



COVID-19 Working Paper: The COVID-19 Pandemic and Changes in Greenfield Foreign Direct Investment in Africa

Jarrad Farris, Stephen N. Morgan, and Michael E. Johnson

This paper has been published through the USDA Economic Research Service's (ERS) COVID-19 Working Paper series. The ERS' temporary Working Paper series is designed to publicly release preliminary analyses relevant to the impacts of the COVID-19 pandemic on agriculture, food, the environment, and rural America in a timely manner. The ERS' COVID-19 Working Papers have not undergone the review and editorial process generally accorded official ERS publications, but they have been reviewed by ERS economists and social scientists through an expedited review process. The findings and conclusions in this COVID-19 Working Paper are those of the authors and should not be construed to represent any official USDA or U.S. Government determination or policy.

Abstract

Africa is expected to be a key emerging market for international trade and investment due to rising consumer incomes and a population that is projected to double in size by 2050. However, the Coronavirus (COVID-19) pandemic led to major disruptions to markets and incomes in Africa that may have altered companies' investment decisions. This paper addresses this issue by evaluating how the COVID-19 pandemic may have shifted trends in greenfield foreign direct investment (GFDI) in the region. The authors examined changes in the magnitude and composition of GFDI in Africa coinciding with the pandemic. The authors found that the onset of the pandemic in 2020 is associated with a large drop in GFDI in Africa. This reduction has been relatively persistent—while GFDI in Africa increased moderately in 2021 relative to 2020, it remains below historical levels. The authors also found substantial sector-specific variations coinciding with the pandemic. For example, GFDI in the food and beverages sector declined 34 percent in 2020 (relative to its 2010–19 annual average), while the communications sector experienced a more than 100-percent increase in 2020 GFDI. Finally, the authors found no association between countries' differing COVID-19 fiscal policy responses and GFDI in the short term.

Keywords: COVID-19, Coronavirus pandemic, Africa, FDI, Greenfield Foreign Direct Investment, Fiscal Policy, USDA, U.S. Department of Agriculture, ERS, Economic Research Service

Acknowledgments:

The authors thank Felix Baquedano, USDA, Economic Research Service (ERS), for valuable comments on an initial draft of the manuscript. We thank the anonymous reviewers for their helpful comments and technical reviews. We also thank reviewers from USDA, Foreign Agricultural Service (FAS) and USDA, Office of the Chief Economist (OCE) for their insightful feedback. Thank you also goes to Christopher Whitney, Jana Goldman, Christine Williams, and Chris Sanguinett, USDA, ERS, for editorial and design assistance.

Use of commercial and trade names does not imply approval or constitute endorsement by USDA.

To ensure the quality of its research reports and satisfy governmentwide standards, ERS requires that all research reports with substantively new material be reviewed by qualified technical research peers. This technical peer review process, coordinated by ERS' Peer Review Coordinating Council, allows experts who possess the technical background, perspective, and expertise to provide an objective and meaningful assessment of the output's substantive content and clarity of communication during the publication's review.

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at [How to File a Program Discrimination Complaint](#) and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.

USDA is an equal opportunity provider, employer, and lender.

Contents

Summary	4
Introduction.....	6
Data and Methods	7
Results	8
Overall Shifts in Total Investments During the COVID-19 Pandemic	8
Sector-Specific Changes in Greenfield FDI in Africa.....	13
COVID-19 Fiscal Policy Response and Greenfield FDI in Africa.....	15
Conclusion	17
References.....	18
Appendix	20

What Is the Issue?

The flow of private sector investment into Africa indicates emerging market opportunities on the continent. While Africa is expected to be a key emerging market for international trade and investment, the Coronavirus (COVID-19) pandemic led to large disruptions to markets and incomes on the continent. These disruptions may have altered companies' investment decisions and led to changes in the flow of private sector investment into Africa. In this working paper, the authors analyze these emerging trends. They do so by examining whether there are any associations between the onset of the COVID-19 pandemic, countries' differing COVID-19 fiscal policies, and changes in the magnitude and composition of greenfield foreign direct investment (GFDI) in Africa. GFDI are investments made by a foreign firm to start a new venture or subsidiary in another country. GFDI does not include mergers or acquisitions by foreign companies nor investments made by foreign governments in other countries.

What Did the Study Find?

- The COVID-19 pandemic is associated with a large drop in yearly GFDI in Africa. Annual GFDI flows in Africa in 2020 were less than \$30 billion, a 60-percent decline relative to the 10-year annual average over 2010–19. GFDI flows in Africa improved marginally in 2021 to \$38.6 billion—33 percent above 2020 levels but still 48 percent below the 10-year annual average.
- The pandemic is also associated with disruptions in monthly GFDI flows. In April 2020, the first full month after the World Health Organization (WHO) officially declared the spread of COVID-19 a global pandemic, GFDI in Africa was only \$715 million, 89 percent below the same month average for the region over 2010–19. Similarly, in December 2021—the first full month following the discovery of the Omicron COVID-19 variant in South Africa—GFDI in Africa was \$2.8 billion, 60 percent below the historical reference level and more than \$1 billion less than the already low level of the year prior.
- The reduction in GFDI was widespread throughout the continent. Over 70 percent of African countries experienced more than 50 percent declines in 2020 GFDI relative to their country-specific, historical annual averages from 2010–19. Moreover, more than half of African countries experienced greater than 75 percent declines in 2020 GFDI relative to their country-specific, historical annual averages over the previous decade.
- Not all African countries experienced retractions in GFDI in 2020. The Democratic Republic of the Congo attracted \$1.1 billion in GFDI in 2020, a 17.5-percent increase relative to its 2010–19 average. Several other African countries also experienced relative increases in 2020 GFDI, albeit in magnitudes less than \$500 million.
- The authors also found substantial sector-specific variation coinciding with the pandemic. Africa's 2020 GFDI in the real estate and hotels/tourism sectors—each of which relies heavily on travel and in-person work—declined by 95 percent and 80 percent, respectively, relative to their annual 2010–19 averages. Relative to these sharp declines, 2020 GFDI in the food and beverages sector showed resilience, declining by only 34 percent relative to its historical average. GFDI in 2020 for two sectors well-positioned for the pandemic, communications and software/IT services, increased by 113 percent and 12 percent, respectively, relative to their historical benchmarks.

How Was the Study Conducted?

This study examines differences in GFDI and COVID-19 policy responses in Africa in 2020 and 2021 via two key data sources. To estimate changes in GFDI in Africa, the authors analyze deidentified firm-level data provided by fDi Markets, Financial Times Limited (2021). These project-level data are reported monthly and include information on GFDI announcements and openings by the investment source, destination, sector, and investment amount. To estimate African countries' COVID-19 fiscal policy responses, the authors used data from the International Monetary Fund (IMF, 2021). These data report the magnitude of countries' COVID-19-related fiscal policy responses through December 2020. To highlight any significant deviations in GFDI flows, the authors compared GFDI levels in 2020 and 2021 with three benchmark monthly and annual trend values: a long term (10-year) average, a medium term (5-year) average, and a short term (3-year) average. This information is intended to capture both longer and shorter run declines or increases in the general trend through time of both total and sectoral GFDI.

