Kenya

Kenya 2021 Constraints Analysis Report

MILLENNIUM CHALLENGE CORPORATION
UNITED STATES OF AMERICA

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Authors and Acknowledgements

MCC's Board selected Kenya as eligible to develop a Threshold Program in December 2019. MCC undertook this Constraints to Economic Growth Analysis (CA) under its subsequent Threshold program engagement with Kenya from January to June of 2020.

Brian Epley and Francis Mulangu were the economists for the CA team, with support from economic research assistant Allison Wesley. The CA team also included inputs from Nilufar Ahmed and Andrew Tarter (Gender and Social Inclusion), and Katherine Farley (Finance, Investment, and Trade). Jay Scheerer was the Country Team Lead for MCC with significant support from the Threshold Program Managing Director James Gerard and Program Officer Patrick Malarkey. Researchers from the Kenya Institute of for Public Policy Research (KIPPRA) also provided MCC with valuable research, data, and advice that informed this analysis.

Due to the onset of the COVID-19 pandemic, MCC was unable to consult with representatives from either the Government of Kenya or Kenya's private sector in person. However, several Kenyan stakeholders contributed to the process with comments, data, and suggestions during remote meetings with MCC staff. Most notable among these include Julius Muia, Moses Kanagi, Emma Mburu, Warui Maina, and Elizabeth Chepkemboi (National Treasury), Rose Ngugi and Hellen Chemnyongoi (KIPPRA), Matthew Collins Omondi (KNBS), Victor Ogalo (KEPSA), and Rose Mwangera (State Department for Youth Affairs).

Abstract

As a first step in designing a Threshold Program, MCC prepared this Constraints Analysis (CA) following the growth diagnostic approach of Hausmann, Rodrik, and Velasco ((HRV), 2008). The most binding constraints to economic growth are those factors that are in the greatest demand relative to supply, thereby restricting investment. While all countries face a range of economic challenges, not all challenges restrict growth equally. By prioritizing investments that address the root causes of the most binding constraints, the CA helps Kenya focus its scarce resources on those sectors with the greatest potential to increase growth. The HRV approach has generated a large body of literature and insights that inform this report.

In consultation with researchers from the Kenya Institute for Public Policy Research and Analysis (KIPPRA) and counterparts in the Government of Kenya ('Government'), MCC applied a series of empirical tests to identify specific bottlenecks constraining private investment in Kenya. Due to travel restrictions related to the COVID-19 pandemic, this analysis is heavily reliant on desk research, with little or no on-the-ground validation of the data and findings. However, through an enterprise survey, conducted as part of MCC's private sector opportunity assessment (PSOA), a literature review, a rapid evidence assessment, and targeted remote stakeholder interviews, MCC filled most evidence gaps.

This process enabled MCC to identify two binding constraints on Kenya's economic growth. These are:

- Crowding out that limits financing to the private sector, particularly to micro, small and medium enterprises (MSMEs), and
- Limited connectivity that undermines productivity in urban areas, the engines of Kenya's economy.

The CA also identifies two other factors—unsafe water supplies and poor sanitation and barriers to international trade—that may impact economic growth but were nevertheless found to be less binding issues for Kenya's economic growth prospects.

This report is organized, as follows: Section I presents an overview of Kenya's economy and society, and summarizes the main findings of the CA; Sections II and III explore the binding and near-binding constraints in greater detail; Section IV dedicates a brief section to two other issues in Kenya judged to have economy-wide impacts on the ability of firms to conduct business in Kenya: the impacts of informal business activity, and the limitations on women's participation in the economy. Examples of how these issues impact the constraint sectors is included throughout the text. Finally, the Annex includes a brief discussion of methodology while summarizing the results of the CA for sectors found to be non-binding.

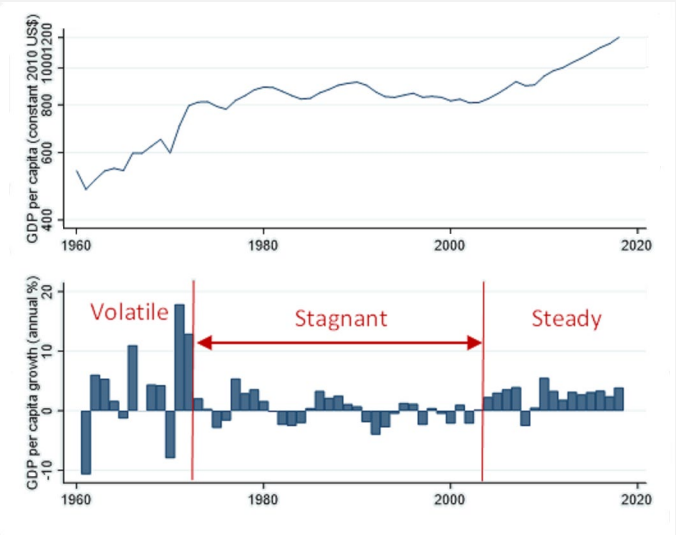
Country Context

Kenya—a country of 51.4 million people—straddles the equator along Africa's eastern coast. Under the leadership of Jomo Kenyatta, Kenya achieved its independence as a republic in 1963, bringing together more than 40 ethnic groups into a unified, democratic republic. Kenya's ethnic diversity is also reflected in its geographical and topological diversity. The rich variety includes the coast along the Indian Ocean, the Lake Victoria basin, the Rift Valley and associated highlands, the eastern plateau forelands, and the arid, semi-arid, temperate, and tropical zones in the Northeast.

Growth Performance

Kenya's economy grew at an average rate of 3.97 percent from 1980 to 2019. However, Kenya experienced an un- even growth pattern, with periods of promising growth overshadowed by volatility and stagnation due to a combination of adverse external shocks, weak internal economic management, and political unrest that reached its peak in 2007. As a result, per capita economic growth is lackluster. With an average population growth rate of 3 percent, economic growth translated into a mere 0.89 percent per capita growth rate in real gross domestic product (GDP) over the period.

FIGURE 1: Kenya's Growth between 1960 and 2020. GDP Growth Trends and Sources of Growth



Source: World Bank WDI, 2020

Figure 1 shows Kenya's growth history. Following a period of rapid yet volatile growth, Kenya entered a period of stagnation beginning in the latter half of the 1970s. The economy began a period of slow contraction during the 1990s so that per capita GDP in 2003 was comparable to the level in 1973 ($813). Mwega and Ndung'u (2008) argue

What is a Constraints Analysis?

MCC's evidence-based approach begins with a constraints-to-economic growth analysis (CA). In a CA, MCC works with a partner country to examine and prioritize the issues that constrain its economy. The CA approach builds on the "growth diagnostic" framework put forward by economists Ricardo Hausmann, Dani Rodrik, and Andrès Velasco (HRV). As HRV point out, all developing countries face significant economic and development challenges, but these challenges do not all equally restrict growth. The diagnostic framework provided by HRV helps to structure the investigation of potential binding constraints. It has been refined through application, both within MCC and the broader economic development community.

Why Does MCC Use Constraints Analysis?

Identifying the most binding constraints to growth helps MCC target its investment on the areas that, if addressed, are most likely to promote sustainable, poverty-reducing growth in a given country. Prioritization helps maximize the limited financial resources and implementation capacity needed to effect change. As HRV also argue, focusing on the most binding constraints helps to minimize the risk that development interventions create negative unintended economic consequences.

that some of the causes of the contraction are the political capture of both the institutions and bureaucrats; the dominance of extremely short-term responses rather than long-term planning; the 1977 collapse of the East African Community that substantially reduced Kenya's market; expanded fiscal expenditures and appreciation of the exchange rate; and poor governance.

Since 2003, economic growth has been steady, rising to an average of around 3.2 percent in the 2010s. Growth briefly turned negative (–1.0 percent) in 2008 in the wake of post-election violence that year, but has otherwise remained robust since 2003. In the 2000s, the Emilio Stanley Mwai Kibaki government introduced reforms to Kenya's macroeconomic management and governance that are associated with improvement in development outcomes (Kimenyi et al., 2016).

For example, the World Bank Country Policy and Institutional Assessment's (CPIA) sub-indices for economic management cluster, macro-economic management, public sector management and institutions cluster, and quality of public administration improved between 2005 and 2013 (see Figure 2). Per capita GDP in Kenya also increased by more than $1,200 since 2003 compared to an increase of only some $300 in the first four decades following independence in 1963. Similarly, since 2003, there have been improvements in other non-income measures of welfare including access to education, maternal mortality, and infrastructure. Lastly, poverty declined from 46 percent in 2006 to around 42 percent in 2013, and 36.1 percent in 2016.

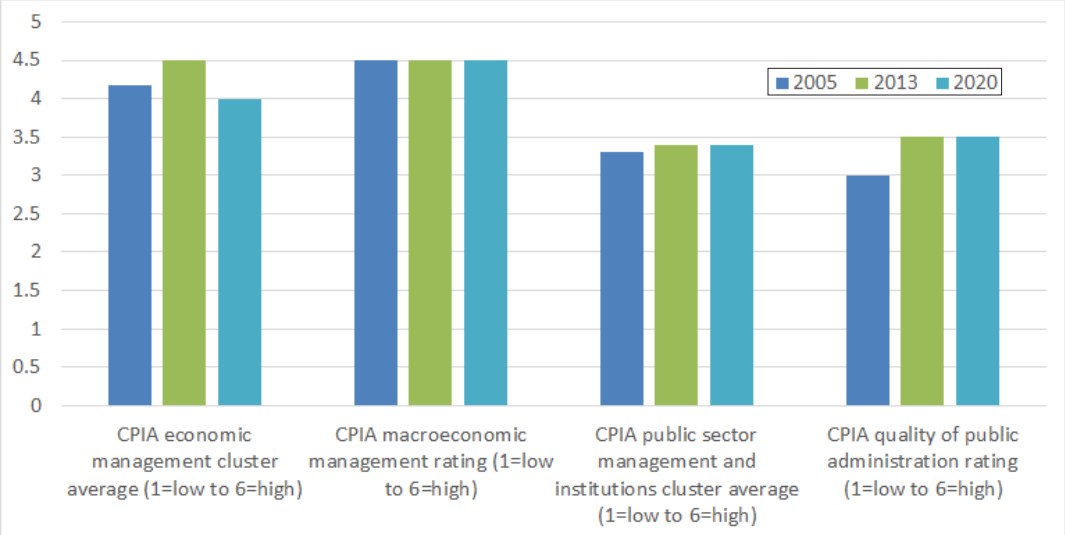
Kenya became a lower middle-income country (LMIC) in 2015. Kenya's newfound status, however, has only masked persistent economic challenges. National savings remains low, raising the country's reliance on remittances, assistance from international development partners, and borrowed funds. In 2016, a crisis in the banking sector led the Government to strengthen regulation and cap interest rate spreads, likely exacerbating the curtailment of lending from domestic banks to the private sector (Safavian and Zia, 2018). Lending from domestic banks remained low even after the removal of the interest rate cap in late 2019 (Dalberg, 2020a).

The CPIA economic management sub-indices declined over the past few years (see Figure 2), which may be due to the sharp increase in average interest on new external debt commitments, which started to increase around the same time, presumably due to Kenya's increasing debt burden.

To accelerate the realization of the Vision 2030,[1] the Uhuru Muigai Kenyatta government escalated public spending on large-scale infrastructure projects. Since 2013, the Government borrowed about $35.1 billion to expand maritime

1 The goal of the Kenya Vision 2030 is to transform Kenya into a newly industrializing, middle-income country providing a high quality of life to all its citizens by 2030 in a clean and secure environment.

FIGURE 2: The Country Policy and Institutional Assessment (CPIA) for Kenya from 2005 to 2020



Source: World Bank CPIA, 2020

ports at Mombasa and Lamu, build a special economic zone along the coast, upgrade and extend a colonial-era railroad between Mombasa and Nairobi, install expensive trunk roads around the capital city, upgrade the capital city's international airport, create an inland dry port at Naivasha, develop large-scale wind farms, and construct 57 dams for irrigation and hydroelectric power. While poverty continued to decrease, the debt to GDP ratio surged from 39 percent of GDP in 2013 to 72 percent of GDP in 2020, with the composition of that debt pivoting toward more expensive commercial sources.

Between 2019 and 2020, Kenya's GDP contracted by about 1 percent compared to an average annual growth of

5.7 percent between 2015 and 2019. While the COVID-19 shock hit the economy hard (as measures that were designed to curb the spread of the virus led to supply chain disruptions), the regional locust infestation, which started early 2020, made the situation worse, especially in the Northeast side of the country. However, Kenya is expected to quickly recover from these shocks thanks to its resilient economy. The economy is projected to grow by 5.0 percent in 2021 and 5.9 percent in 2022. The rebound assumes that economic activity will normalize due to a full reopening of the economy, which began in early May 2021 when curfews and travel restriction measures were lifted.

