plagued by endogeneity issues: Does foreign capital lead to economic growth and development outcomes, or vice versa? Recent studies using more advanced models concluded that FDI does have a long-term effect on GDP growth in developing countries, but the size of the effect varies substantially by the type of model used (Hansen & Rand, 2006; Carter et al., 2021). Effects on other development outcomes (employment, domestic private investment, and skills and technology acquisition) have not been well established (Hansen & Rand, 2006; Te Velde & UNCTAD, 2006). Several authors have concluded that the size of any effect depends on initial conditions, such as domestic capabilities and public policy (Te Velde & UNCTAD, 2006). For SSA, Ndikumana & Verick (2008) concluded that the causality between FDI and domestic private investment runs both ways.

<sup>8</sup> In these data, FDI refers to direct investment equity flows in the reporting economy. FPI includes net inflows from equity securities other than those recorded as direct investment and including shares, stocks, depository receipts (American or global), and direct purchases of shares in local stock markets by foreign investors. Debt financing (the purchase of bonds) is excluded.

Limited analysis has also been conducted on the contribution to economic growth and development of FPI in private enterprises in recipient countries, although in this case, much of the analysis has been undertaken on public sector entities—the DFIs. Again, the availability of data may have motivated these studies: Public bilateral or multilateral institutions are usually required to provide publicly available data to their shareholders, their stakeholders, and the public in their annual reports. Analyses of DFI investment contributions, however, usually do not distinguish between debt and equity financing (Michelitsch, et al, 2017).

Although DFI reports contain statements on the DFI contribution to development outcomes such as infrastructure development, gross capital formation, jobs supported, and government revenues, these reports generally do not contain rigorous analysis to back up these statements (Te Velde, 2011). Independent researchers have struggled to fill this gap (and have faced similar methodological issues as the FDI literature). Te Velde (2011) finds a correlation between DFI investment and two key outcomes—private gross capital formation and increased energy efficiency—and that DFIs are more likely to invest in LICs than FDI investors. Massa et al (2011), using an instrumental variable (IV) approach to control for endogeneity, finds that DFI portfolio investment has a positive effect on economic growth, especially in lower income countries. Jouanjean et al., (2015), using a macroeconometric model with selection effects and matching to develop a counterfactual and data from six large DFIs, concludes that DFI portfolio investment leads to both job creation and increases in labor productivity (economic transformation). However, Carter et al., (2021), critiques much of this literature, noting that in addition to selection bias in choice of countries for investment, the in-country relationships between specific private investors and DFIs necessarily biases results, and these biases are not removed through the macroeconometric techniques used in the cross-country analysis cited above.

There are few analyses on the contribution to development outcomes in low- and lower-middle income countries of PE investments by private firms in SSA. A literature review by Gatauwa and Mwithiga (2014) notes the association observed between private equity and economic growth in developing countries, as well as other development outcomes such as innovation, job creation, and better corporate governance, but observes that the causality issue looms large. Microeconomic studies cited in Kato (2021) suffered from similar problems, as they often only included data from firms that had received PE investments. Kato notes that data constraints in these microeconomic studies are severe, as both data on deals and on firm financial outcomes are not readily available because the firms are privately held. Kato (2021) cites research on Nigeria, where various authors collected their own data on the performance of VC-backed companies and non-VC backed companies. These authors reportedly concluded that VC-backed companies had higher revenues and job creation, but it is not clear how the selection problem was addressed, leading to questions about the conclusions.<sup>9</sup>

Research has been conducted on the country characteristics most likely to attract private PE capital to developing countries, especially those in SSA. Owing to data constraints, this research

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<sup>9</sup> Note that many of the studies cited in the body of Kato’s paper are not found in the reference section of the article, making it hard to follow up on the evidence presented.

has focused on VC investments, as data on these transactions are often available from ember organizations such as ACVZ. VC investments constitute a small fraction of total PE investments in SSA, however.<sup>10</sup> In an analysis comparing developed and emerging market economies (including 24 from SSA), Groh & Wellmeroth (2016) using data from the financial services company Thompson One, found that the determinants of the supply of VC capital into emerging markets are different from those in developed countries, with Transparency International's Corruption Perceptions Index playing a stronger role in emerging markets but the World Bank Doing Business' indicator on the legal rights of shareholders playing a weaker or negligible role. Oni (2017) using data on VC transactions from Prequin, a private supplier of financial data and analyses, found that depth of public equity markets (market capitalization, IPOs) was associated with higher VC capital supply, while macroeconomic variables such as unemployment rate and trade openness were not. In contrast to Groh & Wellmeroth, Oni did not use any investment climate indices in his specification. Jaoui et al., (2022) used ACVA data on 25 countries in North Africa (NA) and SSA and found, in contrast to Groh & Wellmeroth, that investor protection was important, but also digital infrastructure and internet protection. Importantly, Jaoui et al. found a strong "herd effect"—that is, dummy variables for the four largest VC recipients: Kenya, Nigeria, and South Africa in SSA plus Egypt in NA, were highly significant.

A positive development in the last decade has been the increased availability of data on international private equity firms active in SSA, as well as on specific debt and PE transactions (deals), compiled into commercial databases. These databases, created by private companies, are based on publicly available information from financial trade sources. Companies such as Crunchbase, Pitchbook, and Africa: The Big Deal (ATDB) compile and standardize this data and sell the use of their databases to users. The availability of these data permitted the analysis presented below.

In the next section, we describe the data in more detail as well as the analytical framework and methodologies we used. Although our analysis is primarily descriptive (showing associations only), it is the first such comprehensive analysis on Africa that we have seen.

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<sup>10</sup> Research by Jaoui et al. (2022), covering 25 countries in SSA and North Africa, only included 25 transactions per year, compared with about 1422 transactions per year in SSA alone in our database.

# Data and methodology

## Data sources

The data used in this research were purchased from Crunchbase<sup>11</sup>, which collects self-reported information from firms on individual transactions. Crunchbase staff clean the data and supplement it with information from public records. The unit of analysis is a transaction (a deal). For each transaction, the Crunchbase unit record contains data on the name and address of the investor(s) and the investee, the sector of activity of the investee, the size of the transaction (in US\$), the type of transaction (debt, equity, grant, etc.) and date, as well as information on technical details such as investment stage, funding round, etc.

The first step in the analysis was to clean and organize the data. We extracted all the data on transactions where the recipient companies were based in SSA countries. Next, we excluded all debt transactions so we could focus solely on PE. We sought to create the following variables for each PE transaction:

- *Characteristics of investor:*
  - Type (public entity or private/philanthropic)
  - Country location
- *Characteristics of investee:*
  - *Country location*
  - *Sector (s) of business activity*
- *Year of transaction*

For the investor characteristics, we had many fewer public entities than private ones. Thus, we isolated all the entities which could be clearly recognized as public (meaning their shareholders were sovereign countries).<sup>12</sup> The remaining investors were coded as private. Next, we excluded public entities which only invested in the country in which they were located (e.g., Central Bank of Nigeria), because we are interested in analyzing external finance, not financing from the public sector or the domestic private sector of a country to a private, public, or mixed ownership firm in that country.

