2. Competition, Competitiveness, and Growth in Sub-Saharan Africa

Competition among firms is generally deemed an essential driving force of market economies. It ensures an efficient allocation of resources as factors are allocated to their best use, and generates firm dynamics that boost innovation, productivity growth, and external competitiveness—translating into macroeconomic gains.[1] Moreover, by limiting unfair pricing, discriminatory practices, and rent extraction, competition is seen to have significant welfare, employment generation, and distributional implications as well.

The expected benefits of competition are, however, more likely to accrue in the absence of market distortions. Where market distortions exist—whether in advanced economies or low-income countries—it is often argued that competition, especially from foreign entrants, can hurt the domestic industry and create dominant firms that end up stifling competition and harming consumer welfare. Such concerns generally lead to trade and other regulatory barriers that restrict the entry of private firms in domestic markets. Nevertheless, many of these fears can be mitigated by implementing an appropriate policy framework that encompasses the opening of the market along with a strong competition law and enforcement agency. By and large, existing evidence shows that competition and a well-crafted competition policy framework can help to improve welfare and other macroeconomic outcomes (Dutz and Hayri 1999; UNCTAD 2004; Aghion and Griffith 2005; OECD 2014).

Despite the advantages of competition, markets are often characterized by anticompetitive practices and structures, especially in developing countries. Sub-Saharan Africa is no exception—monopolies, especially state-owned, are widely prevalent, and single operators hold large market shares in key sectors in many countries. The lack of competition has significant potential costs, hurting the poor through higher prices of essential items and undermining external competitiveness and economic growth.[2] Although the issue of declining competition and rising corporate market power has received much attention in recent years in the context of advanced and emerging market economies (Autor and others 2017; De Loecker and Eeckhout 2018; De Loecker and others 2018; IMF 2019a), a systematic analysis for sub-Saharan Africa remains lacking.

Against this background, this chapter aims to broaden the understanding of the state of product market competition in sub-Saharan Africa by bringing together country and firm-level data from several sources to explore the following key questions:

- How has product market competition in sub-Saharan Africa evolved over the years and how does it compare to other regions?
- What are the macroeconomic implications of competition for external competitiveness, economic growth, and consumer welfare?
- How does competition affect firm behavior and performance to generate observed macroeconomic outcomes?
- What role does macroeconomic policy, including competition policy, play in promoting competition in the region?

The analysis, based on a sample of 39 sub-Saharan African countries during 2000–17, shows that competition in the region remains generally

This chapter was prepared by a team led by Jesus Gonzalez-Garcia and comprising Reda Cherif, Sandesh Dhungana, Xiangming Fang, Miguel Pereira Mendes, Yuanchen Yang, Mustafa Yenice, and Jung Eun Yoon, under the supervision of Mahvash Qureshi and David Robinson.

[1] The dynamic efficiency gains conferred by competition are based on the Schumpeterian "creative destruction" hypothesis, which postulates that competition drives innovation and constant change, leading the least productive firms to exit the market and the most productive firms to survive (Schumpeter 1942). To reap the dynamic benefits of competition, however, firms must be able to enter, upgrade, and exit easily.

[2] World Bank (2016), for example, estimates that retail prices of essential food items are at least 24 percent higher in African cities than in other major cities around the world, while cement prices are, on average, about 183 percent higher than world prices.

low relative to the rest of the world. Specifically, country-level indicators show that, on average, sub-Saharan Africa lags advanced and emerging market economies in both domestic and foreign competition, though it is on par with other developing economies. More than 70 percent of the countries in the region fall in the bottom half of countries globally in terms of domestic and foreign competition indicators. The low level of domestic competition is related to the market dominance of a few large firms, the absence or weak enforcement of competition policies, structural and regulatory barriers to entry, and the distortive effects of tax regimes. Foreign competition is mainly impeded by high trade barriers, which may also indirectly affect domestic competition by restricting access to intermediate inputs.

Firm-level indicators of competition—such as markups and profitability—provide deeper insights into sectoral market structures and suggest that markups and profitability are generally significantly higher, and more persistent, in sub-Saharan African countries compared to other emerging market and developing economies .[3] Both profitability and markups in the region vary considerably across sectors and country groups but tend to be the highest in the services sectors (such as hotels and restaurants, information and communications, transport, and so on), and among oil exporters relative to other country groups. In general, there is a strong association between the number of competitors faced by a firm and its markup and profitability, suggesting that reducing barriers to business entry could play an important role in boosting competition and improving market dynamics.

The empirical analysis shows that sub-Saharan Africa has much to gain from promoting competition. Moving from the median value of the competition intensity index for sub-Saharan African countries to the top quartile of the global distribution is associated with an average increase in the real GDP per capita growth rate of about 1 percentage point, achieved mainly through an improvement in export competitiveness and productivity growth. Also, an international comparison of price levels suggests that prices, including of essential items, are on average about 20 percent higher in sub-Saharan African countries than in other emerging market and developing economies. Higher competition can help to significantly lower prices of consumer and intermediate goods, thereby improving welfare and competitiveness.

Firm-level analysis shows that firm behavior responds to market structure, generating the observed macroeconomic patterns. Specifically, a decline in firm markups is significantly associated with an increase in investment and exports, productivity growth, and labor's share of output. The effect of markups is more pronounced in the manufacturing sector relative to services, and stronger for domestic firms relative to majority foreign-owned firms.

These findings reinforce the potential benefits from strengthening product market competition in sub-Saharan Africa. As several factors affect competition, a holistic approach is essential. This approach should encompasses an effective competition policy framework, including an adequate competition law and an independent enforcement agency, openness to trade and foreign direct investment, and product market reforms that reduce barriers to firm entry and exit. In fact, these policies tend to be mutually reinforcing—trade and investment liberalization, for example, stimulate competition, but an effective competition policy framework is required to ensure that gains from openness are realized and markets are not taken over by a few large firms engaging in unfair trading practices. Fiscal policies and tax and procurement systems also need to be carefully designed so that competition is not distorted. Moreover, growing regional trade and investment interlinkages require strengthening cooperation among competition authorities to effectively tackle any anticompetitive practices of large pan-regional firms.

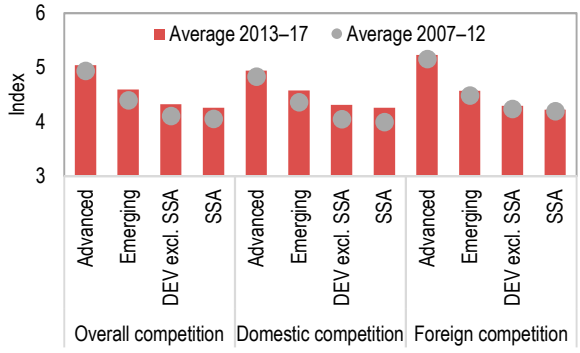
[3] While several variables, most notably market shares, have been used in previous studies as a proxy for the state of competition, this chapter uses profitability and markup measures given limited firm-level data availability for sub-Saharan African countries, which makes it difficult to compute market shares precisely (see online annex for data details). In principle, differences in profitability and markup—which broadly speaking capture the divergence between the product price and the cost of production—could be reflecting differences in the return to capital and in productivity; the empirical analysis, however, attempts to control for these factors. Moreover, the chapter also analyzes the persistence of profits and markups, as in competitive markets, the process of firm entry and exit should imply a mean-reverting behavior of these variables.