COVID-19 Working Paper: The COVID-19 Pandemic and Changes in Greenfield Foreign Direct Investment in Africa

Introduction

Over the next 30 years, Africa is projected to have the highest rate of urbanization in the world, and its population is expected to double in size. By 2050, the United Nations predicts that the continent will have a larger urban population than Europe, Latin America, and the Caribbean combined (United Nations, 2019). At the same time, household consumption is diversifying towards higher-value products, as evident by the growth in supermarkets and the demand for meat and processed foods in Africa (Reardon et al., 2003; Reardon et al., 2021). These trends indicate that Africa is likely to become a key emerging market for international trade and investment over the coming decades. In turn, multinational corporations are positioning themselves to benefit from the growing demand for goods and services on the continent.

The Coronavirus (COVID-19) pandemic, however, led to rapid, sweeping changes in businesses and supply chains around the world—such as a movement away from office work and greater reliance on telecommunications. While recent work focused on the economic and food security impacts of the COVID-19 pandemic in Africa (e.g., Baquedano et al., 2021; Bloem and Farris, 2021; Valensisi, 2020), less is known about how the pandemic may have shifted companies' foreign direct investment decisions. Research analyzing changes in FDI in Africa prior to the pandemic found that GFDI had begun to shift away from natural resource-extraction-related industries (Morgan et al., 2022). Assessing the breadth and depth of the disruptions to companies' investment decisions in Africa associated with the COVID-19 pandemic can provide insights into the magnitude of the shock to short-term investment trends in Africa and how it may have differed over time across countries and across sectors.

This working paper addresses this need by evaluating how the COVID-19 pandemic may have shifted trends in greenfield foreign direct investment (GFDI) in Africa. GFDI are investments made by a foreign firm to start a new venture or subsidiary in another country. GFDI does not include mergers or acquisitions by foreign companies nor investments made by foreign governments in other countries. This paper analyzes changes in overall GFDI on the continent as well as country- and sector-specific changes since the start of the pandemic. The authors also examine whether countries' fiscal policies enacted in response to COVID-19 are associated with GFDI flows. While GFDI captures only a subset of FDI flows, the specific focus on new ventures provides an indication of emerging investment activity in the host country or sector that did not exist previously under a different company name. Therefore, as the pandemic alters existing market entry barriers and supply chains, analyzing changes in GFDI provides an early view of emerging trends in new investor activity across countries and sectors in Africa.

Previous research focusing on the determinants of FDI found significant relationships for a variety of factors, including market size, infrastructure, wages, taxes, institutions, and geographic distance (e.g., Büütthe and Milner, 2008). However, because FDI flows are a cross-border activity, negative economic shocks can decrease the volume of FDI flowing from source countries and, similarly, may interact with destination characteristics to affect perceived returns of investment opportunities in different markets (Hou et al., 2021).¹ Negative

¹ Hou et al. (2021) argued that correlated shocks across FDI source and destination countries may introduce an endogeneity problem for estimating the determinants of FDI location. The authors developed a quasi-maximum likelihood estimator to control for heterogeneous shocks in a panel data model, finding that this method provides theoretically consistent signs on FDI determinants.

shocks that decrease FDI flows can be associated with a variety of events, including demand shocks, productivity shocks, recessions, military conflict, and political change (Aizenman and Marion, 2004; Gil-Pareja et al., 2013; Li and Vashchilko, 2010; Abdel-Latif, 2019).

The authors contribute to the emerging literature on how the COVID-19 pandemic affected FDI inflows, with an emphasis on Africa. Global FDI flows declined by 35 percent in 2020, with new greenfield investment in developing countries falling by 42 percent (UNCTAD, 2021). Fang et al. (2021) found that new COVID-19 cases, deaths, and cumulative cases were negatively associated with cross-border FDI. Doytch et al. (2021) compared changes in greenfield FDI during COVID-19 with the 2008 financial crisis and found that while FDI trends differed prior to each of the shocks, both led to significant contractions in FDI—with similar declines in financial and accommodation sectors occurring after both shocks. Focusing specifically on COVID-19, a quarter-to-quarter analysis found global GFDI flows declined by 152 percent in the third quarter of 2020, with persistent declines in investment in extractive and manufacturing sectors (Doytch et al., 2021).

Data and Methods

The authors analyzed deidentified firm-level data on GFDI in Africa provided by fDi Markets, Financial Times Limited (2021). These project-level data include information on GFDI by the investment source, destination, sector, and investment amount. The dataset includes projects at both the announced and opened stage. Projects are considered announced when a company has completed its investment decision and is proceeding with project implementation. Opened projects have completed implementation and are fully operational.² A team of business analysts at Financial Times Limited identifies projects and gathers the project details. The research team prioritizes direct company sources, and most of the data are from publicly available sources. The details of each project are cross-referenced from multiple sources. GFDI data in Africa are available monthly from January 2003 to 1 month prior to real-time (Loewendahl, 2021). If not available in publicly listed data sources, fDi Markets estimates the investment amount and revises estimates when new information is received. Investment amounts are not adjusted for inflation.³

In addition to GFDI data, the authors also used data on African countries' COVID-19 fiscal policy responses from the International Monetary Fund (IMF, 2021). These data cover the primary fiscal policy actions that governments announced or implemented in response to the COVID-19 pandemic. Multiple types of fiscal support are tracked—including above-the-line measures, below-the-line measures, and contingent liabilities. The authors' analysis covers the reported magnitude of African countries' COVID-19-related fiscal policy responses through December 2020.

To highlight any significant deviations in GFDI flows, the authors compared GFDI levels in 2020 and 2021 with 3 benchmark monthly and annual trend values: a long term (10-year) average, a medium term (5-year) average, and a short term (3-year) average. This analysis is intended to capture both shorter and longer-run declines or increases in the general trend through time of both total and sectoral GFDI.

² It is possible that announced GFDI projects are not implemented or only partially implemented.

³ See Loewendahl (2021) for a description of fDi Markets methodology.