Unfortunately, we were not able to create a reliable country location variable for investors. Both public and private entities (for example, USAID, the IFC, or a private firm such as Warburg Pincus) have multiple locations which can initiate transactions and have multiple offices in SSA investing in private equity even if they are headquartered in the United States. For this reason, we were also not able to exclude domestic private PE investors, as we could not tell which private PE investors whose address in the database was an office in, for example, Nairobi, Kenya (and therefore tagged as a Kenyan investor) were actually domestic financial intermediaries or

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<sup>11</sup> <https://www.crunchbase.com/>

<sup>12</sup> See Table 3 (below) for a list of investors classified as public entities.

were subsidiaries of large international firms. More importantly, even an African-owned investment bank or PE firm may source capital from overseas investors.

For the investee characteristics, country location was straightforward.<sup>13</sup> Sector of activity was more of a challenge. First, most investee entries did not use a standard classification and listed several sectors of activity, with no indication as to which one was the most representative. To code the transaction by sector, we simply assumed that all sectors listed were equally representative and assigned sector shares accordingly. Thus, when we tabulated amounts invested by sector, the variable used was the fraction of the total transaction for a particular investee allocated to the sector of interest.

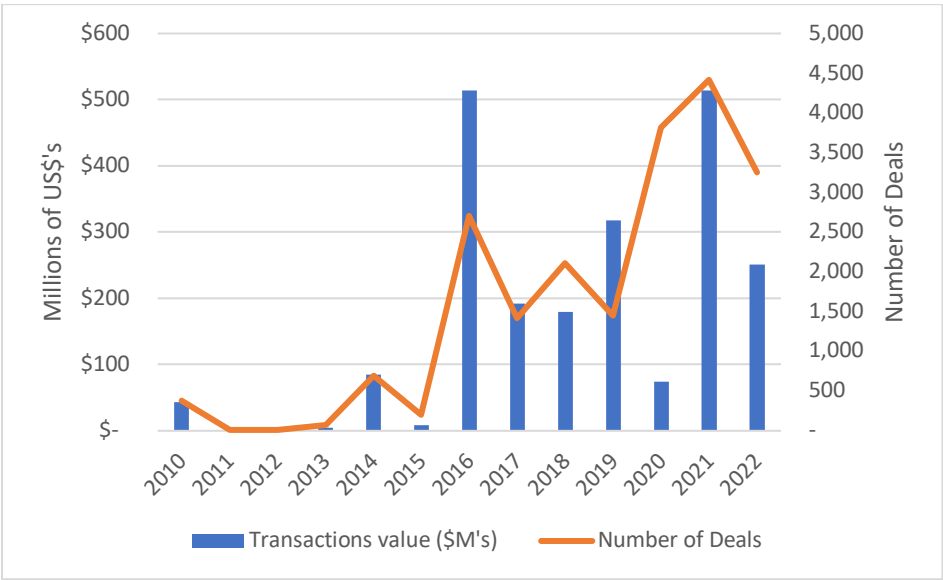
In defining sectors for our analysis, we used a standardized sector coding—the International Standard Industrial Classification (ISIC). However, challenges emerged again as the sectors of activity listed in the source database did not always correspond to this classification. For example, sector of activity might be listed as “electronics,” without reference to what exactly the activity was—for example, manufacturing/assembly or sales. Some sectors listed were too general to code as an ISIC sector. For example, one tag used was “enterprise.” Enterprise what? Management? Financing? Software development? In these cases, we: (i) scrutinized the companies with this sector tag to see if we could assign a specific sector based on other information; (ii) assumed a probable sector (for example, “electronics” in SSA is probably sales); or (iii) dropped the sector tag entirely. In most cases where we dropped a sector tag, there were others that we could use instead. However, as with any dataset, individual observations occasionally have missing data on key variables such as transaction size or sector of activity, which forced us to exclude these observations.

Although Crunchbase and other transaction data collection companies have existed for several years, the focus on developing countries, especially those in Africa, appears to be more recent. Figure 3 shows the PE investment trend found in Crunchbase data from 2010 to 2022. Note the huge increase after 2015, which in part reflects improved reporting procedures. 2016 also featured a shift for venture capital and private equity into Africa, with a sudden surge of interest in Fintech (Njanja, 2022). It was also the year that the SDGs were adopted. We therefore restrict our analysis to the period 2016-2022.

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<sup>13</sup> Nonetheless, challenges were present. See Box 1 for an example.

**Figure 3.** Total transactions recorded, SSA, 2010-2022 (Millions US\$)



*Source: Authors' analysis of Crunchbase data*

An additional word of caution about possible biases in our data: No person or firm claims to know the whole universe of transactions which occurred in a specific time period with companies located in a specific region. Independent studies, using alternative data sources on transactions in the United States and Europe, have found our source, Crunchbase, to be a reliable record of transactions (Retterath and Braun, 2020). Crunchbase was called “the premier data asset on the tech/start-up world” and had been used for over 90 scientific/academic analyses by 2017 (Dalle, et al., 2017). Retterath and Braun (2020) in their survey of academic papers using venture capital and private equity databases, found that Crunchbase and Pitchbook have been the dominant data sources for academic research in this space since 2015, and that Crunchbase data have been used in roughly one-third of the 273 papers published between 2010-2019, suggesting that these data are among the most trustworthy sources on these transactions.

**Box 1.** How to identify PE investments in African companies? The example of Moove.io

Moove.io provides gig drivers (for example, Uber drivers) in Africa financing to lease vehicles, an alternative to renting or taking out a traditional car loan. The startup raised \$65 million in March 2022, in addition to previous equity and debt rounds. The founders are Oxford-educated Nigerians, but Crunchbase lists their headquarters as being in Amsterdam. However, another proprietary database, Africa: The Big Deal, lists the Moove.io’s headquarters as being in Nigeria. As discussed in previous literature (Kaplan and Lerner 2016, Retterach and Braun 2020), there are many dimensions along which transactions can differ across sources, and this example is but one of many. This example shows that by selecting only investments into companies with an African address in Crunchbase data, we may have underestimated the flow of private equity capital into African countries.

But data based on self-reports and public records such as Crunchbase are known to have a selection bias towards larger transactions and those originating from better-known firms in the PE space. These firms are more likely to report their transactions or have them covered in the press (Retterath and Braun, 2020). Kaplan and Lerner (2016) note an inherent risk of bias for self-reporting, such as when poorly performing funds stop reporting, or respondents (particularly early-stage companies) deliberately distort valuations. Other biases include the risk of incomplete data from any one provider, and “backfill bias” when newly added firms are included with positive past returns. So, while we are reasonably sure that our analysis includes the overwhelming majority of transactions, and certainly the most important and largest transactions which occurred during the period of study, a few small transactions, probably in lesser-known markets in poorer countries, are most certainly not captured.