Finance and Sustainability of Growth

In the most recent period of steady growth post-2005 (see Figure 1), an important part of Kenya's growth story is the higher levels of investment, perhaps triggered by the improved governance and business environment as mentioned above. Gross Fixed Capital Formation (GFCF) decreased from 23.2 percent in the 1980s to 18.31 percent in the 1990s and remained at this lower level until once again rising in the 2010s to 20.1 percent in 2019 (see Table 1). However, Gross Domestic Savings (GDS) declined decade over decade during this same period from 19.3 percent in the 1980s to 6.2 percent in the 2010s. The gap between savings and investment was filled mainly by donor inflows, remittances, and foreign commercial borrowing. Foreign Direct Investment (FDI), while

TABLE 1: Gross Fixed Capital Formation (GFCF) between Kenya and Aspirational Peers that have transformed their economies

	Kenya	Korea, Rep.	Malaysia	Thailand	Indonesia
1980s	23.17	33.19	30.67	29.44	25.91
1990s	18.31	37.00	36.30	36.46	29.45
2000s	18.05	32.21	22.97	24.94	25.00
2010s	20.07	31.17	24.52	24.71	33.93

Source: World Bank, WDI, 2022

picking up in the latter part of the period, was still small compared to the three sources mentioned above. The large share of the gap filled by donors and commercial borrowing raises concern about the financial sustainability of growth. In fact, while Kenya's national debt in relation to GDP is expected to reach 70.46 percent in 2021, net Official Development Assistance received as a percentage of central government expenses increased to 17 percent in 2019 from an average of 12 percent between 2016 and 2018.

However, the low level of savings should be of concern for two main reasons. First, GFCF averaging 17 percent of GDP is likely below what is needed to transition to a more capital-intensive economy focused in "modern" sectors (e.g., structural transformation as envisioned by Kenya's Vision 2030).[2] Second, in the medium to long term, Kenya's reliance on donor inflows and increasing external commercial debt raise macroeconomic risks due to their volatility and expense, especially when debt is not used to invest in productive activities.

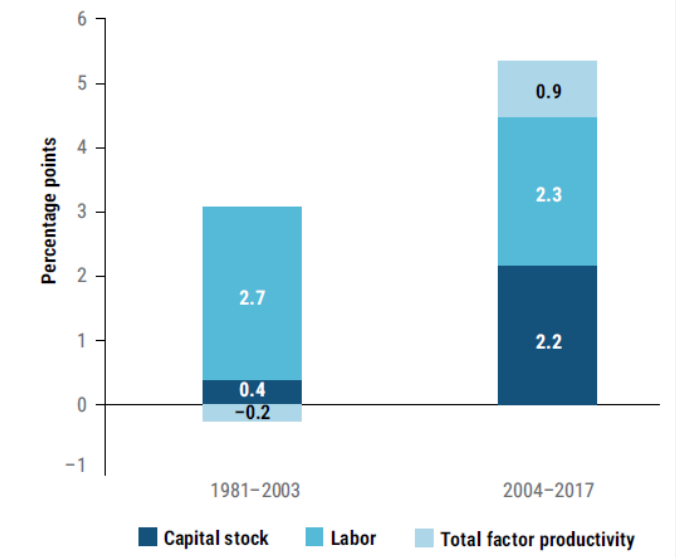
Efficiency of Investment/Aggregate Productivity

Total Factor Productivity (TFP) made a positive contribution to growth during the 1980s, but a significant decline in the TFP in the following decade reversed this trend. During the post-2003 steady growth phase, TFP's contribution to GDP growth averaged a robust 0.9 percent. Positive productivity growth has thus been one of the key drivers of the improved growth performance. TFP growth further accelerated in the post-2013 devolution era. Nevertheless, TFP growth in Kenya lags several other countries in the sub-region (see Figure 4) such as Rwanda, as well as aspirational peers such as Malaysia. Lagging TFP is an important symptom of an underlying binding constraint to private sector investment.

Structure, Technology and Productivity of Production

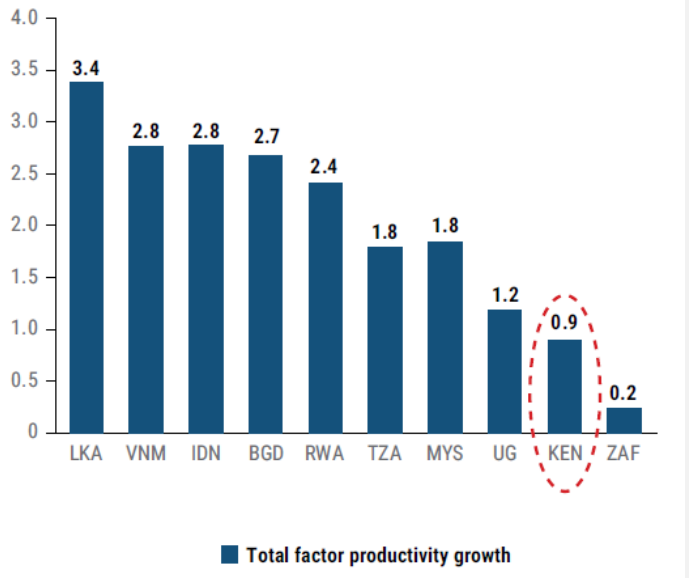
While economic growth picked up in the most recent period, neither the structure nor the technology of production changed significantly. For example, manufacturing

FIGURE 3: The contribution to growth from TFP has risen in recent years



Source: World Bank, 2020b

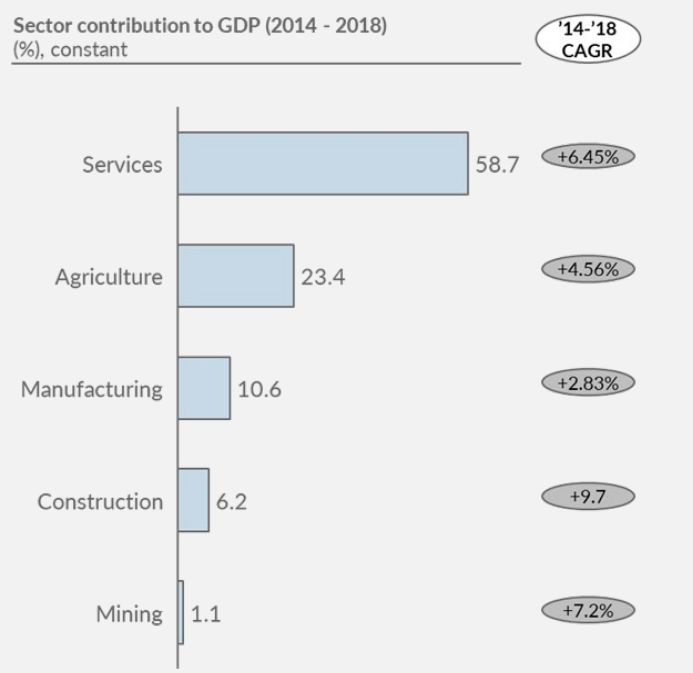
FIGURE 4: TFP growth's contribution in Kenya is lower than its peers, 2004-2017



Source: World Bank, 2020b

2 Korea, Malaysia, Thailand and Indonesia transformed their economies in a time when GFCF was maintained at an average of 30 percent for at least two decades.

FIGURE 5: Shares of Kenya production sectors



Source: WDI from Dalberg, 2020b

remained a small share of GDP (see Figure 5) while the agricultural sector remained the dominant sector. Much of this contribution comes from the fast-growing horticulture sector[3] that not only contributes significantly to GDP but also provides employment to more than 6 million Kenyans, directly and indirectly. Agricultural output constitutes almost a quarter of GDP, while employment in agriculture is still about 70 percent of total employment. Meanwhile, manufacturing activities as a share of GDP has declined to 10.6 percent and remains largely agro-based. Finally, the services sector, now the biggest contributor to GDP, remains highly informal and—except for the few large firms in finance, telecommunication, and ICTs—is dominated by many low-productivity small firms.

Although manufacturing GDP is decreasing, manufacturing productivity is growing, albeit at a slower pace than other sectors. The uptick in productivity is predominantly driven by improvements in productivity within firms with the contribution to TFP growth from

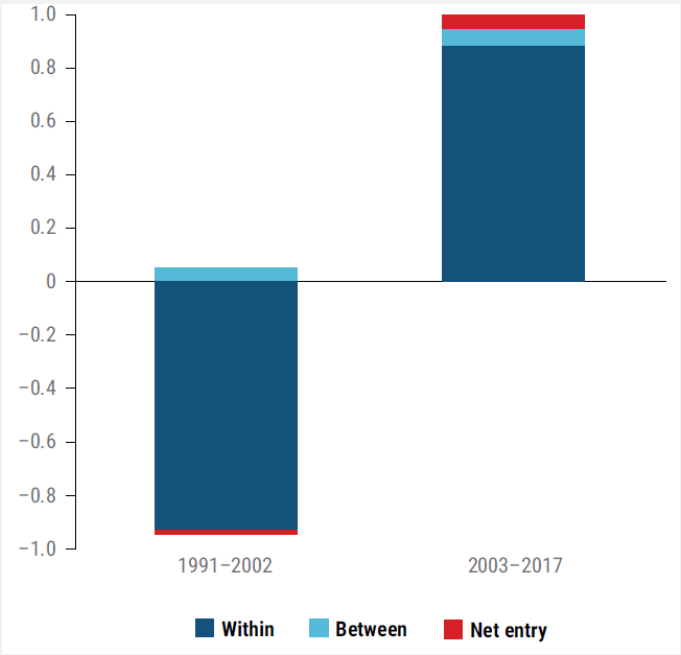
Impact of the Novel Coronavirus in Kenya

Kenya has been heavily impacted by the spread of the COVID-19. The Government appears to have contained the spread of the virus with a nationwide curfew and curbs on domestic and international travel. However, it borrowed as much as USD 3.75 billion to sustain social and economic programs, pushing public debt to its highest level in over two decades. Many residents complained that social programs were poorly administered, leaving out as many as nine of every ten needy households. During this period of economic uncertainty, formal enterprises cut at least 1.72 million jobs, not counting the loss of jobs in the informal sector which employs more than 85% of the workforce. However, the economy is expected to quickly recover in 2021 and 2022 as tourism is expected to kickstart as curfews and travel restriction measures are lifted.

Source: World Bank (2020)

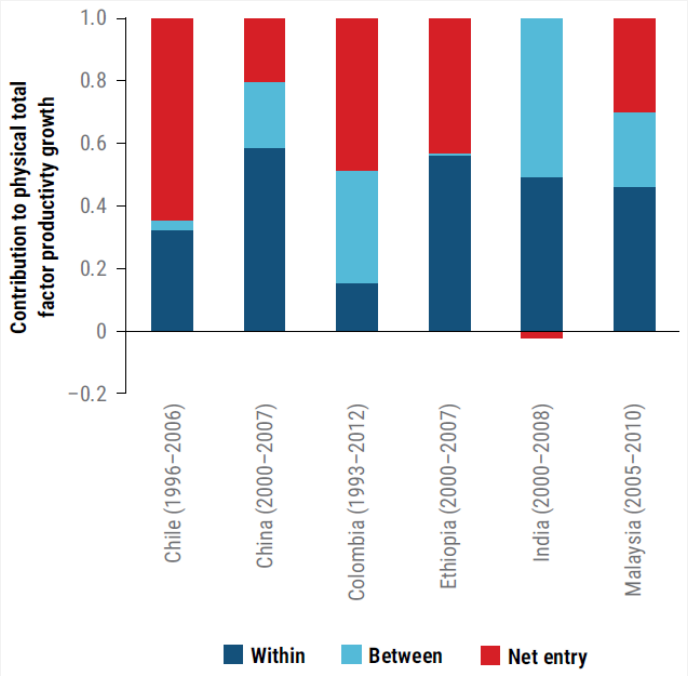
3 At about 36 percent of agriculture's share of GDP and growing, the horticultural sector is the third largest after dairy and tea in terms of contribution toward agricultural GDP (AgGDP) according to the Kenya National Bureau of Statistics (2018).

FIGURE 6: Within sector improvements have been the predominant driver of productivity growth in Kenya



Source: World Bank, 2020a

FIGURE 7: Contributions to productivity growth by country by source



Source: World Bank, 2020a

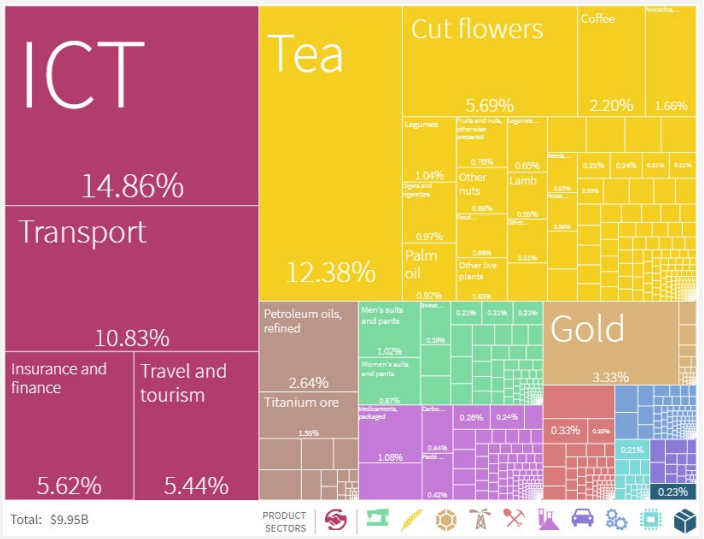
new, more productive firms being minimal. Indeed, the entry of higher productivity firms contributes less than 5 percent of the total recent increase in TFP in Kenya (see Figure 6). Compared to other countries, this is relatively low (see Figure 7), implying that productivity growth is largely coming from incumbents within the same sector with little room for new players, a phenomenon that could reflect challenges to Kenya's drive toward economic structural change.

Diversification, Technology and Competitiveness of Exports

Kenya exported products worth $6.04 billion in 2018. Exports have declined by an annual average of 11.2 percent over the past five years (11.5 percent for non-oil exports), creating a drag on overall economic growth, as exports now represent a shrinking segment of the economy. Meanwhile, imports totaled $18.8 billion in 2018, leaving Kenya with a significant trade deficit in goods and services of 12 percent of GDP.