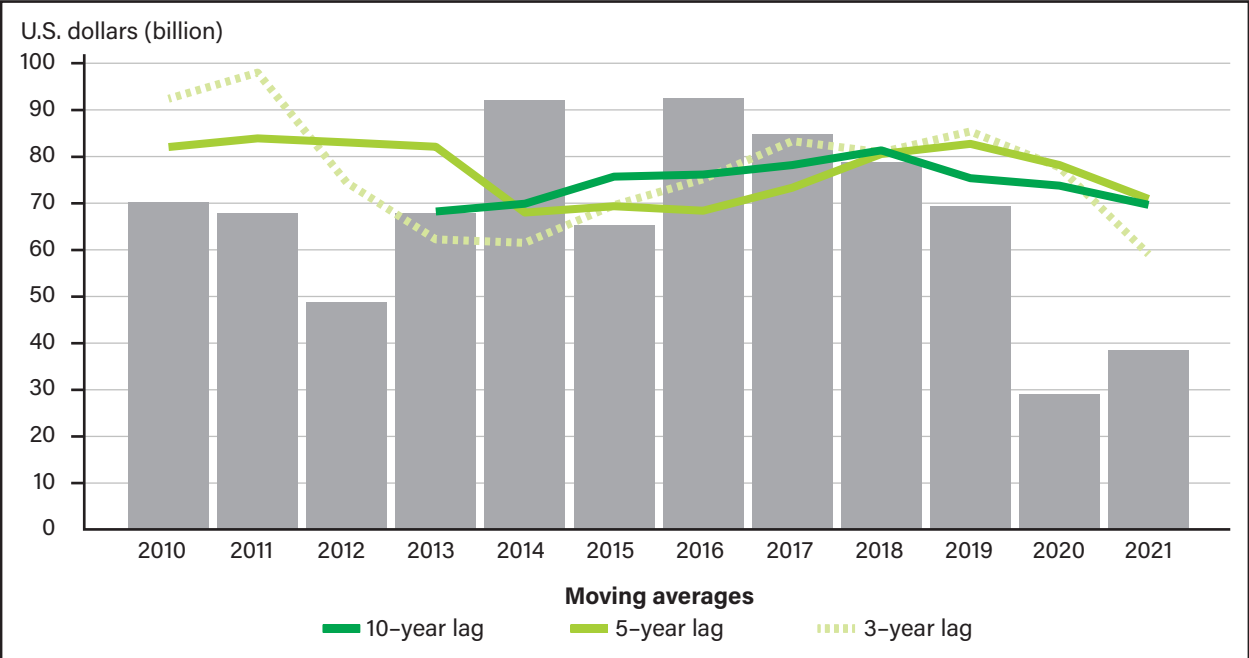
Results

Overall Shifts in Total Investments During the COVID-19 Pandemic

Prior to the onset of the COVID-19 pandemic, approximately \$75–80 billion in GFDI flows entered Africa annually (on average), based on 10-year, 5-year, and 3-year trends (figure 1). Coinciding with the start of the COVID-19 pandemic, however, GFDI flows shifted substantially. Annual GFDI flows in Africa in 2020 were less than \$30 billion. This drop in annual investment flows is representative of an approximately 60-percent decline in annual GFDI flows to Africa relative to 10-year, 5-year, and 3-year trends. Moreover, the 2020 GFDI is the lowest level of annual investment flows in Africa in the history of the Financial Times (2021) dataset, which goes back to 2003.

GFDI flows in Africa improved marginally in 2021, relative to 2020, but remained well below historical trends for the continent (figure 1). 2021 GFDI flows in Africa were \$38.6 billion, an increase of 33 percent over the historically low levels of GFDI in 2020. Despite this increase from the first year of the COVID-19 pandemic, these 2021 flows represent a 48 percent decline from the 10-year annual average over 2010–19. In the Financial Times (2021) dataset covering GFDI in Africa since 2003, only 2 years—2004 and 2020—had lower reported levels of GFDI in Africa than 2021. Thus, although GFDI recovered in 2021 from the initial onset of the COVID-19 pandemic in 2020, there remains a substantial gap in private sector investment associated with the pandemic.

Figure 1
Annual greenfield FDI in Africa

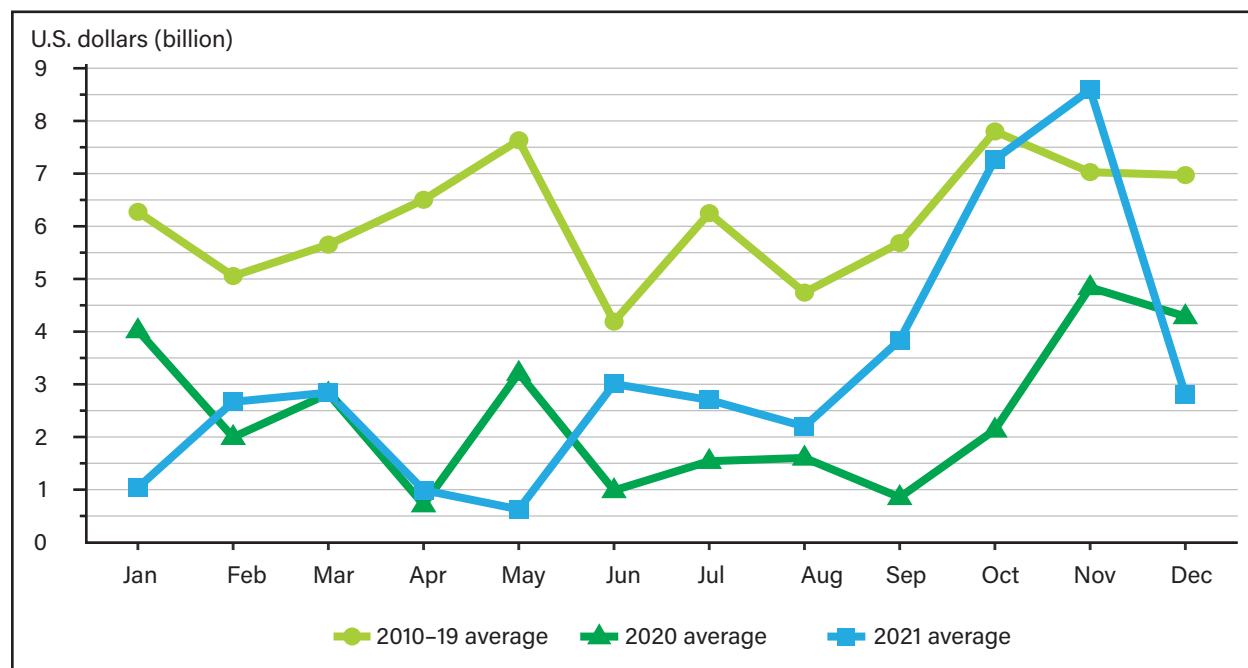


FDI = foreign direct investment.

Source: Source: USDA, Economic Research Service calculations using data provided by fDi Markets, Financial Times Limited (2021).

Monthly GFDI flows provide a more detailed look at potential shifts of GFDI in Africa in 2020 and 2021 relative to historical trends. Figure 2 compares monthly GFDI in 2020 and 2021 to historical monthly 10-year averages over 2010–19.⁴ The historical monthly trends suggest that GFDI in Africa typically rises in the early months of the calendar year, peaking in May, with an average of \$7 billion. The historical average GFDI then falls to a 12-month low of \$4.2 billion in June before rising at the end of the calendar year. Over 2010–19, October to December saw elevated levels of monthly GFDI flows in Africa of \$7 to \$8 billion on average. By analyzing monthly 2020 and 2021 GFDI flows (relative to these historical monthly trends), the authors accounted for this seasonality, which may be related to patterns in companies’ fiscal year reporting.

Figure 2
Monthly greenfield FDI in Africa



FDI = foreign direct investment.

Source: USDA, Economic Research Service calculations using data provided by fDi Markets, Financial Times Limited (2021).

The onset of the COVID-19 pandemic in 2020 is associated with a drop in monthly GFDI in Africa. In April 2020, the first full month after the World Health Organization (WHO) officially declared the spread of COVID-19 a global pandemic, there was a significant decline in new GFDI in Africa (WHO, 2020); April 2020 GFDI in Africa was \$715 million, 89 percent below the same month average for the region over 2010–19 (figure 2). Moreover, while monthly 2020 GFDI flows in Africa showed similar patterns to the historical trend, the magnitudes of monthly inflows were well below the 2010–19 average throughout the year. For instance, monthly GFDI was 85 percent below average in September 2020 and, despite the typical end-of-year increase, 38 percent below average in December 2020. While this descriptive analysis cannot identify causal effects, this persistent decline in 2020 GFDI (coinciding with the COVID-19 pandemic) is suggestive of the toll that the pandemic had on multinational companies’ investment decisions in Africa.