## **Analytical framework and methodology**

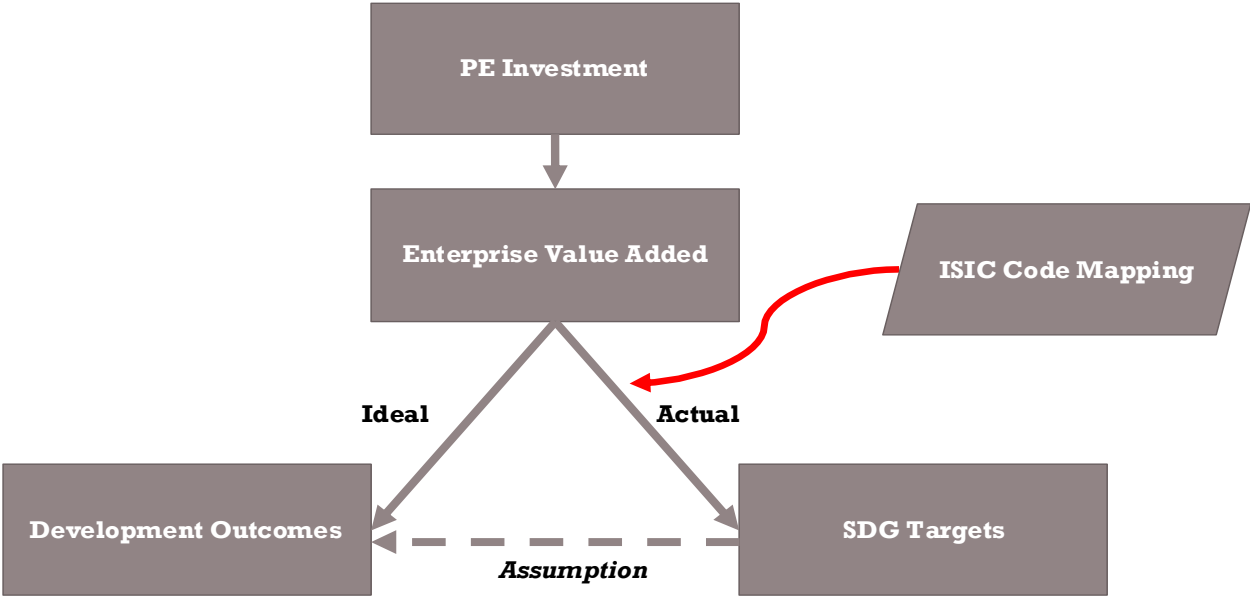
Our underlying question is whether externally financed PE investments in domestically owned enterprises in SSA are contributing to the achievement of development outcomes. We don’t have a method to address that question directly for two reasons. One is the multiple causes of economic development outcomes such as economic growth, employment, or financial sector deepening: PE finance is likely only one factor contributing to such outcomes, and as discussed above, it is difficult to isolate its effect. The other reason is the problem of additionality—do external PE investments crowd in more domestic finance, or do they crowd them out? Again, identifying causality is complex.

What we do instead is link the enterprises in which PE investment takes place to the achievement of development outcomes as defined by the SDGs. We do this by (a) coding the sector of activity of the enterprise according to the standard ISIC national accounts economic activity coding. We then (b) link SDG targets to the same coding scheme (Figure 4). Through this process, we link the activity of the enterprise to one of the 17 SDG outcomes. We use this mapping to distribute the PE investments recorded in our database according to their contribution to a SDG. We can then compare PE investments’ contribution to development outcomes by type of investor and country. The implicit assumption in this methodology is that the PE investment increases value added in the recipient enterprise and in the sector in which the enterprise operates (e.g., does not simply displace the activities of another firm in the sector).

Linking SDG targets to ISIC economic sector coding had been done in the past by researchers at UNCTAD (see Zhan and Santos-Paulino, 2021). However, upon comparing the entire set of SDG targets with UNCTAD’s ISIC sector classifications, we found the UNCTAD classification too restrictive. For example, the UNCTAD classification of sectors contributing to SDG target achievement excluded the manufacturing sector, even though one of the targets in SDG 9 is “raising industry’s share in employment and GDP,” as measured by the manufacturing sector’s share in value added and employment (United Nations, N.D.). Thus, we discarded the UNCTAD classification and developed our own.



**Figure 4.** Analytical framework



Source: Authors

In principle, any economic activity can be linked to the SDGs because SDG 8 (promotion of sustained, inclusive, and sustainable economic growth and full and productive employment) has as its first target sustained GDP growth, and therefore covers the whole economy. However, given the other objectives listed as part of the SDG 8 goal: (i) sustainable development, as measured by among other indicators such as improved labor productivity, (ii) innovation and technological upgrading, and (iii) quality employment (United Nations, N.D.), we decided to exclude certain sectors despite their contribution to GDP. We excluded non-renewable resource extraction (mining) because this is clearly a not sustainable activity owing to resource depletion.<sup>14</sup> We also excluded activities not likely to produce “full and productive employment and decent work for all women and men”<sup>15</sup> according to the ILO standards for decent work, such as activities of households as employers. Finally, we excluded some public sector activities, including administrative activities, defense, police, as well as activities in the sphere of arts and

<sup>14</sup> It could be argued that even renewable resource extraction such as forestry should be excluded in developing countries as these resources are often not being renewed so economic activity in the sector is not sustainable either. However, we don't have the data to know when resource renewal does and does not happen.

<sup>15</sup> United Nations, (N.D.) includes this phrase as one of the 169 SDG indicators. Decent work and the Decent Work Standards of the ILO are described in ILO, (N.D.)

entertainment, because although these activities are included in GDP, they do not directly contribute to sustaining economic growth.<sup>16</sup>

Annex table A1 shows our linkage of SDG goals (desired outcomes) with ISIC-code sectors. For the most part, we made the linkage at the one-digit level (one-letter in the latest revision). Some sectors with specific SDG targets, such as tourism and green energy development and operation, span several ISIC sectors, so we pulled these out separately to assign them to an SDG.<sup>17</sup>

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<sup>16</sup> It could be argued that a functional civil service, able to regulate economic transactions, and a public sector able to control violence and ensure order, are essential to economic growth. However, the main focus of the targets in SDG 8 is the private sector, with a specific focus on tourism and financial services.

<sup>17</sup> For example: tourism includes both transportation and hospitality, green energy development should be classified as Construction (F), while green energy operation would be classified Energy supply (D).

# Analysis and findings

Despite having a large number of transactions in our database, our initial tabulation by country showed surprising concentration. Once all data cleaning was complete, we identified almost 10,000 pure PE transactions to load into our custom database with a total value of over \$9 trillion for the period 2016-2022. Table 1 shows the gross flows by country and reveals that four countries have received 83% of the funds invested in SSA over the last 6 years. It is not surprising that Nigeria and South Africa are the largest recipients of PE funds, as they are the largest economies in Africa. South Africa in particular is a richer country with a well-developed economy and private sector. A few of the transactions into South Africa in our data were investments into South African PE firms. It is noteworthy that Tanzania and Kenya, of the “Silicon Savannah,” both had total transactions totaling more than \$1 billion. These countries and Nigeria are attracting PE investors from Silicon Valley and other parts of the world interested in supporting tech start-ups. After the top four, we see a bit of a drop off to Ethiopia, Senegal, and Ghana. No country after Uganda registers even a half-percentage of flows—the total for all 18 other countries recording transactions stands at 2.2%. This concentration is consistent with the “first mover” results that Jaoui et al., (2022) found in their analysis.