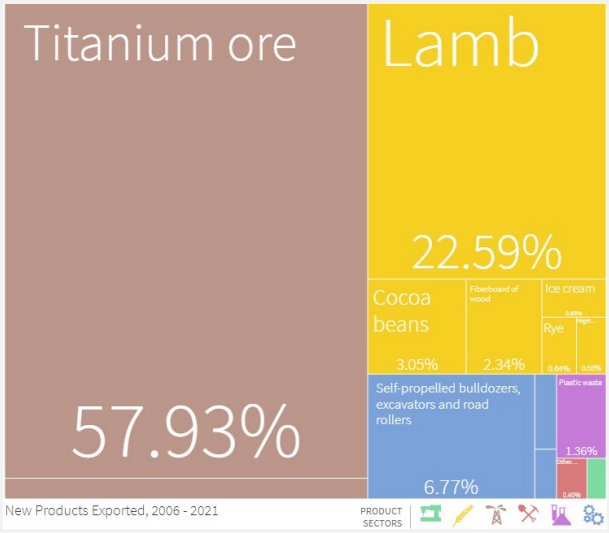
Traditional high export earners include tea, coffee, and horticulture and resource-based products such as butter, plant extracts, meat products, canned pineapples, cement, and petroleum products. Kenya also exports diverse manufacturing products including

FIGURE 8: Kenya net export profile



Source: Atlas of Economic Complexity, 2021

FIGURE 9: New export products added in Kenya between 2003 and 2018



Source: Atlas of Economic Complexity, 2021

low-technology (e.g., textiles, leather, and plastic products), medium-technology (e.g., metal containers and wires, insecticides and fungicides, and screws and nuts), and high-technology products (potentially medicinal and pharmaceutical products).

Agriculture drove Kenya's export growth over the past five years, particularly horticulture, which represents 30 percent of agricultural exports and a key source of foreign currency. Nevertheless, Kenya has seen a mixed pattern of export growth (see Figure 8), with the largest contribution to export growth coming from both low- and high-complexity products, particularly coffee, tea and spices, insurance and finance products, transport, information and communications technology, and cut flowers.

Economic growth is also driven by diversification into new products that are incrementally more complex. Kenya has added 11 new products since 2003, and these products contributed $5 in income per capita in 2018 (see Figure 9). These products, however, were too few to contribute to substantial income growth.

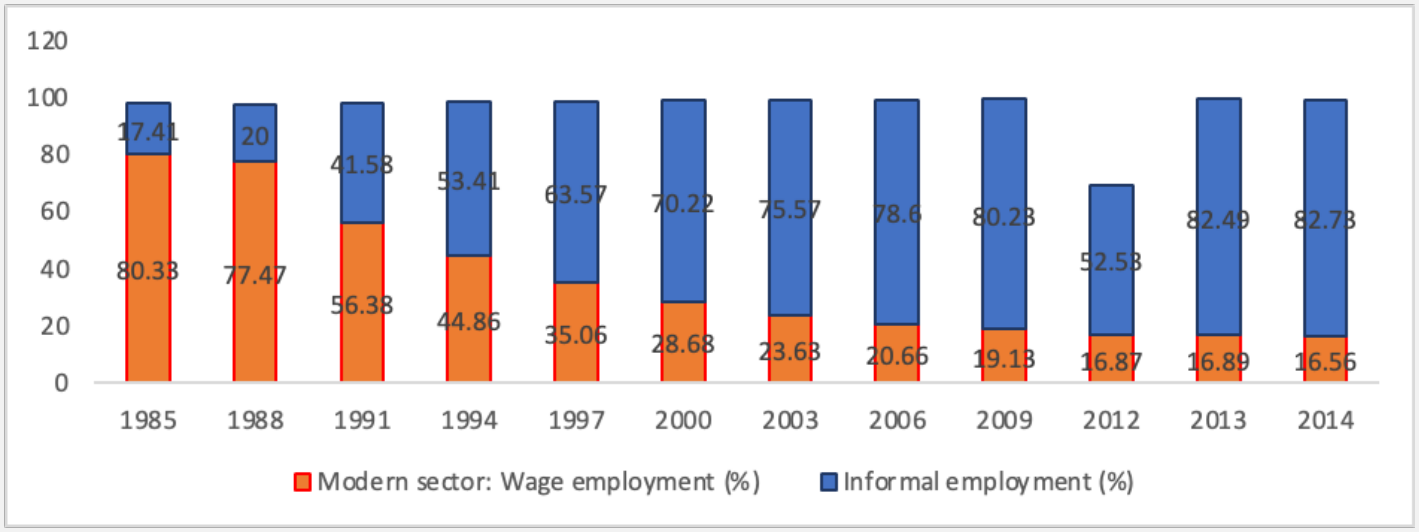
Despite the low per capita contribution of new products Kenya added between 2003 and 2018, a number of high potential growth industries (HPGIs) can be drivers to furthering export diversification, technological capability acquisition, and job creation (Dalberg, 2020b). To identify and prioritize HPGIs, we applied a three-step filtering process: (i) use macro- economic criteria to identify high performing nascent and established industries, (ii) use industry-level data to assess the potential of each industry to contribute to growth, job creation and diversification, and (iii) evaluate the HPGIs based on their social inclusion and environmental sustainability.

The process identified five sectors: flowers, pharmaceuticals, personal care, nuts and seeds, and information technology. These HPGIs have potential because they face constraints. MCC consulted the Dalberg team, which consulted more than 30 stakeholders, including, 15 agricultural and manufacturing enterprises and 11 development organizations and investment firms. In addition, Dalberg conducted an enterprise survey to collect primary data by surveying 507 firms within the intermediate list of HPGIs. The enterprise survey highlighted key cross-cutting constraints at the aggregate and disaggregate level to further qualify insights identified through the Private Sector Analysis (PSA), while simultaneously surfacing constraints that may have not been identified. Insights were collected through a structured survey that tested a pre-defined set of diagnostic criteria. The findings were thereafter distilled and analyzed on two levels: first at an aggregate level to identify cross-cutting constraints cited as moderate to severe by all firms; and second at a disaggregated level to identify constraints faced by individual HPGI industries, firms at various sizes and formally registered vis-à-vis informal firms.

Employment, Gender, Poverty, and Inequality

The Kenyan workforce is categorized into the formal (or modern) sector, the informal sector, and the small- scale agriculture and pastoralist sector. Figure 10 shows an unusual trend over the last 30 years. In 1985, formal employment, defined as wage employment, represented 80 percent of the workforce compared to 17 percent for informal employment. However, by 2014, wage employment had fallen to only 16 percent of the labor force against 82 percent for informal employment. The cause of this trend away from wage employment is not clear, but it could indicate that Kenya's economic growth has not been able to generate productive employment.

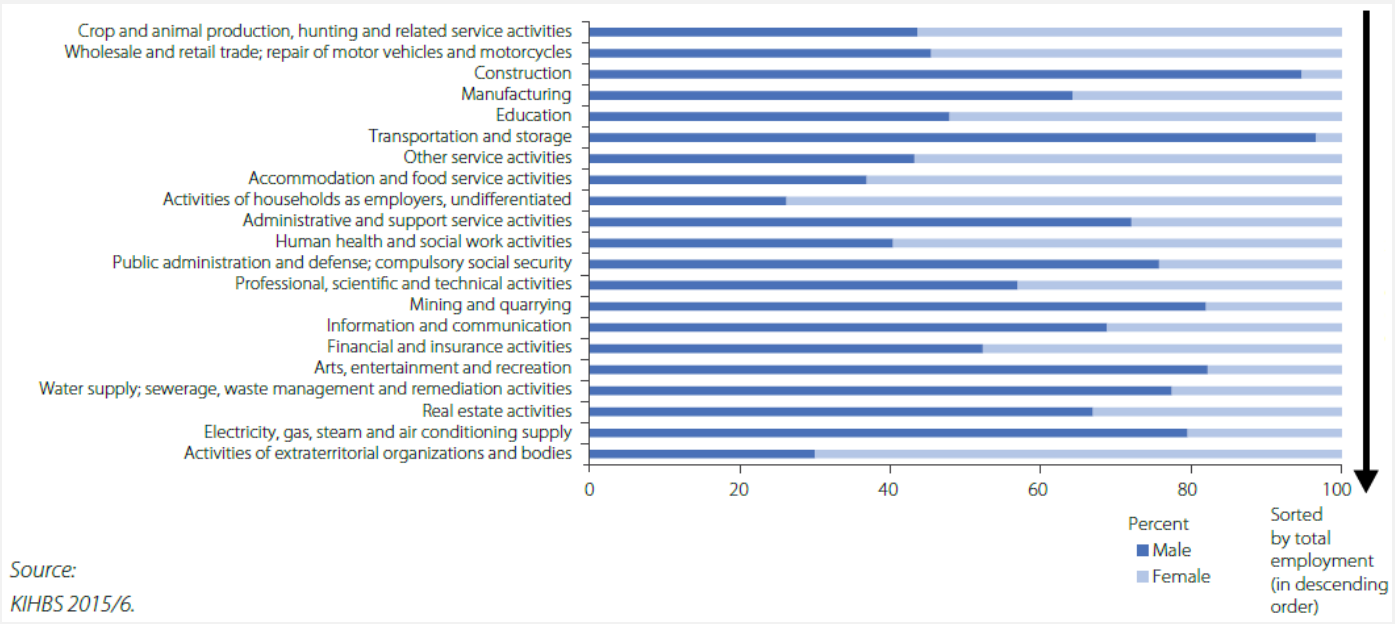
FIGURE 10: Employment share between formal and informal



Source: Puerta et al., 2018

A breakdown across sectors suggests that females dominate in agriculture domestic services,[4] accommodation and food services, and health and social work. However, females are particularly underrepresented in construction, mining and quarrying, transportation, and storage (Pape and Mejia-Mantilla, 2018).

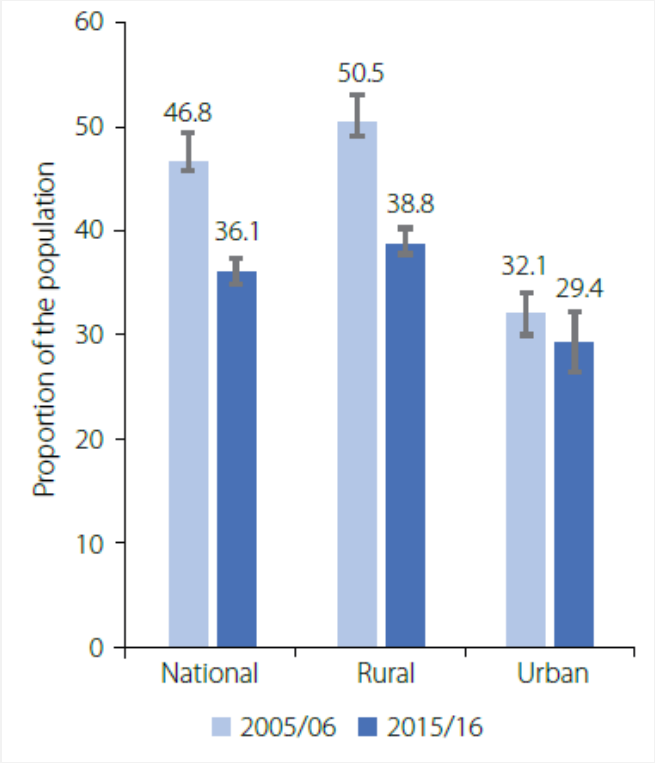
FIGURE 11: Share of female and male employment by sector, 2015/2016

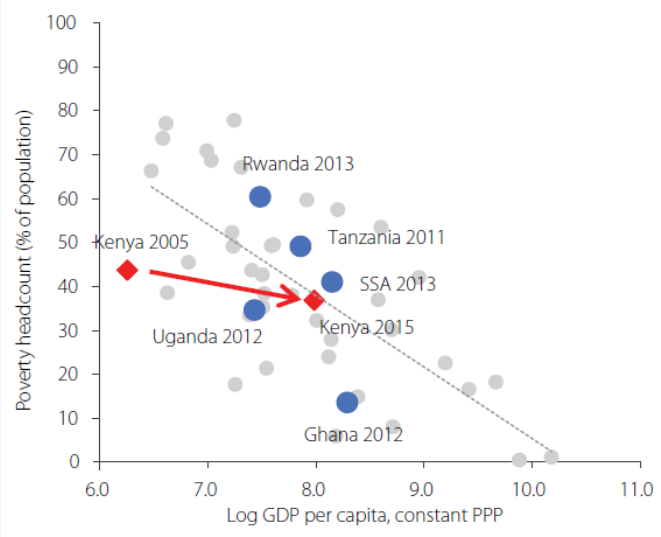


Source: Pape and Mejia-Manilla, 2018

4 Domestic services are defined here as "Activities of households as employers" in which outside households are acting as employers.

FIGURE 12: (Top) The poverty headcount rate measured at the national poverty line from 2005-2015. (Bottom) Improvement in poverty headcount, 2005-15





Source: Pape and Mejia-Mantilla, 2018

Poverty remains high in Kenya, although it has decreased significantly during the most recent period of steady growth. The share of the population living below the national poverty line[5] fell from 46.8 percent in 2005–2006 to 36.1 percent in 2015–2016, reflecting a modest but sustained improvement in living standards over the decade (see Figure 12). However, urban areas did not fare so well. Urban poverty rates remained statistically unchanged between 2005–2006 and 2015–2016 at 29 percent. At this level, poverty in Kenya is below the average in sub-Saharan Africa and is amongst the lowest in the East African Community (see AfDB (2019) or World Bank (2018b)).