Although overall monthly GFDI in 2020 did not recover to the historical 10-year trend, there were some signs of shifting investment priorities across sectors during the year. In particular, the relative increase in

⁴ The 10-year, 5-year, and 3-year historical monthly averages since 2019 all share similar patterns in monthly GFDI flows (appendix figure A.1).

May 2020 from the pandemic low is largely due to widespread communications investments from China. In May 2020, Chinese companies announced GFDI in the communications sector across 16 African countries, totaling an estimated \$2.3 billion (Financial Times Ltd., 2021). This change in China's GFDI in Africa is consistent with positioning to meet the rising need for telecommunications connectivity in what is likely to be a key emerging market for international trade and investment.

In the first 5 months of 2021, GFDI flows to Africa remained well below historical reference levels. Moreover, GFDI flows in these months were at or below the low levels from the year prior. This may be indicative of the enduring nature of the global pandemic and companies' hesitations to invest amidst this uncertainty.

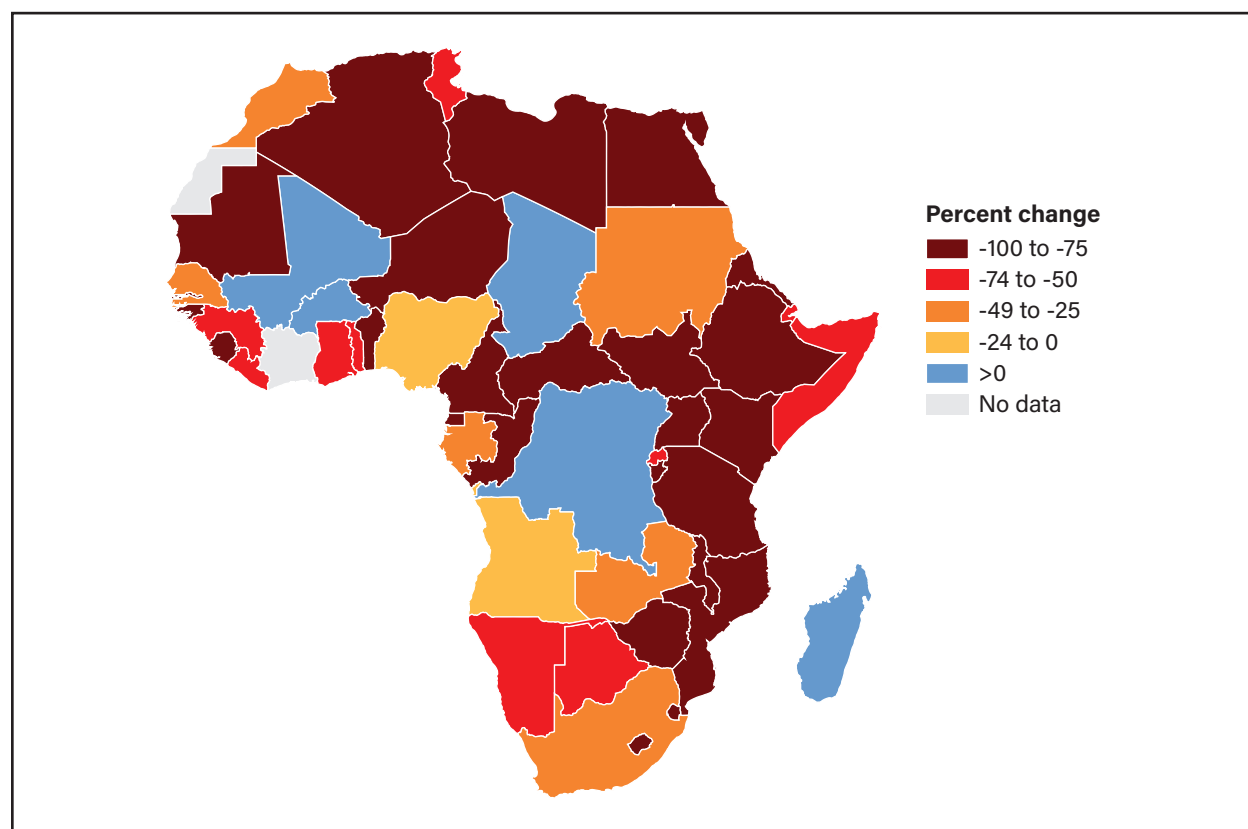
The remaining 2021 months from June to November were volatile but showed signs of returning to pre-pandemic levels. In June 2021, GFDI was less than 30 percent below historical reference levels for the first time since the pandemic began. Several multimillion-dollar GFDI projects were announced or initiated in this month, including projects in communications and tourism. The primary driver of the jump in GFDI flows, however, was a more than \$1.5 billion real estate investment from the United Arab Emirates (Financial Times Ltd., 2021). This is representative of a more traditional infrastructure investment, as was commonly seen prior to the pandemic.

The final quarter of 2021 was a period of rapid changes in terms of GFDI flows in Africa. First, monthly GFDI flows increased substantially month over month from August to November. While monthly increases in these months are expected based on historical averages, the rate of increase surpassed that of the 10-year average. In November 2021, the GFDI flows were 22 percent higher than the November historical average of \$7 billion—the first time monthly GFDI flows had surpassed the historical reference level since the pandemic began. This trend is consistent with pent-up investment demand following the curbed GFDI flows over the past 2 years.

Breaking the upward trend of the previous 3 months, December 2021 GFDI in Africa was significantly lower; GFDI during the month was \$2.8 billion, 60 percent below the historical reference level and more than \$1 billion less than the already low level of the year prior. This substantial pullback in GFDI flows coincides with the discovery of the new Omicron COVID-19 variant in South Africa at the end of November 2021 (WHO, 2021). Following a lull in COVID-19 caseloads in the preceding 2 months, December marked a 2-year high in new COVID-19 cases in Africa (WHO, 2022). The new variant and rising caseloads also led more than 50 countries to impose temporary travel restrictions on countries in Southern Africa (Mallapaty, 2021). Thus, the drop in December GFDI is consistent with the increase in market and investment volatility stemming from the Omicron COVID-19 variant. As 2022 progresses, the extent to which GFDI bounces back to historical levels remains to be seen.

Country-specific GFDI flows provide another lens through which to examine changes in investment amidst the COVID-19 pandemic. As shown in figure 3, the reduction in 2020 GFDI was widespread throughout the continent. Over 70 percent of African countries experienced more than 50 percent declines in 2020 GFDI relative to their country-specific, historical annual averages from 2010–19. Moreover, more than half of African countries experienced greater than 75 percent declines in 2020 GFDI relative to their country-specific, historical annual averages over the previous decade.

Figure 3
Country-specific changes in 2020 greenfield FDI



FDI = foreign direct investment.

Source: USDA, Economic Research Service calculations using data provided by fDi Markets, Financial Times Limited (2021).

These widespread declines also hold among the top country destinations for GFDI in Africa. Of the 18 African countries that attracted at least \$1 billion in average annual GFDI flows over the 2010–19 period, 12 experienced greater than 50 percent declines in 2020 GFDI. Furthermore, 8 of these top 18 countries experienced greater than 75 percent declines in 2020 GFDI relative to their historical annual averages. For instance, Egypt attracted an average of more than \$17 billion in annual GFDI in the 10-year period from 2010–19, the highest in all of Africa. In 2020, however, Egypt’s GFDI fell by 92 percent to less than \$2 billion. Algeria and Uganda also experienced over 95 percent declines in 2020 GFDI relative to their historical annual averages of more than \$1 billion in GFDI.