**Table 1.** SSA—Gross PE investment flows by country, 2016-2022 (Millions US\$)<sup>18</sup>

Country	US\$ millions	Share (%)
Nigeria	2,544	26.9
South Africa	2,457	26.0
Kenya	1,497	15.9
Tanzania	1,324	14.0
Ethiopia	539	5.7
Senegal	319	3.4
Ghana	228	2.4
Togo	85	0.9
Sierra Leone	85	0.9
Côte d'Ivoire	74	0.8
Uganda	54	0.6
Others	235	2.5
<b>Total</b>	<b>9,439</b>	<b>100</b>

<sup>18</sup> Note that we excluded a single outlier transaction from Namibia. This is because this transaction—a private equity injection of \$2 billion in 2019 into a mining company called Groot Systems—represented a larger total equity injection than all but two African countries for the entire period under analysis (2016-2022). Furthermore, given its small population, this investment in Namibia dwarfs the rest of the continent as a share of GDP, making this transaction a major outlier.

Controlling for size of the economy, a slightly different picture emerges (Table 2). South Africa and Nigeria drop behind Kenya, Tanzania, Sierra Leone, Liberia, Togo, Senegal, and Ethiopia. Another 10 countries have also managed to attract investments over the six-year period totaling greater than 1% of their 2021 GDP. Togo is a financial sector hub and the home of the West African Development Bank BOAD, as well a major trans-shipment destination, but that likely does not provide a full explanation of its success compared to, say, nearby Ghana or Cote d'Ivoire. Colonial ties may influence this pattern as well, given that seven of the nine countries with investments over 5% of GDP are Anglophone, and English is the language of the PE community. In addition to country characteristics, herd behavior among investors may account for a significant share of the concentration these tables reveal.

**Table 2.** SSA—Gross PE flows as a share of 2021 GDP, 2016-2022 (%)

Country	Share of GDP
Tanzania	23.4
Kenya	23.1
Sierra Leone	22.6
Liberia	15.2
Togo	14.9
Senegal	12.7
Ethiopia	7.5
South Africa	6.1
Nigeria	5.4
Ghana	4.0
Mali	1.9
Gabon	1.8
Zimbabwe	1.7
Côte d'Ivoire	1.6
Namibia	1.4
Benin	1.3
Rwanda	1.3
Uganda	1.2
Lesotho	1.0

Public sector investors in developing countries (multilateral and bilateral DFIs) account for over \$90 billion in total investment flows annually (Carter, et al., 2021), and PE accounts for, on average, 30% of their total portfolios, with many seeking to expand the share of equities (Michelitsch, et al., 2017). However, these entities account for a low share of total flows to Africa—only 10%, despite their development mandate, which would argue for a focus on SSA (Figure 5).

Which public entities are investing in SSA? Table 3 shows total investments by the public institutions in our data.<sup>19</sup> The IFC, part of the World Bank Group, is by far the largest publicly owned investor. The UK's CDC (now called BII) is the second largest by deal count but its transactions are smaller, putting it in third place by volume behind the Qatar Investment Authority, who has the largest average deal size. The United States has relatively few investments compared to its size as an economy, but the US government has only had authorities to do equity investment since 2019.

**Figure 5.** Distribution of investment by investee ownership

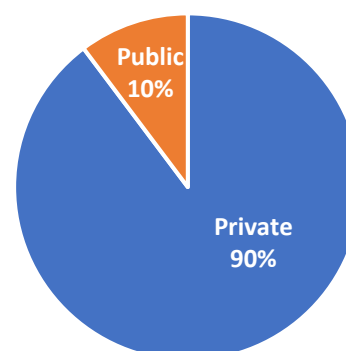


Table 4 shows the top 12 private investors. This table reveals that average deal sizes are much larger among the top private investors compared with public investors. Nonetheless, smaller deals are found among private investors, and average deal size for all private investors is less than 15% of average deal size for public investors (\$6.6 million versus \$880,000 for private investors).

**Table 3.** PE Investments in SSA by public sector investors, 2016-2022

Investor HQ	Investor Name	Total investments '000 US\$	Deal Count
<i>Multilateral</i>	International Finance Corporation (IFC)	313,843	35
	African Development Bank	111,976	7
	European Investment Bank	39,899	3
<i>Qatar</i>	Qatar Investment Authority	200,000	4
<i>United Kingdom</i>	CDC Group/British International Investment	143,458	26
<i>Norway</i>	Norfund	51,536	21
<i>South Africa</i>	Public Investment Corporation	50,154	4
<i>Sweden</i>	Swedfund International	22,750	6
<i>The Netherlands</i>	FMO/Financierings-Maatschappij voor Ontwikkelingslanden	19,791	13
<i>United States</i>	U.S. International Development Finance Corp	10,143	15
<i>Japan</i>	Japan International Cooperation Agency	2,053	10
	<b>Total</b>	<b>956,603</b>	<b>143</b>

<sup>19</sup> Note that China is not shown in the table, as their primary capital support to firms is through debt and our study is restricted to equity investment.