In addition, the proportion of the population living in poverty remains comparatively high in Kenya and the rate at which growth translated into poverty reduction was lower than in comparable countries such as Ghana, Cote D'Ivoire and Ethiopia. At twice the LMIC average, Kenya's poverty rate is still high for an LMIC. Kenya's growth elasticity of poverty reduction, the percentage reduction in the poverty rate associated with a 1-percent increase in mean per capita income, is only 0.57, which is lower than in Tanzania, Ghana, or Uganda (Pape and Mejia-Mantilla, 2018).

Nevertheless, the Gini index fell from 0.45 in 2005–2006 to 0.40 in 2015–2016, indicating that Kenya made progress in reducing inequality. This decline in inequality primarily reflects overall growth in the national economy, rather than changes in the distribution of resources. Despite the improvement of these indicators in recent years, inequality in Kenya remains moderate by regional standards (Kenya SCD, 2020).

Growth Question

The 2010 Kenya Constitution, the Kenya Vision 2030, and the Big 4 agenda are three important policy documents that contain measures that political leaders believe are critical for sustaining the economic transformation agenda and reducing poverty. The new constitution established a system of devolved government with 47 lower-level country governments. In theory, these 47

5 Kenya's national poverty line is defined as consumption necessary to reach a minimum caloric intake of 2,250 Kcal per person per day, including a non-food allowance. This translates into 3,252 Kenyan shillings for urban households and 5,995 Kenyan shillings for rural households per person per month.

new county governments are now in charge of overseeing several important functions—such as the provision of health care, pre-primary education, and maintenance of local roads—which were previously the responsibility of Kenya's national Government, although the de-facto situation typically lagged de jure devolution. In turn, devolved county governments receive a share of national revenues. County governments are also expected to mobilize revenue from other sources within their counties, such as taxes on property and entertainment, although county revenue mobilization may also lag. In theory, higher proximity between government and constituents can be an important platform for inclusive growth and may have already contributed to TFP growth as mentioned earlier, albeit triggering higher debt burden (Kenya SCD, 2020).

Kenya Vision 2030 is a development program launched in 2008 to transform Kenya into a "newly industrializing, middle-income country providing a high quality of life to all its citizens by 2030 in a clean and secure environment." To accelerate the attainment of Kenya Vision 2030, President Uhuru Kenyatta launched the Big 4 agenda. The Big 4 is a medium-term plan that focuses on food security, affordable housing, manufacturing and affordable health care. Since its launch in 2019, the Government of Kenya mobilized large resources, mostly borrowed, to finance the Big 4 agenda. While it is too early to evaluate its impact, heavy borrowing has clearly contributed to the deterioration of Kenya's financial position (see Section II.A).[6]

Moving Kenya toward a higher growth path and a more equitable society will largely depend on its ability to leverage its comparative and competitive advantages. Given its current export basket, Kenya has high potential for new diversification by either deepening existing value chains or by creating a conducive environment for the HPGIs to thrive. Kenya can also exploit its geographical position to serve the large hinterland within the East Africa Community (EAC). The financial sector can make Kenya the financial hub for the region. The strong growth in the ICT sector (epitomized by the successful mobile telephone M-Pesa financial services platform), and the relatively high levels of education position Kenya as a competitive ICT innovation and business process outsourcing hub providing high-value services such as software development, call centers and medical transcription. However, the Kenyan economy faces constraints that may undermine the realization of these prospects. In the next section, we will discuss these binding constraints that prevent Kenya from reducing poverty through growth.

6 See also USAID (2019).

Discussion of Constraints

Comparator Countries

Comparator countries identified for Kenya are based on their Euclidean distance to Kenya's export basket in 1999. The selection process is limited to only countries that(a) have a similar GDP per capita as Kenya (e.g., at least 80%, but no more than 300% of Kenya's current GDP per capita), and (b) have a recent history of strong growth (in particular, an average of at least 6% per year of nominal GDP growth).

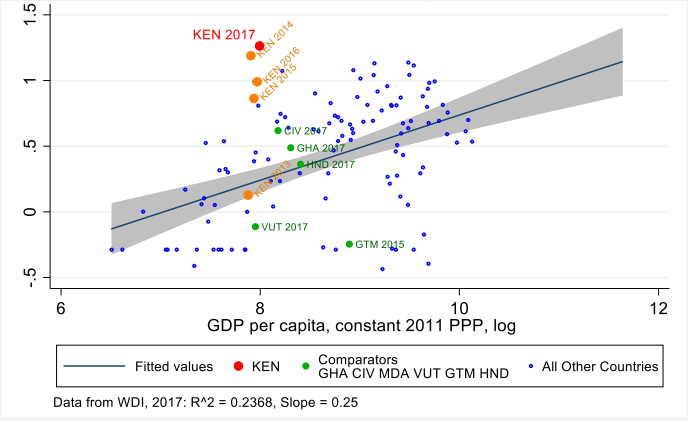
MCC adopted this approach to provide the analysis with aspirational comparators within the group of Kenya's reasonably close income peers. The final list of comparators included Cote d'Ivoire, Ghana, Honduras, and Guatemala. Other comparators, such as Vanuatu,Zimbabwe, and Kyrgyzstan, were also included on a case-by-case basis, depending on availability of data for individual tests.

TABLE 2: Comparator Statistics

Comparator	GDP per capita, 2021 (in constant 2011 PPP)	Population 2021, Millions	Population Density 2021 (#/sq-km)
Kenya	$4,745.36	53.0	93.1
Cote d'Ivoire	$5,316.46	27.5	86.1
Ghana	$5,435.24	32.8	144.3
Honduras	$5,572.18	10.3	91.9
Guatemala	$8,927.30	17.1	159.7

Crowding Out That Limits Financing to the Private Sector, Particularly to MSMEs

FIGURE 13: Average interest on new external debt commitments for Kenya. Kenya had the highest rates in the sample in 2017, the final year data was available



Source: Authors, from World Bank WDI, 2019

Public debt is an increasing burden on Kenya's financial system, with a high share of non-concessional, foreign-currency denominated debt that is especially problematic. As a result, the interest rate that Kenya pays on new external debt is now among the highest in the world (see Figure 13). Although debt service is still below the level of highly indebted comparable countries, such as Honduras and Guatemala in the most recent data, this level is still quite high and likely to lag other indicators as Kenya is forced overtime to roll over legacy debts.

High official interest rates and costly public debt service alone are not sufficient to conclude that the high public debt is constraining growth. There are, in fact, four causal pathways through which high public debt can impact economic growth (see Figure 14); high public debt can result in: (i) lower government spending, especially on public investment, (ii) higher premiums on borrowing (e.g., from foreign exchange or inflation risks) for the

FIGURE 14: How high public debt currently slows growth in Kenya. Other issues, such as debt distress, cannot be ruled out in the future

Source: MCC staff

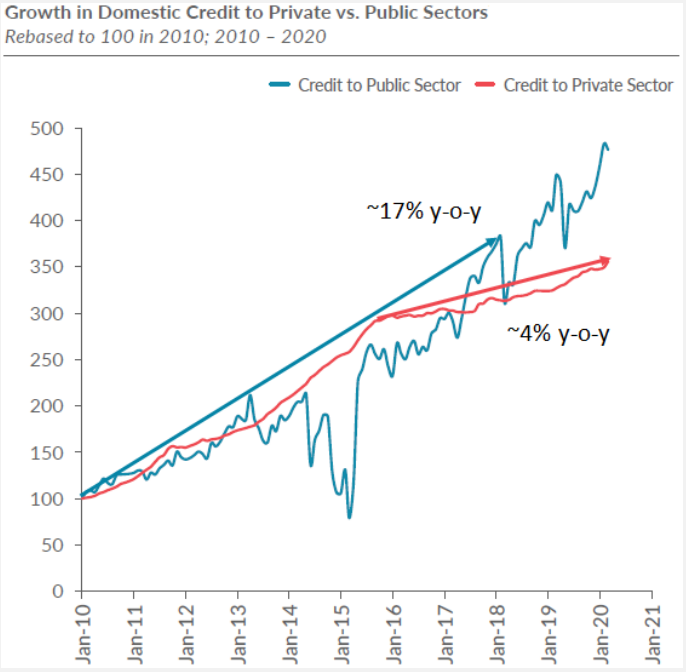
public and private sectors, (iii) higher risk of debt distress, and (iv) higher interest rates or debt service on government debt.

The most direct impact of public debt on investment is the impact on new public investment. However, Kenya accumulated its debt in part due to accelerated public investment in large-scale infrastructure. In fact, since 2013, the Government borrowed about $35.1 billion to expand maritime ports at Mombasa and Lamu, build a special economic zone along the coast, upgrade and extend a colonial-era railroad between Mombasa and Nairobi, install expensive trunk roads around the capital city, upgrade the capital city's international airport, create an inland "dry" port at Naivasha, develop large-scale wind farms, and construct 57 dams for irrigation and hydroelectric power.[7]

Kenya's high debt burden primarily constrains growth through higher interest rates and debt service. Debt burden impacts both the public and private sector as government debt starts to crowd out bank financing for investment (Jafarov et al., 2019), even as the Government is under pressure to reduce spending to contain ballooning deficits (see Figure 15). Although public investment in Kenya may eventually be impacted by the current high level of public debt service, as of this writing, the Government of Kenya continued to finance new public infrastructure projects.

The Government rapidly expanded its borrowing and spending over the past decade to fund an ambitious program of infrastructure development. The Government's borrowing increased the public debt from about 32 percent of GDP in 2013 to more than 62 percent of GDP today. International development partners provided a sizable portion of that funding, with concessional loans that have averaged $2.0 billion per year. Patterns changed dramatically over the course of the decade, however, with concessional lending falling from a high of 90 percent of the country's borrowing mix to only 67 percent today.

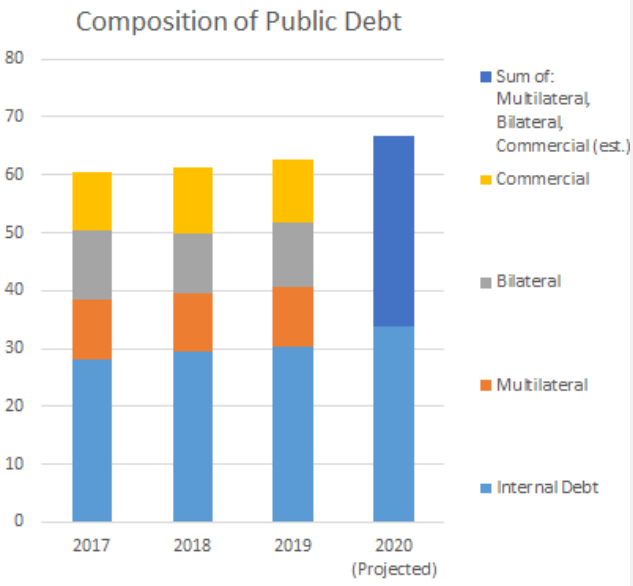
FIGURE 15A: Growth in domestic credit to the private and public sectors in Kenya. Following a financial crisis in 2015–2016, private credit growth has been stagnant even as public credit continues to grow robustly



Source: Dalberg, 2020a

7 Nevertheless, in its most recent Public Investment Management Assessment, the International Monetary Fund found that the Government had not subjected many of these projects to cost-benefit analysis or competitive tendering, prompting calls for more transparency, stronger debt management, and enhanced efficiency in public investment.

FIGURE 15B: The composition of public debt for Kenya. Domestic debt has risen faster in recent years than external debt despite robust growth in the latter



Source: IMF, 2020

Two other sources have filled the gap. Kenya has substantially increased its borrowing from bilateral development assistance organizations. Although most bilateral organizations offer concessional loans, nearly three-quarters of Kenya's bilateral borrowing comes from those that offer loans at close to commercial rates, including the Export-Import Bank of China (China Exim Bank). In addition, Kenya has borrowed directly from domestic and international markets. The Government has repeatedly turned to international bond markets, raising nearly $2.0 billion in foreign currency denominated "Eurobonds" in 2014, $0.75 billion in 2015, $2.0 billion in 2018, and another $2.1 billion in 2019, among other offerings. With each bond offering, the interest rate needed to attract investors has gone up. That reflects the demand for a premium that illustrates Kenya's level of risk as an emerging market, which one close observer now estimates at more than 8.0 percent, on par with most countries in Sub-Saharan Africa but higher than the risk premium associated with many other LMICs (Damodaran, 2015). As a result of these trends, Kenya pays interest on its net external debt at rates that rank among the highest in the world. The country's debt service payments now account for more than one-third of its public sector revenue, or roughly 20 percent of the value of the country's exports, reducing critical spending on public services and creating a substantial burden on the national treasury for decades to come.

On domestic markets, the Government raised some $26 billion through treasury bonds and treasury bills denominated in local currency since 2013. In so doing, the Government consumed a substantial share of the available local funds. Local funds are in chronically short supply, given Kenya's extremely low rate of domestic savings, which averages only 4.5 percent of GDP, one-fifth of the world average and one of the very lowest levels in Sub-Saharan Africa. Kenya's domestic banks compete fiercely to attract those funds, offering rates on local currency deposits that averaged 8.3 percent (or about 2.9 percent above inflation) in 2018, well above rates observed in comparable countries.