Although 2020 GFDI flows to Africa overall and most individual African countries were well below historical annual averages, a few African countries experienced relative increases in 2020 GFDI flows. The majority of these increases are anomalies, likely driven by low levels of GFDI in the decade preceding the pandemic. For example, Burkina Faso, Chad, Mali, and Madagascar each experienced 2020 GFDI flows of less than \$500 million—which was an increase relative to each country’s historical average annual GFDI flows of \$229 million, \$101 million, \$179 million, and \$179 million, respectively. With such low base levels of GFDI, small absolute increases in GFDI in 2020 translated to large relative increases. The Democratic Republic of the Congo is a notable exception to this trend, as it attracted increased investment flows in 2020 relative to historical GFDI flows of \$937 million. In 2020, the Democratic Republic of the Congo’s GFDI flows were \$1.1 billion, a 17.5-percent increase from its historical annual average. Angola and Nigeria also each experienced relatively modest declines in 2020 GFDI of 9 percent relative to each country’s historical annual average of \$3.4 billion and \$7.3 billion, respectively.

The authors also analyzed changes in GFDI flows to Africa by country of origin. Table 1 compares pre-pandemic average GFDI flows to Africa from 2010 to 2019 with flows in 2020 and 2021 for the 15 countries with the largest historical GFDI origination. Except for South Africa, GFDI flows in 2020 declined for these large GFDI investor countries relative to their historical averages. For example, GFDI flows from China, France, and the United States decreased by 55, 13, and 57 percent, respectively. In 2020, GFDI origination from South Africa increased by 10 percent compared with historical averages, highlighting the importance of intra-regional investment flows in the presence of market shocks and volatility. In 2021, GFDI flows from the top 15 source countries were also generally below historical averages. For China, GFDI flows declined to approximately \$810 million, 91 percent below historical annual averages. Germany did experience a large increase in GFDI flows in 2021, rising to 174 percent of historical averages. However, the authors also noted significant variation in investor responses during the second year of the pandemic. For example, while GFDI flows from China further declined in 2021, openings and announcements from some countries (including the United States, United Kingdom, and United Arab Emirates) increased relative to 2020 levels.

Table 1
Greenfield FDI to Africa: Top 15 investor countries

Rank	GFDI origin country	Average GFDI to Africa 2010-19 (U.S. dollars billion)	GFDI to Africa 2020 (U.S. dollars billion)	GFDI to Africa 2021 (U.S. dollars billion)	Percent change from historical 2010-19 average	
					2020	2021
1	China	8.70	3.92	0.81	-55	-91
2	France	5.55	4.81	3.31	-13	-40
3	United States	5.41	2.34	3.74	-57	-31
4	United Kingdom	5.02	2.81	4.46	-44	-11
5	UAE	4.70	1.59	2.87	-66	-39
6	Italy	3.56	1.43	0.90	-60	-75
7	Russia	3.53	0.04	0.00	-99	-100
8	India	3.04	0.19	1.07	-94	-65
9	South Africa	2.55	2.81	1.52	10	-40
10	Germany	2.17	1.35	5.94	-38	174
11	Switzerland	1.77	0.17	0.75	-90	-58
12	Saudi Arabia	1.61	0.44	0.03	-72	-98
13	Canada	1.50	0.80	0.59	-46	-61
14	Hong Kong	1.43	0.02	0.02	-99	-99
15	Japan	1.36	0.42	0.17	-69	-87

Notes: GFDI = greenfield foreign direct investment, FDI = foreign direct investment, UAE = United Arab Emirates.

Source: USDA, Economic Research Service calculations using data provided by fDi Markets, Financial Times Limited (2021).

Sector-Specific Changes in Greenfield FDI in Africa

Along with country-specific variation in changes in GFDI flows amidst the COVID-19 pandemic, there may also be sector-specific variation. That is, despite an overall decrease in GFDI flows to Africa in 2020 and 2021, some sectors may have greater resilience to declines, while others experienced sharper pullbacks in investment. Additionally, as in the country-specific GFDI changes, there may be some sectors that experienced increased investment during the COVID-19 pandemic. To explore these possibilities, the authors assessed GFDI trends for the top 15 GFDI sectors in Africa (table 2).⁵ This sector-specific analysis reveals substantial variation between sectors in the first 2 years of the COVID-19 pandemic.

Table 2
Greenfield FDI in Africa: Top 15 Sectors

Sector	Historical annual average, 2010–19 (U.S. dollars, billion)	2020		2021	
		Amount (U.S. dollars, billion)	Percent change	Amount (U.S. dollars, billion)	Percent change
Coal, oil, and gas	19.74	3.03	-85	5.44	-72
Real estate	9.30	0.43	-95	2.86	-69
Metals	6.47	0.69	-89	4.36	-33
Renewable energy	6.34	4.68	-26	8.66	37
Chemicals	4.76	0.89	-81	0.52	-89
Transportation and warehousing	4.46	1.28	-71	2.67	-40
Communications	4.00	8.53	113	4.24	6
Food and beverages	3.03	2.02	-34	0.81	-73
Building materials	2.23	0.40	-82	2.56	15
Automotive	1.93	0.80	-59	1.09	-44
Business services	1.63	1.54	-6	2.15	31
Financial services	1.47	0.70	-53	0.33	-78
Hotels and tourism	1.41	0.28	-80	0.42	-70
Textiles	1.24	0.12	-90	0.07	-94
Software and IT services	0.79	0.89	12	1.03	30

Notes: FDI = foreign direct investment, IT = Information technology. The percent change is relative to the historical annual average.

Source: USDA, Economic Research Service calculations using data provided by fDi Markets, Financial Times Limited (2021).

Out of the top 15 sectors, 7 experienced at least 80 percent declines in 2020 GFDI relative to their sector-specific historical annual averages over the previous decade (2010–19). Among these, the real estate sector experienced the deepest percentage decline in investment—2020 GFDI in the real estate sector was 95 percent below its 2010–19 annual average. This decline represents a significant loss in traditional foreign investment in Africa. The real estate sector attracted roughly \$9.3 billion in annual investment over the 2010–19 period before falling to less than \$500 million in 2020. Similarly, GFDI in the hotels and tourism sector fell from an average annual investment of \$1.4 billion to less than \$500 million in 2020. These findings are consistent with these sectors being dependent on the travel industry and in-person work—both of which governments sought to limit to slow the spread of COVID-19.

⁵ Results based on comparisons to 3-year (2017–2019) historical annual averages are similar, with no sign changes (appendix table A.1).

Relative to the real estate and other sectors with large declines, some top GFDI sectors experienced more moderate decreases in 2020 GFDI in Africa. For example, the food and beverages sector attracted \$2 billion in GFDI in 2020, a decline of 34 percent from its annual 2010–19 average of \$3 billion. Although the food and beverages sector may only capture a portion of the agricultural sector, this smaller decline in food and beverages investment corresponds with the necessity of the agricultural sector and food value chains, despite the increased difficulty of GFDI amidst the pandemic. It is also consistent with recent research showing the resiliency of the agriculture sector to COVID-19 impacts relative to non-agricultural sectors (Beckman and Countryman, 2021; Arita et al., 2022).