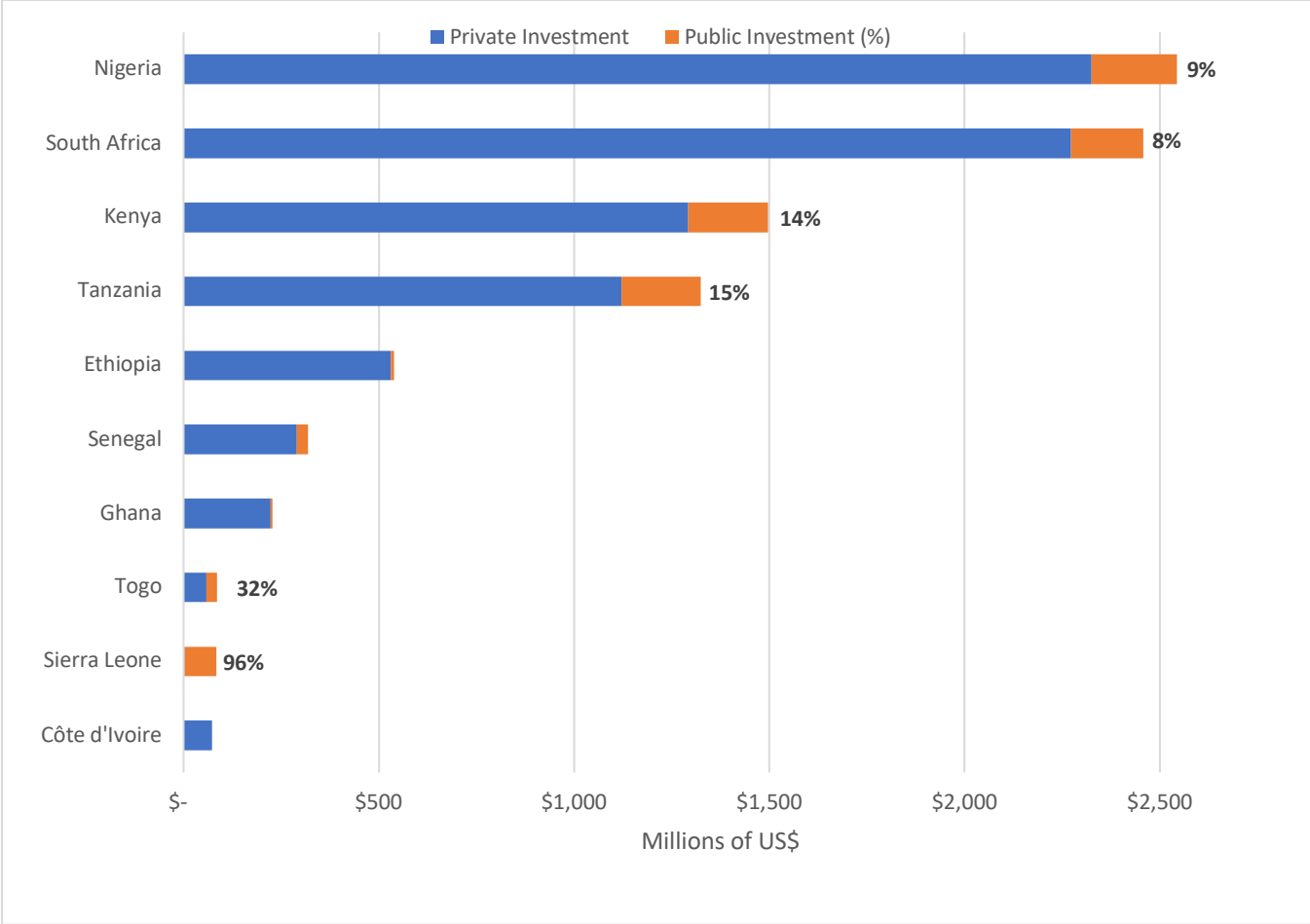
**Table 4.** PE Investments by private sector investors, 2016-2022

Investor name	Total investments '000 US\$	Deal count
Japan Tobacco	510,000	4
Blue Label Telecoms	401,108	3
Leapfrog Investments	242,500	12
Stonepeak	210,193	3
Citi	150,000	1
JP Morgan Chase	150,000	1
Singtel	150,000	1
Softbank	150,000	1
Temasek Holdings	150,000	1
UBS	150,000	1
Warburg Pincus	150,000	2
Teranga Capital	88,360	5
Mtn Group	85,706	2
<b>Grand total (all private investors)</b>	<b>8,690,942</b>	<b>9,841</b>

Figure 6 shows where public sector entities are investing relative to private sector entities. Within the SSA region, these entities should be investing in countries and sectors where commercial or political risks are too high for the private sector by itself, but in general terms, public sector entities seem to be following similar patterns to the private investors. There are some notable differences, however, as public investors are overrepresented as a share of total investment in Sierra Leone<sup>20</sup> (96%), Togo (32%), Kenya (14%), and Tanzania (15%), but have almost no presence in Ethiopia, Uganda, or Ghana. This raises the question of whether public entity investors are actually targeting different objectives, and thus adding additional value, compared with those of the private sector investors.

<sup>20</sup> The Sierra Leone transaction is from the [CDC/BII](#) into [Solon Capital Partners](#), an investment holding company based in Freetown. Togo also consistently shows up with outsized investments in the data relative to the size of the country, due to the presence of both [Cauris Management](#) and [West Africa Development Bank \(BOAD\)](#) in Lomé.

**Figure 6.** Distribution of investments in top 10 per capita recipient countries (Millions US\$) and by percent public



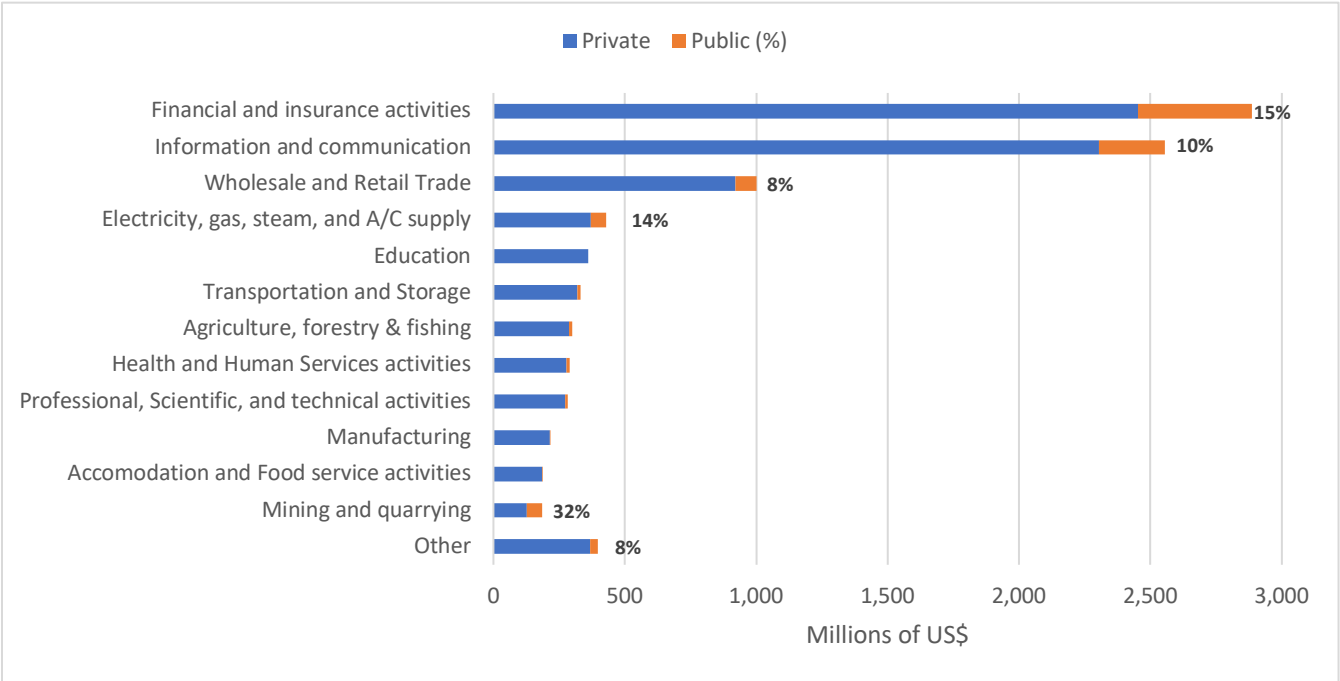
**Box 2.** How to classify a mining investment by a public development bank? The example of Sierra Rutile Limited

In our database, we found a transaction with a public investor in mining in Sierra Leone. In 2019, the International Finance Corporation made a \$60 million equity investment in Sierra Rutile Limited to expand operations in Sierra Leone. The investment, representing a 10% ownership stake, is intended to support the doubling of Sierra Rutile’s production of rutile, a mineral used to produce whitening pigment in paints, plastics, and paper. Per the IFC’s announcement (IFC, 2019), the investment includes an advisory services agreement to improve communities and to develop economic empowerment for women and youth. We expect that only a small fraction of the total investment will actually be directed at the community services improvements, but nonetheless tagged this investment as 50% mining (non-SDG) and the rest as supporting SDG3 (Health and well-being) and SDG9 (Industry, Innovation, and Infrastructure) because of expected support to the local economy, including micro and small businesses.