Under normal circumstances, high interest rates on deposits put upward pressure on lending rates, thereby raising the costs that private enterprises pay to borrow funds. Indeed, lending rates began to rise as early as 2015, when banks increased their reference rate to nearly 10 percent, pushing lending rates to nearly 20 percent. But a run on bank deposits triggered a local banking crisis the following year, leading to a drop of roughly 10 percent in deposits at local banks. In response to the crisis, the Government capped the spread between a benchmark interest rate and the lending rates that banks could charge their borrowers. No longer able to increase lending rates, domestic banks saw margins squeezed so tightly that they no longer covered typical risks. As a result, domestic banks adjusted their portfolios to reduce their exposure to a range of borrowers with higher risks. Many stopped lending to first-time borrowers and new customers, and some curtailed lending in industrial sectors they believed to be exposed, volatile, or risky. While lending for real estate and international trade continued, lending to business services plummeted, and lending to manufacturing effectively dried up, acutely impacting small businesses. One report estimated that, between 2016 and 2019, the value of loans denied to promising MSMEs may

have reached $2.97 billion. The reduction in lending may have further skewed gender outcomes, with gender bias pervasive in the banking sector and women only one-third as likely as men to secure bank loans, despite their greater reliance on work with MSMEs.

In place of lending to private enterprises, domestic banks lent more and more of their local funds to the Government, which offered stability, clear payment terms and guaranteed income. As a result, lending from domestic banks to the Government increased rapidly, registering a compound annual growth rate of 17 percent between 2010 and 2018. That rate far outstripped the growth in lending to the private sector, which slowed in 2016 and increased at a much more modest average rate of 4.0 percent thereafter (and declined to a low of 3.0 percent in 2019). After 2016, lending to the private sector tended to grow as the benchmark interest rate rose (Dalberg, 2020a), pushing up the lending rates that banks could charge. That result inverts the typical relationship, in which the higher cost to customers would typically reduce their borrowing. It suggests that the number of "bankable" projects exceeded the available financing because the domestic banks were rationing their lending to the private sector.

Taken together, these trends suggest that a relatively healthy, albeit risk-averse, banking sector is channeling marginal savings to finance the public sector's growing debt. Lending to the Government has had distortionary effects, effectively "crowding out" financing to the private sector. Although the Government relaxed the cap on interest rates at the end of 2019, the impact of global spread of the novel coronavirus is likely to reinforce this trend, as ongoing uncertainty encourages banks to mitigate risks by investing in government securities or hoarding cash.

Women may be disproportionately impacted by barriers to accessing formal finance. The Central Bank of Kenya estimated in 2019 that men are three times more likely than women to secure formal loans (Hyun, Okolo, and Munene, 2020). Among sole proprietors, more than half of males relied on commercial bank credit, compared to less than a third of females. Females instead rely more heavily than men on microfinance, SACCOs, ROSCAs and self-help groups.[8] Unfortunately, these sources rarely offer lines of credit that enable business growth beyond the micro-level.

It is worth acknowledging that the Government's high levels of borrowing and spending have enabled substantial investment in critical infrastructure, particularly in power, ports, roads and railroads. These investments help explain the reasons that Kenya's international and intercity trade and transport appear not to constrain economic growth. However, there is evidence that public investment in other forms of infrastructure may not have continued apace. In particular, investment in urban areas such as the Nairobi metropolitan region seems to have fallen short, exacerbating problems with traffic congestion, unsafe water, inadequate sanitation, and unplanned, informal settlements, or slums, in which nearly six in ten residents live. Underinvestment in public infrastructure and services may undermine critical elements of the strategy needed to increase economic growth, improve social outcomes, and reduce inequalities between the rich and poor. In addition, over time, high levels of public spending and debt service will require increases in public revenue, largely in the form of taxes. Although Kenya's tax revenue is in line with international benchmarks, it relies heavily on business taxes. Kenya's tax on business profits is among the highest in the world, averaging around 30 percent in 2018 (although, effective tax rates are lower). Kenya's high tax rates may constrain the formation and growth of young enterprises in emerging sectors, and they may create a disincentive for small firms to register and compete in the formal economy, as they do in many countries, providing a potential explanation for Kenya's declining share of wage employment.

Limited Connectivity That Undermines Productivity in Urban Areas, the Engines of Kenya's Economy

Kenya's cities—especially Nairobi, the focus of this analysis—are among the most expensive and congested cities in the world given Kenya's overall state of development.

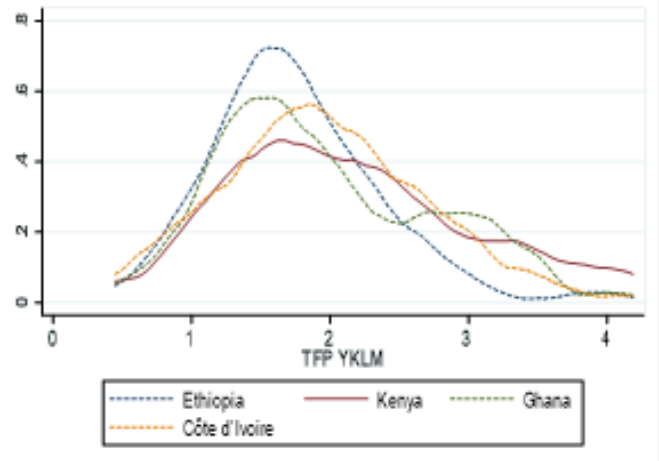
8 Data from Kenya National Bureau of Statistics (2016).

In fact, congestion and land values in Nairobi are comparable to major cities in developed countries, a condition that signals the existence of an urban planning challenge. The result is expensive transport costs that increase the cost of doing business and time-consuming commutes that reduce the connectivity of workers and firms to opportunities. These costs are indicative of an economy that is struggling with a structural transformation away from agriculture to fully urbanize.

The core objective of Kenya's 2030 Vision—transformation from an agricultural economy into a modern manufacturing power—is predicated on a strong and thriving manufacturing sector. However, Kenya's growth is instead fueled by both the agricultural and service sectors against a manufacturing sector in relative decline. Kenya's manufacturing sector is dominated by producers of food products, consumer goods and textiles. Most manufacturing activities are in the Nairobi metropolitan region, which accounts for less than 20 percent of the country's population but more than 70 percent of its manufacturing activity.[9] Locating in the metropolitan region allows these firms access to workers, business support services, and a large concentration of customers who purchase and consume most of the manufactured goods that are locally produced. Nairobi also facilitates international trade with its large airport and its fast, efficient roads to neighboring countries, and rail links to maritime ports. These links allow manufacturing firms to source inputs that the local market does not produce and enable nearly three in ten manufacturing firms in Nairobi to export some of their production.

In a typical urban environment, proximity among manufacturing firms intensifies their competitiveness. As poorly managed firms falter, productivity tends to rise and converge at the levels of the most successful firms. The increase in productivity associated with urbanization can be quite substantial, with one study concluding that a doubling in city size created productivity gains of 4 to 5 percent (Venables, 2015). Nairobi, however, appears to offer an exception. Its manufacturing firms reflect an unusually broad spread in levels of productivity, in which a handful of leading manufacturers continue to coexist

FIGURE 16: Total factor productivity of firms in Kenya is relatively more uneven than its comparators



Source: Author's calculations, from World Bank Enterprise Data, 2018a

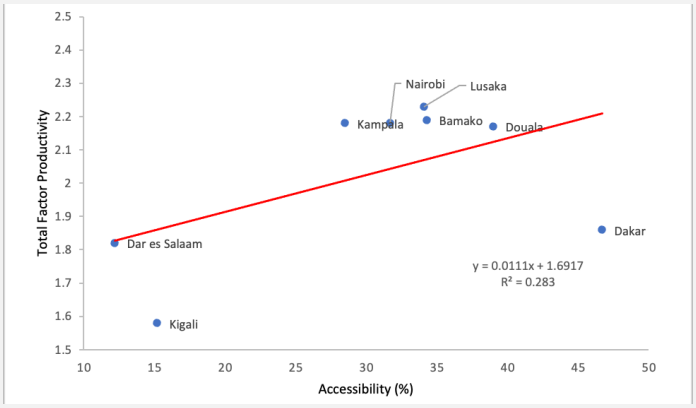
with many less productive firms. This spread is 3.5 times wider than that in Ghana and 11 times wider than that in Cote d'Ivoire (see Figure 16).

Public policies, access to finance, and the quality of available inputs may drive some of the productivity spread in Kenya. But Cirera et al. (2020) suggests that these account for only a modest share of the overall results. What else, then, might account for such friction? MCC's analysis finds high levels of correlation between TFP among manufacturing firms and measures of urban fragmentation. Figure 17 shows that an urban accessibility constraint can explain as much as 28.3 percent of TFP variation across selected African cities.

Indeed, other studies found that Nairobi ranks among the most fragmented cities in the world, with low levels of capital investment giving rise to poor connections between housing, commercial opportunities, and industrial zones (Lall et al., 2017). To date, investment in Nairobi has been heavily focused on the center of the city, where offices of the municipal and national governments provide a substantial share of the city's high paying, formal sector jobs. The World Bank estimates that the square kilometer at the center of the city contains more than 20 percent of the city's total public and private investment in

9 Nairobi (City) County and portions of the surrounding counties of Kajiado, Kiambu, Machakos and Murang'a control 45 percent of Kenya's GDP and 73 percent of manufacturing value added, according to the Kenya National Bureau of Statistics (2018).

FIGURE 17: A comparison of productivity and urban accessibility in select Africa cities[10]



Source: World Bank Enterprise Data and Peralta-Quiros, Kerzhner, and Avner, 2019

building stock, although it represents only 0.1 percent of the city's land area. In other parts of the city, planning is hampered by expansion of the city's boundaries, changes in the legal and political status of the city, and lack of coordination between municipal and national authorities, along with a persistent lack of funding to support local development plans.

Overall, the lack of planning and investment has given rise to disconnected pockets of haphazard development that radiate out from the city center along the city's hub-and-spoke network of main roads. Partly as a result, one-fifth of the land beyond the city center is occupied by informal settlements with virtually no planning at all. According to the World Bank (Kenya Urbanization Review, 2016) this pattern of development has kept cities like Nairobi inefficient and less productive than they should be. Residential density bears little relationship to the placement of commercial centers and industrial zones. As people move long distances from homes to markets and jobs, and goods move long distances from factories to warehouses to retail shops, they clog the city's poorly planned roads and create severe congestion. In 2011, a survey of 20 major cities labeled the experience of commuters in Nairobi the fourth most "painful" in the world, behind only Mexico City, Mexico; Beijing; and Shenzhen, China; each containing more than four to five times more people than Nairobi. By 2016, the World Bank estimated that crippling congestion in Nairobi had brought average commuting speeds to only 8.7 or 8.3 miles per hour (mph) for private cars and the informal public bus ("matatu") system, respectively.[11]

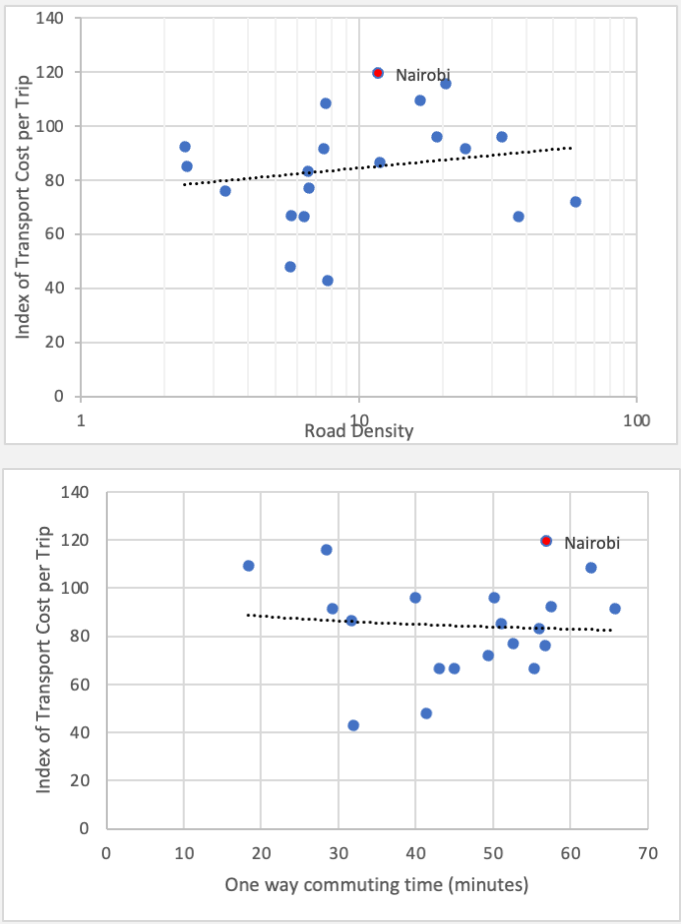
In a comparison of transportation costs in 20 cities located in LMICs around the world, Nairobi's high transport costs are a negative outlier, whether indexed against the density of the urban road network or the average time required for a one-way commute (see Figure 18). The value of the productive time lost to travel may be about $4 million per workday (Kenya Urbanization Review, 2016). For businesses, the result is a fragmentation of the metropolitan region into relatively small zones that can be accessed in reasonable time and at reasonable cost. Among manufacturing firms such fragmentation may impact relationships with suppliers in ways consistent with their complaints that local suppliers had grown so small and unreliable as to drive up costs and threaten the quality of final products (Dalberg, 2020b).