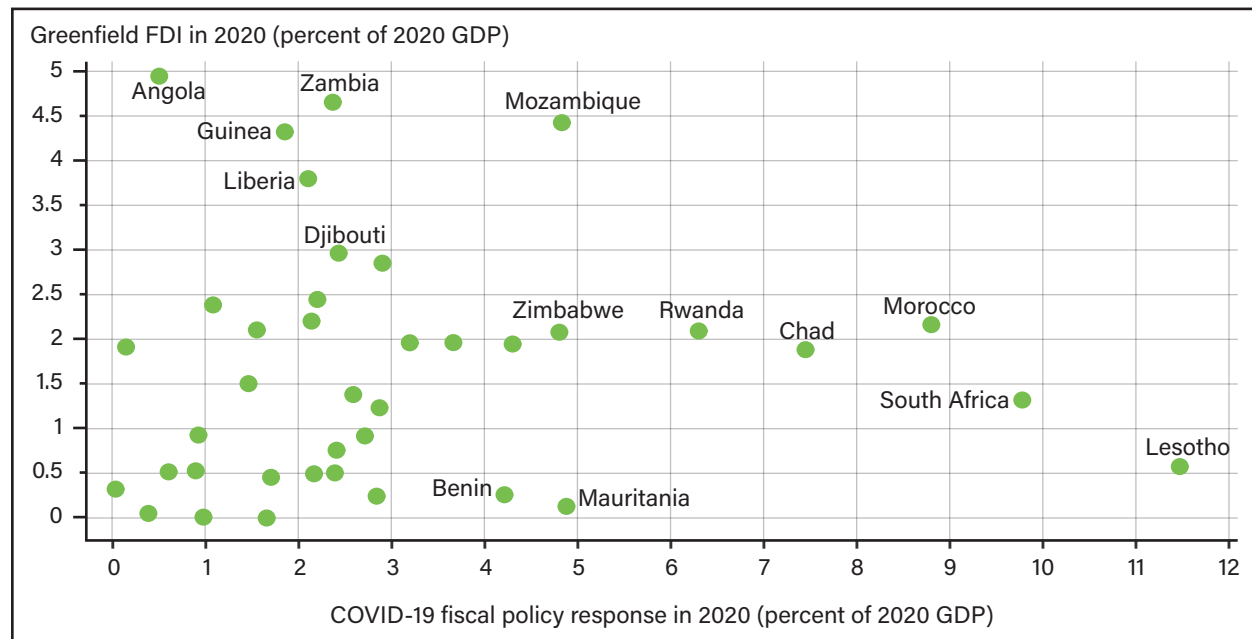
Along with sector-specific variations in the magnitude of the decline in GFDI in Africa in 2020, 2 of the top 15 sectors experienced increases in investment relative to historical levels in the decade preceding the pandemic. First, the communications sector experienced a substantial increase in GFDI in Africa and was the top GFDI sector in the region in 2020. In the decade preceding the pandemic, communications GFDI on the continent averaged \$4 billion annually. As discussed previously (May 2020), Chinese companies alone invested \$2.3 billion in the communication sector across 16 African countries. By the end of 2020, overall GFDI in the communications sector increased more than 100 percent to \$8.5 billion. Second, GFDI in the software and information technology (IT) services sector also increased moderately to \$890 million in 2020, approximately 12 percent higher than its annual average over the previous decade. Efforts to curtail the spread of COVID-19 resulted in increased restrictions in the movement of people and goods. These restrictions and the need for social distancing led to a sharp increase in the use of telecommunications rather than in-person meetings. The rise in companies' investments in the communications and IT services sectors in Africa in 2020 are consistent with these trends.

Overall GFDI in 2021 improved relative to the first year of the COVID-19 pandemic, and the sector-specific analysis is broadly reflective of this trend. Only 2 out of the top 15 sectors (chemicals and textiles) experienced at least 80 percent declines in 2021 GFDI relative to their 2010–19 annual averages—down from 7 sectors in 2020. This finding suggests that despite the large overall declines in 2020, GFDI in negatively affected sectors may be rebounding. For example, in June 2021, Egypt received GFDI in the real estate sector of \$1.5 billion, which is more than 3 times larger in magnitude than the total real estate GFDI in Africa for all of 2020. Additionally, 5 out of the top 15 sectors in 2021 experienced GFDI at or above their sector-specific 2010–19 averages—up from 2 in 2020. Along with communications and IT services—the renewable energy, building materials, and business services sectors also experienced increases in 2021 GFDI relative to their 2010–19 averages. In 2021, GFDI in the communications sector was mainly related to data processing and hosting-related services (84 percent) and wireless telecommunications (10 percent). For software and IT services, 2021 GFDI was mainly related to custom computer programming services (31 percent), software publishers [excluding video games] (26 percent), and other software and IT services (38 percent). For renewable energy, 2021 GFDI was mainly split between solar (20 percent), wind (12 percent), and other miscellaneous renewable electric power generation (64 percent). For building materials, 2021 GFDI was predominately related to cement and concrete products (95 percent). For business services, half of 2021 GFDI was related to water, sewage, and other systems (35 percent) and professional, scientific, and technical services (15 percent)—with the remaining half spread across various other types of business services.

COVID-19 Fiscal Policy Response and Greenfield FDI in Africa

Along with differences in GFDI, there was also substantial variation in African countries fiscal policy responses to the COVID-19 pandemic in 2020. Figure 4 plots countries' COVID-19 fiscal policy responses against 2020 GFDI flows, each expressed as a percentage of 2020 gross domestic product (GDP). Most countries in Africa where data are available had estimated COVID-19 fiscal policy responses equal to less than 2.5 percent of their 2020 GDP. Eight countries spent less than 1 percent of their 2020 GDP on COVID-19 fiscal policy responses. Some countries, however, spent more than 5 percent of their 2020 GDP on COVID-19 fiscal policy responses. For example, Rwanda, Chad, and South Africa each spent an estimated 6.3 percent, 7.5 percent, and 9.8 percent of their 2020 GDP on policies responding to the COVID-19 pandemic, respectively.

Figure 4
Correlation between African countries' COVID-19 fiscal responses and greenfield FDI in 2020



FDI = foreign direct investment.

Notes: Each point represents an African country with some point labels suppressed for legibility. Coronavirus (COVID-19) fiscal policy responses include spending, as well as foregone and deferred revenues, in addition to other non-budgetary fiscal measures. COVID-19 fiscal policy response as a percent of gross domestic product (GDP) is as reported in January 2021 (IMF, 2021). This figure excludes data from two small, island countries with outlying observations. Mauritius was excluded from the figure due to having a large COVID-19 fiscal policy response of approximately 44 percent of its 2020 GDP. Seychelles was excluded from the figure due to having attracted 2020 GFDI flows of approximately 29 percent of 2020 GDP.

Source: USDA, Economic Research Service calculations using COVID-19 fiscal policy data from IMF (2021) and greenfield FDI data provided by fDi Markets, Financial Times Limited (2021).