Turning to distribution of investments by sector, Figure 7 shows that the finance and ICT sectors account for a large majority of the investments. The large share (30% of total) in the finance and insurance sectors reflects both the underdevelopment of these sectors in SSA as well as the lead a few SSA countries (such as Kenya and Nigeria) have in the fintech space. Kenya in particular is a global leader in mobile money and, along with South Africa, has broad access to mobile communications and mobile and fixed broadband service (Fox and Signé, 2022). Costs to access the internet are low in Kenya as well, especially compared to other SSA countries (Fox and Signé, 2022). Much of Africa’s ICT infrastructure is privately operated, which helps explain why this sector comes in second, accounting for 27% of total transactions by value. While behind Asia, e-commerce is also growing in SSA, especially after outbreak of COVID-19, and this may account for investments in wholesale and retail trade coming in third place (Fox and Signe, 2022). SSA countries are starved for energy generation and distribution capacity, so it is not surprised to find this category accounting for an important share of transactions.

Public sector investors are relatively overrepresented in the top two sectors. Although public investors account for 10% of overall transactions by value, they account for 15% of financing in finance and insurance. Surprisingly, they account for almost one-third of investments in mining. The public sector is under-represented in sectors with known poverty-related externalities such as health (4%), education (0%), and agriculture (4%). Again, this pattern is surprising given the development mandate of public sector investors, and the fact that private investors did manage to find opportunities in these sectors.

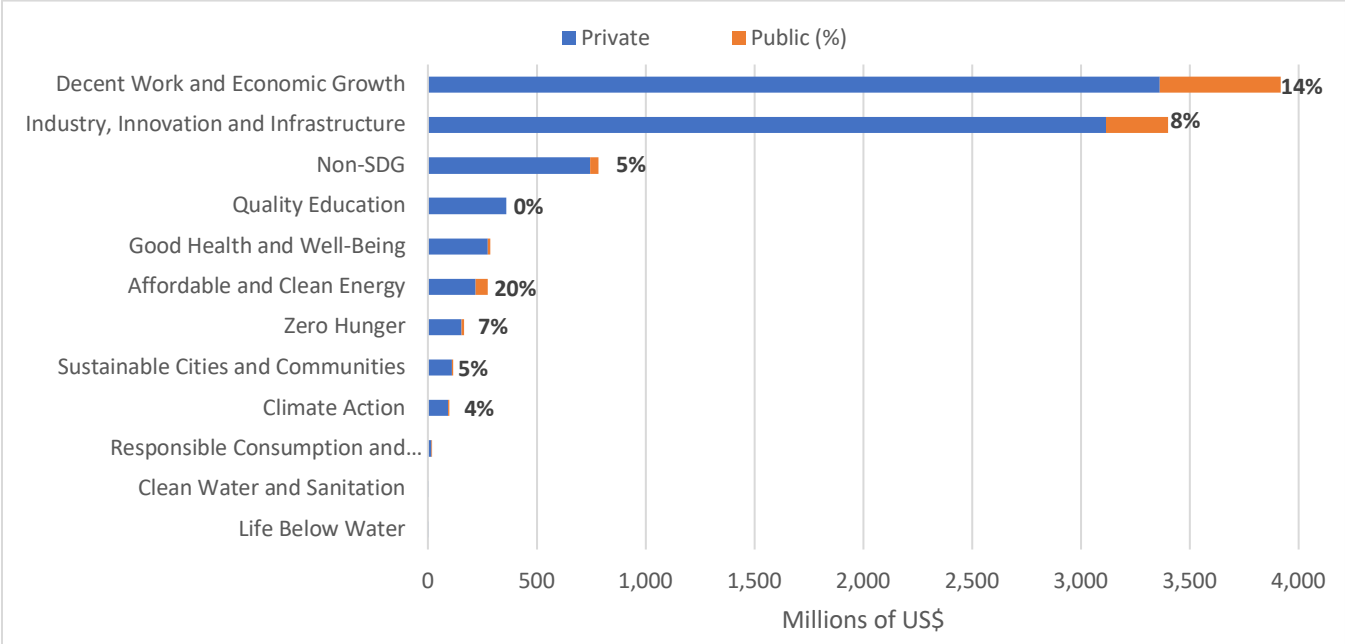
**Figure 7.** Distribution of investment by sector of activity (ISIC) in (Millions US\$) and by percent public





How development oriented are these PE investments? Linking sectors of activity of firms to the SDGs reveals that almost 90% of total investment flows appear to directly contribute to the achievement of SDG targets (Figure 8). As expected, the SDGs most directly related to economic growth—SDGs 8 and 9—account for most of the PE investments linked to SDG achievement. Health (3), Education (4), Clean Energy (7) and Zero Hunger (1) account for most of the rest. Reflecting the sectoral allocation above, the Education and Health SDG targets do not receive much investment from public sector entities, but Zero Hunger and Decent Work and Economic Growth received more than a proportional amount. The public sector is overinvested in green energy, but also active in non-SDG areas, most likely reflecting public sector investments in mining—investments which include fossil fuels but also the production of minerals needed for clean energy technology and other industrial uses (see Box 2).

**Figure 8.** Distribution of investment by SDG in (Millions US\$)



The distribution of public investor transactions by SDG again raises questions regarding the entities’ pursuit of their designated development objectives. While we do see some differences in the distribution of investments between public and private investors, it is not the difference we expected. Public investors are not disproportionately investing in Education, Health, Zero Hunger, Sustainable Cities, or Climate Action. In terms of choice of countries, public investors tend to follow the herd into the largest and best-prepared economies—Nigeria, South Africa, Tanzania, and Kenya—which contrasts with their development objective to crowd in private capital into countries which do not receive much private investment. It appears that public investors may not be more development focused in their equity portfolio than private investors, although more detailed analysis of their transactions would be required to validate these observations.

The distribution of investment by SDG in the top nine countries by total transaction value shows that countries differ substantially in terms of to which development outcomes (SDGs) they can attract investment (Figure 9). Kenya and Tanzania are neighboring countries of comparable size, with similar economies, and yet demonstrate a completely different profile in the development areas investors chose. Tanzania attracts investments primarily in manufacturing and infrastructure, areas that require capital investment. Kenya shows a balanced portfolio, including infrastructure, energy, trade, finance (fintech), tourism, and agriculture. South Africa shows a similar portfolio. South Africa and Senegal were the main recipients of investments contributing to quality education. One-third of Ghana's investment flows were in the health sector, complementing an otherwise balanced portfolio. Kenya accounted for most of the (very few) zero hunger investments, possibly reflecting an increasing commercialized agricultural sector.