PRODUCT MARKET COMPETITION: SOME STYLIZED FACTS

Product market competition across sub-Saharan Africa remains low compared to the rest of the world. According to the World Economic Forum's product market competition indicator, overall competition in the region is, on average, significantly lower than in advanced and emerging market economies but somewhat like that in other developing economies (Figure 2.1). More than 40 percent of the countries in sub-Saharan Africa are in the bottom quartile of the global distribution of the competition index, while more than 70 percent are below the world median (Annex Figure 2.1). These patterns are also observed in other available country-level competition indicators such as the Bertelsmann Stiftung Transformation Index, which shows a notable difference between sub-Saharan Africa and other countries in terms of market competition (Annex Figure 2.2).[4]

The low level of competition in most sub-Saharan African countries can be attributed to low levels of both domestic and foreign competition.[5] The weak domestic competition environment mainly stems from the market dominance of a few firms, lack of effective competition policies, structural and regulatory barriers to entry, and the distortive effects of prevalent fiscal regimes (Annex Figure 2.3). Low foreign competition is to a large extent driven by trade barriers, which have declined significantly over the last two decades but remain relatively high (Annex Figure 2.4). Trade barriers—both tariff and non-tariff related—tend to limit direct competition from foreign goods but could indirectly affect domestic competition by restricting the availability of inputs (or by making them more expensive).

Figure 2.1: Selected Groups of Countries: Product Market Competition, 2007–17



Source: World Economic Forum, Global Competitiveness Index.

Note: Index ranges from 1 to 7, with higher values indicating greater competition; DEV = Developing countries; SSA = sub-Saharan Africa.

A look across the different country groups in the region shows considerable heterogeneity in the state of competition across markets. Non-resource-intensive countries generally have the most competition-prone market structures, while oil exporters have the least, probably reflecting the structure of these economies, with limited diversification, significant import protection, and the prevalence of a few large firms in the extractive industry (Figure 2.2, panel 1). Domestic competition, however, appears to have increased over the last decade in all country groups, with non-resource-intensive countries recording the largest improvement, mainly due to an improvement in the ease of doing business. Across subregions, competition is significantly lower in central Africa, while it is the highest across southern African countries (Figure 2.2, panel 2).

Firm-Level Competition

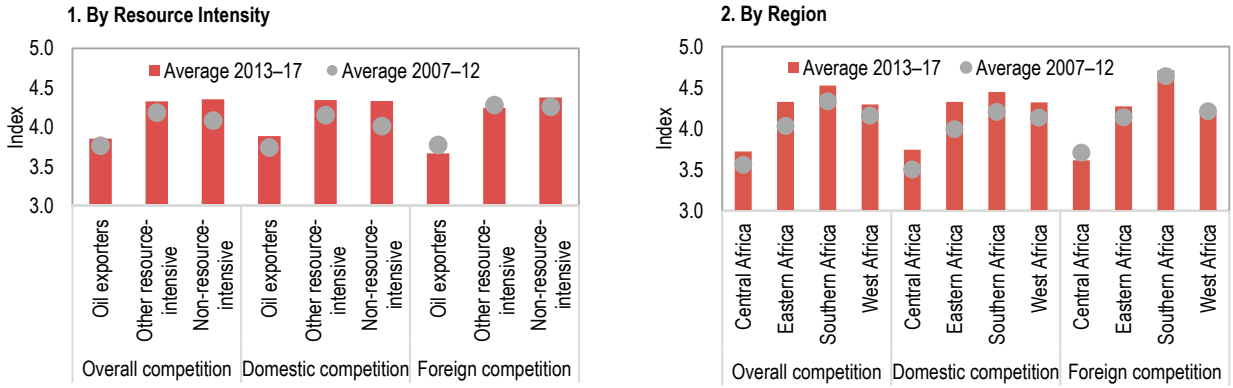
Firm-level competition indicators—such as profitability and markups—corroborate the country-level indicators and show that the extent of competition faced by firms in the region is indeed limited.[6] While such indicators are not readily available for sub-Saharan Africa, for the purpose of this chapter, they are constructed using detailed information obtained from two data sources: the World Bank Enterprise Survey (WBES), which provides mostly cross-sectional information on over 10,000 firms in

[4] The World Economic Forum's competition indicator is based on both subjective (opinion surveys of business executives) and objective (tariff rates, number of regulatory procedures, etc.) components. The Bertelsmann Stiftung Transformation Index is based on opinion surveys of country experts. See online annex for data-related details.

[5] The methodology to compute the World Economic Forum's product market competition index was revised in 2018. The revised index, while not strictly comparable to earlier years, portrays a similar picture for sub-Saharan Africa relative to other countries in terms of domestic and foreign competition (Annex Figure 2.5).

[6] While in absolute terms the markup and profitability measures may not necessarily reflect the extent of market competition under fairly general assumptions such as similar technologies, a comparison across firms and countries could inform on differences in market power.

Figure 2.2. Sub-Saharan Africa: Product Market Competition, 2007–17



Source: World Economic Forum, Global Competitiveness Index.

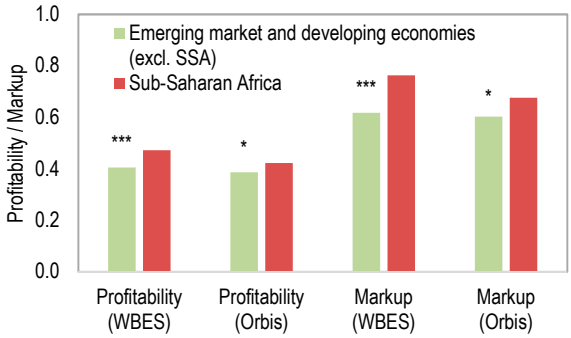
Note: Index ranges from 1 to 7, with higher values indicating greater competition.

39 sub-Saharan African countries during 2006–18; and the Orbis database, which provides time-series information on about 500 firms in 18 sub-Saharan African countries during 2000–17, resulting in nearly 9,000 firm-level observations.[7]

Based on these databases, average firm profitability in sub-Saharan African countries is significantly higher (10–20 percent) compared to other emerging market and developing economies (Figure 2.3).[8] Firm markups are also about 11 percent higher in sub-Saharan African countries relative to other countries at a similar level of development, thereby implying a lower degree of competition in the region.[9]

The derived firm profitability and markup measures are positively associated with each other by construction, but also with other measures of market concentration, such as the number of competitors faced by firms.[10] Thus, countries characterized by a higher share of firms reporting fewer competitors tend to record higher average firm profitability and markups—suggesting that removing barriers to entry and encouraging more firms to enter the market could bolster competition and reduce corporate market power (Figure 2.4). Notably, for a given share of firms reporting few competitors, profitability and markups across sub-Saharan

Figure 2.3. Selected Groups of Countries: Firm-Level Competition Indicators



Sources: IMF staff estimates based on the World Bank Enterprise Survey (WBES) and Orbis databases.

Note: Profitability is defined as the difference between revenue and the cost of inputs relative to revenue. Markup is defined as the log ratio of sales to the cost of inputs using the WBES database, and as the log ratio of revenue turnover to costs using the Orbis database. See online annex for methodological details. *** and * indicate statistically significant difference in the mean values between the two groups at the 1 and 10 percent levels, respectively.
SSA = sub-Saharan Africa.