This variation in countries' COVID-19 policy responses is not associated with differences in attracting GFDI flows in 2020. Figure 4 reveals no clear pattern between the two, and the Pearson correlation coefficient is small (0.02) and not significantly different from zero. Furthermore, while Chad had a relatively high COVID-19 fiscal policy response, along with positive 2020 GFDI flows relative to its historical annual average, this relationship does not hold for other countries with high COVID-19 fiscal policy responses. Despite high spending on COVID-19 fiscal policy, GFDI flows in 2020 for Rwanda, Morocco, South Africa, and Lesotho fell by 71 percent, 33 percent, 40 percent, and 91 percent relative to their historical annual 2010–19 averages, respectively. Implementation of fiscal policies varied across countries. For example, fiscal policies in South Africa focused on providing medical equipment, staff, and vaccines—as well as spending on unemployment, cash and food transfers, and business assistance. In Egypt, COVID-19 on-budget fiscal policies focused on medical supplies and staffing—as well as subsidized industrial energy costs, pension support, low interest consumer credit, Government guarantees of mortgages and consumer loans, and real estate tax relief. Other fiscal measures included forgoing revenue by suspending specific import duties (e.g., Zambia) or deferring revenues by extending payment deadlines for certain types of taxes (e.g., Senegal). Countries also pursued programs using non-budgetary funds (e.g., asset purchases, equity injections), loan/deposit guarantees, and other fiscal operations, which were part of these fiscal packages. Most COVID-19 fiscal programs involved some combination of all of these measures.

There are many potential reasons for this lack of association between fiscal policy spending and GFDI flows. For instance, there may be a lag period between when new policies are implemented and when companies adjust their investment decisions to the more or less favorable economic environment. Therefore, countries' short-term investments in mitigating the effects of the pandemic may not generate benefits immediately in terms of GFDI flows. Countries' COVID-19 fiscal policy responses are also likely correlated with many other factors that affect companies' willingness to invest in a particular country. For example, the strength of countries' responses to the COVID-19 pandemic is not random. Rather, the responses are likely influenced by the magnitude of the pandemic's effects on their economies. Even if a large COVID-19 fiscal policy response gave companies increased confidence to invest in a given country, this confidence could be offset by a worsened economic environment that induced the country's larger policy response. Furthermore, changes in other policies designed to mitigate COVID-19 spread (e.g., travel restrictions) may have mitigated the positive effects of fiscal policy responses on GFDI or reduced GFDI directly. Additionally, investors may not have confidence in the ability of implemented fiscal policies to mitigate the risks posed by COVID-19 to investment returns. Thus, in response to a COVID-19 policy enacted to curtail the negative impact of the pandemic on the domestic economy, investors may choose to wait rather than take the risk of investing in a faltering economy.

Conclusion

To date, much of the research on the impacts of the COVID-19 pandemic in Africa has focused on the health and food security effects. The COVID-19 pandemic also disrupted businesses and supply chains around the world, and these impacts may have led to shifts in multinational companies' investment decisions in Africa. Foreign investment decisions can also serve as a barometer for future trade and development trends on the continent. In this working paper, the authors assessed whether and to what extent the COVID-19 pandemic was associated with changes in foreign direct investment in Africa. Along with overall trends, the authors also examined country- and sector-specific changes, as well as relate foreign direct investment to countries' COVID-19 fiscal policy responses.

The authors found that Africa's greenfield foreign direct investment (GFDI) flows (which are investments made by a foreign firm to start a new venture or subsidiary in another country) were less than \$30 billion in 2020—a 60 percent decline relative to the 10-year annual average over 2010–19. In April 2020, the first full month after the World Health Organization (WHO) officially declared the spread of COVID-19 a global pandemic, GFDI in Africa was only \$715 million, 89 percent below the same month average for the region over 2010–19. GFDI flows in Africa improved marginally in 2021 to \$38.6 billion—33 percent above 2020 levels but still 48 percent below the 10-year annual average.

The reduction in GFDI was widespread throughout the continent. Over 70 percent of African countries experienced more than 50 percent declines in 2020 GFDI relative to their country-specific, historical annual averages from 2010–19. Moreover, more than half of African countries experienced greater than 75 percent declines in 2020 GFDI relative to their country-specific, historical annual averages over the previous decade. However, not all African countries experienced decreases in 2020 GFDI relative to their historical benchmarks. In most cases, the relative increases in country-specific investment were due primarily to low historical levels of GFDI prior to the pandemic—when historical investment is low, small increases in magnitude can result in large relative increases.

Along with these country-specific trends, the sector-specific analysis revealed substantial cross-sector differences. Africa's 2020 GFDI in the real estate and hotels/tourism sectors—each of which relies heavily on travel and in-person work—declined by 95 percent and 80 percent, respectively, relative to their annual 2010–19 averages. Relative to these sharp declines, 2020 GFDI in the food and beverages sector showed resilience, declining by only 34 percent relative to its historical average. Importantly, not all sectors experienced declines. GFDI in 2020 in two sectors well positioned for the pandemic—communications and software/information technology (IT) services—increased by 113 percent and 12 percent, respectively, relative to their historical benchmarks.

The findings in this working paper suggest that the COVID-19 pandemic is associated with substantial shifts in companies' investment decisions in Africa. Although total GFDI declined during the pandemic, there are country- and sector-specific exceptions to the overall trend. Furthermore, countries' differing fiscal policies in response to the pandemic do not appear to be correlated with differences in attracting investment, at least in the short term. These trends continue to evolve as the pandemic progresses. Coinciding with the discovery of the Omicron COVID-19 variant in South Africa in late November 2021, December 2021 GFDI in Africa dropped sharply to 60 percent below its 2010–19 average and more than \$1 billion below December 2020 GFDI. Additionally, more research is needed to understand how the pullback in investment associated with the COVID-19 pandemic may have interacted with other determinants of investment flows, including political instability, conflict, institutions, and governance.