# Conclusions

The question of how to finance the investments needed in SSA to reach the development outcomes embodied in the SDGs remains highly salient. Our analysis finds that private equity is doing its part, in terms of quality of investments, in financing the SDGs in Africa, even if the quantity is still low. It is quite promising that 88% of transactions by value can be tied to an SDG target.

However, the concentration of private equity investments in a few countries—notably South Africa, Kenya, Tanzania, and Nigeria is striking. This is likely due to the herd behavior (or first mover advantage) identified in Jaoui et al. for VC investments, perhaps showing the importance of creating a buzz among investors. The dominance of these countries is probably also related to their own policies, as these countries have higher international bandwidth (especially Kenya) and internet coverage (especially South Africa and Nigeria),<sup>21</sup> two factors Jaoui et al. identified as key to attracting the VC portion of PE investment. In the case of Nigeria and South Africa, their large share of total transactions by value seems to be primarily related to the size of their economy. When we rank countries' total investments by share of their GDP, these two countries fall behind, which is especially surprising for South Africa given the sophistication of their economy and financial sector, government effectiveness, and internet coverage. Tanzania and Kenya persist at the top, joined by three small West African countries. Does English language fluency matter? Perhaps, given the persistence of Anglophone countries at the top of both rankings, but it is not determinative, as the results for Togo and Senegal show. Nonetheless, the concentration implies that PE financing is not reaching most SSA countries except in negligible amounts, and therefore not supporting their economic development objectives as measured by the SDGs. The “billions to trillions” mechanism has a way to go in mobilizing the financial support needed.

Countries show large differences in which sectors attract investment, and therefore which SDG targets are being financed in their country. The majority of PE investments were linked to economic growth and private sector development (including financial sector development). This may not be surprising as this is the development outcome to which we might most expect private financing and private enterprises to contribute. However, the social sectors (including water supply) and agriculture received a low share of funding, with almost none of the funding in these sectors coming from public investors. As a share of country portfolios, social sector investments were surprisingly concentrated. This result raises several questions.

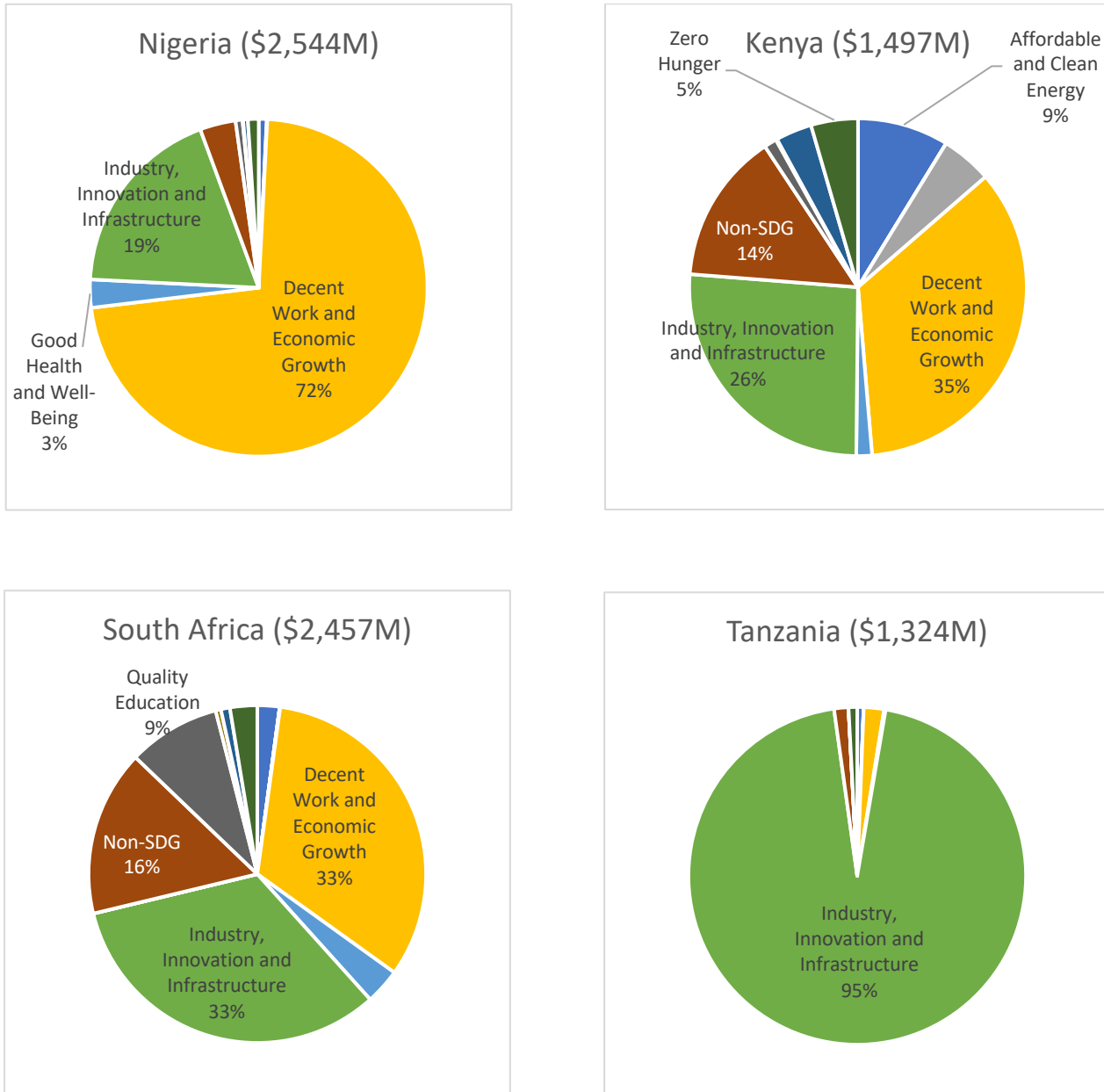
1. Are there opportunities in these sectors for private enterprise and private capital that are not being developed, and therefore not attracting PE financing? What could the rest of Africa learn from Senegal in education, Ghana in health, and Kenya in affordable and clean energy?

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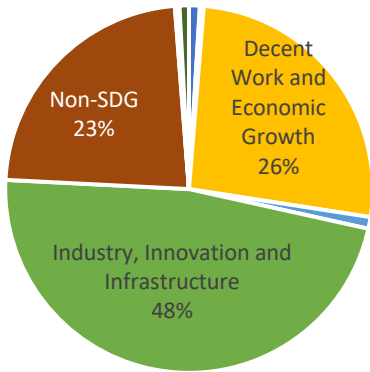
<sup>21</sup> Based on data in Jaoui et al., (2022).

2. To the extent that there are opportunities in the social sectors, why are private sector investors able to find them but not the DFIs, given the latter's public sector funding base and development mandate?
3. How do public sector investors realize their development purpose if their investments by sector and SDG so closely mirror the investments by private investors? The country- and sector-level analysis done here may not be well-suited to evaluate the performance of DFI private equity investments, but it does at least raise questions.