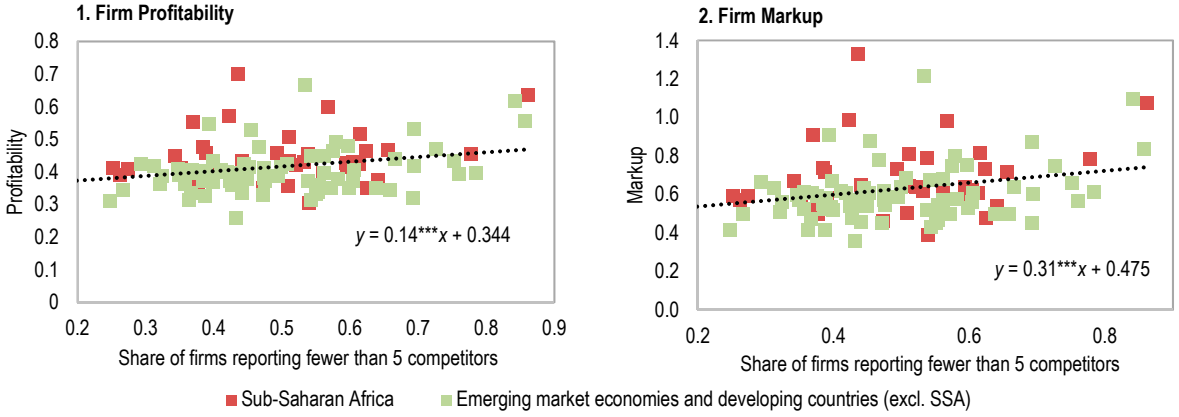
[7] The number of firms covered in both databases varies considerably across countries, but more than 90 percent of the firms in the WBES and 50 percent of the firms in the Orbis database belong to the manufacturing sector. See online annex for further details.

[8] Firm profitability is often captured by an empirical measure of the Lerner index—the ratio of operating earnings to sales (IMF 2019a). Given the limited availability of data on operating earnings in the WBES for sub-Saharan African firms, profitability is defined as the difference between firm sales and the cost of inputs to firm sales, and using Orbis data, it is measured as operating revenue to the cost of goods and services.

[9] Theoretically, markup is defined as the price to marginal cost ratio. However, given the unavailability of data on marginal costs, the following proxies are used here: 1) the log of the ratio of sales to the cost of inputs when considering the WBES data; and 2) the log ratio of revenue turnover to costs when considering the Orbis database. With these definitions, markup values (profits) higher than 1 (0) can be considered as indicators of market power, as they suggest a divergence between prices and costs.

[10] While market share (that is, firm sales to total industry sales in a given period) is a commonly used measure of market concentration, given the lack of data on the entire size of the market, in particular in the informal segment, it is not the preferred measure for the analysis here. Nevertheless, market shares calculated as a check with the databases mentioned are strongly positively correlated with both firm markups and profitability.

Figure 2.4. Selected Groups of Countries: Competition Indicators and Number of Competitors



Source: IMF staff estimates based on World Bank Enterprise Survey data.

African countries tend to be higher than in other emerging market and developing economies, indicating a relatively higher degree of corporate market power in the region.

A look across country groups within sub-Saharan Africa shows average firm markups and profitability are higher among oil-exporting countries with about a 16 and 8 percent difference, respectively, relative to other countries (Table 2.1). Similarly, central African countries tend to have significantly higher markups and profitability (by about 8 percent and 18 percent, respectively) compared to other regions within sub-Saharan Africa.[11]

Table 2.1. Sub-Saharan Africa: Firm Markup and Profitability

	By Resource Intensity	
	Markup	Profitability
Oil exporters	0.82	0.51
Other resource-intensive	0.69	0.45
Non-resource-intensive	0.64	0.42
	By Region	
	Markup	Profitability
Central Africa	0.82	0.51
East Africa	0.66	0.44
Southern Africa	0.62	0.43
West Africa	0.65	0.42
EMEDEV excl. SSA	0.57	0.39

Source: IMF staff estimates based on the World Bank Enterprise Survey.

Note: Profitability is defined as the difference between revenue and the cost of inputs relative to revenue. Markup is defined as the log ratio of sales to the cost of inputs. EMEDEV = Emerging market and developing economies; SSA = sub-Saharan Africa.

The higher markups among the oil exporters and in central African countries are consistent with Figure 2.2, which documents a relatively low level of product market competition at the macro level across these countries.

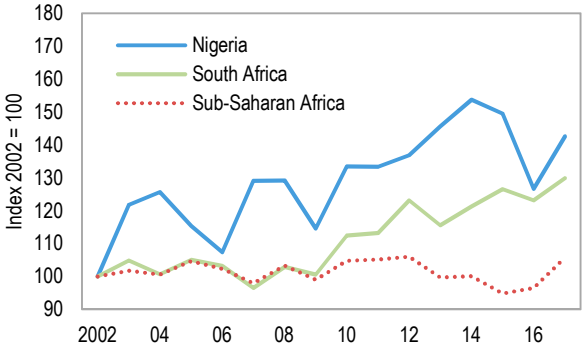
In terms of the dynamics of markups, the lack of consistent firm-level time-series data for most sub-Saharan African countries makes it difficult to draw definitive conclusions; however, the available information suggests an increase in markups in some countries, including the region's two largest economies: Nigeria and South Africa (Figure 2.5). These trends are consistent with other studies (Aghion, Braun, and Fedderke 2008; Fedderke, Obikili, and Viegi 2018; De Loecker and Eeckhout 2018), which also document rising firm markups in these countries and globally. More generally, the analysis shows that markups are highly persistent in sub-Saharan Africa, with the half-life of markups being almost twice as long in countries in the region than in other emerging market and developing economies.[12]

Evaluating the behavior of markups across the different types of firms in the region indicates that majority state-owned and foreign-owned firms tend to have higher markups than other firms, especially in the manufacturing sector. By contrast, small firms tend to have lower markups than medium and large firms (Annex Figure 2.6). These observations

[11] In addition to average markup, markup dispersion within sectors is also significantly higher among the oil exporters, as well as in central African countries. As noted by Lerner (1934), markup dispersion could lead to a misallocation of resources resulting in efficiency losses.

[12] The half-life of firm markups—obtained by estimating an autoregression (AR(1)) model of markups, while controlling for different firm, industry, and country-level characteristics and year effects—is about 1 year for the sub-Saharan African sample compared to 0.5 years for other emerging market and developing economies.

Figure 2.5. Sub-Saharan Africa: Firm Markups, 2002–17



Source: IMF staff estimates based on the Orbis database.
Note: The series show averages over all firms for each year.