Congestion also reduces connections between workers and economic opportunities. With limited road coverage and crippling traffic, a worker with access to his or her own car can reach 31 percent of the work locations around the city within 30 minutes, 58 percent of the work locations within 45 minutes, and 77 percent of the work locations within 60 minutes. However, few workers have private cars, and less than 10 percent of commuting trips are made by private car. A worker reliant on the system of matatus for transportation can generally reach only 4 percent of work locations within 30 minutes, only 10 percent within 45 minutes, and only 20 percent within 60 minutes. Partly as a result, more than 40 percent of the city's residents commute by walking, thus limiting their access to economic opportunities even further. These measures of access to jobs are significantly below similar measures in many other cities in Africa (Avner and Lall, 2016).

10 Accessibility is defined as the percentage of estimated employment opportunities throughout the city accessible by the average individual within 60 minutes.

11 Traffic congestion has also helped raise air pollution to levels that, as early as 2011, specialists from the U.S. Department of Health and Human Services concluded "raise concern with regard to public health" (Kinney et al., 2011).

FIGURE 18: (top) Transport costs in Nairobi are high, even when controlling for road density, relative to other LMIC countries. (bottom) Transport costs and commuting time are both high for Kenya



Source: Nakamura et al., 2020, and Author's calculations from Numbeo Online

Improving the traffic speed can have important implications on firms and household expenditures. A study conducted by The World Bank in 2016 found that increasing average commuting speeds from the average recorded 13.5 kilometers per hour (kph) to 20 kph would save $54.1 million per year and decrease time spent traveling by 30 percent. Increasing average travel speeds to 30 kph would save $93.4 million per year and decrease time spent traveling by 54 percent (Kenya Urbanization Review, 2016).

Workers have developed various ways to circumvent and/or mitigate the impacts of the limited connectivity issues. Many prefer to live in substandard housing if it keeps them close to jobs and economic opportunities, whether in the city center or in the city's sprawling commercial and industrial zones. (It is estimated that 50 percent of Nairobians live in informal settlements.) For example, Gulyani et al. (2010) show that residents of Nairobi's slums are willing to accept significantly worse living conditions than in Dakar or Johannesburg in order to access job opportunities, despite being better educated. Their choice to reside in urban slums, then, reflects the lack of appropriate housing with proximity to jobs and suggests that they place a premium on accessibility.[12] Such preferences may explain the persistence of dense, unplanned, informal settlements throughout the city. These include such notable locations as Kibera, often described as the second largest slum in the world. Because they are densely packed with low-rise homes and shops and few accessible roads, slums contribute to the low density of urban road networks and the congestion that impedes economic activity. Commercial trucks operate at night in part to avoid the high fuel costs associated by idling in traffic during daytime operations.

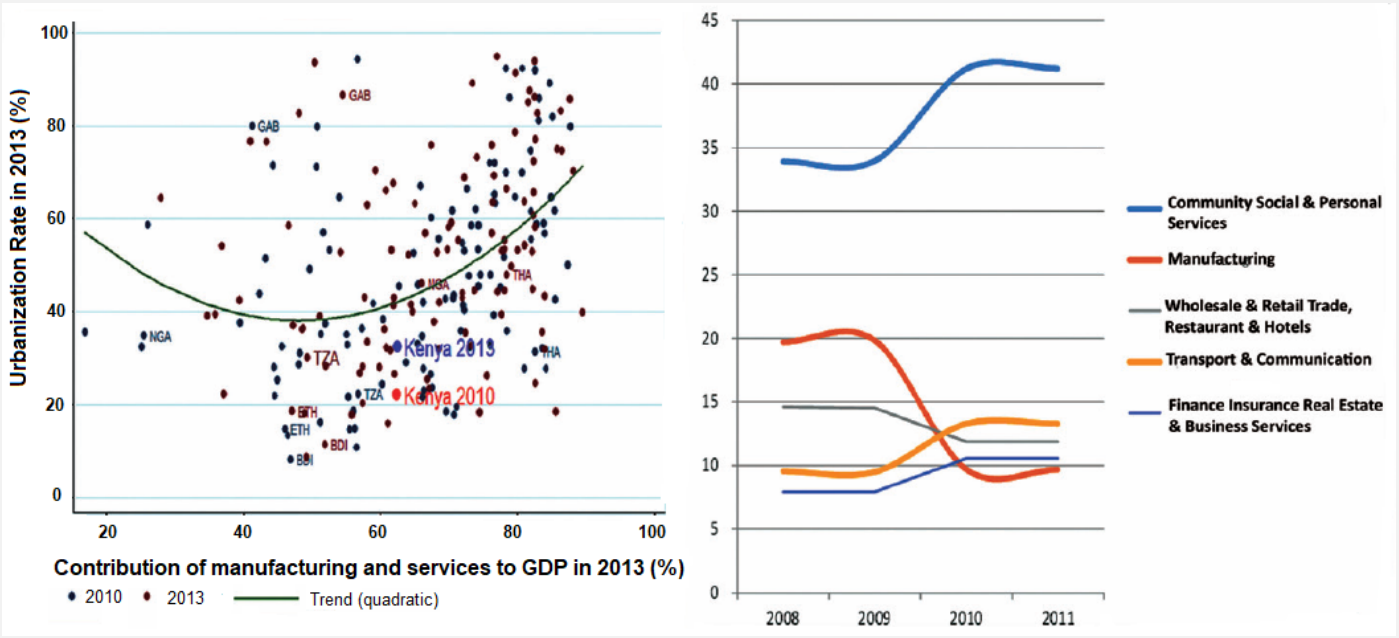
Living conditions in Nairobi's slums are quite poor, and economic opportunities for residents are limited, especially for women. In a survey in Nairobi's informal districts, 55 percent of women suffered an injury or illness directly as a result of unpaid care labor, especially head loading water and fuel. Of this latter group, 8.3 percent experienced long-term effects that reduced their ability to work, and 22.8 percent experienced long-term effects that prevented them from working altogether (OXFAM, 2019).

As noted previously, the manufacturing sector, which thrives best in urban areas due to its need to attract qualified workers, being closer to other manufacturing and being closer to markets—is declining. This decline is happening even as the agricultural and service sectors, which do not need the added advantage of urban agglomeration, are thriving.

The correlation between urbanization and manufacturing as a share of GDP shows that Kenya's performance is below predicted levels, with its trend line below the

12 See also (Gulyani and Talukdar, 2010).

FIGURE 19: Kenya's urbanization has historically been driven by services rather than industry



Source: World Bank, 2016

global trend line (see Figure 19, left panel). The share of the urban population increased between 2010 and 2013, but the share in GDP of industry and services remained stable at 60 percent. Earnings in Kenyan cities are driven by community and personal services, contributing about 40 percent. The share of earnings from industry declined from 20 percent in 2008 to just under 10 percent in recent years. The share of earnings from transport and communication is now larger than industry (see Figure 19, right panel).

Taken together, these issues of poor planning, traffic and congestion, and high transport costs undermine connectivity and fragment the Nairobi metropolitan region. This fragmentation, in turn, may generate the "friction" that limits productivity among manufacturing firms in Nairobi and may partially explain why the manufacturing sector's value addition is in steep decline. This may also explain why Kenya's economic growth failed to create more formal and productive jobs (see Figure 10 in Section I).

Women face substantial barriers to access in transport. Over half of women experience gender-based violence (GBV)[13] in public transportation in Kenya, including substantial sexual harassment.[14] This is especially problematic as women are more sensitive to the physical accessibility of jobs (Pape and Mejia-Mantilla, 2018), and because women are less likely to have private vehicles than men. Safety barriers likely increase the costs and time burden of transport for women by diverting them to alternate (safer) routes, and effectively limit women's labor market opportunities. Furthermore, MCC's analysis revealed that limited transport connectivity exacerbates existing gender inequality, as it revealed that females who are unable to commute at least 5 km each way daily receive lower wages, even as commuting time does not affect men's wages. Responsible for shopping and caregiving, women often need to maintain proximity to home, leaving them less time to travel to and from work. Few women have private vehicles and are thus more reliant on public transportation, which is less reliable and slower, further limiting access to economic opportunities.

13 Based on a Women's Empowerment Link Survey of almost 400 women, in 2015, which found that 54 percent of respondents experienced harassment on public transportation. The location of the study was not identified.

14 See Walufa (2018) and (2019). This research is also included in Kamau and Wright (2022).

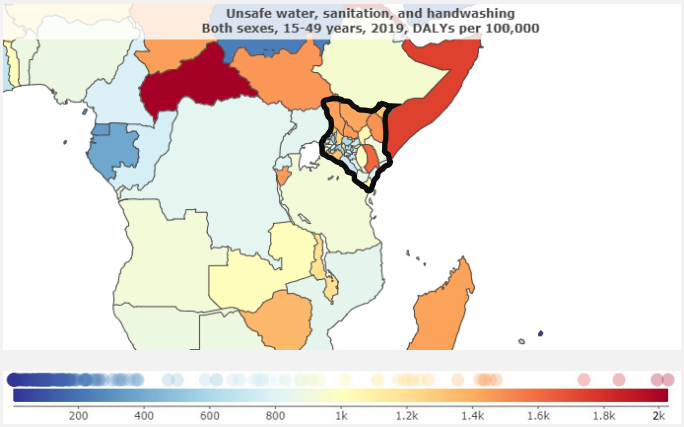
Although this analysis focused on the Nairobi metropolitan area, where the bulk of Kenya's manufacturing capacity is currently located, we cannot rule out similar patterns for Kenya's other major cities due to a lack of data.

Non-Binding and Near-Binding Constraints

Unsafe Water and Sanitation

Kenya is a significant outlier when compared to other countries in access to safe water supplies and proper sanitation. Coverage of water, sanitation and hygiene (WASH) services is poor throughout the country. UNICEF reports that 9.4 million people in Kenya access their drinking water directly from contaminated water sources, the third largest number among countries in Sub-Saharan Africa,[15] with significant impacts on public health. In 2016, Kenya had the highest rate of mortality attributed to unsafe WASH facilities among its comparators, and among the worst outliers on this metric among the group of LMICs. Figure 20 shows that, in many counties of rural Kenya, the burden of WASH-related disease is comparable to much poorer countries such as South Sudan and Madagascar.

FIGURE 20: The impact, measured in Disability-Adjusted Life-Years ("DALYs"), of unsafe WASH-related health problems on the prime working-age population in Kenya



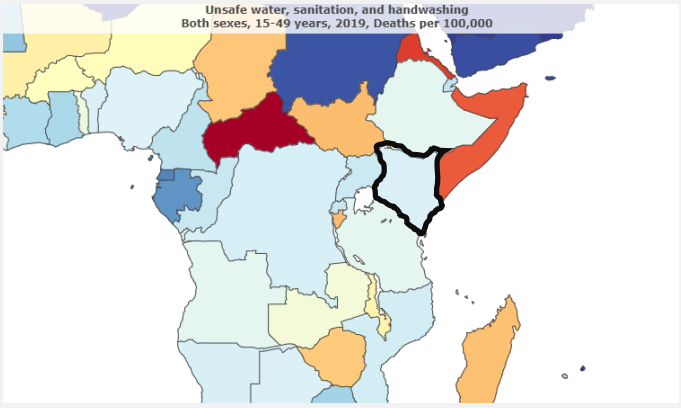
Source: The Lancet, Global Burden of Disease Study, 2019

Although urban areas generally perform better than rural areas, the WASH conditions in Nairobi suffer significant limitations. The current water supply system was designed to meet the city's needs more than 20 years ago and currently falls nearly 25 percent short of demand, leading to rationing in the water distribution system. Limited investments in water distribution have dramatically reduced the share of residents with access to piped water or an improved water source from a high of nine in ten residents in 1990 to levels around eight in ten residents or fewer now. Meanwhile, fewer than three in ten residents in the city's informal settlements had such piped connections. A survey in one of Nairobi's largest slums, Mathare, found that, on average, each public water tap is shared by 108 households (APHRC, 2014). With intermittent supplies, distribution pipes laid at shallow depths throughout the city's informal settlements can pull contaminants from the surrounding soil into the water, which informal water sellers may then store in unclean tanks before selling at water distribution points. As in rural areas, women bear the disproportionate impact of limited access to water supplies, as time required for water collection limits their ability to participate in economic activities and reduces their productivity. In urban areas, women are responsible for 71.3 percent of water collection. For many women, collecting water adds 30 minutes or more to their daily responsibilities, and more than half of women reported that they have suffered an injury or illness as a result of water collection. Surveys indicate that access to safe water supplies ranks among their biggest concerns (Corburn and Hildebrand, 2015).

Basic sanitation among Kenya's urban population is also a concern. In international comparisons, Kenya's urban population has the lowest rate of access to basic sanitation relative to its comparators, and the country performs poorly compared to the rest of the world, regardless of income level. The survey of Nairobi's Mathare slum found that the average toilet was shared by 85 households. Nearly nine in ten households did not have access to solid waste collection, so most disposed wastewater into the streets, where it drained into local rivers (Corburn and

15 UNICEF. (N.D.). Water, Sanitation and Hygiene. "Improving Water, Sanitation and Hygiene in Kenya." https://www.unicef.org/kenya/water-sanitation-and-hygiene

FIGURE 21: Deaths resulting from unsafe WASH-related health issues in SSA among the prime-age working population is in line with regional comparators



Source: The Lancet, Global Burden of Disease Study, 2019

Hildebrand, 2015). Among women in Nairobi's informal settlements, the top health concerns were poor drainage (at 33.7 percent) and toilets (at 26.7 percent) (APHRC, 2014).