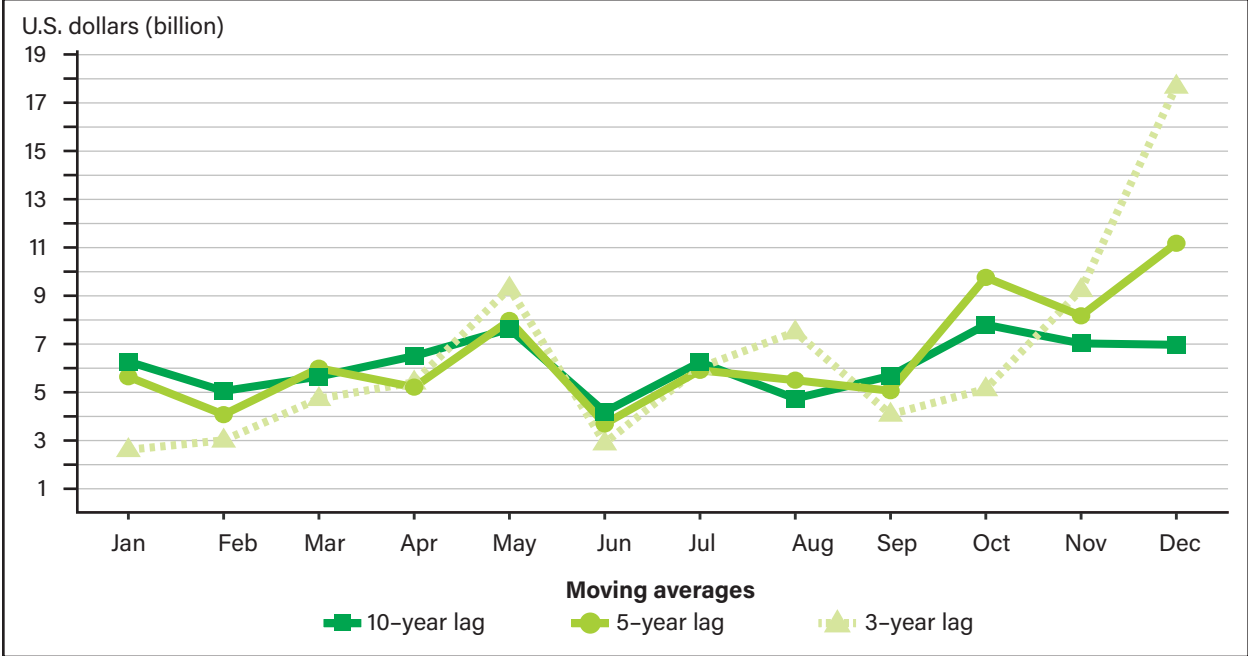
References

- Abdel-Latif, H. 2019. “FDI Response to Political Shocks: What Can the Arab Spring Tell Us?,” *Journal of Behavioral and Experimental Finance* 24:100233.
- Aizenman, J., and N. Marion. 2004. “The Merits of Horizontal Versus Vertical FDI in the Presence of Uncertainty,” *Journal of International Economics* 62(1):125–148.
- Arita, S., J. Grant, S. Sydow, and J. Beckman. 2022. “Has Global Agricultural Trade Been Resilient Under Coronavirus (COVID-19)? Findings from an Econometric Assessment of 2020,” *Food Policy* 107:102204.
- Beckman, J., and A.M. Countryman. 2021. “The Importance of Agriculture in the Economy: Impacts from COVID-19,” *American Journal of Agricultural Economics* 103(5):1595–1611.
- Baquedano, F., Y. Zereyesus, C. Christensen, and C. Valdes. 2021. *COVID-19 Working Paper: International Food Security Assessment, 2020–2030: COVID-19 Update and Impacts on Food Insecurity*, AP 087, U.S. Department of Agriculture, Economic Research Service, January 2021.
- Bloem, J., and J. Farris. 2021. *The COVID-19 Pandemic and Food Security in Low- and Middle-Income Countries: A Review of the Emerging Microeconomic Literature*, AP-094, U.S. Department of Agriculture, Economic Research Service, October 2021.
- Büthe, T., and H.V. Milner. 2008. “The Politics of Foreign Direct Investment into Developing Countries: Increasing FDI through International Trade Agreements?” *American Journal of Political Science* 52(4):741–762.
- Doytch, N., N. Yonzan, K. Reddy, and F. De Beule. 2021. “Tracking Greenfield FDI During the COVID-19 Pandemic: Analysis by Sectors,” *Foreign Trade Review* 56(4):454–475.
- Fang, J., A. Collins, and S. Yao. 2021. “On the Global COVID-19 Pandemic and China’s FDI,” *Journal of Asian Economics* 74:101300.
- Financial Times Limited. 2021. *fDi Markets*. Database. London, United Kingdom.
- Gil-Pareja, S., R.L. Vivero, and J. Paniagua. 2013. “The Effect of the Great Recession on Foreign Direct Investment: Global Empirical Evidence with a Gravity Approach,” *Applied Economics Letters* 20(13):1244–1248.
- Hou, L., K. Li, Q. Li, and M. Ouyang. 2021. “Revisiting the Location of FDI in China: A Panel Data Approach with Heterogenous Shocks,” *Journal of Econometrics* 221(2):483–509.
- International Monetary Fund (IMF). 2021. “Fiscal Monitor Database of Country Fiscal Measures in Response to the COVID-19 Pandemic, January 2021,” IMF Fiscal Affairs Department.
- Li, Q., and T. Vashchilko. 2010. “Dyadic Military Conflict, Security Alliances,” *Journal of International Business Studies* (41):765–782.
- Loewendahl, H. 2021. “fDi Markets Methodology,” fDi Intelligence Report, Financial Times Limited.
- Mallapaty, S. 2021. “Omicron Border Bans Ignore the Evidence, Say Scientists,” *Nature* (600):199.

- Morgan, S., J. Farris, and M. Johnson. 2022. *Foreign Direct Investment in Africa: Recent Trends Leading up to the African Continental Free Trade Area (AfCFTA)*, EIB-242, U.S. Department of Agriculture, Economic Research Service, October 2022.
- Reardon, T., C.P. Timmer, C.B. Barrett, and J. Berdegué. 2003. “The Rise of Supermarkets in Africa, Asia, and Latin America,” *American Journal of Agricultural Economics* 85(5):1140–1146.
- Reardon, T., D. Tschirley, L.S.O. Liverpool-Tasie, T. Awokuse, J. Fanzo, B. Minten, R. Vos, M. Dolislager, C. Sauer, R. Dhar, C. Vargas, A. Larrey, A. Raza, and B.M. Popkin. 2021. “The Processed Food Revolution in African Food Systems and the Double Burden of Malnutrition,” *Global Food Security* (28):100466
- United Nations Conference on Trade and Development. 2021. “World Investment Report 2021: Investing in Sustainable Recovery,” United Nations.
- United Nations, Department of Economic and Social Affairs, Population Division. 2019. “World Urbanization Prospects: The 2018 Revision (ST/ESA/SER.A/420),” New York: United Nations.
- Valensisi, G. 2020. “COVID-19 and Global Poverty: Are LDCs Being Left Behind?” *The European Journal of Development Research* 32:1535–1557.
- World Health Organization (WHO). 2020. “WHO Director-General’s opening remarks at the media briefing on COVID-19–11 March 2020,” Transcript. Available online.
- World Health Organization (WHO). 2021. “Update on Omicron – 28 November 2021,” News Release.
- World Health Organization (WHO). 2022. “COVID-19 (WHO Africa Region) (EPR/HIR).”

Appendix

Appendix Figure A.1
Historical trends in monthly greenfield FDI in Africa since 2019



FDI = foreign direct investment.

Source: USDA, Economic Research Service calculations using data provided by fDi Markets, Financial Times Limited (2021).

Changes in sectoral greenfield FDI in Africa relative to 2017-19 averages

Sector	Historical annual average, 2017-19 (U.S. dollars, billion)	2020		2021	
		Amount (U.S. dollars, billion)	Percent change	Amount (U.S. dollars, billion)	Percent change
Coal, oil, and gas	23.33	3.03	-87	5.44	-77
Real estate	6.77	0.43	-94	2.86	-58
Metals	5.75	0.69	-88	4.36	-24
Renewable energy	5.56	4.68	-16	8.66	56
Chemicals	7.71	0.89	-88	0.52	-93
Transportation and warehousing	5.22	1.28	-76	2.67	-49
Communications	2.82	8.53	202	4.24	50
Food and beverages	3.68	2.02	-45	0.81	-78
Building materials	2.11	0.40	-81	2.56	21
Automotive	1.72	0.80	-54	1.09	-37
Business services	1.64	1.54	-6	2.15	31
Financial services	1.26	0.70	-45	0.33	-74
Hotels and tourism	2.57	0.28	-89	0.42	-84
Textiles	1.81	0.12	-93	0.07	-96
Software and IT services	0.83	0.89	7	1.03	24

Notes: FDI = foreign direct investment, IT = information technology. Percent change is relative to the historical annual average over 2017-19.

Source: USDA, Economic Research Service using data provided by fDi Markets, Financial Times Limited (2021).