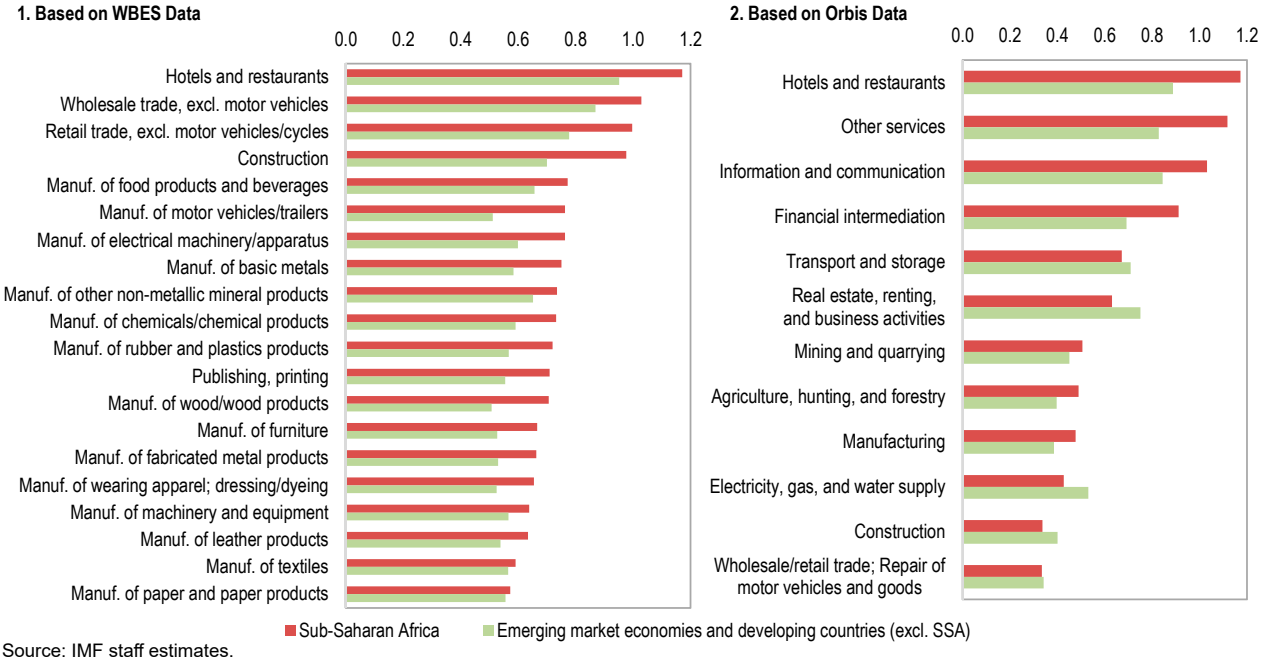
are consistent with those for other emerging market and developing economies—but it is notable that the share of mostly state-owned firms in the sample for sub-Saharan Africa is almost double that for other emerging market and developing economies, indicating a much greater prevalence of such firms in the region.

Competition across Sectors

The macro and firm-level competition indicators presented above suggest generally low levels of competition in sub-Saharan Africa, but are all sectors equally anticompetitive across countries? To answer this question, the computed firm profitability and markup measures are aggregated across sectors to gauge the degree of sectoral competition in the region. The results show considerable variation across sectors in sub-Saharan Africa, with both profitability and markups being the highest in the nontradable sectors, such as hotels and restaurants, wholesale and retail trade, and construction, based on the WBES database, and in other services, information and communications, financial intermediation, and transportation, based on the Orbis database, which has larger coverage of firms in the services sector (Annex Tables 2.1 and 2.2). On average, markups tend to be lower in the manufacturing sector, especially among textile and leather producers.

Comparing the profitability and markup measures for countries in sub-Saharan Africa with those for other emerging market and developing economies indicates that competition is weaker in the region across nearly all sectors, with the average difference in markups equivalent to about 7 percent (Figure 2.6). In general, however, there is a strong positive correlation (about 0.9) between sectoral markups in sub-Saharan African countries and other

Figure 2.6. Selected Groups of Countries: Firm Markups by Sector



Source: IMF staff estimates.
Note: Bars show averages per sector. Markup is defined as the log of the ratio of sales to cost in panel 1 and the log of the ratio of revenue turnover to costs in panel 2. Manuf. = manufacturing; SSA = sub-Saharan Africa; WBES = World Bank Enterprise Survey.

countries, suggesting that the pattern of sectoral competition tends to be similar across countries.[13]

Sectoral markups are also generally positively correlated across country groups within sub-Saharan Africa, except for central African countries, which tend to have higher markups in most manufacturing industries along with the services sector (Annex Table 2.3). On average, commodity exporters—both oil and other—also tend to have higher markups in the manufacturing sector than the non-resource-intensive countries.

COMPETITION AND MACROECONOMIC PERFORMANCE

Does the low level of competition prevalent across sub-Saharan Africa affect macroeconomic performance? The idea that competition is an important driving force of market economies that affects economic growth can be traced back to Adam Smith's *Wealth of Nations*, penned more than two centuries ago.[14] Since then, a voluminous body of literature has examined the effect of competition on economic growth and welfare. Theoretically, the relationship is ambiguous: rivalry among firms can encourage innovation and boost productivity growth, but it can also stifle innovation and growth by limiting the expected returns for firms from innovating (Aghion and Griffith 2005). Open and competitive systems can also enable firms in dominant positions to entrench themselves and work toward closing the system and impeding growth (Rajan and Zingales 2004)

Cross-country empirical studies, however, generally indicate a strong positive relationship between competition and growth resulting from a more efficient allocation of resources and increased investment, innovation, productivity, and export competitiveness (OECD 2014; Goodwin and Pierola Castro 2015). Competition is also observed to have important welfare and distributional implications by lowering prices for consumers and downstream producers, generating income and employment opportunities, and reducing discriminatory practices (Begazo and Nyman 2016).

Growth

The positive relationship between competition and growth is borne out by data used in this chapter. Estimating standard economic growth regressions—while controlling for traditional determinants of growth, country-fixed effects, and year effects—the results show a statistically significant positive association between the World Economic Forum's local competition intensity index and real GDP per capita growth in a broad sample comprising advanced economies, emerging market and developing economies, as well as in a sample restricted to emerging market and developing economies including sub-Saharan African countries.[15] Specifically, these results show that an increase in the competition intensity index from the median level for sub-Saharan African countries to the top quartile of the global distribution implies an average increase in the real GDP per capita growth rate of about 1 percentage point (Figure 2.7). The impact is economically relevant as the average real GDP per capita growth rate in sub-Saharan Africa after 2010 has been 1 percent.[16] While these results do not necessarily imply causation, they are robust to addressing potential endogeneity concerns by applying alternative econometric approaches.

[13] While higher returns to capital resulting in higher profitability may be expected in low-income countries relative to advanced economies given their low level of capital endowment, the relatively higher markups in most sub-Saharan African countries compared to other developing economies with similar capital endowment structure suggest that the high level of profitability/markups cannot be fully attributed to higher returns to capital. More generally, the equality between returns to capital and the marginal product of capital relies on the assumption of perfect competition in capital markets (Caselli and Feyrer 2007), which generally does not hold in low-income countries.

[14] See, for example, Smith (1776), Book II, Chapter II, p. 329, para. 106.

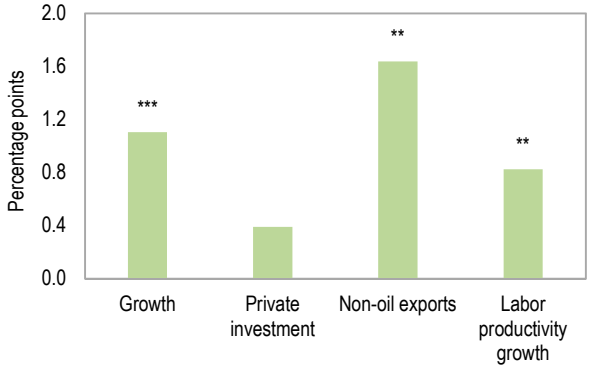
[15] Further limiting the sample to sub-Saharan African countries shows a positive but statistically insignificant (p-value = 0.2) correlation between competition and GDP per capita growth. The results for sub-Saharan Africa should, however, be interpreted with caution given the limited sample size for the region, which covers a period with few observed changes in competition indicators (Annex Table 2.13).