Given limited rates of access to sanitation, the prevalence of such water-borne diseases as cholera, typhoid, amoeba infection and diarrhea is not entirely surprising (WHO, 2014). According to UNICEF, half of all hospital visits in Kenya are related to water-borne diseases and lack of sanitation. In urban areas, nearly three-quarters of childhood disease arises from environmental conditions that include low water quality and poor sanitation. In Nairobi's informal settlements, the incidence of diarrhea among young children is nearly three times higher than in other parts of the city. In fact, diarrhea is the second leading cause of death among children and in 2010 was the fifth leading cause of death overall (UNICEF, 2017). Given the responsibilities that women often bear for taking care of sick family members, these high rates of water-borne diseases only heighten the obstacles to women's participation in economic activities.

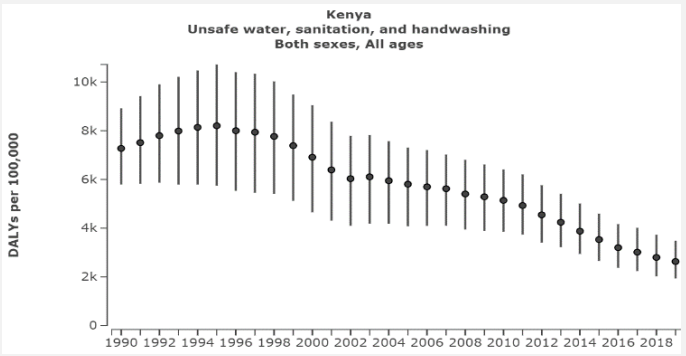
On the other hand, while these data suggest that WASH-related health impacts are significant in Kenya relative to its income group, Kenya is in line with the Sub-Saharan Africa region (see Figure 21). For example, Tanzania, Kenya's regional peer, has a similar per capita income level and worse rates of DALYs and deaths resulting from unsafe water and sanitation services. Moreover, despite Kenya's severe challenges on this dimension, Figure 22 shows how Kenya has nevertheless improved drastically on this measure since 1995, a period that precedes Kenya's current steady growth regime. While this evidence could suggest that relieving a WASH-related health constraint led to a period of stable growth for Kenya, it also suggests that the problem is unlikely to be limiting growth in Kenya currently.

The balance of evidence therefore suggests that unsafe water and poor sanitary conditions have significant impacts on the health and well-being of Kenyans, albeit not to the extent that these impacts reduce Kenya's growth. While this remains an important challenge for Kenya going forward, unsafe WASH is not currently a binding constraint on Kenya's growth.

Barriers to International Trade

Kenya invested heavily to improve its trade infrastructure. Starting in 2012, the Government initiated a series of investments totaling $5.6 billion that modernized its primary rail line between the port of Mombasa and Nairobi (and further west to the inland international dry container port at Naivasha). In 2017, it announced the completion of a long-planned expansion of Nairobi's Jomo Kenyatta International Airport, which tripled passenger capacity, making it the world's second fastest growing airport for cargo shipments. In 2018, the Government announced plans to rehabilitate berths, add a terminal, and expand oil handling facilities in a $3.0

FIGURE 22: The trend of WASH-related health impacts has improved significantly in Kenya over the last several decades



Source: The Lancet, Global Burden of Disease Study, 2019

billion upgrade of Mombasa's maritime port facilities and to develop a greenfield, deep-water port at Lamu. These investments support direct shipping from ports in Asia and have already boosted port traffic to 1.4 million twenty-foot equivalent units (TEUs), making Mombasa the third busiest port in East Africa and the fifth busiest in Africa overall. With the upgrades, the maritime port is now in position to make better use of the new railway, which can deliver cargo to Nairobi in less than 24 hours.

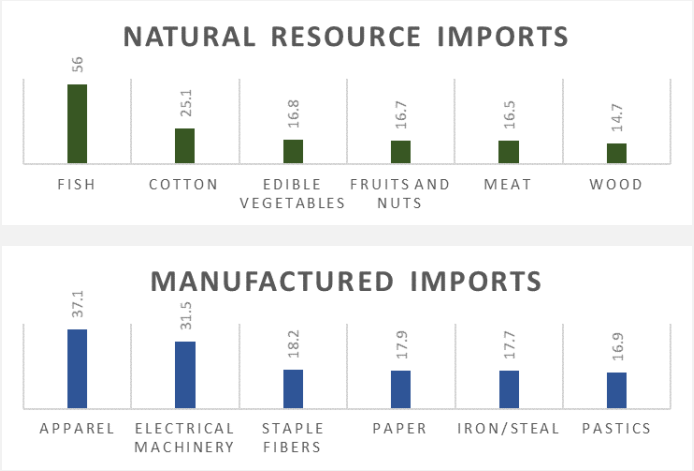
Despite these improvements in infrastructure, Kenya's performance on international trade benchmarks remains somewhat mixed. The World Bank ranks Kenya among the five best low-income countries (LICs) and LMICs covered in its Logistics Performance Index (2020), giving it relatively high marks in the quality of its port infrastructure, the ease of arranging competitively priced shipping, and other factors. Supporting this ranking, Kenya appears as a positive outlier in international comparisons of border compliance for exports, suggesting that its trade infrastructure and institutions work well to get products for export out to international markets.

In contrast, the Liner Shipping Connectivity Index that the United Nations Trade and Development Agency (UNCTAD) publishes each year showed a 20 percent decline in its scores for Mombasa in 2019, reflecting delays in the clearance of imported cargo and assignment of special cargo tracking seals, as well as rising storage costs. For similar reasons, Container Magazine ranked Mombasa only 114 out of the 120 large ports in its annual survey. Reflecting these issues, Kenya's manufacturers complained during consultations that access to imported inputs and export services constrain their ability to grow.[16] In fact, Kenya does especially poorly in international comparisons of border compliance for imports, suggesting that its trade infrastructure, institutions, and policies perform poorly in getting imported goods to manufacturers, wholesalers and final markets.

Kenya's import duties may exacerbate this trend. Since 2010, Kenya applied the common external tariff (CET) adopted by the revived EAC, of which Kenya, Rwanda, Tanzania, and Uganda are members. The CET eliminates duties in trade between the member countries but sets duties of 0 percent on raw materials and inputs, 10 percent on processed or manufactured inputs, and 25 percent on finished products sourced from outside the EAC. However, the CET allows exceptional ad valorem tariffs on a range of sensitive products. Kenya made use of this provision to impose tariffs of 50 percent or more on a range of agricultural and food products, including rice, wheat and corn flour, milk and milk products, maize, and wheat. Partly as a result, Kenya's CET rates appear high in international comparisons (see Figure 23).

Many developing countries use external tariffs to generate revenue, as with any other business tax. However, this does not appear to be the case for Kenya, for which customs and import duties make up a relatively modest share of revenue, compared to expectations. This suggests that Kenya's tariffs are driven less by revenue concerns than by a strategy of import substitution, particularly for food and food products.

FIGURE 23: Weighted average (ad valorem) tariff rates in Kenya for the six highest taxed (manufactured or natural resource) imports. Note that among the highest taxed manufactured products are numerous intermediate goods (i.e., paper, steal, etc.)



Source: WTO 2020

16 Such complaints may reflect a variety of underlying issues for businesses attempting to source raw materials. These issues were particularly common among producers that rely more intensively on imports, in particular respondents in personal care products and furniture industries raised the issue of sourcing imported inputs.

Given the somewhat weak, mixed evidence that import barriers might hamper growth in Kenya, MCC sought to identify other indicators that might point to a particularly burdensome protectionist stance in Kenya, especially for non-tariff measures for which data is sparser and more qualitative. In general, MCC found that Kenya's non-tariff barriers to trade were roughly in line with its neighbors in EAC, although the various members of the EAC were likely, as a group, more protectionist than the world average. For example, Kenya does relatively poorly with respect to "conformity assessment," with 37 percent of importers finding Kenya's regulations in this area to be "burdensome" (Data from the ITC NTM Business Survey in Kenya, 2011). However, in the same survey, Kenyan exporters also found conformity assessment to be more burdensome for exports within the EAC than for any other region.

This evidence suggests that restrictions on international trade have an impact on private business, although the evidence is far from conclusive that such trade barriers impact economic growth. While some evidence suggests that Kenya may have some protectionist policies, protectionist measures are common among its peers in the EAC. Since Kenya has focused so much on devel- oping infrastructure for improved regional connectivity, Kenya may be able to help address these trade issues (ITC Survey of Kenya, 2014, p. 81)

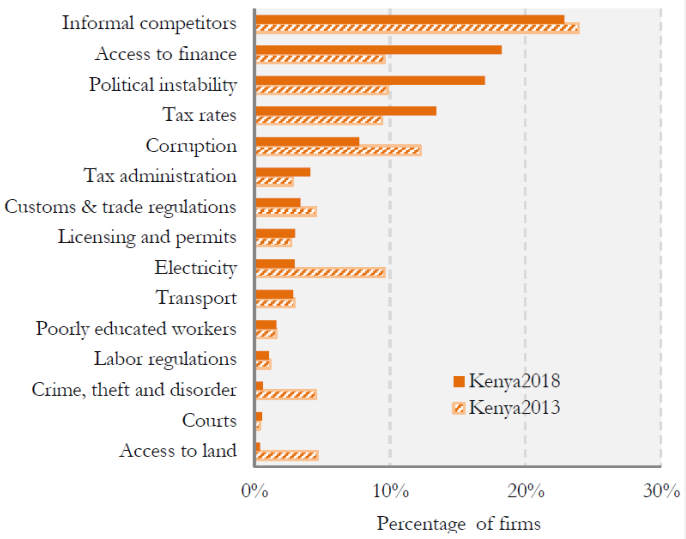
Other Considerations

Impacts of Informal Economic Activity

Informal enterprises represent 95 percent of all businesses in the country and, in many ways, provide a critical path to economic participation. Despite positive impacts for Kenya's poor, these formal activities may hamper the growth of the formal sector and slow Kenya's transition to a modern manufacturing economy as escribed in the Kenya Vision 2030.

Starting an informal enterprise is one of the most common ways in which economically marginalized groups, including women and unemployed youth, can earn income. Beyond the proprietors, informal enterprises also employ a substantial share of the country's workers. In 2018, informal enterprises added 762,100 jobs, more than 90 percent of the new jobs created in Kenya's economy. More than two-thirds of these jobs were in hotels, restaurants and trade, where informal employment is associated with significant reductions of poverty.

FIGURE 24: Obstacles faced by Kenyan firms in 2013 and 2018



Source: The World Bank, WES Report, 2018

At the same time, however, informal enterprises create certain negative impacts on the registered, formal firms that offer the highest paying jobs and lead the economy in investment, exports, innovation, and the accumulation of know how through research and development. Compared to registered, formal firms, informal enterprises enjoy much lower costs, as they generally pay no taxes, avoid other fees, and skirt regulations. Although informal enterprises often target the poorer, more marginal customer segments that the registered, formal firms ignore, they compete for raw materials and inputs, and they put strain on public goods such as roads for which they effectively pay no taxes to support (La Porta and Shleifer, 2014).

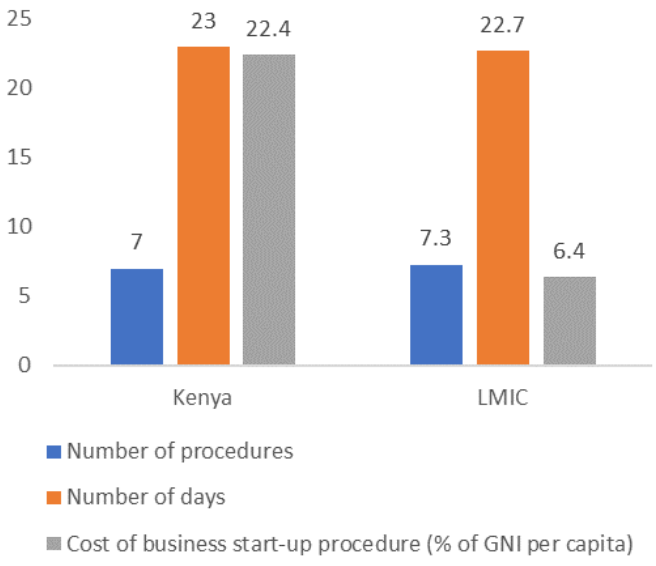
Firms also deplore the negative impact that informal activities are having on them. In 2013, 24 percent of business owners and managers cited competition with informal enterprises as their leading concern, making it the most pressing issue recorded, ahead of access to finance, taxation, regulation, access to critical inputs such as electricity and land, and the quality of workers. While

the ensuing years changed the perception among business owners and managers on other issues, their concerns about competition with informal enterprises remained unchanged in 2018, when it ranked as the most pressing issue recorded once again (see Figure 24). Overall, 68 percent of Kenya's private enterprises report that their operations are constrained at some level by competition with informal firms. This statistic far exceeds the concerns that registered, formal firms express in other LMICs, where the average is 12 percentage points lower.

As in other comparable countries, informal enterprises in Kenya indicate that the costs associated with registering a new business and concerns about high business taxes are the most significant issues that discourage them from registering and joining the formal economy. Comparisons suggest that informal enterprises have a valid basis for these concerns. Across LMICs, the average time associated with registering a business is 22 days, and the associated costs account for 6.4 percent of the average income, as registered by the per capita level of gross national income (GNI) (see Figure 25). In Nairobi, registration takes an average of 32 days, and the timeline is even longer in Mombasa (37 days) and Nakuru (38 days); and the associated costs reach 22.4 percent of the per capita levels of Kenya's GNI. Moreover, Kenya's business tax rates act as a further disincentive and were identified by more than half the enterprises that Dalberg interviewed in high potential growth industries as either a severe or a very severe obstacle.