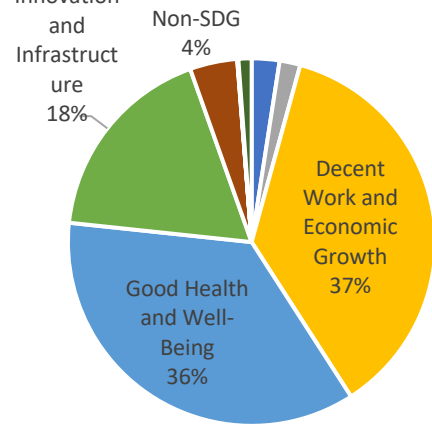
**Figure 9.** Pattern of investments by country



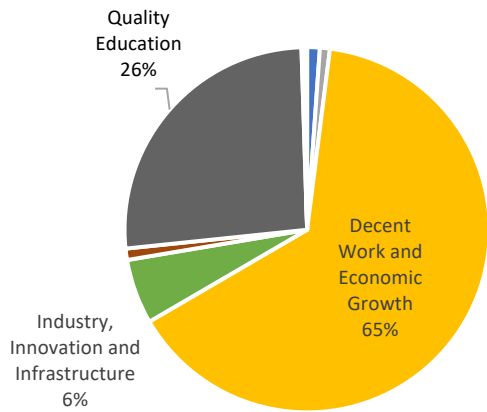
Ethiopia (\$539M)



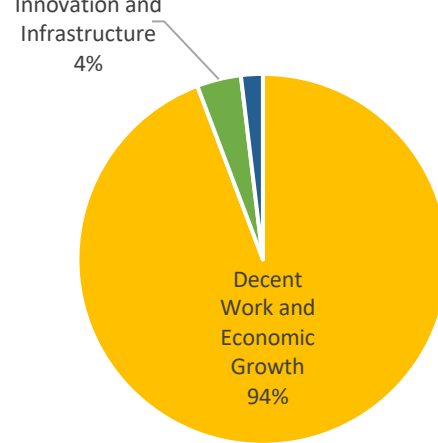
Ghana (\$228M)

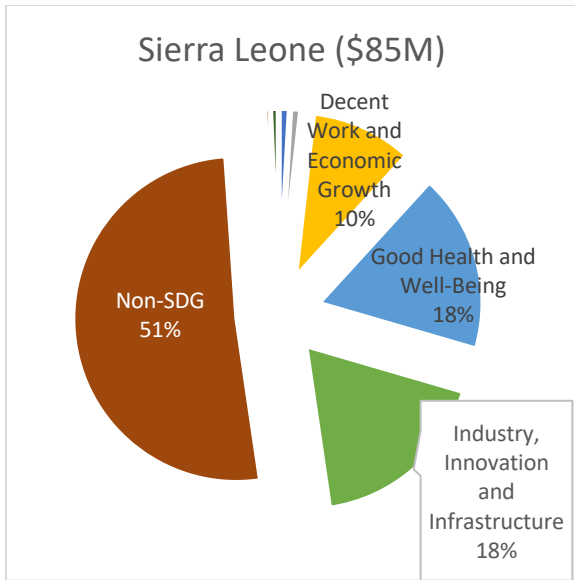


Senegal (\$319M)



Togo (\$85M)





Key:



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# Annex 1. Matching of ISIC codes and SDG targets

ISIC code	Description	SDG	Description	Corresponding SDG indicator
<b>A</b>	Agriculture, forestry & fishing	2	Zero Hunger	(2.4) By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality
<b>B</b>	Mining and quarrying	none		
<b>C</b>	Manufacturing	9	Industry, Innovation, and Infrastructure	(9.2) Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries
<b>D</b>	Electricity, gas, steam, and A/C supply	7	Affordable and Clean Energy	(7.1) By 2030, ensure universal access to affordable, reliable and modern energy services
<b>E</b>	Water supply, sewage, waste management and remediation activities	6	Clean Water and Sanitation	(6.1) By 2030, achieve universal and equitable access to safe and affordable drinking water for all; (6.2) By 2030, achieve universal and equitable access to safe and affordable drinking water for all
<b>F</b>	Construction	8	Decent Work and Economic Growth	(8.2) Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high value-added and labor-intensive sectors
<b>G</b>	Wholesale and retail trade	8	Decent Work and Economic Growth	(8.2) Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labor-intensive sectors
<b>H</b>	Transportation and storage	9 or 11	Industry, Innovation, and Infrastructure or Sustainable Cities and Communities*	(9.1): Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all. (11.2): By 2030, provide access to safe, affordable, accessible and sustainable transport systems for

				all, improving road safety, notably by expanding public transport
<b>I</b>	Accommodation and food service activities	8	Decent Work and Economic Growth	(8.9) By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products
<b>J</b>	Information and communication**	9	Industry, Innovation, and Infrastructure	(9c) Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020
<b>K</b>	Financial and insurance activities	8	Decent Work and Economic Growth	(8.10) Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all
<b>L</b>	Real estate activities	11	Sustainable Cities and Communities	(11.1) By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums
<b>M</b>	Professional, scientific, and technical activities+	9	Industry, Innovation, and Infrastructure	(9.5) Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending
<b>N</b>	Administrative and support services	none		
<b>O</b>	Public administration and defense	none		
<b>P</b>	Education	4	Quality Education	(All Targets) Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
<b>Q</b>	Human health and social work activities	3	Healthy Lives and Well-Being	(All targets) Ensure healthy lives and promote well-being for all at all ages
<b>R</b>	Arts and entertainment activities	none		
<b>S</b>	Other service activities	none		
<b>T</b>	Activities of households as employers	none		
<b>U</b>	Activities of extraterritorial	17	Partnerships for the Goals	(All targets)

	organizations and bodies			
<b>SDG-related economic activities that cross ISIC codes</b>				
	Tourism	8	Decent Work and Economic Growth	(8.9) By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products (includes activities from H, I, and N)
	Green energy (climate change mitigation)	7	Affordable and Clean Energy	(7.2) By 2030, increase substantially the share of renewable energy in the global energy mix (includes activities from D, F and M)
	Energy efficiency (climate change mitigation)	7	Affordable and Clean Energy	(7.3) By 2030, double the global rate of improvement in energy efficiency (includes activities from D and M)
	Climate change adaptation	13	Climate Action	(13.1) Strengthen resilience and adaptive capacity to climate-related hazards (includes activities from F, H, and M)
	Pollution/plastic waste control	12	Responsible Consumption and Production	(12.4) By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle; (12.5) By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse
	SME development	9	Industry, Innovation, and Infrastructure	(9.3) Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets (includes activities from multiple ISIC codes)

*Notes:*

\*SDG 11 if sub-sector is urban transportation, such as ride sharing apps.

\*\* Only telecommunications (61), and computer programming, consultancy and related activities (62). +Only (71) Architectural and engineering activities, technical testing and analysis; (72) Scientific research and development; and (74) Other professional, scientific and technical activities

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1775 Massachusetts Ave NW,  
Washington, DC 20036  
(202) 797-6000  
[www.brookings.edu](http://www.brookings.edu)