[16] Several emerging market and developing economies in the sample, such as Colombia, Mauritius, and Morocco, have achieved a sustained increase in the competition intensity index over the last decade equivalent to an increase from the median level for sub-Saharan African countries to the top quartile of the world distribution.

Channels of Transmission

What are some of the channels through which competition lifts economic growth? Analyzing the effect of competition on private investment, non-oil exports and labor productivity, the results show a positive but statistically weak association of the local competition intensity index and investment (percent of GDP) but a strongly positive association with exports (percent of GDP) and labor productivity growth. Specifically, an improvement in the competition index from the median value for sub-Saharan Africa to the top quartile of the global distribution is associated with an increase in exports by 1.7 percent of GDP and labor productivity growth by about 1 percentage point (Figure 2.7 and Annex Table 2.15). The rise in exports may be attributed to faster productivity growth induced by greater innovation and technological readiness associated with competition, as well as to an improvement in price competitiveness in international markets. Indeed, using the World Economic Forum's innovation and technological readiness indicators, regressions suggest that all else being constant, improving domestic competition is associated with a significant boost in innovation and technological capability (Annex Table 2.16).

Figure 2.7. Sub-Saharan Africa: Competition and Macroeconomic Performance



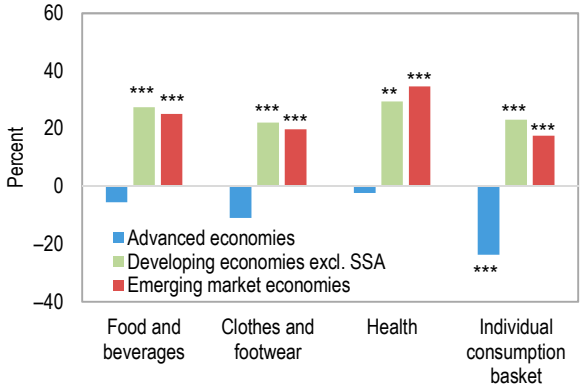
Source: IMF staff estimates.

Note: Statistics are based on the regressions results reported in Annex Table 2.13 (col. 1), Annex Table 2.15 (cols. 1, 4, and 7), and represent the change in the respective macroeconomic variables for an increase in the World Economic Forum's local competition intensity index from the median for sub-Saharan African countries to the top quartile of the global distribution. ***, ** and * indicate statistical significance at the 1 and 5 percent levels, respectively.

Welfare

How does competition affect welfare? To assess this, internationally comparable price levels—obtained from the World Bank's International Comparison Program—for different items in the consumption basket are analyzed. The results show that after controlling for country-specific macroeconomic and structural characteristics, price levels in sub-Saharan African countries are significantly higher than those in other emerging market and developing economies for most goods and services, including food, clothing, and health services—items that tend to carry a larger weight in the consumption basket of low-income households (Figure 2.8). Prices for intermediate inputs used in production—such as utilities and machinery and equipment—are also significantly higher in the region relative to other emerging market and developing economies. These higher product prices translate on average into a 20 percent higher price level for the individual consumption basket in sub-Saharan Africa compared to other countries at a similar level of development (Annex Table 2.17).[17]

Figure 2.8. Sub-Saharan Africa: Price Differentials with Other Country Groups



Sources: IMF staff calculations based on World Bank, International Comparison Program data.

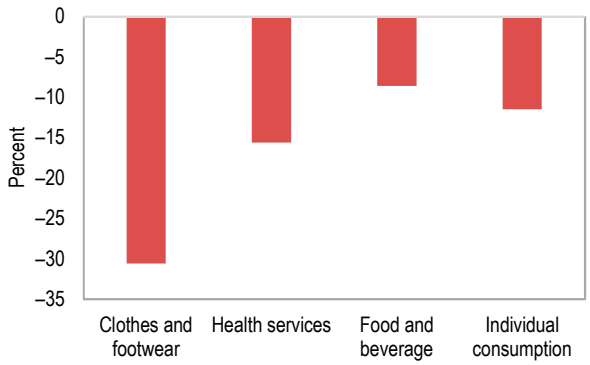
Note: The bars show the average difference in price levels between sub-Saharan Africa and other country groups. ***, ** denote statistically significant differences at 1 and 5 percent levels, respectively. SSA = sub-Saharan Africa.

[17] A look at price levels across subregions in sub-Saharan Africa shows that, on average, eastern Africa has the lowest prices for goods, although prices for most services and utilities are not statistically different among regions (Annex Table 2.19). The higher prices in the services sector are consistent with the higher firm markups in the services sector across regions, as noted in Annex Figure 2.3. Moreover, differentiating between sub-Saharan African countries based on their exchange rate regime, the results indicate no statistically significant difference in the price levels of countries within and outside the CFA franc zone for most product categories, except for some nontradable items such as health, communications, and recreation (Annex Table 2.20).

Increasing competition, however, may help to lower prices as indicated by the strongly negative relationship between the local competition intensity index and prices of most goods and services—thereby improving welfare and the external competitiveness of economies (Annex Table 2.18). Specifically, moving from the median level of the competition index for sub-Saharan Africa to the top quartile of the global distribution is, on average, associated with about an 8 and 14 percent reduction in the prices of food items and health services, respectively, and a 10 percent decline in the price of the overall individual consumption basket (Figure 2.9).

Accounting explicitly for foreign competition by including measures of trade openness and foreign direct investment in the regressions, the results show that greater foreign competition also helps to lower prices. While the domestic and foreign competition indicators explain a large part of the average price differential between sub-Saharan Africa and other emerging market and developing economies, they do not fully account for it—indicating that other macro-structural factors may also play a role in pushing up the price levels across sub-Saharan African countries.[18]

Figure 2.9. Sub-Saharan Africa: Impact of Increased Local Competition on Prices



Source: IMF staff calculations, based on data from the World Bank International Comparison Program.

Note: The bars show the effect of an increase in the indicator of local competition intensity from the median in sub-Saharan Africa to the top decile of the world distribution.

FIRM DYNAMICS AND COMPETITION

The country-level results on competition and macroeconomic performance are strongly supported by firm-level evidence, which shows that lower markups are statistically significantly associated with higher firm investment and exports in emerging market economies and developing economies including sub-Saharan Africa. Specifically, using WBES data—and controlling for firm characteristics, as well as country and year-fixed effects—the results show that a 1 percent decline in markups is associated with an increase in investment and exports of about 0.7 percent and 0.2 percent of the firm's value added, respectively (Figure 2.10, panel 1). Notably, the labor share is also significantly associated with firm markups, with a 1 percent decline in markup implying a proportionate increase in the share of output that is remunerated to labor.

Restricting the sample to sub-Saharan African countries portrays a similar picture and indicates a strong negative association between firm markup and investment, exports, and labor shares.[19] Including an additional indicator of competition in the regressions such as the number of competitors faced by the firm, shows that, on average, firms facing fewer competitors have lower exports, labor shares, and investment though the association is statistically significant for exports only.