These problems have important impacts on women, who are more likely than men to work in the informal sector. Some workplaces and employers hold discriminatory gender stereotypes that result in sexual and gender harassment, inequitable opportunities in hiring and promotions, and pay gaps. This in turn limits women's ability and desire to find and advance in paid employment. A 2017 World Bank STEP survey of more than 500 urban, formal sector employers, showed that those who opted to rank the importance of personal characteristics in recruitment, 60 percent stated a preference for hiring males (Puerta et al., 2018). Important factors limiting performance among 42 female managers at three universities included gender stereotypes, gender bias, and sexual harassment, listed by 41 percent, 51.2 percent, and 43.6 percent of respondents, respectively (Ngure et al., 2016).

FIGURE 25: Cost of registering a firm in Kenya and LMIC



Source: World Bank Doing Business Report, 2018

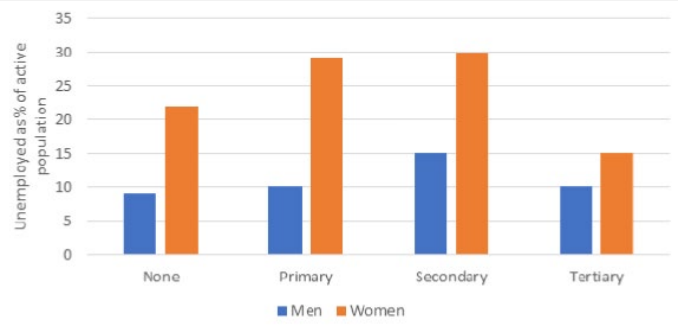
Limited access to infrastructure and technology also increases women's time poverty and reduces their economic participation. One result is a gender wage gap of 41 percent in informal and home-based work, nearly twice as high as the wage gap in formal employment. Female sole entrepreneurs have less access than male sole entrepreneurs to piped water connections and electricity connections.[17] One study of firms across 128 countries identified "protection from crime and power outages" as one of three main contributors to the productivity gap between male and female managed firms (Islam et al., 2020). To understand the gender gaps in productivity of informal firms, Agwaya and Mairura (2019)[18] find that lower productivity in female-owned firms is primarily due to inequitable access to differences in endowments and technology available to the two groups, suggesting that these inequities are deeply embedded in the Kenyan context.

17 MCC's calculations. Data from Kenya National Bureau of Statistics (2016).

18 Based on data from Kenya National Bureau of Statistics (2016).

Females are also more heavily impacted by regulatory barriers, which can limit their willingness and ability to fulfill the requirements of business formalization or business administration. According to the World Bank's Enterprise Survey of Kenya, female-managed formal firms reported spending more time on fulfilling government requirements, meeting with government officials, and obtaining an operating license (World Bank, 2018a). Further, a World Bank study of 250 informal firms in Nairobi and the surrounding area found that the different requirements of formalization were perceived to be more burdensome for female-owned firms than those owned by males (Pape and Mejia-Mantilla, 2018).

FIGURE 26: Unemployment Rates are High for Individuals with Secondary Education



Source: Puerta et al., 2018

Limitations on Women's Participation in the Economy

Kenya's Constitution of 2010 made major gains in gender equality and equity policy, including enshrining the right to equal opportunities in the political, economic, cultural, and social spheres. The 2019 National Policy on Gender and Development (NPGD) additionally created a framework for the Government of Kenya to reduce gender imbalances and inequality by providing guidance to different sectors and agencies, and includes measures to enforce county-government sectoral policies, practices and programs on gender mainstreaming, GBV and gender-responsive budgeting. There is also a State Department for Gender Affairs, within the Ministry of Public Service and Gender.

However, enforcement of these policies and mandates are limited, resulting in substantial barriers to achieving gender equity—with real costs to the Kenyan economy. On average, female unemployment rates are twice as high as those of males, reaching 30 percent for those with primary and secondary education, and 15 percent for university graduates, as illustrated in Figure 26. The traditional role of women as the caregiver and domestic worker to support the functioning of the household affects how they move. Women take more, but shorter trips and make multiple stops along one trip or journey, often related to reproductive work such as getting children to and from school, household tasks like shopping, and caretaking tasks like medical visits with elderly family members or children's after-school activities.

In Kenya today, nearly three-fourths of working-age women participate in the labor force, roughly equivalent to the rate among men. As is the case with men, women enjoy high returns to education in the formal sector, but women are not able to take advantage as they comprise only 35.5 percent of those in wage employment and only 8 percent of those in the formal sector. Family caregiving responsibilities are a major barrier to women's economic outcomes.[19] Women with young children in the household are opting out of formal wage employment to instead engage in lower income, home-based work that limits their economic potential. After controlling for education and household characteristics, an economically active woman is 39 percent less likely to be employed in a formal job compared to a man with similar characteristics. Women who are engaged in informal work at home earn much less than men, irrespective of education and household characteristics.

Women have less access to education, endowments, and inputs than men in Kenya. The Kenya Land Alliance (KLA; 2008) estimates that between 2013 and 2017, women received 10.3 percent of titles, covering only 1.62 percent of land titled. Conversely, men received the remaining shares (KLA, 2018). Further, female sole entrepreneurs compared to male sole entrepreneurs have less direct access to piped water connections (5 percent vs. 8 percent), electricity connections (76 percent vs. 83

19 MCC's calculations from 2015/2016 Kenya Integrated Household Budget Survey (Kenya National Bureau of Statistics, 2018).

percent), dedicated business phone lines (42 percent vs. 47 percent), use of a computer (6 percent vs. 14 percent), and an active business website (2 percent vs. 6 percent) (Agwaya and Mairura, 2019). Among farmers, women are less likely to have land plots, good soil, labor, farm machinery and other inputs, even compared to husbands in the same households (Ndiritu et al., 2014), indicating differences in intra-household allocation of productive resources.

Finally, female education in high-demand fields also lags behind their male counterparts, due to lower training, preparation and gender discriminatory stereotypes. In 2011, only 31 percent of those who received the required Kenya Certificate of Secondary Education grades for university in 2011 were women, limiting women from continuing to tertiary and technical education. This limits women's potential for higher paying employment opportunities. Further, in one survey, 69 percent of female students stated that social and institutional barriers related to the perception that technical fields[20] are masculine discouraged females from enrolling in these subjects. In fact, 56 percent stated that they would have fewer job prospects in STEM, and 58 percent stated that gendered stereotypes about STEM results in lower likelihood of career progression (Mbirianjau, 2016).

Constraints Analysis Heatmap

Using—to the extent possible—publicly available market-based data, academic studies, and consultations MCC's approach follows the approach of Hausmann, Klinger, and Wagner (e.g., the "Mindbook"). Through a series of "four tests" (see below) MCC identifies the most binding constraints to economic growth in Kenya.

Test 1: The social or shadow price of the constraint is high.

Test 2: Changes in the constraint drive changes in growth or investment.

Test 3: Agents in the economy will seek (costly) ways to circumvent the constraint.

Test 4: "Camels and Hippos", i.e., When the constraint is present, only the firms that are adapted to the conditions will survive – just like there are camels, but no hippos, in the desert.

MCC conducted the constraints analysis in two phases. First, as many potential constraints as possible are eliminated from consideration using a deductive approach. In the next stage, MCC follows up on potential constraints: Evidence for a constraint needs to be verified through further testing, while mixed evidence may suggest the need to tweak our understanding of the constraint hypothesis and seek novel tests.

Figure 27 shows how the evidentiary standard was interpreted for each test conducted.

MCC summarizes the result of this process through color-coded "heatmaps". Figure 28 summarizes the results for the constraints analysis using the heatmap developed during the constraints analysis process for each of the sectors considered during the second stage of follow-up testing. Additional sectors were examined but eliminated during the first stage.

FIGURE 27: How each of the Mindbook's "four tests" were interpreted for Kenya. A binding constraint to growth should show a consistent pattern across each test. Hence, strong evidence against the constraint invalidates the hypothesis while evidence against the constraint begs further testing

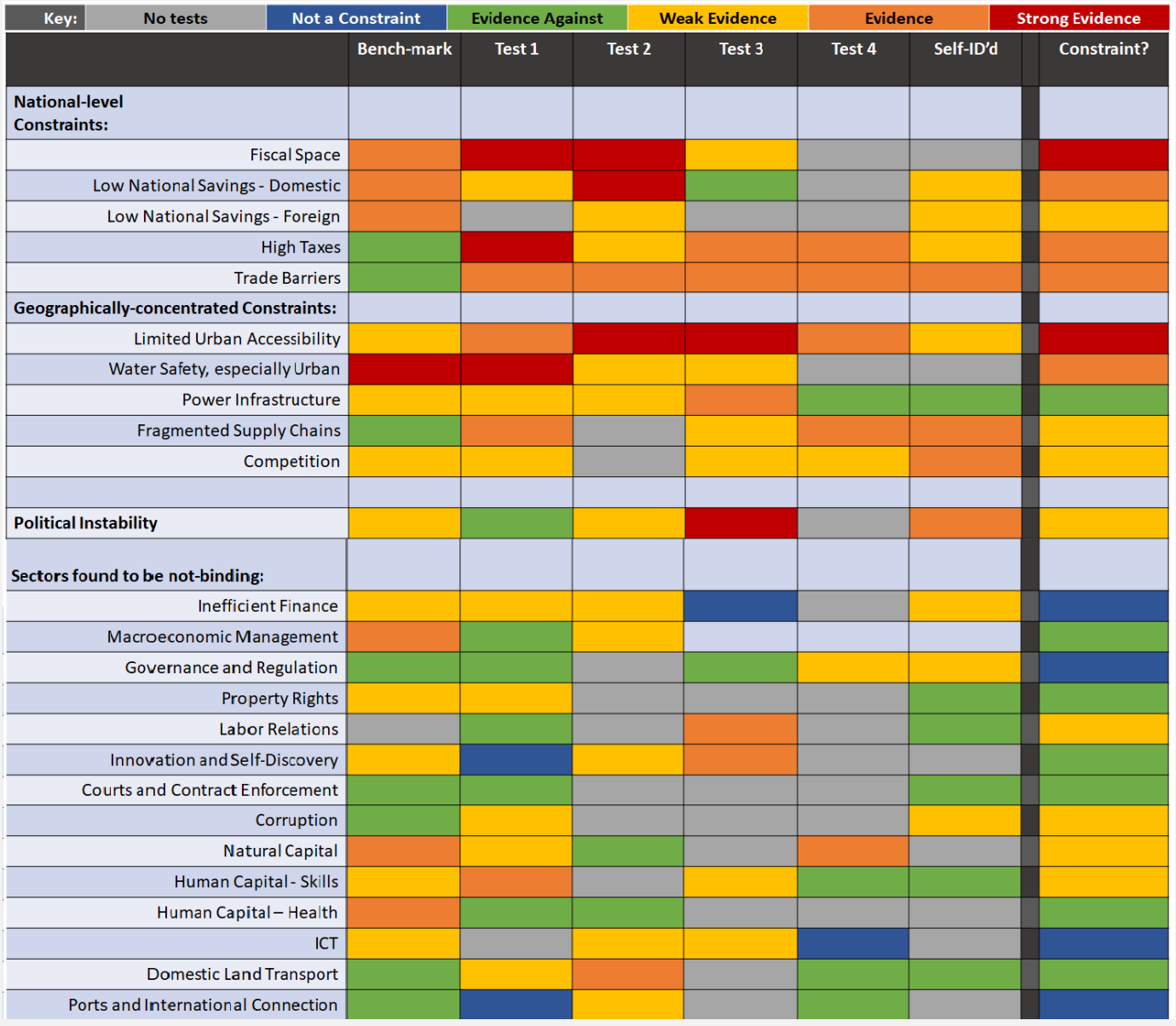
Heatmap			
Color	Meaning	Color	Meaning
	No Evidence for or Against Constraint; or No Test Completed		**Mixed or Weak Evidence**; No test is statistically significant and/or some tests are contradictory
	Strong Evidence Against Constraint; At least one clear and unambiguous test against constraint hypothesis – NB: invalidates the constraint hypothesis		**Ambiguous Evidence**; No test passes significance threshold, but Preponderance of Evidence (multiple test with same "sign") suggests Constraint is likely
	Evidence Against Constraint; At least one test against constraint hypothesis, or Preponderance of Evidence (multiple tests with same "sign") suggests Constraint is unlikely		**Evidence in favor of Constraint**; At least one test shows clear evidence for constraint hypothesis – NB: Does NOT validate constraint hypothesis without further testing

Source: Authors

20 Specifically, the fields of science, technology, engineering and mathematics (STEM).

Two types of evidence that don't fit into the "four tests" framework are included in the heatmap: (A) "Benchmark" tests are supporting evidence that don't fit neatly into any one of the four tests, and (B) firms' self-identified constraints.

FIGURE 28: Summary of the Kenya constraint's analysis for each of the potential constraint sectors. In this table, the "Test" columns represent the summary of several tests, where each box is colored according to the methodology described in Figure A-1 for the strongest test conducted for that test and sector unless there is contradictory evidence (e.g., "green"-coded evidence and "orange"-coded evidence for the same sector and test would be coded "yellow" in this table).



Conclusion

The findings of this report were presented, remotely, to representatives of the Government of Kenya in June 2020, who broadly accepted MCC's findings with comments.

Following this process, MCC and the Government of Kenya began root cause analysis (RCA) of the urbanization constraint. The RCA was conducted through a series of remote-facilitated discussions in January–March 2021, and presented to government stakeholders in April/May 2021. The Kenya Threshold Program that resulted is focused on urban mobility and land use planning in Nairobi.

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