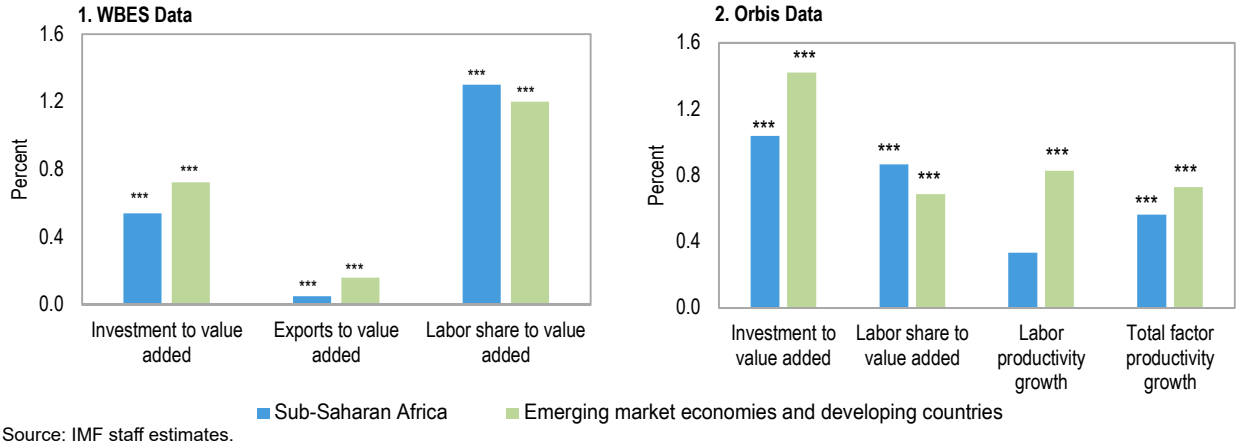
These observations are reaffirmed with Orbis data, which also captures the time dimension of firm behavior, allowing for a more refined measurement of markups and assessing their impact on productivity growth.[20] Controlling for fixed and time-varying firm-, industry-, and country-level characteristics, the results show that a 1 percent decline in markups is associated with a 1–1.4 percent increase in firm's investment to value added ratio and about a 1 percent increase in the share of labor in a firm's output in emerging market and developing economies including in sub-Saharan

[18] While countries in sub-Saharan Africa tend to have large informal markets, including available indicators of the size of the informal market in the estimations (such as the share of firms competing against unregistered/informal firms in the country; or the share of informal employment in total employment) does not alter the results significantly.

[19] The largely cross-sectional nature of the WBES data does not allow testing for the association between firm markup and productivity growth. See online annex for technical details and results (Annex Tables 2.21–2.24).

[20] Following De Loecker and Warzynski (2012), the markups based on Orbis data used for the regression analysis are constructed as the log ratio of the output elasticity of inputs to the expenditure share of inputs in sales. See online annex for details.

Figure 2.10. Estimated Impact of Markups on Firm Performance



Source: IMF staff estimates.

Notes: Bars show the estimated impact of a 1 percent decline in firm markups, defined as the log of the ratio of sales to cost in panel 1 and the log of output elasticity to input relative to the expenditure share of the input in sales in panel 2. Emerging market and developing economies include sub-Saharan Africa. WBES = World Bank Enterprise Survey. *** indicates statistical significance at the 1 percent level.

Africa (Figure 2.10, panel 2). Lower markups are also significantly associated with higher labor and total factor productivity growth, with a 1 percent decline in markups implying a 0.8 percentage point increase in the rate of productivity growth.[21]

These findings echo the results of earlier studies, which show—mostly in the context of advanced economies—that firms with higher markups and greater market power tend to have lower investment, productivity growth, and labor shares (Nickell 1996; Autor and others 2017; Gutiérrez and Philippon 2017; IMF 2019a), and do not support the view that stronger competition discourages firm innovation. Moreover, the results suggest that the association between markups and investment, labor share, and productivity growth is nearly twice as strong in the manufacturing sector as in the services sector—implying that weak competition in the manufacturing sector may have a greater impact on economic growth compared to the services sector. Differentiating between firms based on their ownership structure does not show any statistically significant difference in the response of publicly and privately owned firms to markups, but—for a given increase in markups—domestically owned firms have significantly lower investment and labor shares compared to their foreign counterparts.

BOOSTING COMPETITION IN DOMESTIC MARKETS

Given the benefits of competition, how can it be strengthened in sub-Saharan Africa? Several factors are important, most notably enforcement of a strong competition policy framework that encompasses, among other things, product market liberalization, the adoption of an adequate competition law, an independent enforcement body, and competition advocacy. Other policies—notably, trade, fiscal, and structural—that facilitate business activity and reduce barriers to entry also play a critical role in stimulating competition.

Product Market Liberalization

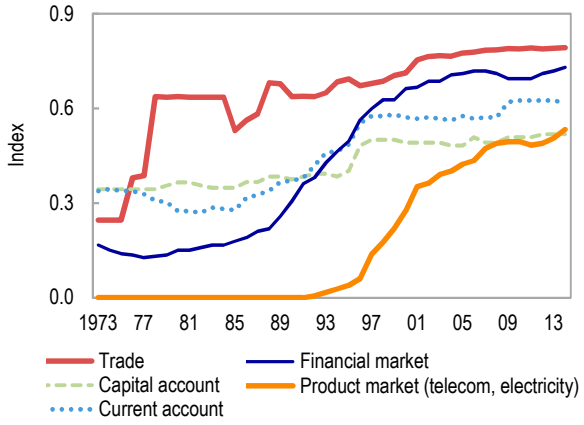
The liberalization of product markets typically includes a transfer of production from state-owned enterprises (SOEs) to private firms, elimination of price controls, and developing regulatory bodies to facilitate private sector activity. Prior to the 1980s, most sub-Saharan African economies were state led, with SOEs largely dominating domestic markets. Product market reforms were initiated as part of a broader set of structural reforms that included trade policy liberalization in the early 1980s, followed by current account and financial liberalization in the 1990s (Figure 2.11). Product market liberalization (notably in three key sectors: telecommunications,

[21] While labor share in output is positively associated with competition, this does not necessarily imply an increase in unit labor costs due to an improvement in productivity growth, as well as a general decline in price levels.

electricity, and agriculture) followed soon after in the late 1990s and encompassed a shift from public to private ownership, development of independent regulatory bodies, and the elimination (or reduction) of price controls.[22]

Existing evidence suggests that such reforms have generally helped to boost productivity and growth in developing economies, including in sub-Saharan Africa (Ostry, Prati, and Spilimbergo 2009; Robinson, Gaertner, and Papageorgiou 2011). The reform momentum, however, appears to have slowed down over the last decade, with SOEs still dominating markets in many sub-Saharan African countries, especially in the utilities and transportation sectors (MGI 2016; Sibiya and others 2018).[23] According to the OECD–World Bank Product Market Regulations database, some sub-Saharan African countries (Kenya, Senegal, South Africa) are among the most restrictive in terms of allowing entry into the network and services sectors. Price controls are also widely prevalent—for instance, about two-thirds of the sub-Saharan African countries surveyed by the World Bank (2016) reported the existence of regulations that allow for price controls.

Figure 2.11. Sub-Saharan Africa: Structural Reforms, 1973–2014



Source: Alesina and others, forthcoming.

Notes: Average across 14 countries for which data are available. See online annex for details. Higher values indicate greater liberalization.

Pursuing further product market reforms, especially in the network and services sector, reducing regulatory and structural barriers to firm entry and exit, and improving the overall investment climate could catalyze private sector development and boost competition and growth.[24] Although the small size of domestic markets and the large fixed costs associated with some sectors (especially utilities, telecommunications, and transportation) imply that natural monopolies may arise, unbundling the components such that those more amenable to competition are separated and opened for competition could help to improve economic outcomes.[25]

Competition Policies

An adequate competition policy framework is essential to protect consumer welfare and derive the expected developmental benefits from product market reforms such as deregulation and privatization. Enforcement of a robust competition policy framework comprises the development of antitrust laws, setting up independent and well-functioning institutions, and judicial support. In sub-Saharan Africa, there have been significant advances in the adoption of antitrust laws since the 2000s, with the number of countries with a competition law more than doubling from 12 in 2000 to 31 by 2019 (Annex Figure 2.7).[26] In general, these laws are based on those of advanced economies—typically covering merger control, collusive practices, and the abuse of dominance issues—and have been operationalized by setting up competition agencies.

[22] The structural reforms index is obtained from Alesina and others (forthcoming) and is available for 14 economies in sub-Saharan Africa: Burkina Faso, Cameroon, Côte d'Ivoire, Ethiopia, Ghana, Kenya, Madagascar, Mozambique, Nigeria, Senegal, South Africa, Tanzania, Uganda, and Zimbabwe. See online annex for details.

[23] The slowdown in the product market reform momentum is evident from the limited improvement in the overall competition indicator, as noted in Figure 2.1.

[24] Further reforms in the network sector could, for example, include liberalizing the telecommunications and wholesale electricity markets and fully unbundling electricity generation, transmission, and distribution. Some electricity unbundling reforms have already been introduced in Ethiopia, Ghana, Kenya, and Nigeria.

[25] For example, in the electricity sector, transmission and distribution tend to be the noncompetitive components, but generation and retailing are considered to be more amenable to competition (OECD 2001). Studies show that when such reforms induce competition, industry performance is significantly improved (Zhang, Parker, and Kirkpatrick 2008).

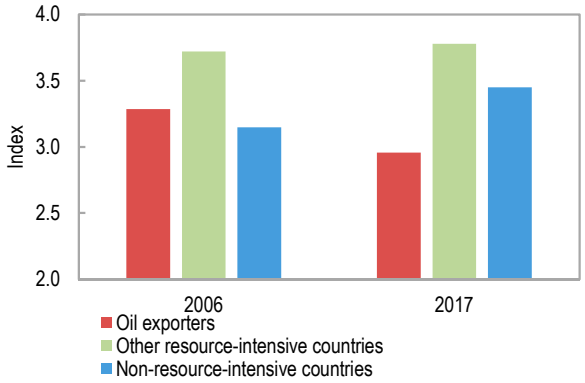
[26] These statistics are based on an IMF desk survey of competition authorities in member countries in the region.

Despite this progress in the adoption of competition laws and the establishment of competition agencies, notable improvements in domestic market competition have not been witnessed in most countries, as noted previously. One reason for this disconnect is that well-functioning antitrust frameworks require not only a sound legal setup, but also independent regulatory bodies, adequate financial resources, and suitably qualified staff to pursue anticompetition investigations. Viewed against these benchmarks, antitrust frameworks in the region present a mixed picture. According to World Bank (2016), about one-third of the countries in the region with a competition law have competition agencies that fall under the purview of another government body, potentially undermining their independence. The financial resources allocated to competition agencies are often limited, with few reporting any self-financing from penalties.[27] The availability of technical staff also varies—while the Competition Commission of South Africa (CCSA) has more than 130 technical staff, about one-third of the surveyed countries reported employing fewer than 10 staff members. On average, agencies in the region report investigating two cases a year, with the clear exception of Kenya and South Africa, which investigate about 500 cases a year.[28]

The variation in the competition policy frameworks in the region is reflected in the perception-based indicators of the effectiveness of antitrust enforcement. For example, based on the World Economic Forum's effectiveness of anti-monopoly policy index, Kenya and South Africa are among the best performers in the region, while oil exporters lag behind. It is also striking that in the region's oil exporters, the perceived effectiveness of antitrust frameworks has declined during the last decade, highlighting the need for persistent efforts to maintain a robust antitrust framework (Figure 2.12).[29] More generally, adopting a competition law is not a panacea, and proper enforcement of the law needs to be ensured to foster private investment and enterprise development.

In enforcing competition laws, the regional dimension is also becoming increasingly important. The small size of domestic markets in most sub-Saharan African countries implies that large firms may operate in multiple jurisdictions to reap economies of scale, or a few large firms across countries may form cartels to limit foreign competition in their jurisdictions and exploit consumers. A case in point is that of the cement industry, where nine regional firms produce more than 50 percent of the cement, and anticompetitive practices have regional dimensions (World Bank 2016).[30] Limiting such regional anticompetitive behavior requires cross-country cooperation. Some agencies have initiated bilateral cooperation, including informal information sharing and signing memoranda of understanding, such as between Kenya and South Africa and among Malawi, Tanzania, and Zambia (World Bank 2016). In addition, supranational competition authorities for blocs like the Common Market for Eastern and

Figure 2.12. Sub-Saharan Africa: Anti-Monopoly Enforcement



Source: World Economic Forum.

Note: Index ranges from 1 to 7, with higher values indicating more comprehensive anti-monopoly policy enforcement.

[27] Both World Bank (2016) and the IMF country desk survey conducted for this chapter show that there is a significant variation in the annual budgets of competition agencies in sub-Saharan Africa, ranging from less than 0.001 percent of GDP to 0.06 percent of GDP. In 2017–18, the CCSA had the largest budget, of $22 million in nominal terms (0.01 percent of GDP), followed by Kenya ($6 million). Relative to its economic size, Seychelles Fair Trading Commission had the largest budget.

[28] The CCSA is the most active antitrust authority in the region. In 2017–18 alone, it prohibited 12 mergers, levied about 0.01 percent of GDP in penalties, and finalized 193 enforcement cases (see CCSA *Annual Report 2017–18*). The increase in markups and market concentration in South Africa, however, suggests that more needs to be done to stimulate competition and check anticompetitive practices.

[29] In some cases, the reversals correspond to the onset of conflict, which weakened the general institutional and fiscal capacity in the affected countries.

[30] The CCSA investigated and fined the four largest cement producers in 2008 for colluding to segment markets across countries (See CCSA *Annual Report 2009–10*).

Southern Africa (COMESA) and the West African Economic and Monetary Union (WAEMU) have started operating regional merger control regimes, facilitating investigative actions at a regional level. Nevertheless, further regional cooperation remains necessary to tackle the growing challenges from pan-regional monopolies and cartels, especially in view of greater expected trade and investment flows in the context of the African Continental Free Trade Agreement (AfCFTA).

Other Policies

Competition policies are important but may not be enough to increase competition without complementary macroeconomic policies—notably, trade, foreign investment, and fiscal policies. In the context of sub-Saharan Africa, several studies show that trade barriers—both tariff and nontariff—hurt overall competition and competitiveness (World Bank 2012; Cadot and others 2015). The analysis conducted for this chapter supports these findings and shows that a reduction in tariff and nontariff barriers is indeed associated with significantly lower firm markups. Specifically, trade reforms that lower tariffs can lower markups by about 4.5 percent during the five years after the reform (see Box 2.1).

The AfCFTA, which aims to boost regional trade and economic integration, is thus likely to help improve economic competition across the region. The agreement envisions the elimination of tariffs on most goods, the liberalization of the trade of key services, and the reduction of nontariff obstacles to international trade—reforms that are expected to stimulate trade and growth in the region (IMF 2019b). In pursuing regional integration, however, the mutually reinforcing relationship among trade, investment, and competition policies should be considered: trade and investment liberalization stimulate competition, but an effective competition policy framework is needed to ensure that gains from foreign competition are realized and markets are not taken over by a few large firms engaging in unfair trading practices.

The level of competition is also influenced by government interventions and fiscal policies. For example, preferential tax treatment to selected firms through discriminatory policies or the selective implementation of policies can impede competition by creating an uneven playing field. Public procurement policies that benefit certain firms—whether state or privately owned—can also hurt competition and entrench the dominant position of large firms.[31] Moreover, inefficient customs administrations can adversely impact trade and foreign competition. Fiscal policies and public procurement systems thus need to be carefully designed, and customs administration systems need to be strengthened and modernized so as not to undermine competition. In cases where certain firms or sectors need to be subsidized for the provision of a public good, the costs and benefits of the incentives should be clearly analyzed.

CONCLUSIONS

Product market competition in sub-Saharan Africa is low relative to the rest of the world. Country-level data suggest that more than 70 percent of countries in the region are below the median in terms of the global distribution of competition indicators. Firm markups—directly calculated using enterprise data—corroborate the macro-level observations and suggest that, on average, markups in sub-Saharan African countries are higher than in other emerging market and developing economies, especially in the services sectors. A comparison of the price levels of internationally comparable products and services indicates that prices in the region are relatively higher than in other regions at a similar level of development, which can at least partly be attributed to low product market competition.

Empirical analysis suggests that an increase in competition can help to improve economic growth and welfare through increased productivity and export competitiveness, and lower consumer prices. These findings are supported by firm-level evidence, which shows that market structure affects firms' behavior and performance, ultimately shaping

[31] Collusive practices can infiltrate public procurement systems even if the process does not deliberately favor certain undertakings. In 2012, for example, the Zambian Competition and Consumer Protection Commission investigated irregularities in bids for a government subsidy program, alleging that two firms divided their bids to avoid competing against each other (World Bank 2016). Based on the investigations, the commission levied sanctions and the government broadened the tender process. This case illustrates the need for competition authorities to work closely with public procurement agencies to make procurement processes competition-friendly and to remain vigilant of platforms allowing competitor contact.

macroeconomic outcomes. Specifically, a decline in markups is significantly associated with an increase in firm investment, exports, productivity growth, and labor's share in output. These effects are more pronounced in the manufacturing sector relative to services and tend to be stronger for domestic firms relative to foreign-owned firms.

The analysis in this chapter reinforces the need to strengthen product market competition in sub-Saharan Africa. Although product market reforms were undertaken in several countries in the region in the late 1990s and early 2000s that helped to boost competition and conferred growth gains, the reform momentum has stalled in recent years. Thus, despite the almost three-fold increase in the number of countries that have enacted competition laws since 2000, progress on the ground remains limited.

As several factors affect competition, a holistic approach that encompasses the following key elements is needed to stimulate competition in the region:

- Product market reforms that reduce structural and regulatory barriers to private sector participation in the goods and services markets and improve the ease of doing business.
- An effective competition policy framework, which includes an adequate competition law along with an independent, adequately funded, and staffed enforcement agency.
- Complementary trade and foreign direct investment policies that bolster foreign competition and improve access to intermediate inputs.
- Carefully designed fiscal policies and procurement systems that do not distort competition by benefiting a few market players.

Although these policies are individually important, they tend to be mutually reinforcing. For example, trade and investment liberalization help to stimulate competition, but an effective competition policy framework is essential to ensure that gains from foreign competition are realized and a few large firms do not dominate the markets using unfair trading practices. In the same vein, development policies aimed at the advancement of certain sectors deemed as essential to boosting productivity and growth should not give way to a decline in competition and increase in corporate market power, which could impose costs on the rest of the economy and offset the potential effects of the original policies.

More generally, countries need to maintain a stable and sound macroeconomic and institutional environment to attract private investment and ensure that policies to stimulate competition have traction. Furthermore, in the current context of increasing regional trade and integration, cooperation among national competition authorities needs to be strengthened to tackle any anticompetitive practices of large pan-regional firms.

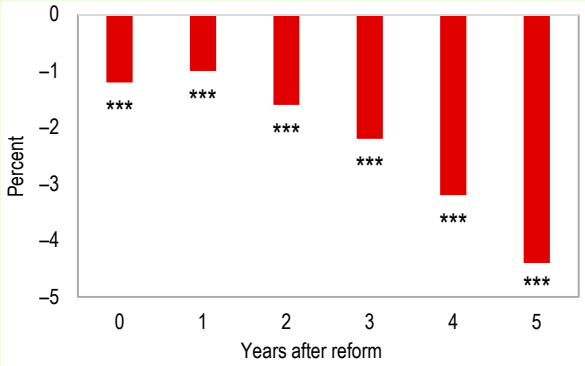
Box 2.1. Firm Markups and Trade Liberalization

Trade liberalization affects the competitive environment in which domestic firms operate in several ways—including by exposing them to direct competition from foreign goods and services; facilitating access to intermediate inputs; and increasing access to global markets. Existing research documents that trade liberalization has significant effects on firm behavior and performance through an increase in competition. Notably, trade liberalization stimulates firm innovation, productivity, and efficiency, while helping to lower product prices and firm costs, thereby affecting firm markups (Saggay, Heshmati, and Dhif 2007; Mazumder 2014; Edmond, Midrigan, and Xu 2015; De Loecker and others 2016). Trade liberalization is, thus, usually a major element of product market and competition reforms.

The analysis of firm-level data indicates that lowering trade barriers—both tariff and nontariff—in emerging market and developing economies indeed affects firm behavior and helps to limit markups and corporate market power in domestic markets. Specifically, a reform of trade tariffs, captured using the mean tariff score obtained from the Fraser Institute database, results in a cumulative reduction in markups of about 4.5 percent over a five-year period after the reform is implemented (Figure 2.1.1).[1] Lowering tariffs in the services sector appears to have a much stronger effect on markups than in the manufacturing sector, perhaps because product differentiation is less pronounced in the services sector. These results are robust to considering alternative measures of import openness, such as sectoral tariff rates and the overall import-to-GDP ratio.

Among other factors, stronger institutional quality and better transport infrastructure are, on average, associated with significantly lower markups, suggesting that these factors tend to boost competition possibly by stimulating investment and business activity. Higher economic policy uncertainty also lowers markups, perhaps by depressing economic activity and the prices of goods and services.

Figure 2.1.1. Emerging market and developing economies: Cumulative Effect of Tariff Reform on Markups



Source: IMF staff estimates based on Orbis data.

Note: Bars show the cumulative effect on markups. *** indicates statistical significance at the 1 percent level.

This box was prepared by Yuanchen Yang.

[1] A reform episode is defined as a change in the indicator of at least one standard deviation that is not followed by a reversal in the following years.

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